

SC21-7876-6

File No. S38-40

**IBM System/38**

**IBM System/38  
Problem Determination Guide**

Program Number 5714-SS1



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# **IBM System/38**

## **IBM System/38 Problem Determination Guide**

Program Number 5714-SS1



### **Seventh Edition (November 1986)**

This major revision makes obsolete SC21-7876-5. See *About This Guide* for a summary of changes.

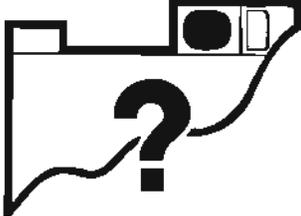
This edition applies to Release 8, Modification Level 0, of IBM System/38 Control Program Facility (Program 5714-SS1), and to all subsequent releases and modifications until otherwise indicated in new editions or Technical Newsletters. Changes are periodically made to the information herein; any such changes will be reported in subsequent revisions or Technical Newsletters.

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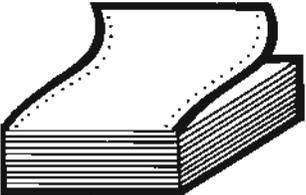
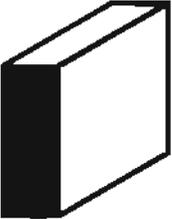
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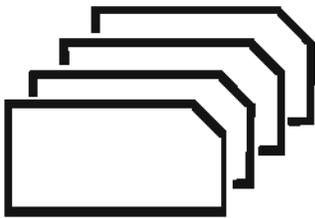
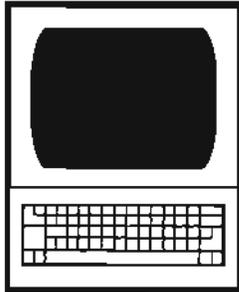
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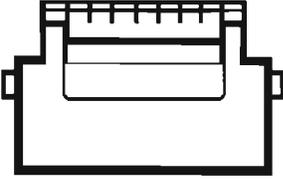
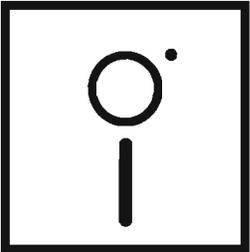
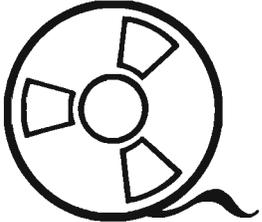
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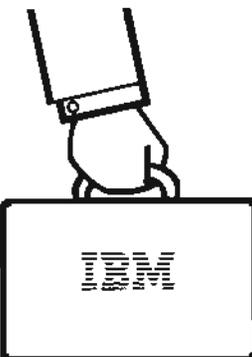
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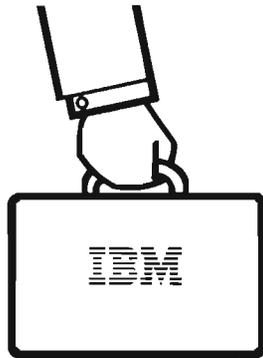
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	What You Should Do with Damaged Diskettes	Use this procedure if you learn in Procedure K that a diskette is damaged.	1-542
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Using the History Log	Use this section to learn how to get more information about system work, and how to read the history log.	2-23
<b>RESPONDING TO MESSAGES</b>	Use this section to learn how to respond to messages sent by the system.	2-33
PDP Codes	Use this section if a message told you to see this guide and to get more information about a message.	2-41
Error Log Numbers	This section describes the error log number (a 24-character code in the form: ERR 0019-3452-1A0F4526B789FF21) from the first-level message. These descriptions are for your information only and do not help you solve the problem.	2-117
SNADS Status Condition Codes	Use this section to find a condition code that may help your SNADS administrator or IBM service representative solve a routing problem in a SNADS network.	2-145

	Section title	When to use the section	Page
	<b>CHAPTER THREE: GETTING INFORMATION ABOUT COMMUNICATIONS PROBLEMS</b>	Use this chapter if you need more information about errors that occurred on remote devices or communications lines.	3-1
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Procedure for Printing the Engineering Change Log	Use this procedure when you are asked about which engineering changes were installed on your system.	4-97
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	System/38 Problem Summary Forms	Complete these forms when the procedures tell you to do so.	—
	How to Complete the System/38 Communications Problem Summary Form	Use this section to learn how to complete the System/38 Communications Problem Summary Form (used only for problems with communications lines and remote equipment).	Z-7
	System/38 Communications Problem Summary Forms	Complete these forms when the procedures tell you to do so.	—

## PURPOSE OF THIS GUIDE

This guide is meant to help you, a System/38 operator, solve the following problems:

- Problems shown by the colored lights on the operator/service panel on the system unit.
- System loops and waits
- Remote equipment problems
- Communications problems
- Job problems
- Output problems
- Work station problems
- Device problems
- Diskette problems
- Tape problems

In many cases, more information is included to help programmers solve these problems.

You are told how to get and use the following types of information:

- Messages
- Job logs
- History logs

- Job dumps
- Job traces

This guide also tells how to get service logs and stand-alone dumps for your service representative, and how to complete the *System/38 Problem Summary Form* and *System/38 Communications Problem Summary Form*.

**Note:** This publication follows the convention that *he* means *he* or *she*.

## SUMMARY OF CHANGES

Changes were made for Release 8 Modification 0. Miscellaneous technical changes were made to correct errors and improve usability.

## WHAT YOU SHOULD KNOW

To use this guide, you need to be able to:

- Operate all devices attached to your system, including the system unit
- Change system conditions using control language (CL) commands
- Start and stop the system
- Send, display, and reply to messages
- Use displays to check the status of jobs in the system, and devices attached to the system
- Start and stop communications with remote equipment

The *IBM System/38 Operator's Guide*, SC21-7735, tells you how to do these activities.

## IF YOU NEED MORE INFORMATION

To correct a problem, you may need to refer to another IBM publication for specific information.

### Programming Installation and Device Configuration

- *IBM System/38 Guide to Program Product Installation and Device Configuration*, GC21-7775
  - Installing CPF
  - Describing the device configuration
  - Installing languages and utilities
- *IBM System/38 Data Communications Programmer's Guide*, SC21-7825
  - Communications aspects of system configuration
  - Line, control unit, and device descriptions
- *IBM Cabling System Planning and Installation Guide*, GA27-3361
  - Planning, ordering, installing, and testing the IBM cabling system

### Messages

- *IBM System/38 Messages Guide: CPF, RPG III, IDU*, SC21-7736
  - All messages other than COBOL
  - Related message information
- *IBM System/38 Messages Guide: COBOL*, SC21-7823
  - COBOL messages
  - Related message information
- *IBM System/38 Operator's Guide*, SC21-7735
  - System operator message queue
  - Message handling

### CPF (Control Program Facility) Commands and Functions

- *IBM System/38 Control Language Reference Manual*, SC21-7731
  - Control language syntax and syntax diagrams
  - All control language commands and their parameters
  - Command authorization by user profile
- *IBM System/38 Control Program Facility Programmer's Guide*, SC21-7730
  - Using control language commands to perform CPF functions
  - System values
  - IBM-supplied objects
  - Testing and debugging
- *IBM System/38 Operator's Guide*, SC21-7735
  - System operator and system request menus
  - Job and system status displays
  - Submitting and controlling jobs through job and spooling commands
  - Varying or powering devices off and on
  - Saving and restoring objects, libraries, and the system
  - Handling system operator message queue
- *IBM System/38 Programmer's/User's Work Station Guide*, SC21-7744
  - Work station sign-on and sign-off
  - Interacting with displays
  - Command entry and prompting facilities
  - Program call and programmer menus

## Remote Communications

- *IBM System/38 Data Communications Programmer's Guide, SC21-7825*
  - System/38 as a host system to work stations
  - System/38 as a terminal to another host system
  - Error handling
- *IBM 5251 Models 2 and 12 Display Station Operator's Guide, GA21-9323*
  - Communications connection procedures
  - Communications problem determination
- *IBM System/38 Operator's Guide, SC21-7735*
  - Types of device connections
  - Handling communications lines
- *IBM 5294 Control Unit Operator's Guide and Operating Procedures, GA21-9370*
  - Communications connection procedures
  - Communications problem determination

## Device Operations

- *IBM System/38 Operator's Guide, SC21-7735*
  - Operator/service panel controls and indicators
  - System console screen and keyboard
  - Diskette magazine drive controls
  - Diskette handling
  - Loading and unloading diskette magazines
  - Removing diskettes from the drive station
- *IBM 5250 Information Display System Planning and Site Preparation Guide, GA21-9337*
  - Communications line configuration
  - Cable connection procedures
- *IBM 5251 Models 1 and 11 Display Station, IBM 5252 Dual Display Station Operator's Guide, GA21-9248 (directly attached work stations)*
  - Work station controls and indicators
  - Keyboards
  - Device problem determination

- *IBM 5251 Display Station Models 2 and 12 Setup Procedure, GA21-9289*
  - Cable connection procedures
- *IBM 5251 Models 2 and 12 Display Station Operator's Guide, GA21-9323 (remote display station/control units)*
  - Work station and communications controls and indicators
  - Keyboards
  - Device problem determination
- *IBM 5291 Models 1 and 2 Display Station Operator's Guide, GA21-9409*
  - Work station controls and indicators
  - Keyboards
  - Device problem determination
- *IBM 5292 Color Display Station Operator's Guide, GA21-9416*
  - Work station controls and indicators
  - Keyboards
  - How to use color
  - Device problem determination
- *IBM 4214 Printer Model 2 Operating Guide, GC31-2581 (work station printer)*
  - Operator controls and indicators
  - Loading and unloading forms
  - Changing the ribbon
  - Device problem determination
- *IBM 5219 Printer D01/D02 Setup Procedures/Operating Guide, GA23-1019 (work station printer)*
  - Operator controls and indicators
  - Loading and unloading forms
  - Changing the print wheel
  - Device problem determination
- *IBM 5256 Printer Operator's Guide, GA21-9260 (work station printer)*
  - Operator controls and indicators
  - Loading and unloading forms
  - Replacing the ribbon
  - Device problem determination

- *IBM 5211 Printer Models 1 and 2 Component Description and Operator's Guide*, GA24-3658 (system printer)
  - Operator controls and indicators
  - Loading, aligning, and unloading forms
  - Changing the print belt
  - Changing the ribbon
  - Device error recovery
- *IBM 3262 Printer Models A1 and B1 Component Description and Operator's Guide*, GA33-1530 (system printer)
  - Operator controls and indicators
  - Loading, aligning, and unloading forms
  - Changing the print belt
  - Changing the ribbon
  - Device error recovery
- *IBM 5262 Model 1 Operator's Guide*, GA24-3976 (system printer)
  - Operator controls and indicators
  - Loading and unloading forms
  - Changing the print band
  - Device problem determination
- *IBM 4224 Printer Operating Instructions*, GC31-2546 (work station printer)
  - Operator panel key descriptions
  - Problem determination procedures
  - Print test
- *IBM 4234 Printer Guide to Operations*, GC31-2553 (work station printer)
  - Operator panel and indicator lights
  - Device problem determination
  - Loading and unloading forms
  - Changing the print belt
- *IBM Pageprinter 3812 Guide to Operations*, S544-3267 (work station printer)
  - Operator controls and indicators
  - Loading, aligning, and unloading forms
  - Device problem determination
- *IBM 4245 Printer, Models T12 and T20 Information Manual*, GA33-1591 (work station printer)
  - Operator controls and indicators
  - Loading, aligning, and unloading forms
  - Changing the print band
  - Changing the ribbon
- *IBM 4245 Printer, Models 12 and 20 Information Manual*, GA33-1579 (system printer)
  - Operator controls and indicators
  - Loading, aligning, and unloading forms
  - Changing the print band
  - Changing the ribbon
- *IBM 5224 Printer Models 1 and 2 Operator's Guide*, GA34-0095 (work station printer)
  - Operator controls and indicators
  - Loading, aligning, and unloading forms
  - Changing the print belt
  - Device error recovery
- *IBM 5225 Printer Models 1, 2, 3, and 4 Operator's Guide*, GA34-0054 (system and/or work station printer)
  - Operator controls and indicators
  - Loading, aligning, and unloading forms
  - Changing the ribbon
  - Device error recovery
- *IBM System/38 Uninterruptible Power Supply Planning Guide*, GA21-9412 (auxiliary power)
  - System termination while on auxiliary power

- *IBM 3203 Printer Model 5 Component Description and Operator's Guide, GA33-1529* (system printer)
  - Operator controls and indicators
  - Loading and unloading forms
  - Changing a print cartridge
  - Changing the ribbon
- *IBM 5424 and 5425 Multi-Function Card Units Operator's Guide and Programmer's Reference Manual, GA21-9167* (MFCU)
  - Operator controls and indicators
  - Loading and unloading cards
  - Clearing a card jam
  - Changing the ribbon
  - Emptying the chip box
- *IBM 3410/3411 Operator's Guide, G232-0004* (magnetic tape units)
  - Operator indicators and push buttons
  - Loading and unloading tape reels
  - Operating procedure after failure
- *IBM 3422 Magnetic Tape Subsystem Operator's Guide, GA32-0090*
  - Operator panel description
  - Loading and unloading tape
  - Problem determination procedures
- *IBM 3430 Magnetic Tape Subsystem Operator's Guide, GA32-0079*
  - Operator panel lights
  - Loading and unloading tape reels
  - Device problem determination

Each of the following manuals describes support for the IBM Personal Computer:

- *IBM PC Support/38 User's Guide, SC21-9089*
- *IBM PC Support/38 Technical Reference, SC21-9090*
- *IBM PC 5250 Emulation Program User's Guide, G570-2202*
- *IBM PC Enhanced 5250 Emulation Program User's Guide, G570-2024*

#### Other Problem Determination

- *IBM System/38 Programmer's/User's Work Station Guide, SC21-7744*
  - General work station problem determination
- *IBM Cabling System Problem Determination Guide for Twinaxial Applications, GA21-9491*

Each of the following publications describes problem determination and debugging procedures for a particular System/38 language or utility:

- *IBM System/38 Advanced Printer Utility Guide, SC21-7913*
- *IBM System/38 BASIC Reference Manual and Programmer's Guide, SC21-9046*
- *IBM System/38 Business Graphics Utility Reference Manual and User's Guide, SC09-1059*
- *IBM System/38 COBOL Reference Manual and Programmer's Guide, SC21-7718*
- *IBM System/38 RPG III Reference Manual and Programmer's Guide, SC21-7725*
- *IBM System/38 Data File Utility Reference Manual and User's Guide, SC21-7714*
- *IBM System/38 Source Entry Utility Reference Manual and User's Guide, SC21-7722*
- *IBM System/38 Query Utility Reference Manual and User's Guide, SC21-7724*
- *IBM System/38 Screen Design Aid Reference Manual and User's Guide, SC21-7755*
- *IBM System/38 Conversion Reformat Utility Reference Manual, SC21-7780*
- *IBM System/38 Remote Job Entry Facility, Programmer's Guide, SC21-7914*

- *IBM System/38 3270 Emulation Reference Manual and User's Guide*, SC21-7961

#### **Content and Use of System/38 Publications**

- *IBM System/38 Guide to Publications*, GC21-7726
  - Contents of System/38 publications
  - Reading sequences for System/38 publications
  - Index entries from frequently used System/38 publications
  - Glossary of terms used in System/38 publications





Turn the page to start solving the problem.

## How To Solve a Problem Using This Guide

To solve a problem using this guide, do the following:

**1 Note the symptoms (signs) of that problem.**

Be specific when you note these symptoms, because two different types of problems might look alike. For example, consider the differences between a work station job (interactive job) problem and a work station problem. You recognize a work station job problem when the Input Inhibited Indicator has stayed on longer than you expected. You recognize a work station problem when no indicators turn on.

**2 Go to the correct procedure in this guide.** If you are not sure which procedure to use, answer the questions on the following pages. You are directed to the correct procedure.

**3 Do the actions, and answer the questions in the procedure** to find the cause of the problem and if possible, its solution.

## What Is Needed To Use These Procedures

In order to use the procedures in this guide, you must have the authority of one of the following:

- **System operator** (QSYSOPR user profile provided by IBM with your system, or authority to use commands that let you display and change the status of jobs in the system, and devices attached to it).
- **Programmer** (the QPGMR user profile provided by IBM with your system, or authority to use commands that let you change programming, and system values, and do those jobs a system operator can do).
- **System security officer** (the QSECOFR user profile provided by IBM with your system, or authority to use commands that let you change system security functions, and do those jobs a programmer can do).

It is assumed that you are following these procedures at the system console, or at a work station near the console. During these procedures, you may be asked to check the system console, or use the operator/service panel on the system unit.

**Note:** When using these procedures, leave the device or job with the problem as it is until you are asked to do otherwise.

## Finding the correct procedure to use.

Answer the following questions to find out where to get information that can help solve the problem.

1

Did you just change your system, or install something on the system?

No

Yes

See your programmer.

Make sure that devices were described properly to the system. Your programmer might refer to the *Guide to Program Product Installation and Device Configuration*.

Make sure that new programs have been tested. Your programmer might refer to the problem determination procedures in the reference manual for the language or utility used in the program with the problem.

**If these actions do not help you solve the problem, go to step 2.**

### Examples of changes:

- Installing a new release of CPF (Control Program Facility).
- Adding a new device.
- Changing an application.
- Moving a device.
- Changing a system value.

**2** Can you enter commands to the system from the system console or through any work station?

Yes

No

Go to Procedure A: *System Problem*.

**3** Does the problem affect only equipment connected to the system through a communications line, or equipment used for communications?

Yes

No

Go to step 6.

**4** Did an error message tell you about the communications problem?

Yes

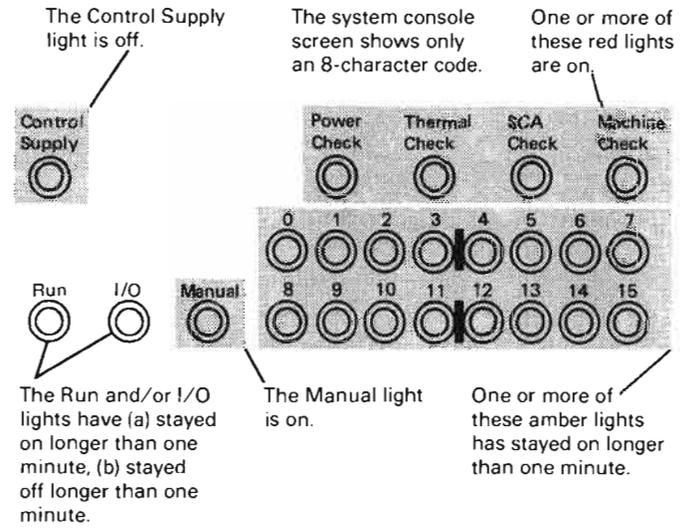
No

Go to Procedure D: *Remote Equipment Failing (No Message Received)*.

**5** Go to Procedure C: *Communications Problem*.

**You might also notice one or more of the following:**

Check the lights on the operator/service panel on the system unit:



**How to find out if equipment is connected through a communications line:**

Ask your programmer.

6

Does the problem affect more than one device? →

Yes

No

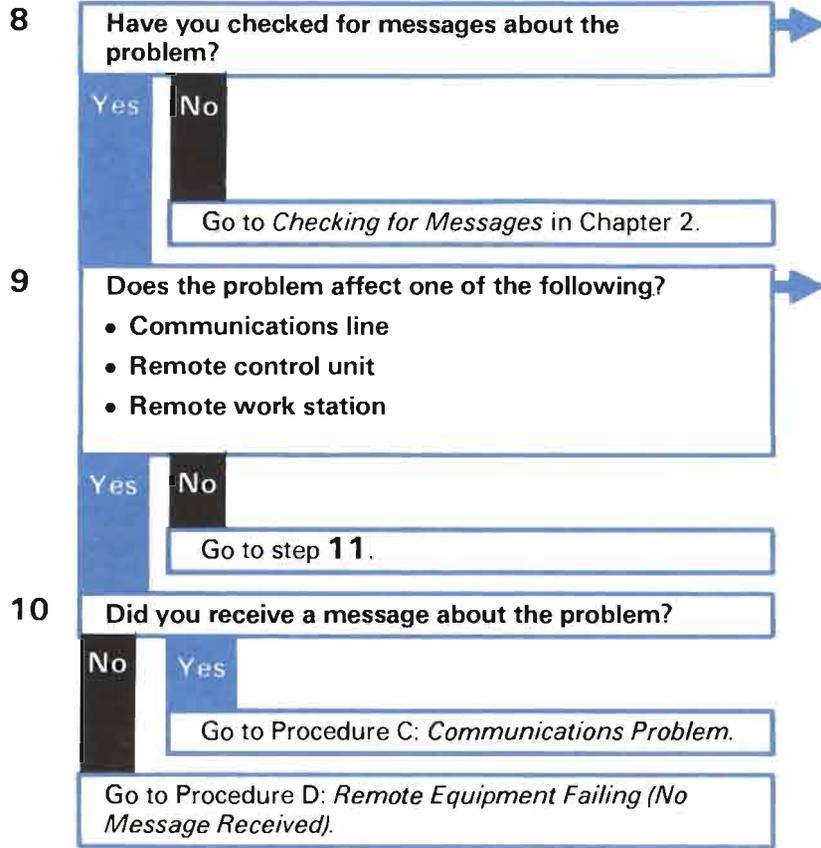
Go to step 8.

7

Go to Procedure B: *Subsystem Problem*.

**For example:**

For example, the Input Inhibited indicator is staying on longer than you expected at five work stations, or none of the printers are printing.



**Where you should check for messages:**

Check the system operator message queue, the work station message queue, and the history log for messages about the problem.

**How to find out if your equipment is remote:**

Ask your programmer.

11

Has one or more of the following happened?

- The output from a job was different than you expected.
- The output was not produced at all, though the device that is supposed to produce the output is working.

No

Yes

Go to Procedure E: *Output Problem*.

12

Has one or more of the following happened?

- The Input Inhibited indicator is staying on longer than you expect at one work station.
- One work station is working more slowly than you expect.

No

Yes

Go to Procedure F: *Work Station Job Problem (Input Inhibited Indicator On Too Long)*.

13

Are you having a problem with a batch job?

No

Yes

Go to Procedure G: *Batch Job Problem*.

**What a batch job is:**

A batch job is a job you start with one of these commands:

- SBMJOB
- SBMCRDJOB
- SBMDBJOB
- SBMDKTJOB

or after starting a reader (card, data base, or diskette reader) with the job already loaded.

- 14 Are you having a problem with an attached device, such as:
- Work station
  - Card unit
  - Printer
  - Tape device
  - Diskette drive

Yes

No

Go to step 18.

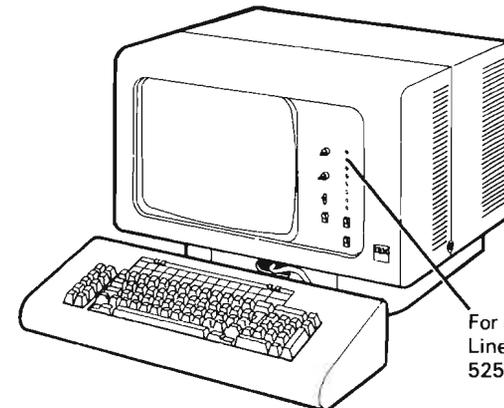
- 15 Are any of the error lights on the device turned on? →

No

Yes

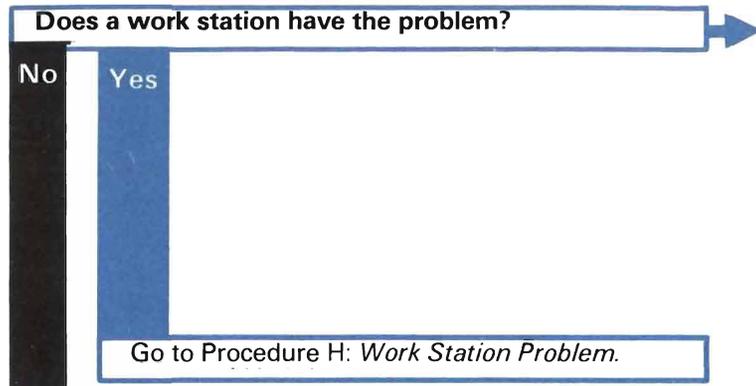
Go to the problem determination procedures in the operator's guide for the device with the problem.

For example:

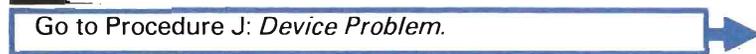


For example, this red Line Check indicator on a 5251 Display Station is on.

16



17



**For example:**

You might notice:

- You cannot get the signon display.
- The work station screen was suddenly cleared.
- The characters displayed are not correct.
- The work station does not work at all.

**For example:**

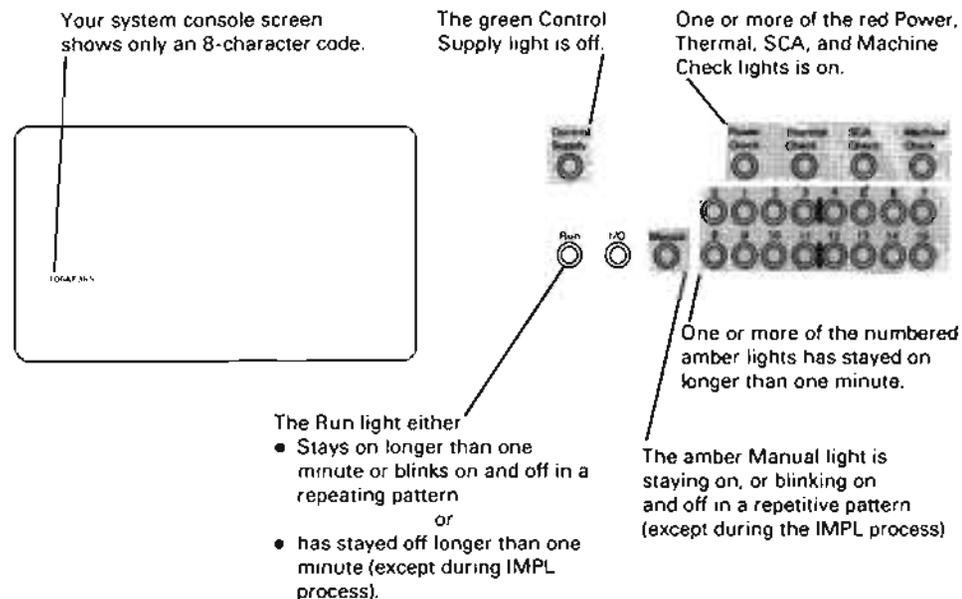
You might notice:

- The device is not printing or recording characters correctly.
- The device does not work when you give it the correct command.
- You cannot start the device.

- 18** Are you having a problem with a diskette?
- No Yes
- Go to Procedure K: *Diskette Problem*.
- 19** Are you having a problem with a tape?
- No Yes
- Go to Procedure L: *Tape Problem*.
- 20** See your system programmer. Your problem is not discussed in this guide.

## When to Use This Procedure

Use this procedure when you cannot enter commands to the system at the console or at a work station. You might also notice one or more of the following at the system unit:



## Outline of This Procedure

In this procedure, you do the following:

- 1 Record information about the problem, such as whether you can enter commands to the system and the pattern shown by the lights on the operator service panel (steps 1 through 4).
- 2 Define and solve (if possible) the problem, by:
  - a. Checking the pattern shown by the lights on the operator/service panel (step 5).
  - b. Following the indicator code action, if any (step 6).



A

**The procedure starts here.**

Recording information about the problem

**1** Check the following before starting the procedure:



You cannot enter commands to the system through a work station or the system console. Continue this procedure only if you cannot enter commands.

**If you can enter commands**, go to Procedure B: *Subsystem Problem*.

After you have checked the above item, continue this procedure.

**2** Get a copy of the *System/38 Problem Summary Form* at the back of this guide. Then return here.

**If you do not have a copy of the form**, do steps **3** through **5** using a piece of paper.

3

On the *Problem Summary Form*, record the following information about the problem:



Each light on the operator/service panel that is on.



The code shown on your system console screen (if any).

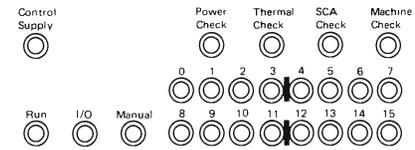
106AF365

Go to step 4.

### Where to record the information:

Record this information under item 5 of the *Problem Summary Form*.

5. Lights (mark with an X any indicators that are on):



### Where to record the code:

Record this code under item 6a of the *Problem Summary Form*.

6. Record the following:

a. Code shown on the system console screen (if any):         (See Note)

b. Indicator code: F 0 0  -    (See Note)

c. First 8 characters of the error log number (if any): 0 0       (See Note)

**Note:** When you call for service, report the first code you record in this section. Call this code the **system reference code**.

Record the code here.



A

4

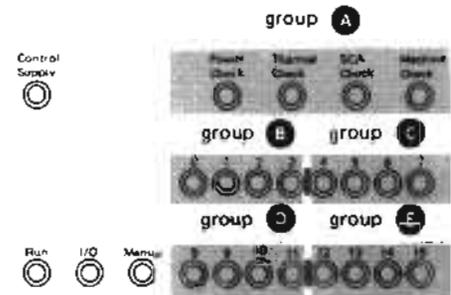
Translate the code shown by the lights on the operator/service panel to an indicator code.

Record that code under item 6b of the *Problem Summary Form*.

Copies of the *Problem Summary Form* are provided at the back of this manual.

**How to translate the lights:**

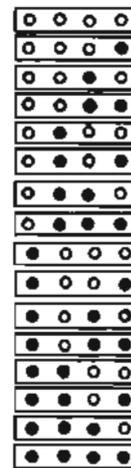
Group the lights into groups A through E as follows:



Do the following for each group of four lights:

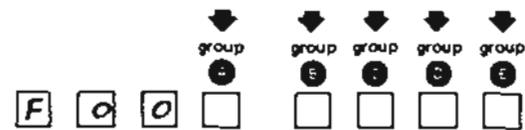
Match your system lights that are on with the following pattern:

Write the corresponding character below the group name:



- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- A
- B
- C
- D
- E
- F

This is your indicator code:



Note: F00 identifies that this code appeared on the system lights.

Solving the problem by checking the light pattern.

5

Starting at the top of the following chart, find the first pattern that matches the pattern shown by the top row of lights on the operator/service panel.

Take the action described under *What you should do*.



F 0 0 1 - 0 8 5 A

Your indicator code, then, is

A

Under group **E**, which includes lights numbered 12 - 15, fill in:

5

Under group **D**, which includes lights numbered 8 - 11, fill in:

8

Under group **C**, which includes lights numbered 4 - 7, fill in:

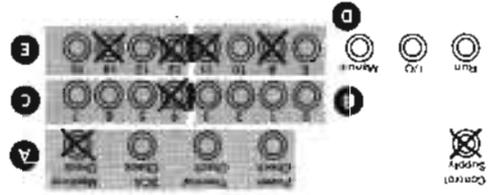
0

Under group **B**, which includes lights numbered 0 - 3, fill in:

1

Check lights, fill in:

Under group **A**, which includes the Power, Thermal, SCA, and Machine



Example: For example, if your system lights show the following pattern:

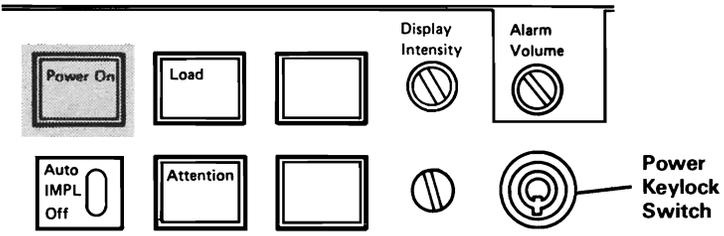


<p><b>System lights show:</b>                  ● = on   ○ = off                  ◐ = either on or off</p>	<p><b>What the problem is:</b></p>	<p><b>What you should do:</b></p>
<p>Control Supply light is off.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Control Supply</p>  </div> <div style="text-align: center;"> <p>Power Check</p>  </div> <div style="text-align: center;"> <p>Thermal Check</p>  </div> <div style="text-align: center;"> <p>SCA Check</p>  </div> <div style="text-align: center;"> <p>Machine Check</p>  </div> </div>	<p>Your problem is one of the following:</p> <ul style="list-style-type: none"> <li>● There is no power available to the system.</li> <li>● The Control Supply light bulb burned out.</li> <li>● Something is wrong with the machine.</li> </ul>	<p>a. Check other electrical equipment in the area, such as lights.</p> <p>b. <b>Is building power available to the system?</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>No</p>  </div> <div style="text-align: center;"> <p>Yes</p>  </div> </div> <p>Call your service representative. Report the system reference code (see item 6 of the <i>Problem Summary Form</i> for instructions on how to report this code), and explain that the Control Supply light is off.</p> <p>c. Check the circuit breakers.</p> <p>d. <b>Are the circuit breakers properly set?</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Yes</p>  </div> <div style="text-align: center;"> <p>No</p>  </div> </div> <p>Set the circuit breakers properly.</p> <p>See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for information on what happened to work in the system when the system lost power.</p> <p>Continue normal system work.</p> <p>e. Call the proper building maintenance person. Report this loss of power.</p> <p>f. When power is restored, see <i>Starting the System After a Problem Occurred</i> at the end of this procedure for information on what happened to work in the system when it lost power.</p> <p>g. Continue normal system work.</p>



Control Supply light off



<p><b>System lights show:</b>            ● = on ○ = off            ◐ = either on or off</p>	<p><b>What the problem is:</b></p>	<p><b>What you should do:</b></p>
<p>Power Check light is on.</p> 	<p>There is a problem with the system power.</p>	<p>a. Press the Power On switch on the operator/service panel.</p>  <p>b. Did the Power Check light stay on?</p> <p>Yes No</p> <p>There may have been a temporary loss of power.</p> <p>When power is restored, see <i>Starting the System After a Problem Occurred</i> at the end of this procedure, for information on what happened to work in the system when the system lost power.</p> <p>Continue normal system work.</p> <p>c. Is the Power Keylock switch on?</p> <p>Yes No</p> <p>Turn the switch on.</p> <p>See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for information on what happened to work in the system when the system lost power.</p> <p>Continue normal system work.</p> <p>d. Is the Unit Emergency switch set to Power Enable? (The Unit Emergency switch is located on the right end of the system unit.)</p>

**System lights show:**

- = on   ○ = off
- ⊙ = either on or off

**What the problem is:**

**What you should do:**

**Yes   No**

Call your service representative and report that the Unit Emergency switch is in the Power Off position.

- e. Call your service representative. Report the system reference code (see item 6 of the *Problem Summary Form* at the back of this guide for instructions on how to report this code), and explain that the Power Check light is on.



Power Check light on

A

<p><b>System lights show:</b>            ● = on ○ = off            ◐ = either on or off</p>	<p><b>What the problem is:</b></p>	<p><b>What you should do:</b></p>
<p>Thermal Check light is on.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Control Supply</p>  </div> <div style="text-align: center;"> <p>Power Check</p>  </div> <div style="text-align: center;"> <p>Thermal Check</p>  </div> <div style="text-align: center;"> <p>SCA Check</p>  </div> <div style="text-align: center;"> <p>Machine Check</p>  </div> </div>	<p>The system, or part of the system, is overheated.</p>	<p>a. Check the room temperature.</p> <p>b. Is the room temperature normal (60°-100°F or 15.6°-37.8°C)?</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>No</p> <p> </p> </div> <div style="text-align: center;"> <p>Yes</p> <p> </p> </div> </div> <p style="margin-left: 100px;">Call your service representative. Report that the Thermal Check light is on.</p> <p>c. Change the room temperature to the normal range.</p> <p>d. Wait a few minutes.</p> <p>e. Press the Power On switch on the operator/service panel.</p> <p>f. Did the system start?</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>No</p> <p> </p> </div> <div style="text-align: center;"> <p>Yes</p> <p> </p> </div> </div> <p style="margin-left: 100px;">See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for information on what happened to work in the system when the system stopped running.</p> <p style="margin-left: 100px;">Continue normal system work.</p> <p>g. Call your service representative. Report the system reference code (see item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code), and explain that the Thermal Check light is on.</p> <p><b>CAUTION:</b>        Recurring thermal check conditions could damage your system.</p>

**System lights show:**

- = on   ○ = off
- ◐ = either on or off

**What the problem is:**

**What you should do:**

Machine Check light is on.



**CAUTION:**

In this procedure, you may take actions that destroy system work and that keep you from using the system for a long period of time. Call your data processing manager before continuing this procedure.

Go to step **6** following this chart.



A

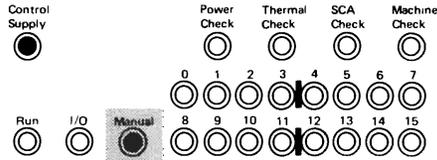
Thermal Check, Machine Check lights on

<p><b>System lights show:</b>            ● = on   ○ = off            ◐ = either on or off</p>						
<p>SCA Check light is on.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Control Supply</p>  </div> <div style="text-align: center;"> <p>Power Check</p>  </div> <div style="text-align: center;"> <p>Thermal Check</p>  </div> <div style="text-align: center;"> <p>SCA Check</p>  </div> <div style="text-align: center;"> <p>Machine Check</p>  </div> </div>	<p><b>What the problem is:</b></p> <p>The system control adapter (SCA) is not working. You cannot use the system console, but you might be able to enter commands to the system from a work station.</p>	<p><b>What you should do:</b></p> <ol style="list-style-type: none"> <li>a. Call your service representative. Report the system reference code (see item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code) and explain that the SCA Check light is on.</li> <li>b. <b>Can you still enter commands to the system from a work station?</b> <table style="margin-left: 20px;"> <tr> <td style="text-align: center; vertical-align: top;"> <p><b>Yes</b></p> <p> </p> </td> <td style="text-align: center; vertical-align: top;"> <p><b>No</b></p> <p> </p> </td> </tr> <tr> <td colspan="2" style="text-align: center; padding-top: 10px;"> <p>Leave the system as it is until your service representative arrives.</p> </td> </tr> </table> </li> <li>c. Use this work station as a controlling work station until your service representative arrives.</li> <li>d. Cancel the job at the system console, by entering:           <pre style="margin-left: 40px;">CNLJOB JOB(qconsole.qsysopr)</pre> <p style="margin-left: 40px;">Replace <code>qconsole.qsysopr</code> with the name of the job at the system console, if that job name is different.</p> </li> <li>e. Then have system operator messages sent to your controlling work station by entering:           <pre style="margin-left: 40px;">CHGMSGQ MSGQ(QSYSOPR) DLVRY (*BREAK)</pre> </li> <li>f. Continue normal system work.</li> </ol> <p><b>Note:</b> You may not be able to do certain operations, such as powering down the system, or varying devices, from the controlling work station.</p>	<p><b>Yes</b></p> <p> </p>	<p><b>No</b></p> <p> </p>	<p>Leave the system as it is until your service representative arrives.</p>	
<p><b>Yes</b></p> <p> </p>	<p><b>No</b></p> <p> </p>					
<p>Leave the system as it is until your service representative arrives.</p>						

**System lights show:**

- = on ○ = off
- ◐ = either on or off

Manual light is staying on or blinking on and off.



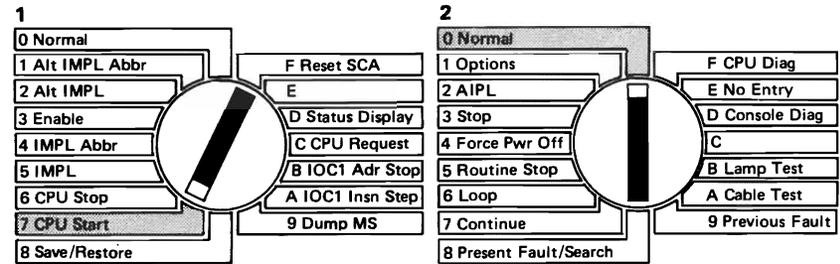
**What the problem is:**

There might be a problem with the central processing unit—the part of the system that does your requests.

**What you should do:**

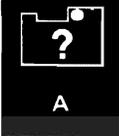
- a. Set the left Rotary switch on the operator/service panel to 7 (CPU Start).

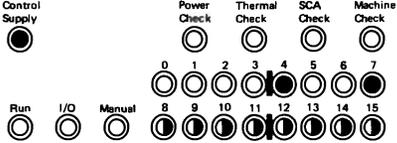
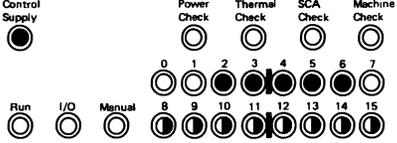
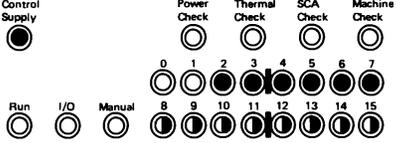
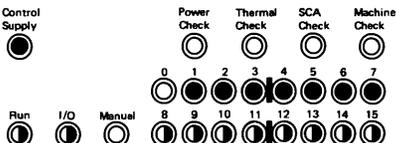
Set the right Rotary switch to 0 (Normal).



- b. Press the Load switch.
- c. Did the Manual light turn off?
  - No
  - Yes

Continue normal system work.
- d. Call your service representative. Report that the Manual light is staying on.



<p><b>System lights show:</b>  ● = on ○ = off  ◐ = either on or off</p>	<p><b>What the problem is:</b></p>	<p><b>What you should do:</b></p>
<p>Numbered lights are on.</p> 	<p>CPF (the Control Program Facility) found a problem.</p>	<p><b>CAUTION:</b>  In this procedure, you may take actions that destroy system work and that keep you from using the system for a long period of time. Call your data processing manager before continuing this procedure.</p> <p>Go to step <b>6</b> following this chart.</p>
<p>Numbered lights are on.</p> 	<p>You have a problem with the 3370 Direct Access Storage Device attached to the system.</p>	
<p>Numbered lights are on.</p> 	<p>The system is performing a long-running function during the IMPL procedure.</p>	
<p>Numbered lights are on.</p> 	<p>3370 Reformat is running because of the response to an earlier CPF (Control Program Facility) message.</p>	<p>No action is necessary. This is normal system operation. When 3370 Reformat is finished, the system will complete the power down operation.</p>

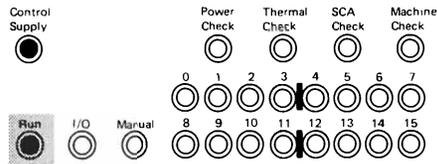


Only numbered lights on.

**System lights show:**

- = on   ○ = off
- ◐ = either on or off

The Run light stays on longer than one minute, or blinks on and off in a repeating pattern.



**What the problem is:**

Your system could be in a loop. The system is repeating a set of instructions in a program. The program never properly told the system when to stop doing these instructions, so the system continues to perform them. Because the system is occupied with the looping job, it cannot work on other jobs.

**What you should do:**

**CAUTION:**

In this procedure, you may take actions that destroy work in the system and that keep you from using the system for a long period of time. Call your data processing manager before continuing the procedure.

- a. Set the left rotary switch on the operator/service panel to 6 (CPU Stop).  
Set the right switch to 0 (Normal).
- b. Press the Load switch.
- c. Did both of the following happen:
  - The Run light turned off.
  - The Manual light turned on.

Yes   No

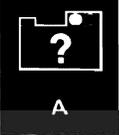
There could be a problem with the system or its programming.

Call your service representative. Explain that you have a system loop that you cannot stop.

You have the option to use the rotary switches to power down the system and recover quickly so that you can continue normal system work. However, you will not identify the system problem. To identify the system problem, go to step k. To recover quickly, continue with step d.

- d. Place the *Service Library Vol1* diskette magazine in position 1 of the diskette magazine drive.  
  
**Note:** If you do not have *Service Library Vol1*, you cannot continue this procedure. Call your service representative. Explain that you have a system loop you cannot stop.
- e. Set the left rotary switch on the operator/service panel to 9 (Dump MS).  
Set the right rotary switch to C.
- f. Press the Load switch.

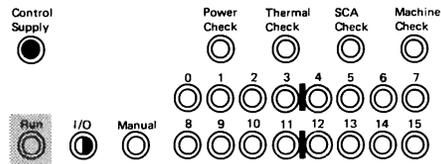
<b>System lights show:</b> ● = on   ○ = off ⊖ = either on or off	<b>What the problem is:</b>	<b>What you should do:</b>
		<p>g. Did the system console lights change to 3F05?</p> <p><b>Yes</b>   <b>No</b></p> <p>             </p> <p>             </p> <p>        Call your service representative. Explain that you have a system loop you cannot stop.</p> <p>h. Did the system console lights change to 080B within 16 minutes?</p> <p><b>Yes</b>   <b>No</b></p> <p>             </p> <p>             </p> <p>        If the system did not power down, perform a main storage stand-alone dump. Go to Chapter 4 for instructions. Do an IMPL. See the <i>System/38 Operator's Guide</i>. Call your service representative. Explain that you have a system loop you cannot stop.</p> <p>j. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions. The IPL will not be normal. You will be prompted to enter sign on information. Go to step n.</p> <p>k. Perform both a main storage and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p>l. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>m. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>n. Go to <i>Starting the System After a Problem Occurred</i> at the end of this procedure for information on what happened to work in the system when the system started looping.</p> <p>p. Continue normal system work.</p> <p><b>If this procedure does not help you solve the problem, call your service representative. Explain that you have a system loop you cannot stop.</b></p>



**System lights show:**

● = on ○ = off  
 ◐ = either on or off

The Run light stays off longer than one minute.

**What the problem is:**

Your system is in a **wait**—that is, your system, or many jobs in the system, are waiting to use an object (system item) that is not available for use. The system cannot finish these jobs until the object is free for use.

**What you should do:****CAUTION:**

In this procedure you may take actions that destroy work in the system and that keep you from using the system for a long period of time. Call your data processing manager before continuing this procedure.

You have the option to use the rotary switches to power down the system and recover quickly so that you can continue normal system work. However, you will not identify the system problem. To identify the system problem, go to step g. To recover quickly, continue with step a.

- a. Place the *Service Library Vol1* diskette magazine in position 1 of the diskette magazine drive.

**Note:** If you do not have *Service Library Vol1*, you cannot continue this procedure. Call your service representative. Explain that you have a system loop you cannot stop.

- b. Set the left rotary switch on the operator/service panel to 9 (Dump MS).

Set the right rotary switch to C.

- c. Press the Load switch.

- d. Did the system console lights change to 3F05?

Yes No

|  
|

Call your service representative. Explain that you have a system loop you cannot stop.

- e. Did the system console lights change to 080B within 16 minutes?

Yes No

|  
|

If the system did not power down, perform a main storage stand-alone dump. Go to Chapter 4 for instructions. Do an IMPL. See the *System/38 Operator's Guide*. Call your service representative. Explain that you have a system loop you cannot stop.

- f. Do an IMPL. See the *System/38 Operator's Guide* for instructions. The IPL will not be normal. You will be prompted to enter sign on information. Go to step k.

**System lights show:**

- = on   ○ = off
- ◐ = either on or off

**What the problem is:**

**What you should do:**

- g. Perform both a main storage and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.
  - h. Make sure you properly labeled the dump diskettes. Save this information.
  - j. Do an IMPL. See the *System/38 Operator's Guide* for instructions.
  - k. Go to *Starting the System After a Problem Occurred* at the end of this procedure for information on what happened to work in the system when the system started waiting.
  - l. Continue normal system work.
- If this procedure does not help you solve the problem, call your service representative. Explain that you have a system wait you cannot end.**

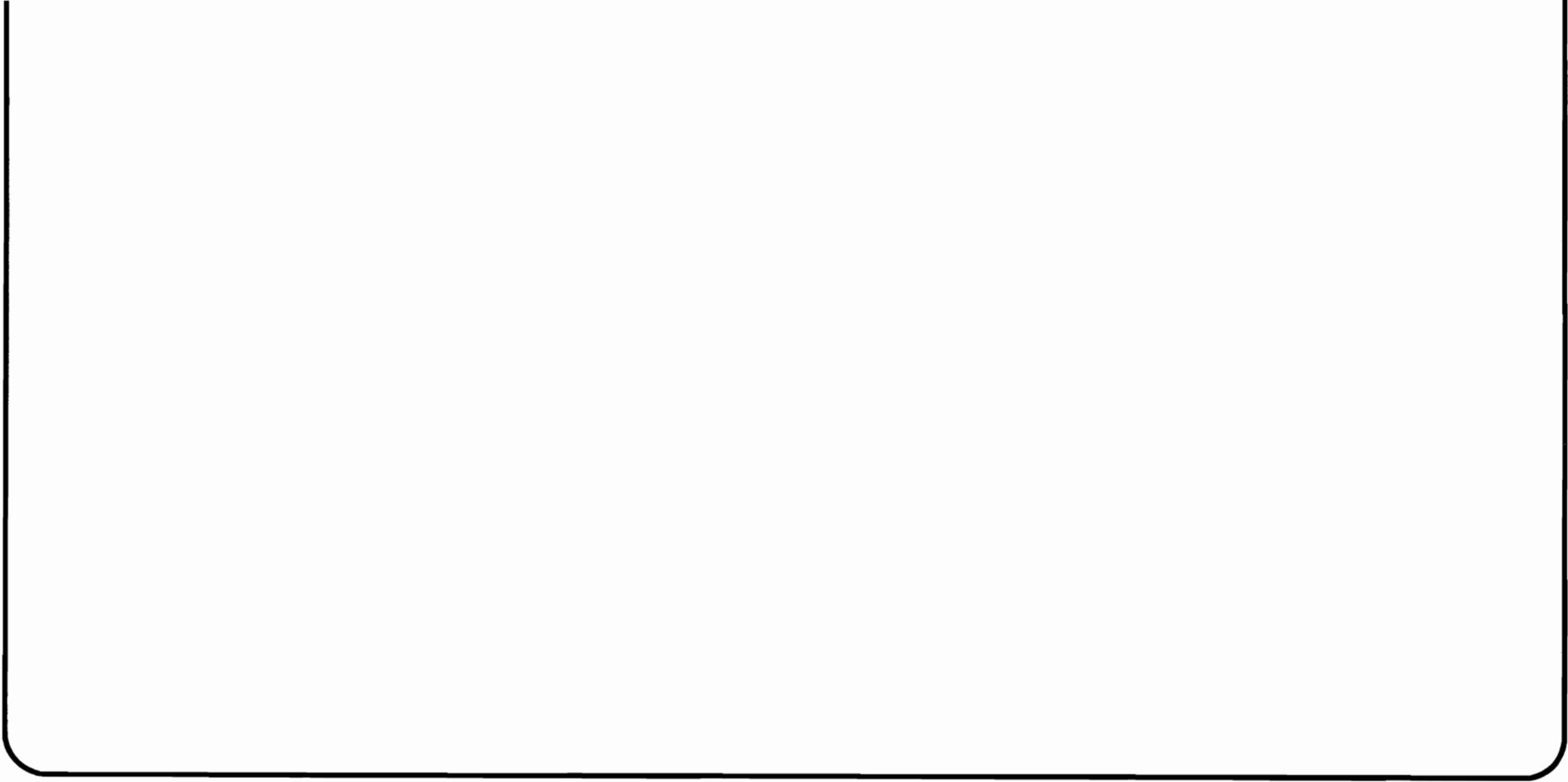
None of the patterns shown in this chart.

Call your service representative. Report the system reference code (see item 6 of the *Problem Summary Form* for instructions on how to report this code) and describe the problem.



A

Run light, none of the patterns shown



**Solving the problem using the indicator code.**

**6** Find the last four characters of this indicator code in the following chart. 

Take the action described under *What you should do*.

**If you cannot find the last four characters of your indicator code in the chart**, you need your service representative to help you solve the problem.

Call your service representative, and report the system reference code (see item 6 of the *Problem Summary Form* at the back of this guide for instructions on how to report this code).

**How to get the indicator code:**

See step **4** earlier in this procedure.



Last four characters of the indicator code:

0000 through 06FF

What the problem is:

The system could not finish the IMPL process.

What you should do:

- a. Try the IMPL again. See the *System/38 Operator's Guide* for instructions.
- b. Did the system successfully finish the IMPL process (your basic working display, such as the system operator menu, appears on your system console screen)?
  - No
  - Yes

Go to *Starting the System After a Problem Occurred in More Information* at the end of this procedure for information on what happened to work in the system when the system stopped working.

Continue normal system work.

- c. Leave the system as it is until you are asked to do otherwise. Call your service representative. Describe the problem and report the system reference code (see item 6 of the *Problem Summary Form* at the back of this guide for instructions on how to report this code).

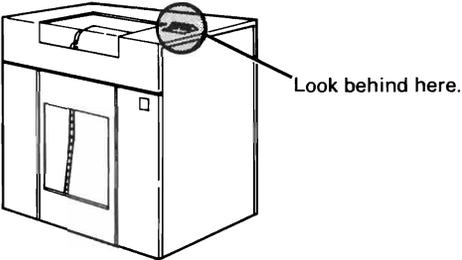
0700 through 07FF

A problem occurred with the system job using the service monitor after you performed an alternative IMPL (AIPL).

Leave the system as it is until you are asked to do otherwise. Call your service representative. Describe the problem and report the system reference code (see item 6 of the *Problem Summary Form* at the back of this guide for instructions on how to report this code).

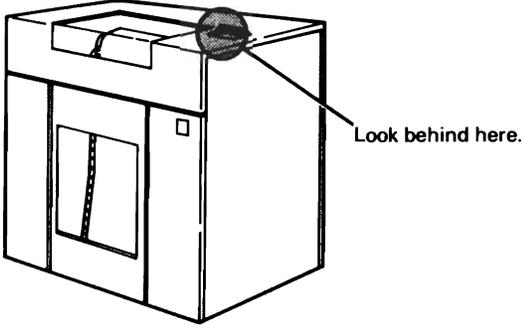
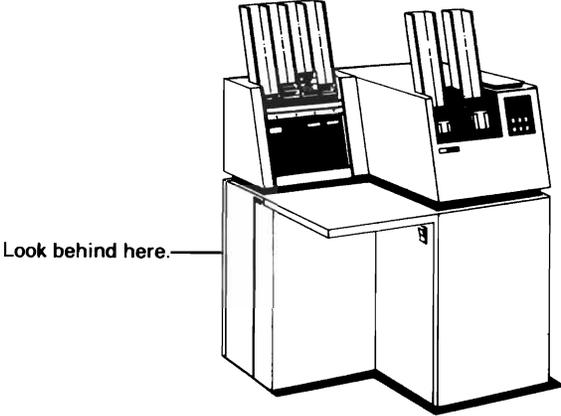
Last four characters of the indicator code:	What the problem is:	What you should do:
0801	An error that the system cannot fix itself occurred in storage management or in the microcode timer service section.	<ul style="list-style-type: none"> <li>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>b. Make sure you properly labeled the dump diskettes. Save this information.</li> <li>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</li> <li>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</li> </ul> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
0802	The machine check queue is full.	
0803	No call return element is available for the machine check handler to use.	
0804	A microcode task stopped.	



Last four characters of the indicator code:	What the problem is:	What you should do:
0805	An error occurred as you tried to power down the system.	<p>a. Check the following:</p> <p><b>If you have a 3262 printer</b>, make sure that the switch behind its operator panel is set to <b>Normal</b> mode, not <b>CE</b> mode.</p>  <p><b>If you have a 5424 card unit</b>, make sure that the switch on the back of the device, inside the cover, is set to the <b>Remote</b> position.</p> <p>b. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>c. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>d. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>e. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>f. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
0806	An error occurred while the <b>machine check handler</b> (the part of the system that handles machine check errors) was working on another error.	<ul style="list-style-type: none"> <li>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>b. Make sure you properly labeled the dump diskettes. Save this information.</li> </ul>
0807	No temporary storage is available to the <b>machine check handler</b> .	<ul style="list-style-type: none"> <li>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>d. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</li> <li>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.   <b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</li> </ul>



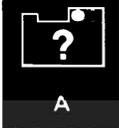
Last four characters of the indicator code:	What the problem is:	What you should do:
0808	An error occurred as you tried to power down the system while the system was using auxiliary power.	<p>a. Check the following:</p> <p><b>If your system has a 3262 Printer, make sure that the switch behind the operator panel is set to Normal mode.</b></p>  <p><b>If your system has a 5424 Card Unit, make sure that the switch on the back of the device inside the cover, is set to the Remote position.</b></p>  <p>b. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p>

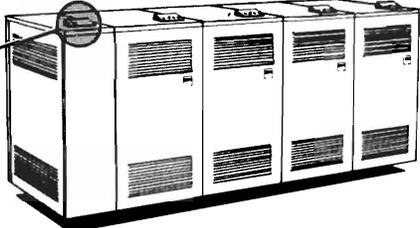
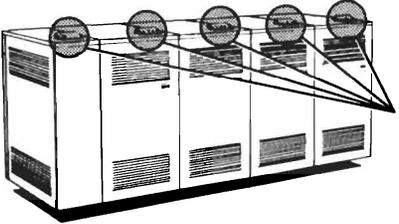
Last four characters of the indicator code:	What the problem is:	What you should do:
0808 (continued)		<p>c. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>d. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>e. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>f. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>
080B	<p>The System was unable to reach machine interface (MI) boundaries when using a saved main storage dump, or you selected the rotary switch setting 9C and the system was unable to reach MI boundaries within the system's internal time limit.</p>	<p>a. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>b. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>c. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>d. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
080E	The system found an error while performing the <b>authority initialization</b> procedure.	<p>a. Under item 10 in the <i>System/38 Problem Summary Form</i>, record how the rotary switches on the operator/service panel are set.</p>
080F	The machine failed during the IMPL procedure or the IMPL with AIPL procedure.	<p><b>If you were trying to perform an alternate IMPL (AIPL),</b> make sure that you mounted the diskette magazines properly and that the diskette magazine drive cover is closed. Retry the alternate IMPL (AIPL). Go to step e.</p> <p>b. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>c. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>d. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>e. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>f. <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
0810	A disk drive has been added for storage management use, but was not configured into the machine configuration record when microcode was last installed.	<p><b>a.</b> Install your system microcode again. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>b.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>c.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>d.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve a problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>
0811	The system cannot start the first 62PC disk drive adapter.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p>
0812	The system cannot start the second 62PC disk drive adapter.	<p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p>
0813	The system cannot use the <b>primary address directory</b> .	<p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p>
0814	A permanent reading error was found on a vital section of disk storage.	<p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p>
0815	An error was found on a 62PC disk drive.	
0816	The system found an error while using the <b>storage address directory</b> .	<p><b>e.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p>
0817	The system found a problem when trying to start the 3370 subsystem.	<p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



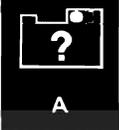
Last four characters of the indicator code:	What the problem is:	What you should do:
0818	The system found an unrecoverable error on the 3370 and was unable to get any information about the error.	<p>a. Make sure that the <b>Enable On-Delayed Power Off</b> switch on the 3370 Direct Access Storage Device (additional storage) is set to the <b>Enable On</b> position.</p> <div style="text-align: center;">  <p>Look here.</p> </div> <p>b. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions.</p> <p>c. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>d. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>e. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>f. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If the procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
0819	It appears to the system that a Read/Write-Read Only switch is in the Read Only mode during a write operation.	<p>a. Make sure that all Read/Write-Read Only switches on all 3370 devices are in the Read/Write position.</p> <div style="text-align: center;">  <p>Look here.</p> </div>

Last four characters of the indicator code:	What the problem is:	What you should do:
0819 (continued)		<p><b>b.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions.</p> <p><b>c.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>d.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>e.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>f.</b> If this procedure helps you solve the problem, continue normal system work.</p> <p>If the procedure does not help you solve the problem, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
081A	The system found an error while trying to assign another part of disk storage for use.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem, continue normal system work.</b></p> <p><b>If this procedure does not help you solve a problem, call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</b></p>



Last four characters of the indicator code:	What the problem is:	What you should do:
081B	The directory of permanent object addresses is full, so the system cannot continue to assign addresses.	<p><b>CAUTION:</b> Do not ignore this code. If you do not correct this problem now, the system will send you this code again. At that time, you will lose all data stored on the system and will have to load that data into auxiliary storage.</p> <ol style="list-style-type: none"> <li>a. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> on the back of this guide for instructions on reporting this code.)</li> <li>b. While you are waiting for your service representative, continue this procedure.</li> <li>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>d. When the IMPL is finished, go to your system security officer.</li> <li>e. Together, free space in the permanent directory by doing the following: <ol style="list-style-type: none"> <li>1) Save some permanent objects from the system on diskette or tape by entering the SAVOBJ or SAVLIB command, depending on what you are saving.</li> <li>2) When you enter the command, enter *FREE for the STG parameter.</li> <li>3) Enter the appropriate delete command (commands beginning with DLT) for the type of object you are deleting.  Some of the objects you should save, then remove, are the history log (QHST), service log (QSRV), and the programming change log (QCHG). You might also want to save, then remove, old or hardly-used files, programs, and libraries.</li> </ol> </li> <li>f. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</li> <li>g. <b>If this procedure helps you solve the problem, continue normal system work.</b></li> </ol>

Last four characters of the indicator code:	What the problem is:	What you should do:
081C	The channel (through which data is sent between parts of the system) is always busy.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p>
081D	The system found a problem on a disk drive and cannot stop it.	<p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for more information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Program Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
081E	An error that the system cannot fix itself occurred during the <b>machine address generation</b> operation.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> During the IMPL process, the system performs the <b>address regeneration routine</b> (finds all addresses that are not assigned so that those addresses can be used and information can be saved at these addresses). This could take several hours.</p> <p><b>e.</b> When the system finishes the address regeneration routine and the IMPL process, see <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>f.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
081F	The machine address generation operation has used all available addresses in storage.	<p>a. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>b. During the IMPL process, the system performs the <b>address regeneration routine</b> (finds all addresses that are not assigned so that these addresses can be used and information can be saved at those addresses). This could take several hours.</p> <p>c. When the system finishes the address regeneration routine and the IMPL process, see <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>d. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
0820	A permanent DASD read error occurred in an invocation work area.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p>
0821	An error occurred while the <b>storage management module</b> was locked.	<p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>

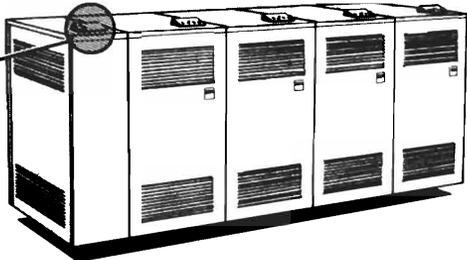
Last four characters of the indicator code:	What the problem is:	What you should do:
0822	A 62PC-1 failure occurred while the system was using auxiliary power.	<p>a. Perform a main storage stand-alone dump. Go to the <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem, continue normal system work.</b></p> <p><b>If this procedure does not help you solve the problem, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</b></p>
0823	The reload of main storage from the save image failed.	<p>a. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions. The IMPL will not be normal. The system may avoid storage management directory rebuild.</p> <p>b. See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</p> <p>c. <b>If this procedure helps you solve the problem, continue normal system work.</b></p> <p><b>If this procedure does not help you solve the problem, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</b></p>



Last four characters of the indicator code:	What the problem is:	What you should do:
0824	There is not enough main storage available to perform directory recovery and the checksum validation.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>
0825	The checksum detected an error.	
0826	There is not enough storage available for the checksum.	<p>a. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions. The amount of the checksum storage in the system auxiliary storage pool (ASP) will be increased by one megabyte per checksum unit in the system ASP.</p> <p>b. See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</p> <p>c. Investigate the use of permanent storage in the system and do one of the following:</p> <ul style="list-style-type: none"> <li>● Delete objects that are not needed.</li> <li>● Add more checksum sets to the system ASP.</li> <li>● Increase the amount of checksum storage in the system ASP.</li> </ul> <p>d. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
0827	Data recovery by the checksum support is not possible because more than one member of a checksum set requires recovery.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to the <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>
0828	The system found an unrecoverable error on the 3370 Direct Access Storage Device adapter.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p>
0829	The system found an unrecoverable error on the 3370 Direct Access Storage Device controller or adapter while checking them for errors.	<p><b>b.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p>
082A	The system found an unrecoverable error on the 3370 Direct Access Storage Device controller.	<p><b>c.</b> Go to <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p>
082B	The system found an unrecoverable error on the 3370 Direct Access Storage Device.	<p><b>d.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



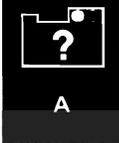
Last four characters of the indicator code:	What the problem is:	What you should do:
082C	<p>The system tried to power off and then power on the 3370 in an attempt to clear an unrecoverable error. A system error occurred during this power off/power on sequence.</p>	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 3 for instructions. Then return here.</p> <p>b. Set the <b>Enable On-Delayed Power Off</b> switch on the 3370 Direct Access Storage Device to the <b>Delayed Power Off</b> position.</p> <div style="text-align: center;">  <p>Look here.</p> </div> <p>c. When the device power turns off, set the <b>Enable On-Delayed Power Off</b> switch to the <b>Enable</b> position.</p> <p>d. When the device power turns on, do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>e. Go to <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>f. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
082E	The rebuild of the recovery initialization base segment index failed.	<p><b>a.</b> Under item 10 in the <i>System/38 Problem Summary Form</i>, record how the rotary switches on the operator/service panel are set.</p> <p><b>If you are trying to perform an alternative IMPL (AIPL),</b> make sure you mounted the diskette magazines properly and that the diskette magazine drive cover is closed. Retry the alternate IMPL (AIPL). Go to step <b>e</b>.</p> <p><b>b.</b> Perform a main storage stand-alone dump. Go to <b>Procedure for Performing a Main Storage Stand-Alone Dump</b> in Chapter 4 for instructions. Then return here.</p> <p><b>c.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>d.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>e.</b> See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</p> <p><b>f.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>



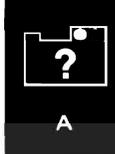
Last four characters of the indicator code:	What the problem is:	What you should do:
0831	Work on the channel cannot be handled by the resident channel <b>input/output manager program</b> .	<ul style="list-style-type: none"> <li>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> </ul>
0832	The channel had a failure, or is busy.	<ul style="list-style-type: none"> <li>b. Make sure you properly labeled the dump diskettes. Save this information.</li> <li>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</li> <li>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</li> </ul> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>
0833	The channel OU (operational unit) task had an exception.	<p><b>Note:</b> For 5832 processing units, main storage has already been dumped to auxiliary storage. The dump will be used on the following IMPL to avoid storage management directory recovery.</p> <ul style="list-style-type: none"> <li>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>b. Make sure you properly labeled the dump diskettes. Save this information.</li> <li>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>d. See <i>Starting the System After a Problem Occured</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</li> <li>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</li> </ul> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
0834	A permanent disk error occurred on a 9332 or 9335 disk drive. The error is probably a disk drive failure.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>
0835	A permanent disk error occurred on a 9332 or 9335 disk drive. The error is probably an IOP/IOA failure.	
0836	A permanent disk error occurred on a 9332 or 9335 disk drive. The error is probably a DFCA subsystem failure.	
0837	A permanent disk error occurred on a 9332 or 9335 disk drive. The error is probably a DFCA subsystem failure.	
0838	There is no power available to a 9332 or a 9335 disk drive.	<p><b>a.</b> Make sure that the Power switch is set to on.</p> <p><b>b.</b> If the disk drive has an <b>Enable/Disable</b> switch, make sure it is set to <b>Enable</b>.</p> <p><b>c.</b> If the <b>Enable/Disable</b> switch is set to <b>Enable</b>, turn the power off and then on.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occured</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
083A	<p>The internal counts of the space available on auxiliary storage do not agree with the amount of free space in the storage management free space directory.</p>	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return above.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
0841	A condition in the <b>data base in-use table</b> is not valid.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>



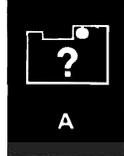
Last four characters of the indicator code:	What the problem is:	What you should do:
0842	An error occurred in an important data base function.	<p><b>a.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>b.</b> When the IMPL process is finished, display the history log by entering:</p> <p style="padding-left: 40px;">DSPLOG</p> <p><b>c.</b> In the history log, look for messages that tell you an object is damaged. <i>Checking for Messages</i> in Chapter 2 tells you how you might find these messages.</p> <p><b>d.</b> If necessary, create the damaged object again. See the description of PDP code J2 in <i>PDP Codes</i> in Chapter 2 for instructions.</p> <p><b>e.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>f.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>
0843	The system detected a down-level VMC.	Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)

Last four characters of the indicator code:	What the problem is:	What you should do:
0848	The <b>event management index</b> is not usable.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>
0851	An unexpected error occurred in an important function and the system could not interrupt the function with the problem.	
0852	The system found a bad <b>V = R</b> (virtual address equals real address) page frame.	
0853	The system found a bad changed page frame in main storage.	
0854	The system found a bad pinned page frame.	
0861	A process in the machine interface keeps entering the wait state.	<p><b>a.</b> Perform both a main storage and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>
0862	An operational unit task or microcode task caused a watched TDE (task dispatching element) access exception.	
0868	The system tried to destroy a task that is indicated as critical.	
0869	The system could not stop a process that is waiting for its process control space to be freed by other processes.	
0870	You could not stop a system process.	



Last four characters of the indicator code:	What the problem is:	What you should do:
0880	The system cannot stop a process using shared code.	<p>a. Try the IMPL again.</p> <p>b. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>c. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
0881	An error occurred that keeps the system from properly ending the IMPL procedure.	
0882	The system cannot do recovery to the authority component.	
0883	A problem occurred on the first part of <b>data base recovery</b> .	
0884	A problem occurred on the second part of <b>data base recovery</b> .	
0885	A problem occurred on the first part of <b>journal management recovery</b> .	
0886	A problem occurred on the second part of <b>journal management recovery</b> .	
0887	A problem occurred during the <b>commitment control recovery</b> procedure.	
0891	The exception handler cannot handle any more errors.	<p>a. Perform both a main storage, and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p>
0892	No exception error handler control block is available.	
0893	The system found a sequence problem in the exception handler.	
0894	The system found a microcode problem.	
08A1	The <b>reserved invocation work area</b> is used up.	
08A2	The system could not extend the <b>invocation work area</b> segment section.	

Last four characters of the indicator code:	What the problem is:	What you should do:
08A3	The system could not extend the <b>hold record area</b> beyond 64 K bytes.	<p>a. Perform both a main storage and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. When the system starts again, do not start as many jobs as were running when the problem occurred.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
08B1	A problem occurred in the exception handler.	<p>a. Perform both a main storage and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p>
08B2	This is not a valid <b>component-specific exception handler</b> return code.	<p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
08C0	A hardware (machine) error occurred that the system could not fix.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> Start again the job or session that you were running when the problem occurred.</p> <p><b>f.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
08C1	A hardware (machine) error occurred that the system could not fix while the system was in a wait state (waiting for an operation to end).	
08D1	The system tried to make the <b>table of hold records</b> larger than 64K bytes.	
08D3	A system request for machine work space caused a segment in storage to be larger than 16 million bytes.	
08D5	The header of (general information about) an object is damaged in such a way that the system cannot determine the object type.	
08E3	A <b>source/sink</b> error occurred.	<p><b>a.</b> Leave the system as it is until you are asked to do otherwise.</p> <p><b>b.</b> Call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
08EF	The <b>machine context</b> was destroyed.	<p><b>c.</b> While you are waiting for your service representative, do the following.</p> <ol style="list-style-type: none"> <li>1) Do an IMPL using the IMPL Abbreviated switch setting. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>2) See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</li> <li>3) Continue normal system work.</li> </ol>

Last four characters of the indicator code:	What the problem is:	What you should do:
08F0	The system is running on auxiliary power and is sampling for the return of utility power.	<p>This indicator code should not remain longer than the delay time specified in CHGSYSVAL QUPSDLYTIM. If this indicator code does remain longer than the specified time <b>or</b> if utility power returns and this indicator code remains, do the following:</p> <ol style="list-style-type: none"> <li>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>b. Make sure you properly labeled the dump diskettes. Save this information.</li> <li>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>d. See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</li> <li>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</li> </ol> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>





Last four characters of the indicator code:	What the problem is:	What you should do:
08FF	You tried to start a machine function that cannot be started at this time.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
0900	CPF tried to use an option for the <b>terminate machine processing</b> instruction that is not valid.	<p><b>a.</b> Perform both a main storage and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:						
0911	The system is running out of addresses to store data. See the note at the right for an important caution notice.	<p><b>Note:</b> This code is a warning that 95% of all the available addresses in your system storage space are used up. You must do the <b>address regeneration routine</b> soon to assign new addresses to the objects (system items) in storage order to continue normal system work. During the routine, the system makes addresses that are no longer being used available for use again.</p> <p>The address regeneration routine takes many hours to do, and you cannot do any other system work while the system is running that routine.</p> <p><b>CAUTION:</b> You can wait a few days to do this procedure, but this procedure must be done. If you do not do the address regeneration routine before the system uses up all available addresses, the system stops and the numbered amber lights show the code 081F. At that time, the system will not operate until you run the address regeneration routine.</p> <p>a. Do you want to do the procedure now?</p> <table border="0"> <tr> <td style="text-align: center; vertical-align: middle;">Yes</td> <td style="text-align: center; vertical-align: middle;">No</td> <td></td> </tr> <tr> <td style="border-left: 1px solid black; border-right: 1px solid black; height: 100px;"></td> <td style="border-left: 1px solid black; border-right: 1px solid black; height: 100px;"></td> <td> <p>Set the left rotary switch on the operator/service panel to 5 (IMPL).</p> <p>Set the right rotary switch to 0 (Normal).</p> <p>Press the Load switch.</p> <p>When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your display), continue normal system work.</p> <p>Return here when you want to do the address regeneration routine.</p> </td> </tr> </table> <p>b. Ensure that no jobs are active on the system (enter DSPACTJOB).</p> <p>c. Set the left rotary switch to position 5 (IMPL).</p>	Yes	No				<p>Set the left rotary switch on the operator/service panel to 5 (IMPL).</p> <p>Set the right rotary switch to 0 (Normal).</p> <p>Press the Load switch.</p> <p>When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your display), continue normal system work.</p> <p>Return here when you want to do the address regeneration routine.</p>
Yes	No							
		<p>Set the left rotary switch on the operator/service panel to 5 (IMPL).</p> <p>Set the right rotary switch to 0 (Normal).</p> <p>Press the Load switch.</p> <p>When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your display), continue normal system work.</p> <p>Return here when you want to do the address regeneration routine.</p>						

Last four characters of the indicator code:	What the problem is:	What you should do:
0911 (continued)		<p>d. Set the right rotary switch to position C.</p> <p>e. Press the Load switch.</p> <p>f. The system does the address regeneration routine, and then does an IMPL. This could take many hours.</p> <p>The system finishes the routine when it finishes the IMPL procedure.</p> <p>g. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>h. Continue normal system work.</p>
0920	A machine process stopped.	<p>a. Make sure that you have installed all engineering changes (ECs) that you received from IBM. See the <i>Guide to Program Product Installation and Device Configuration</i> for instructions.</p> <p>b. Then, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
0921	The system could not find the first AIPL template.	<p>a. Make sure that you properly loaded the CPF diskettes on the diskette drive.</p>
0922	The system could not find the second AIPL template.	<p>If you did not load the diskettes properly, load them again. Then try the operation again.</p>
0923	The system could not find the third AIPL template.	<p>If you loaded the diskettes properly, go to step b.</p>
		<p>b. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
		<p>c. While you are waiting for your service representative, continue this procedure.</p> <ol style="list-style-type: none"> <li>1) Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>2) Make sure you properly labeled the dump diskettes. Save this information.</li> <li>3) Set the left rotary switch on the operator/service panel to 5 (IMPL).</li> </ol>
		<p>Set the right rotary switch to 2 (AIPL).</p>
		<p>The diagram shows two rotary switches. The left switch, labeled '1', has positions: 0 Normal, 1 Alt IMPL Abbr, 2 Alt IMPL, 3 Enable, 4 IMPL Abbr, 5 IMPL (highlighted), 6 CPU Stop, 7 CPU Start, 8 Save/Restore. The right switch, labeled '2', has positions: 0 Normal, 1 Options, 2 AIPL (highlighted), 3 Stop, 4 Force Pwr Off, 5 Routine Stop, 6 Loop, 7 Continue, 8 Present Fault/Search. Between the switches are labels: F Reset SCA, E, D Status Display, C CPU Request, B IOC1 Adr Stop, A IOC1 Insn Step, 9 Dump MS, F CPU Diag, E No Entry, D Console Diag, C, B Lamp Test, A Cable Test, 9 Previous Fault.</p>
		<ol style="list-style-type: none"> <li>4) Press the Load switch.</li> <li>5) See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</li> <li>6) Continue normal system work.</li> </ol>

Last four characters of the indicator code:	What the problem is:	What you should do:
0924	The system could not create a user profile (during IMPL with AIPL).	<p><b>a.</b> Find out if the last IMPL was performed with AIPL (the left rotary switch is set to 4 (IMPL Abbr) or 5 (IMPL) and the right rotary switch is set to 2 (AIPL)). You can probably just look at the rotary switch settings to get this information.</p> <p><b>b.</b> Record the switch setting under item 10 on the <i>System/38 Problem Summary Form</i>. You can find copies of the form and instructions for using it at the back of this guide.</p> <p><b>c.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>d.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>e.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>f.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>g.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
0925	The system could not create a program (during IMPL with AIPL).	
0926	The system could not start a process (during IMPL or IMPL with AIPL.)	
0930	The system could not finish the alternate IMPL procedure (AIPL) because the system found an error on the diskette magazine drive.	
0960	An unexpected error was returned from GETIWA.	<p><b>a.</b> Restart the job/session.</p> <p><b>b.</b> See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</p> <p><b>c.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>
0961	An unexpected error was returned from FREEIWA.	



Last four characters of the indicator code:	What the problem is:	What you should do:
0980	An unexpected error occurred in the <b>bootstrap loader</b> .	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then return here.</p> <p>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
0981	An error occurred while the system was issuing a <b>seek</b> command to the load/dump device.	
0982	An error occurred in the <b>REQIO instruction</b> of the create and load module.	
0983	The system console is not working.	

Last four characters of the indicator code:	What the problem is:	What you should do:
0984	There is a termination message or error in the module QINSTALL.	<p><b>a.</b> Under item 10 of the <i>Problem Summary Form</i>, record the message shown on the system console screen. You can find copies of the form at the back of this guide.</p> <p><b>b.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>c.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>d.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>e.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>f.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
0985	The installation of CPF stopped.	<p>This code is a reminder that you told the system to stop installing CPF.</p> <p>You told the system to do this when you responded to a message received during the installation process.</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
0986	The system cannot find a user profile in the programming module QINFIXUP.	<p><b>a.</b> Perform both a main storage and virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not help you solve the problem,</b> leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
0987	The system cannot find a system object in the programming module QINFIXUP.	<ul style="list-style-type: none"> <li>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>b. Make sure you properly labeled the dump diskettes. Save this information.</li> <li>c. Install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then return here.</li> <li>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</li> <li>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</li> </ul> <p><b>If this procedure does not help you solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
0988	An error that was not expected occurred in the programming module QINSTALL.	
0989	An error occurred in the programming module QINSTALL after the system already found an error.	
098A	The system found damage in the programming module QINSTALL.	<ul style="list-style-type: none"> <li>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>b. Make sure you properly labeled the dump diskettes. Save this information.</li> <li>c. Install CPF again, entering the same values on the INSTALL-TYPE PROMPT that you entered the last time you tried to install CPF. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions.</li> <li>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</li> <li>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</li> </ul> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
098F	The system found damage in the QICO object (installation communications object).	



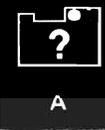
Last four characters of the indicator code:	What the problem is:	What you should do:
0990	<p>An error occurred before the PCO (process communication) object was found. The PCO is a system object in which <b>exception data</b> (problem information) is saved when other errors occur.</p>	<p><b>a.</b> Perform both a main storage and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem,</b> leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
0991	The system library QSYS could not be found.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL using the IMPL abbreviated rotary switch settings. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem,</b> call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
0992	A system program was not found.	
0993	A system library was not found.	
0994	A system object was not found.	
0995	The system could not fix the damage to an object. The system will try to build the object again the next time you perform an IMPL.	



Last four characters of the indicator code:	What the problem is:	What you should do:
0996	An error occurred during the <b>initial CPF</b> process.	<p><b>a.</b> Perform both a main storage and a virtual storage stand-alone dump. See Chapter 4 for instructions. Then return here.</p>
0997	The <b>initial CPF</b> process could not begin the start CPF process.	<p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem,</b> leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Solving Form</i> at the back of this guide for instructions on how to report this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
0998	The system found errors during <b>hardware failure tests</b> for the system console, power controller, operator/service panel, and diskette magazine drive (during the initial CPF process).	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Solving Form</i> at the back of this guide for instructions on how to report this code.)</p>
0999	The system does not have enough main storage space (workspace) to set up the minimum machine and base pools.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



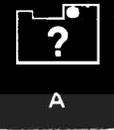
Last four characters of the indicator code:	What the problem is:	What you should do:
099A	The system cannot fix the damage found in an object needed to do system work.	<p>a. Call your service representative. Describe the problem and report the system reference code.</p> <p>b. While you are waiting for your service representative, continue this procedure.</p> <p>c. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>d. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>e. Install CPF again. See the <i>Guide to Program Product Installation and Device Configuration</i> for instructions.</p> <p>f. When the INSTALL-TYPE PROMPT appears during the installation process, enter *YES in the space beside COLD START.</p> <p>Enter *NORMAL in the space beside TYPE OF INSTALL.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre style="font-family: monospace;"> INSTALL TYPE PROMPT ENTER THE FOLLOWING: SYSTEM DATE (YEAR/MONTH/DAY):      _ / _ / _ SYSTEM TIME (HOUR:MINUTE:SECOND):   _ : _ : _ COLD START (*NO *YES):                *YES TYPE OF INSTALL (*NORMAL *ABRV):     *NORMAL RESTORE SYSTEM VALUES FROM MEDIUM (*NO *YES): *NO RESTORE EDIT DESC FROM MEDIUM (*NO *YES): *NO RESTORE REPLY LIST FROM MEDIUM (*NO *YES): *NO </pre> </div> <p>g. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>h. Continue normal system work.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
099B	The system found damage in a required system object. The system will fix the damage the next time you perform an IMPL.	<ul style="list-style-type: none"> <li>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>b. Make sure you properly labeled the dump diskettes. Save this information.</li> </ul>
099C	The system found damage in a required system library. The system will fix the damage the next time you perform an IMPL.	<ul style="list-style-type: none"> <li>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</li> <li>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</li> </ul> <p><b>If this procedure does not help you solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
099F	Recursive exceptions occurred.	
09A0	The system could not find the implicit resolve (call) object.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09A1	The authorized user table cannot be found.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Install CPF again. See the <i>Guide to Program Product Installation and Device Configuration</i> for instructions.</p> <p><b>d.</b> When the INSTALL-TYPE PROMPT appears during the installation process, enter *NO in the space beside COLD START.</p> <p>Enter *NORMAL in the space beside TYPE OF INSTALL.</p> <p><b>e.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>f.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09A2	Authorized user table conversion error.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09B0	A function failed during the start CPF part of the IMPL procedure, before the system could find the <b>start CPF communications</b> object.	<p>a. Perform both a main storage and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09B1	An <b>implicit resolve call</b> error occurred.	
09B2	The system could not find the system library QSYS.	
09B3	The system could not find a system program.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:		
09B4	The system could not find a system library.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>When you receive the START CPF PROMPT during the IMPL procedure, enter *YES in the space beside CONFIGURATION MENU.</p> <p>Enter *KEEP in the space beside INCOMPLETE JOB LOGS.</p> <p><b>c.</b> When you receive the CONFIGURATION MENU, display the value for the controlling subsystem by entering:</p> <pre>DSPSYSVAL SYSVAL(QCTLSBSD)</pre> <p><b>d.</b> When that value appears on your screen, make sure that the value for QCTLSBSD has the correct library name. If you are not sure what the correct library name should be, ask your programmer.</p> <p><b>e.</b> Is the library name correct?</p> <table border="0"> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">Yes</td> <td>No</td> </tr> </table> <p>Change that value by entering:</p> <pre>CHGSYSVAL SYSVAL(QCTLSBSD) VALUE('qctl qsys')</pre> <p>Replace qctl qsys with the <b>name</b>, then <b>library</b> of your controlling subsystem. Remember to enter apostrophes (') as shown above.</p> <p>If you do not have the authority to change these values, or do not know the correct value, see your system security officer.</p> <p>Go to step f.</p>	Yes	No
Yes	No			

Last four characters of the indicator code:	What the problem is:	What you should do:
09B4 (continued)		<p>f. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log by entering:</p> <pre>DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active, and a printer writer is available to the assigned output queue.</p> <p>g. Label the printed history log with your account name and the date and time the problem occurred. Also, make sure you properly labeled the dump diskettes. Save this information.</p> <p>h. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>i. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09B5	The system could not find a system object.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
09B6	A function would not work during the start CPF process of the IMPL procedure.	



Last four characters of the indicator code:	What the problem is:	What you should do:																
09B7	A resolve to controlling subsystem description failure occurred.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p>																
09B8	The controlling subsystem description is damaged.	<p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. When you receive the START CPF PROMPT during the IMPL process, enter *YES in the space beside CONFIGURATION MENU</p> <p>Enter *KEEP in the space beside INCOMPLETE JOB LOGS.</p> <p>e. When you receive the CONFIGURATION MENU, display the system values for the controlling subsystem by entering:</p> <p style="padding-left: 40px;">DSPSYSVAL SYSVAL (QCTLSBSD)</p> <p>f. When the controlling subsystem value appears on your screen, make sure that the QCTLSBSD system value is correct. If you are not sure that the value for QCTLSBSD is correct, ask your programmer.</p> <p>g. <b>Is the QCTLSBSD value correct?</b></p> <table style="margin-left: 20px; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">Yes</td> <td style="padding-left: 5px;">No</td> </tr> <tr> <td style="border-right: 1px solid black; text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> <tr> <td colspan="2" style="padding-left: 20px;">Enter:</td> </tr> <tr> <td colspan="2" style="padding-left: 40px;">CHGSYSVAL SYSVAL (QCTLSBSD) VALUE ('qct1 qsys')</td> </tr> <tr> <td colspan="2" style="padding-left: 20px;">Replace qct1 qsys with the correct <b>name</b>, then <b>library</b> of your controlling subsystem. Remember to enter apostrophes (') as shown above.</td> </tr> <tr> <td colspan="2" style="padding-left: 20px;">Press the Enter key.</td> </tr> <tr> <td colspan="2" style="padding-left: 20px;"><b>Note:</b> If you do not have the authority to change system values, or do not know the correct value to use, see your system security officer.</td> </tr> <tr> <td colspan="2" style="padding-left: 20px;">Go to step h.</td> </tr> </table>	Yes	No			Enter:		CHGSYSVAL SYSVAL (QCTLSBSD) VALUE ('qct1 qsys')		Replace qct1 qsys with the correct <b>name</b> , then <b>library</b> of your controlling subsystem. Remember to enter apostrophes (') as shown above.		Press the Enter key.		<b>Note:</b> If you do not have the authority to change system values, or do not know the correct value to use, see your system security officer.		Go to step h.	
Yes	No																	
Enter:																		
CHGSYSVAL SYSVAL (QCTLSBSD) VALUE ('qct1 qsys')																		
Replace qct1 qsys with the correct <b>name</b> , then <b>library</b> of your controlling subsystem. Remember to enter apostrophes (') as shown above.																		
Press the Enter key.																		
<b>Note:</b> If you do not have the authority to change system values, or do not know the correct value to use, see your system security officer.																		
Go to step h.																		

Last four characters of the indicator code:	What the problem is:	What you should do:
09B7, 09B8 (continued)		<p><b>h.</b> When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log by entering:</p> <pre>DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active and a printer writer is available to the assigned output queue.</p> <p><b>i.</b> Label the history log with your account name and the date and time the problem occurred. Also make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>j.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>k.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09B9	The system console availability test failed. The system cannot continue the IMPL process.	<ul style="list-style-type: none"><li>a. Call your service representative. Describe the problem, and report the system reference code.</li><li>b. While you are waiting for your service representative, continue this procedure.</li><li>c. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li><li>d. Make sure you properly labeled the dump diskettes. Save this information.</li><li>e. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li><li>f. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</li><li>g. Continue normal system work.</li></ul>

Last four characters of the indicator code:	What the problem is:	What you should do:
09BA	The display file <b>start CPF</b> (QDSTRCPF) is missing or is not usable, so the system cannot continue the IMPL procedure.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Install CPF again. See the <i>Guide to Program Product Installation and Device Configuration</i> for instructions.</p> <p><b>d.</b> When the <b>INSTALL-TYPE PROMPT</b> appears during the installation process, enter <b>*NO</b> in the space beside <b>COLD START</b>.</p> <p>Enter <b>*NORMAL</b> in the space beside <b>TYPE OF INSTALL</b>.</p> <p><b>e.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>f.</b> <b>If this procedure helps you solve the problem, continue normal system work.</b></p> <p><b>If this procedure does not help you solve the problem, call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</b></p>



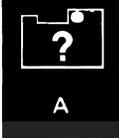
Last four characters of the indicator code:	What the problem is:	What you should do:
09BB	The system console would not vary on during the IMPL procedure.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, do the following.</p> <ol style="list-style-type: none"> <li>1) Install CPF again. When you receive the <code>INSTALL TYPE PROMPT</code> during the install process, enter <code>*NO</code> in the space beside <code>COLD START</code>. Enter <code>*ABBRV</code> in the space beside <code>TYPE OF INSTALL</code> (abbreviated installation process). Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions.</li> <li>2) Then continue normal system work.</li> </ol> <p><b>If that does not help you solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09BC	The system console is locked so the system cannot continue the IMPL procedure.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09BD	Controlling subsystem description lock wait time-out CPF process is stopped.	<p>a. Perform both a main storage and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p>b. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>c. When you receive the START CPF PROMPT during the IMPL procedure, enter *YES in the space beside CONFIGURATION MENU.</p> <p>Enter *KEEP in the space beside INCOMPLETE JOB LOGS.</p> <p>d. When you receive CONFIGURATION MENU, change the value for the controlling subsystem by entering:</p> <pre>CHGSYSVAL SYSVAL(QCTLSBSD) VALUE('qctl qsys')</pre> <p>Replace qctl qsys with the name of a subsystem that can control the system, then its library. Remember to enter apostrophes (') as shown above.</p> <p>If you do not have the authority to change system values, or you do not know what value to enter, see your system security officer.</p> <p>e. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu appears on your screen), print the history log by entering:</p> <pre>DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active, and a printer writer is available to the assigned output queue.</p> <p>f. Label the history log with your account name, and the date and time the problem occurred. Also, make sure you properly labeled your dump diskettes. Save this information.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09BD (continued)		<p>g. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>h. <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> install CPF again. Go to the <i>Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If this does not solve the problem,</b> leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09BE	You are not authorized (allowed) to use the controlling subsystem. The system cannot continue the IMPL procedure.	<p><b>a.</b> Ask your system security officer to give you the correct sign on information, or the correct authority to use the controlling subsystem.</p> <p><b>b.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>c.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>d.</b> Try again the operation that failed.</p> <p><b>If this procedure does not help you solve the problem, do the following:</b></p> <ol style="list-style-type: none"> <li>1) Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions.</li> <li>2) Make sure you properly labeled the dump diskettes. Save this information.</li> <li>3) Do another IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>4) Continue normal system work.</li> </ol> <p><b>If that does not solve the problem,</b> leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
09BF	The number of bad <b>main storage page frames</b> is greater than the number allowed by the system (system value QBADPGFRM).	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>c.</b> When you receive the START CPF PROMPT during the IMPL procedure, enter *YES in the space beside CONFIGURATION MENU.</p> <p>Also, record the number of FAILED MAIN STORAGE PAGE FRAMES.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09BF (continued)		<p>d. When you receive the CONFIGURATION MENU, increase the QBADPFGRM value. To do this, enter:</p> <pre>CHGSYSVAL SYSVAL(QBADPGFRM) VALUE(60)</pre> <p>Replace 60 with a value larger than the value you recorded in step c.</p> <p>If you do not have the authority to change system values or do not know which value to use, see your system security officer.</p> <p>e. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log (QHST) for the date the problem occurred by entering:</p> <pre>DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active, and a printer writer is available to the assigned output queue.</p> <p>f. Label the history log with your account name, and the date and time the problem occurred. Also, make sure you properly labeled the dump diskettes. Save this information.</p> <p>g. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>h. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09C0	<p>The system cannot finish this <b>unattended start</b> because you need to respond to the <b>INSTALL PROMPT</b> during this process.</p>	<p><b>a.</b> Perform both a main storage and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem,</b> leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09C1	The device description for the system console (QCONSOLE) is missing or is not available. The IMPL process cannot continue.	<p><b>a.</b> Perform a main storage stand-alone dump. See <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions.</p> <p>When you receive the <code>INSTALL TYPE PROMPT</code> during the installation process, do the following:</p> <ul style="list-style-type: none"> <li>— Enter <code>*NO</code> in the space beside <code>COLD START</code>.</li> <li>— Enter <code>*ABBRV</code> in the space beside <code>INSTALL TYPE</code>.</li> </ul> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, leave the system as it is. Call you service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

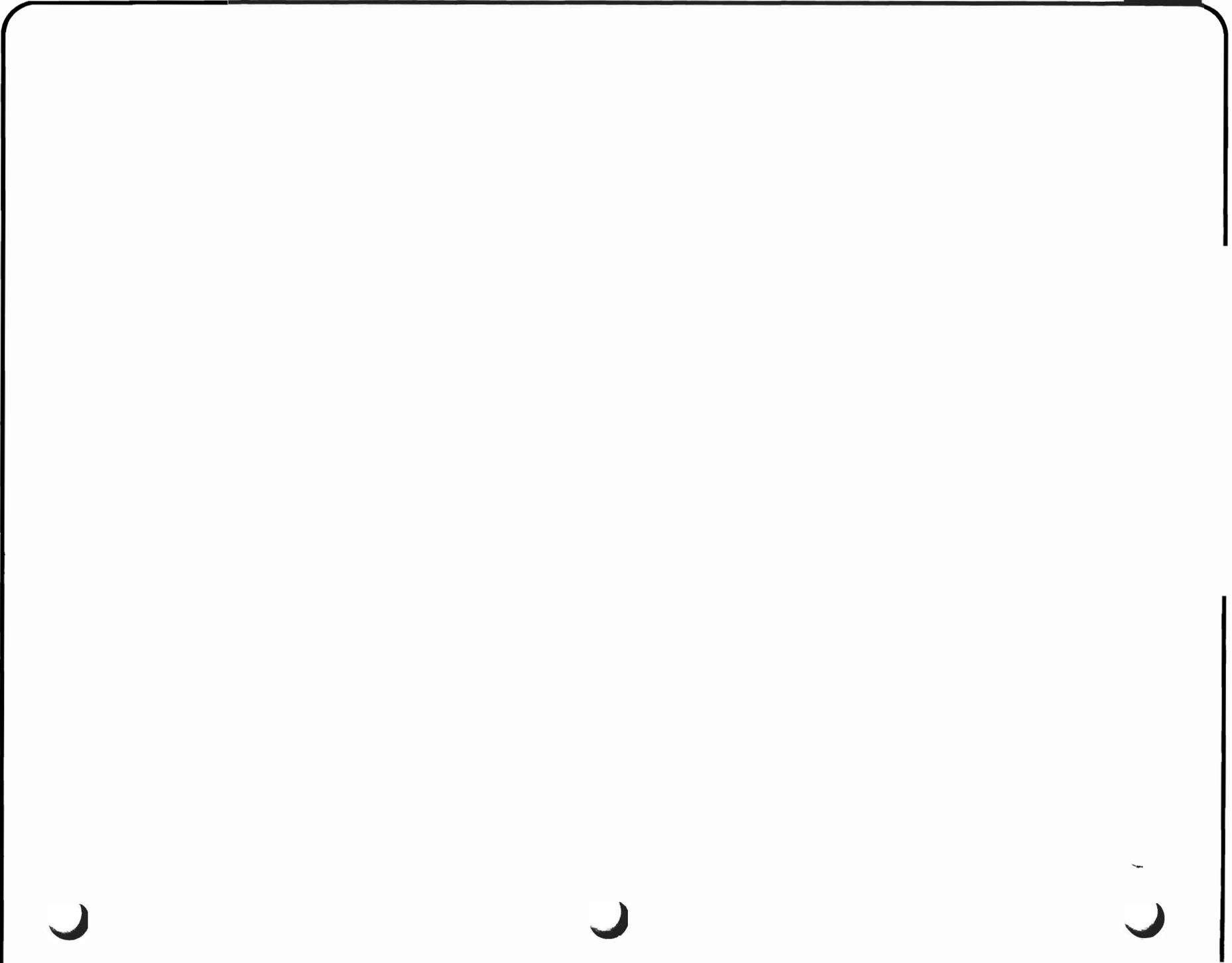


Last four characters of the indicator code:	What the problem is:	What you should do:
09C2	<p>You have tried to sign on to the system more times than you are allowed to during the start CPF procedure or while the system was in the restricted state.</p>	<ul style="list-style-type: none"> <li>a. Ask your system security officer to give you the correct sign on information to start the system.</li> <li>b. Perform an IMPL using this correct password. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>c. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</li> <li>d. <b>If this procedure helps you solve the problem</b>, continue normal system work.</li> </ul> <p><b>If this procedure does not help you solve the problem</b>, do the following:</p> <ul style="list-style-type: none"> <li>1) Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>2) Make sure you properly labeled the dump diskettes. Save this information.</li> <li>3) Leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</li> </ul>



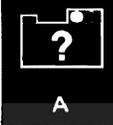
Indicator code 09C2

1-103

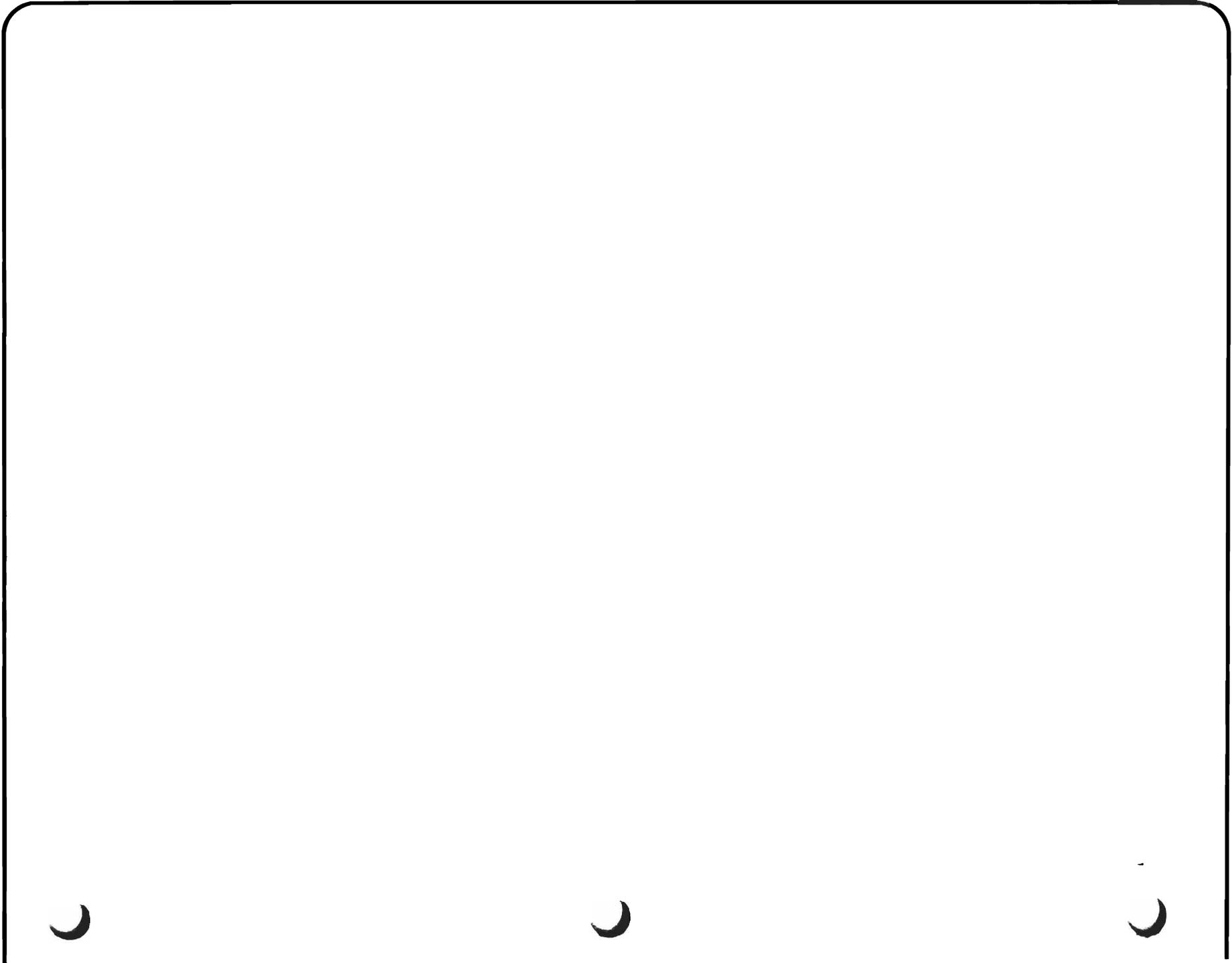


Last four characters of the indicator code:	What the problem is:	What you should do:
09C3	<p>The system does not have enough main storage space available to establish the minimum sized base storage pool. This is probably caused by assigning too much main storage to the machine storage pool (system value QMCHPOOL is too large).</p>	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>When you receive the START CPF PROMPT during the IMPL procedure, enter *YES in the space beside CONFIGURATION MENU.</p> <p>c. When you receive the CONFIGURATION MENU, display system value for the machine pool size by entering:</p> <pre>DSPSYSVAL SYSVAL (QMCHPOOL)</pre> <p>Check the value shown.</p> <p>d. Change the QMCHPOOL value to a lower number by entering:</p> <pre>CHGSYSVAL SYSVAL (QMCHPOOL) VALUE (256)</pre> <p>Replace 256 with the new value.</p> <p><b>Note:</b> If you do not have authority to change system values, see your system security officer.</p> <p>e. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen) print the history log by entering:</p> <pre>DSPLOG LOG (QHST) OUTPUT (*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active and a printer writer is available to the assigned output queue.</p> <p>f. Label the history log with your account name, and the date and time the problem occurred. Make sure you properly labeled the dump diskettes. Save this information.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09C3 (continued)		<p><b>g.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>h.</b> If this procedure helps solve the problem, continue normal system work.</p> <p>If this procedure does not help you solve the problem, leave the system as it is. Call your service representative and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
09C4	The system could not start the <b>system arbiter process</b> .	<p><b>a.</b> Perform both a main storage and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> If this procedure helps you solve the problem, continue normal system work.</p> <p>If this procedure does not help you solve the problem, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p>If that does not solve the problem, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

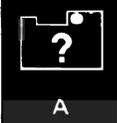


Last four characters of the indicator code:	What the problem is:	What you should do:
09C5	The system could not start the controlling subsystem.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the Guide to <i>Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09C7	An error occurred during document interchange recovery.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> install CPF again. Go to the Guide to <i>Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem,</b> call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09C8	A function check occurred in system arbiter while the system was starting the controlling subsystem.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> When you receive the START CPF PROMPT during the IMPL procedure, enter *KEEP in the spaces next to OUTPUT QUEUES and INCOMPLETE JOB LOGS.</p> <p><b>e.</b> When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log (QHST) for the date the problem occurred by entering:</p> <pre style="text-align: center;">DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active, and a printer writer is available to the assigned output queue.</p> <p><b>f.</b> When the system prints the history log, it also prints the job logs for the system arbiter and the controlling subsystem. Keep these logs.</p> <p><b>g.</b> Label these job logs with your account name, and the date and time the problem occurred. Put this information with the dump diskettes. Save this information.</p> <p><b>h.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>i.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

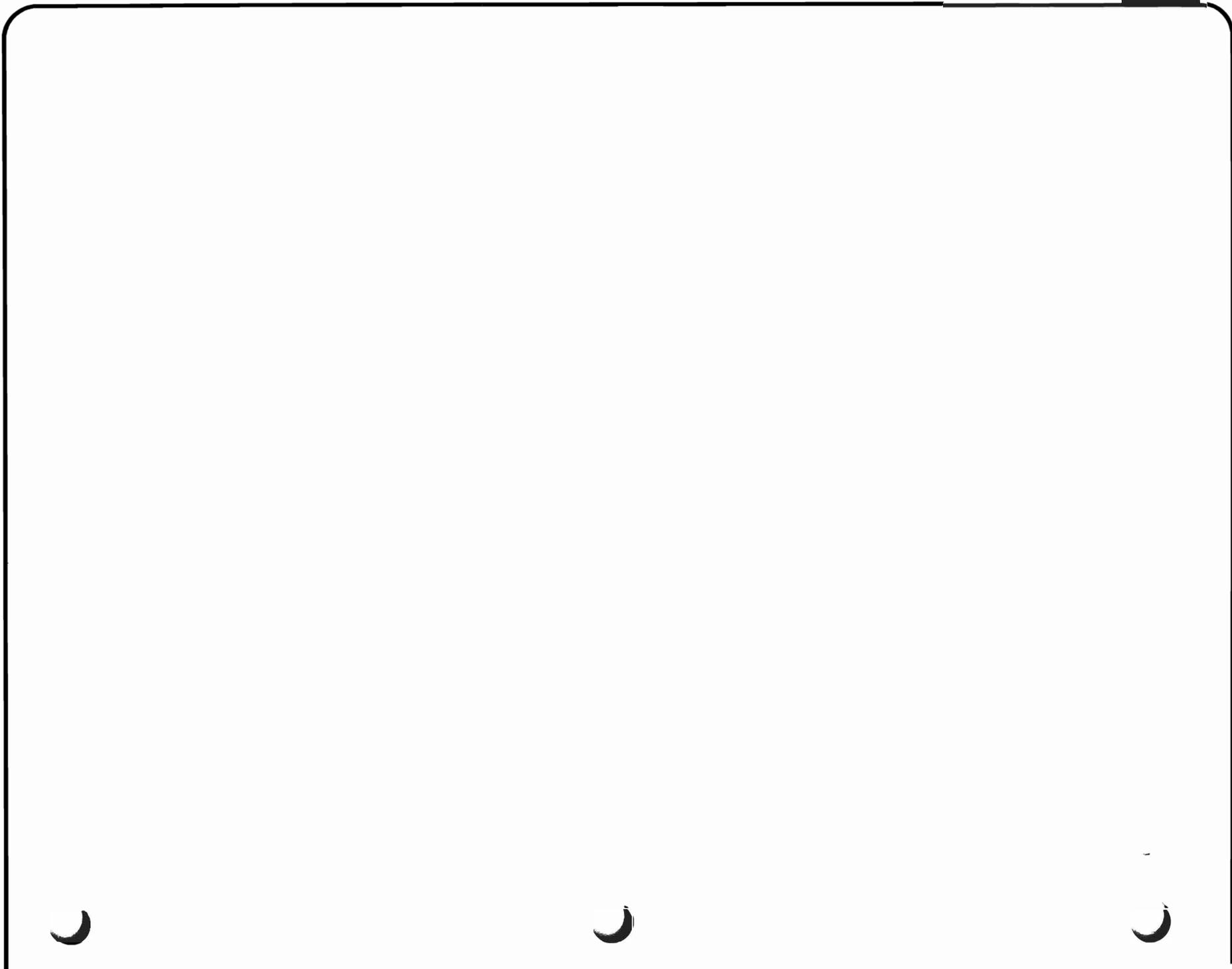


Last four characters of the indicator code:	What the problem is:	What you should do:
09C9	An error occurred during SNA Distribution Services (SNADS) recovery.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the Guide to <i>Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



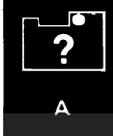
Indicator code 09C9

1-111



Last four characters of the indicator code:	What the problem is:	What you should do:
09CA	While the system performed data base recovery, an error occurred.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
09CB	An error occurred while the system worked with the system message logs.	
09CC	An error occurred in the installation module QINCPF.	
09CD	An error occurred during the configuration menu function.	
09CE	An error occurred when you were applying or removing a deferred programming change (PC).	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. When you receive the DEFERRED PROGRAMMING CHANGES display during the IMPL procedure, try to apply or remove the programming change again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions.</p> <p>e. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09CE (continued)		<p><b>f.</b> If this procedure helps you solve the problem, continue normal system work.</p> <p>If this procedure does not help you solve the problem, install CPF again. Go to <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p>If that does not solve the problem, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
09CF	An error occurred in the programming module QWCICLSR.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p>
09D0	An error occurred during data base error recovery.	<p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p>
09D1	The system could not find an object, or found damage in an object. The system will try to build that object again the next time you perform the IMPL procedure.	<p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>e.</b> If this procedure helps you solve the problem, continue normal system work.</p> <p>If this procedure does not help you solve the problem, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p>If that does not solve the problem, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
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09D2

The system found damage in a required system object.

a. Perform a main storage stand-alone dump. Go to *Procedure for Performing a Main Storage Stand-Alone Dump* in Chapter 4 for instructions. Then return here.

b. Were you trying to install CPF?

No Yes

Install CPF again. When you receive the INSTALL-TYPE PROMPT during the installation process, enter the same values you did before. Go to the *Guide to Program Product Installation and Device Configuration* for instructions. Then continue normal system work.

If the problem occurs again, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the *Problem Summary Form* at the back of this guide for instructions on how to report this code.)

c. Install CPF. Go to the *Guide to Program Product Installation and Device Configuration* for instructions.

When you receive the INSTALL-TYPE PROMPT, enter \*NO in the space beside COLD START.

Enter \*ABBRV in the space beside INSTALL TYPE.

```

INSTALL TYPE PROMPT
ENTER THE FOLLOWING:
SYSTEM DATE (YEAR/MONTH/DAY):      _ / _ / _
SYSTEM TIME (HOUR:MINUTE:SECOND):  _ : _ : _
COLD START (*NO *YES):                *NO
TYPE OF INSTALL (*NORMAL *ABBRV):    *ABBRV
RESTORE SYSTEM VALUES FROM MEDIUM (*NO *YES):  /NO
RESTORE EDIT DESC FROM MEDIUM (*NO *YES):       *NO
RESTORE REPLY LIST FROM MEDIUM (*NO *YES):      *NO
    
```

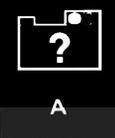
Enter \*ABBRV here.

Last four characters of the indicator code:	What the problem is:	What you should do:
09D2 (continued)		<p>d. See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, do the following:</p> <ol style="list-style-type: none"> <li>1) Install CPF again.</li> <li>2) When you receive the <code>INSTALL-TYPE PROMPT</code> during the installation process, enter <code>*YES</code> in the space beside <code>COLD START</code>.  Enter <code>*NORMAL</code> in the space beside <code>TYPE OF INSTALL</code>. Note that this will cause information on job queues and output queues to be lost.</li> <li>3) See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for information on what happened to work in the system when the system stopped working. Continue normal system work.</li> </ol> <p><b>If that does not solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09D3	The system found damage in an object needed to do spooling.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>When you receive the START CPF PROMPT during the IMPL procedure, enter *CLEAR in the spaces beside JOB QUEUES, OUTPUT QUEUES, and INCOMPLETE JOB LOGS.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre style="font-family: monospace;"> START CONTROL PROGRAM FACILITY PROMPT Enter the following: System date (MDY):          11 / 17 / 80 System time:                00 : 00 : 00 Job queues (*KEEP *CLEAR):  *CLEAR Output queues (*KEEP *CLEAR): *CLEAR Incomplete job logs (*KEEP *CLEAR): *CLEAR Configuration menu (*NO *YES): *NO  00002 main storage frames have failed.  See Operator's Guide. Last termination was NORMAL </pre> </div> <p>d. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09D4	Damage was found in a required system object, but the damage can be corrected the next time you perform an IMPL.	<p><b>a.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>b.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>c.</b> <b>If this procedure helps you solve the problem,</b> continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem,</b> leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09E0	The controlling subsystem stopped without giving any warning.	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>When you receive the START CPF PROMPT during the IMPL process, do the following:</p> <ul style="list-style-type: none"> <li>— Enter *YES in the space beside CONFIGURATION MENU.</li> <li>— Enter *KEEP in the space beside INCOMPLETE JOB LOGS.</li> </ul> <p><b>c.</b> When you receive the CONFIGURATION MENU, change the value for the controlling subsystem by entering:</p> <pre>CHGSYSVAL SYSVAL(QCTLSBSD) VALUE('qctl qsys')</pre> <p>Replace qctl qsys with the name of a subsystem, then library, you can use to control the system. Remember to enter apostrophes (') as shown above.</p> <p>If you do not have the authority to change system values, or if you do not know which value to enter for QCTLSBSD, see your system security officer.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09E0 (continued)		<p>d. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log (QHST) for the date the problem occurred by entering:</p> <pre>DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active and a printer writer is available to the assigned output queue.</p> <p>e. When the system starts printing the history log, it also prints the job logs for the arbiter and the controlling subsystem. Keep these logs.</p> <p>f. Label the history log and job logs with your account name, and the date and time the problem occurred. Also, make sure you properly labeled the dump diskettes. Save this information.</p> <p>g. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>h. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

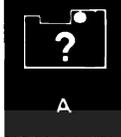


A

Indicator code 09E0

Last four characters of the indicator code:	What the problem is:	What you should do:
09E1	The system could not find the system library (QSYS).	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p>
09E2	The system arbiter could not find a system program.	<p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09E3	The system arbiter cannot find the <b>start CPF communications object</b> (QWCSCPF).	<p>a. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p>
09E4	The system arbiter could not find a system object.	<p>b. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>c. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If the problem occurs again</b>, do the following:</p> <ol style="list-style-type: none"> <li>1) Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>2) Make sure you properly labeled the dump diskettes. Save this information.</li> <li>3) Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>4) Continue normal system work.</li> </ol> <p><b>If the above procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09E7	A function check occurred during the first function of the system arbiter.	a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.
09E8	A function check occurred during the first function of the system arbiter while the arbiter was handling another function check.	b. Make sure you properly labeled the dump diskettes. c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.
09EA	A system arbiter function failed as it was starting devices.	<p>d. When you receive the START CPF PROMPT during the IMPL procedure, enter *KEEP in the spaces next to OUTPUT QUEUES and INCOMPLETE JOB LOGS.</p> <p>e. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log (QHST) for the date the problem occurred by entering:</p> <pre style="text-align: center;">DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active, and a printer writer is available to the assigned output queue.</p> <p>f. When the system starts printing the history log, it also prints the job logs for the system arbiter and the controlling subsystem. Keep these job logs.</p> <p>g. Label these job logs with your account name, and the date and time the problem occurred. Put this information with the dump diskettes. Save this information.</p> <p>h. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>i. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to re the code.)</p>



A

Indicator code 09E7 through 09EA

1-123



Last four characters of the indicator code:	What the problem is:	What you should do:
09F1	<p>A function check occurred in the controlling subsystem monitor process as the system started the controlling subsystem.</p>	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>When you receive the START CPF PROMPT during the IMPL procedure, do the following:</p> <ul style="list-style-type: none"> <li>— Enter *YES in the space beside CONFIGURATION MENU.</li> <li>— Enter *KEEP in the space beside INCOMPLETE JOB LOGS.</li> </ul> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre style="font-family: monospace;">                 START CONTROL PROGRAM FACILITY PROMPT Enter the following: System date (MDY):           11 / 17 / 80 System time:                 00 : 00 : 00 Job queues (*KEEP *CLEAR):  *KEEP Output queues (*KEEP *CLEAR): *KEEP Incomplete job logs (*KEEP *CLEAR): *KEEP Configuration menu (*NO *YES): 2YES             </pre> <p>00002 main storage frames have failed. See Operator's Guide. Last termination was NORMAL</p> </div> <p>c. When you receive the CONFIGURATION MENU, change the value for the controlling subsystem by entering:</p> <pre style="font-family: monospace;">CHGSYSVAL SYSVAL(QCTLSBSD) VALUE('qct1 qsys')</pre> <p>Replace qct1 qsys with the name of a subsystem, then library, that can control the system. Remember to enter the apostrophes (') as shown above.</p> <p>If you do not have the authority to change system values, or you do not know which value to enter for QCTLSBSD, see your system security officer.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09F1 (continued)		<p>d. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log (QHST) for the date the problem occurred by entering:</p> <pre>DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active, and a printer writer is available to the assigned output queue.</p> <p>e. When the system starts printing the history log, it also prints the job logs for the system arbiter and the controlling subsystem. Keep these job logs.</p> <p>f. Label the history log, and job logs with your account name, and the date and time the problem occurred. Also, make sure you properly labeled the dump diskettes. Save this information.</p> <p>g. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>h. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)</p>

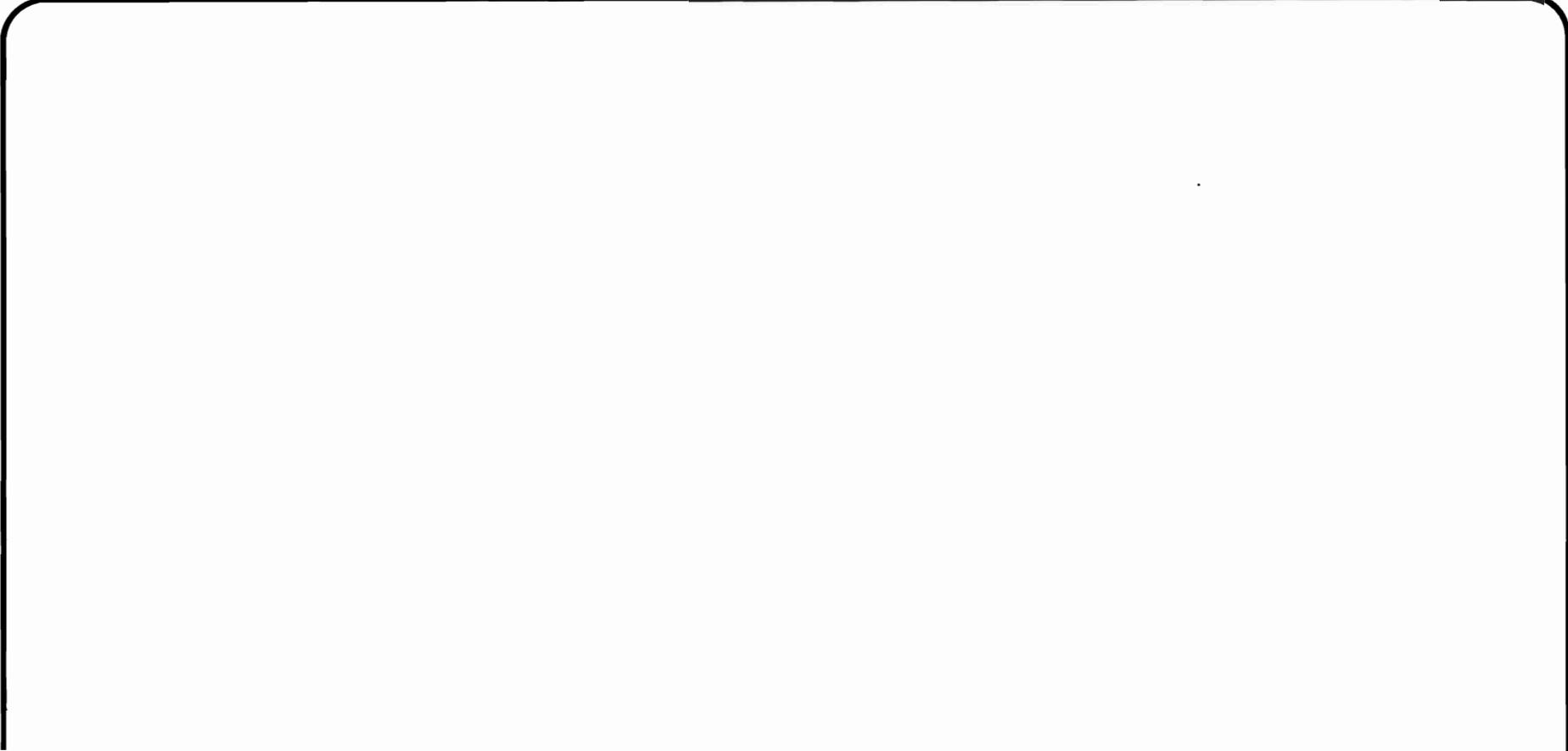


Last four characters of the indicator code:	What the problem is:	What you should do:
09F2	There is no SIGNON work station entry for the system console in the controlling subsystem description.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>c. When you receive the START CPF PROMPT during the IMPL procedure, do the following:</p> <ul style="list-style-type: none"> <li>— Enter *KEEP in the space beside OUTPUT QUEUES.</li> <li>— Enter *KEEP in the space beside INCOMPLETE JOB LOGS.</li> <li>— Enter *YES in the space beside CONFIGURATION MENU.</li> </ul> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre style="font-family: monospace;"> START CONTROL PROGRAM FACILITY PROMPT Enter the following: System date (MDY):          11 / 17 / 80 System time:                00 : 00 : 00 Job queues (*KEEP *CLEAR):  *KEEP Output queues (*KEEP *CLEAR): *KEEP Incomplete job logs (*KEEP *CLEAR): *KEEP Configuration menu (*NO *YES): *YES                                 </pre> <p style="margin-top: 10px;">00002 main storage frames have failed. See Operator's Guide. Last termination was NORMAL</p> </div> <p>d. When you receive the CONFIGURATION MENU, change the value for the controlling subsystem by entering:</p> <pre style="font-family: monospace; margin: 10px 0;">CHGSYSVAL SYSVAL(QCTLSBSD) VALUE('qctl qsys')</pre> <p>Replace qctl qsys with the name of a subsystem, then library, you can use to control the system. Remember to enter apostrophes (') as shown above.</p> <p>If you do not have the authority to change system values, or if you do not know which value to enter for QCTLSBSD, see your system security officer.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09F2 (continued)		<p>e. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log (QHST) for the date the problem occurred by entering:</p> <pre>DSPLG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active and a printer writer is available to the assigned output queue.</p> <p>f. When the system starts printing the history log, it also prints the job logs for the system arbiter and the controlling subsystem. Keep these job logs.</p> <p>g. Label the logs with your account name, and the date and time the problem occurred. Also, make sure you properly labeled the dump diskettes. Save this information.</p> <p>h. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>i. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09F3	The system could not open (or find) the signon file when it started the controlling subsystem.	<p>a. Perform both a main storage and virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Perform an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09F5	A function failed during the <b>controlling subsystem monitor process</b> when the subsystem was terminated (tried to stop working).	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Perform an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>c. When you receive the START CPF PROMPT during the IMPL procedure, do the following:</p> <ul style="list-style-type: none"> <li>— Enter *YES in the space beside CONFIGURATION MENU.</li> <li>— Enter *KEEP in the space beside INCOMPLETE JOB LOGS.</li> </ul> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre style="font-family: monospace;"> START CONTROL PROGRAM FACILITY PROMPT Enter the following: System date (MDY):          11 / 17 / 80 System time:                00 : 00 : 00 Job queues (*KEEP *CLEAR):  *KEEP Output queues (*KEEP *CLEAR): *KEEP Incomplete job logs (*KEEP *CLEAR): *KEEP Configuration menu (*NO *YES): *YES  00002 main storage frames have failed. See Operator's Guide. Last termination was NORMAL </pre> </div> <p>d. When the CONFIGURATION MENU appears on your screen, change the value for the controlling subsystem by entering:</p> <pre style="font-family: monospace;">CHGSYSVAL SYSVAL(QCTLSBSD) VALUE('qctl qsys')</pre> <p>Replace qctl qsys with the name of a subsystem, then library, that can control the system. Remember to enter apostrophes (') as shown above.</p> <p>If you do not have the authority to change system values, or you do not know which value to enter for QCTLSBSD, see your system security officer.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09F5 (continued)		<p>e. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log (QHST) for the date the problem occurred by entering:</p> <pre>DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active, and a printer writer is available to the assigned output queue.</p> <p>f. When the system starts printing the history log, it also prints the job logs for the system arbiter and the controlling subsystem. Keep these job logs.</p> <p>g. Label the history log and job logs with your account name, and the date and time the problem occurred. Also, make sure you properly labeled the dump diskettes. Save this information.</p> <p>h. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>i. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)</p>

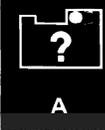


Last four characters of the indicator code:	What the problem is:	What you should do:
09F6	<p>One of the following happened:</p> <ul style="list-style-type: none"> <li>● The console or a work station failed after you entered the TRMSBS command to stop all subsystems or the controlling subsystem.</li> <li>● The console failed after you entered the TRMCPF command to stop running CPF.</li> <li>● The console failed as you tried to start service mode (service personnel signed on).</li> </ul>	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>c.</b> When you receive the START CPF PROMPT during the IMPL procedure, do the following:</p> <ul style="list-style-type: none"> <li>— Enter *KEEP in the space beside OUTPUT QUEUES.</li> <li>— Enter *KEEP in the space beside INCOMPLETE JOB LOGS.</li> </ul> <p><b>d.</b> When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log (QHST) for the date the problem occurred by entering:</p> <pre style="text-align: center;">DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active, and a printer writer is available to the assigned output queue.</p> <p><b>e.</b> Label the dump diskettes and history logs with your account name, and the date and time the problem occurred. Save this information.</p> <p><b>f.</b> See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p><b>g.</b> <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)</p>



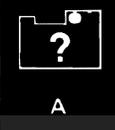
Last four characters of the indicator code:	What the problem is:	What you should do:
09F8	The controlling subsystem monitor process cannot continue because unexpected errors occurred.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>c. When you receive the START CPF PROMPT during the IMPL procedure, do the following:</p> <ul style="list-style-type: none"> <li>— Enter *YES in the space beside CONFIGURATION MENU.</li> <li>— Enter *KEEP in the space beside INCOMPLETE JOB LOGS.</li> </ul> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> START CONTROL PROGRAM FACILITY PROMPT Enter the following: System date (MDY):           11 / 17 / 80 System time:                 00 : 00 : 00 Job queues (*KEEP *CLEAR):   *KEEP Output queues (*KEEP *CLEAR): *KEEP Incomplete job logs (*KEEP *CLEAR): *KEEP Configuration menu (*NO *YES): *YES  00002 main storage frames have failed. See Operator's Guide. Last termination was NORMAL </pre> </div> <p>d. When you receive the CONFIGURATION MENU, change the value for the controlling subsystem by entering:</p> <pre>CHGSYSVAL SYSVAL(QCTLSBSD) VALUE('qctl qsys')</pre> <p>Replace qctl qsys with the name, then library, of a subsystem that can control the system. Remember to enter apostrophes (') as shown above.</p> <p>If you do not have the authority to change system values, or you do not know which value to enter for QCTLSBSD, see your system security officer.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09F8 (continued)		<p>e. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log (QHST) for the date the problem occurred by entering:</p> <pre>DSPLOG LOG (QHST) OUTPUT (*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active, and a printer writer is available to the assigned output queue.</p> <p>f. When the system starts printing the history log, it also prints the job logs for the system arbiter and the controlling subsystem. Keep these job logs.</p> <p>g. Label the history log, and job logs, with your account name and the date and time the problem occurred. Also, make sure you properly labeled the dump diskettes. Save this information.</p> <p>h. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>i. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09FA	A function failed in the system arbiter after you entered the Power Down System (PWRDWSYS) command.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. When you receive the START CPF PROMPT during the IMPL procedure, enter *KEEP in the spaces next to OUTPUT QUEUES and INCOMPLETE JOB LOGS.</p> <p>e. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log (QHST) for the date the problem occurred by entering:</p> <pre>DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active, and a printer writer is available to the assigned output queue.</p> <p>f. When the system starts printing the history log, it also prints the job logs for the system arbiter and the controlling subsystem. Keep these job logs.</p> <p>g. Label these job logs with your account name, and the date and time the problem occurred. Put this information with the dump diskettes. Save this information.</p> <p>h. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09FA (continued)		<p>i. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
09FB	The time limit for an immediate power down (system value QPWRDWNLMT) has been reached.	<p>a. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>b. When you receive the START CPF PROMPT during the IMPL procedure, do the following:</p> <ul style="list-style-type: none"> <li>— Enter *YES in the space beside CONFIGURATION MENU.</li> <li>— Enter *KEEP in the space beside INCOMPLETE JOB LOGS.</li> </ul> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre style="font-family: monospace;"> START CONTROL PROGRAM FACILITY PROMPT Enter the following: System date (MDY):          11 / 17 / 80 System time:                00 : 00 : 00 Job queues (*KEEP *CLEAR):  *KEEP Output queues (*KEEP *CLEAR): *KEEP Incomplete job logs (*KEEP *CLEAR): *KEEP Configuration menu (*NO *YES): *YES </pre> <p style="margin-top: 10px;">00002 main storage frames have failed. See Operator's Guide. Last termination was NORMAL</p> </div> <p>c. When you receive the CONFIGURATION MENU, display the time limit for powering down the system by entering:</p> <p style="margin-left: 40px;">DSPSYSVAL SYSVAL (QPWRDWNLMT)</p> <p>d. If the value for the time limit is too small for your needs, change it by entering:</p> <p style="margin-left: 40px;">CHGSYSVAL SYSVAL (QPWRDWNLMT) VALUE (1100)</p> <p style="margin-left: 40px;">Replace 1100 with the amount of time you need in seconds.</p> <p>If you do not have the authority to change system values, see your system security officer.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09FB (continued)		<p>e. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>f. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code).</p> <p>While you are waiting for your service representative, perform both a main storage and a virtual storage dump. Go to Chapter 4 for instructions.</p>



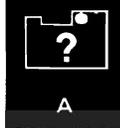
Last four characters of the indicator code:	What the problem is:	What you should do:
09FC	A function failed in the system arbiter, so the system cannot stop CPF properly.	a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.
09FD	Two system arbiter functions failed when the arbiter was trying to stop a subsystem.	b. Make sure you properly labeled the dump diskettes.
09FE	A function failed when the system tried to stop the <b>subsystem monitor process</b> .	<p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. When you receive the START CPF PROMPT during the IMPL procedure, enter *KEEP in the spaces next to OUTPUT QUEUES and INCOMPLETE JOB LOGS.</p> <p>e. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log (QHST) for the date the problem occurred by entering:</p> <pre>DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active, and a printer writer is available to the assigned output queue.</p> <p>f. When the system starts printing the history log, it also prints the job logs for the system arbiter and the controlling subsystem. Keep these job logs.</p> <p>g. Label these job logs with your account name, and the date and time the problem occurred. Put this information with the dump diskettes. Save this information.</p> <p>h. See <i>Starting the System After a Problem Occurred in More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>i. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
09FF	A severe and unexpected error was found in the machine or CPF. The error caused the <b>system arbiter process</b> to end.	<p>a. Perform both a main storage and a virtual storage stand-alone dump. Go to Chapter 4 for instructions. Then return here.</p> <p>b. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>c. When the system finishes the IMPL procedure (when your basic working display, such as the system operator menu, appears on your screen), print the history log (QHST) for the date the problem occurred by entering:</p> <pre>DSPLOG LOG(QHST) OUTPUT(*LIST)</pre> <p>The system prints the history log when the spooling subsystem is active and a printer writer is available to the assigned output queue.</p> <p>d. Label the messages with your account name, and the date and time the problem occurred. Also, make sure you properly labeled the dump diskettes. Save this information.</p> <p>e. See <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>f. <b>If this procedure helps you solve the problem</b>, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, install CPF again. Go to the <i>Guide to Program Product Installation and Device Configuration</i> for instructions. Then continue normal system work.</p> <p><b>If that does not solve the problem</b>, leave the system as it is. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
1800 through 18FF	Either the system or its programming has a problem.	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Perform an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>c. <b>Did the system successfully finish the IMPL procedure (your basic working display, such as the system operator menu, appears on your system console screen)?</b></p> <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 0 10px;"> <p>No    Yes</p> <div style="display: flex; justify-content: space-between; width: 100%;"> <div style="border-left: 1px solid black; height: 100px;"></div> <div style="border-right: 1px solid black; height: 100px;"></div> </div> <p>Go to <i>Starting the System After a Problem Occurred</i> in <i>More Information</i> at the end of this procedure for information on what happened to work in the system when the system stopped working.</p> <p>Continue normal system work.</p> </div> <p>d. Leave the system as it is until you are asked to do otherwise. Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
1901	The system failed while performing a <b>read sense command</b> to diskette magazine drive.	Try doing all system work that you were doing before this problem occurred.
1902	The system failed while performing an <b>orient autoloader command</b> .	<b>If the problem is not solved</b> , call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)
1904	The diskette SLV1A is missing from <b>Service Library Volume 1</b> .	Put the diskette labeled SLV1A in Service Library Vol 1.
1905	An error occurred as you tried to unload the diskette magazine drive.	Try doing all system work that you were doing before this problem occurred.
1906	A <b>recalibrate</b> command for the diskette magazine drive failed.	<b>If the problem occurs again</b> , call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)
1907	A <b>load RAM2 command</b> failed.	
1908	The system cannot continue the operation using the diskette drive until you change the diskettes.	Put the new diskettes in the diskette magazine drive.
1909	You requested a system operation that cannot be done with this device.	You cannot do this operation.
190A	The diskette volume label is wrong.	Change the diskette. Then continue the operation that failed.
190B	You put the wrong diskette in; remove the diskette.	<ol style="list-style-type: none"> <li>a. Diskette 1A in the <i>Service Library Vol 1</i> diskette magazine was not placed in diskette position 1.</li> <li>b. Place the diskette in its proper place.</li> <li>c. Try again the function that used the <i>Service Library Vol 1</i> magazine.</li> </ol>



Last four characters of the indicator code:	What the problem is:	What you should do:
190C	You put the wrong diskette in the diskette drive, and the system could not remove the diskette.	Try doing all system work that you were doing before the problem occurred.
190E	Load the SCA directory from diskettes.	<b>If the problem is not solved</b> , call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)
190F	The system has completed dumping 8 megabytes of main storage to the <i>CE Tools</i> magazine.	
1910	Main storage was successfully dumped to diskette.	<ol style="list-style-type: none"> <li>a. Record the pattern shown on the operator/service panel, under item 5 of the <i>Problem Summary Form at the back of this guide</i>.</li> <li>b. Go to step <b>10</b> of the <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4.</li> </ol>
1911	There was a problem with dump diskette 1 during a main storage stand-alone dump.	Go to step <b>9</b> of <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4.
1912	There was a problem with dump diskette 2 during a main storage stand-alone dump.	
1913	There was a problem with dump diskette 3 during a main storage stand-alone dump.	
1914	There was a problem with dump diskette 4 during a main storage stand-alone dump.	
1915	There was a problem with dump diskette 5 during a main storage stand-alone dump.	
1916	There was a problem with dump diskette 6 during a main storage stand-alone dump.	
1917	There was a problem with dump diskette 7 during a main storage stand-alone dump.	
1918	There was a problem with dump diskette 8 during a main storage stand-alone dump.	

Last four characters of the indicator code:	What the problem is:	What you should do:
1919	An error occurred during a main storage stand-alone dump.	<p>An error that the system cannot fix itself occurred as you tried to perform a main storage stand-alone dump.</p> <p>Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
191A	An error occurred while the rotary switches were set for the <b>CPU Request</b> function.	Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)
191B	The rotary switches on your operator/service panel are set for service mode, but the <b>maintenance mode</b> switch is off.	<p>Check the front cover of the system unit. Make sure that the cover is closed properly.</p> <p><b>If the cover is not closed properly</b>, close it. Then continue normal system work.</p> <p><b>If the cover is closed</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)</p>
191C	The SCA is busy; ask the system to display communication lights.	Call your service representative. Explain that you cannot display the communications latches, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)
1920	Main storage was successfully dumped to auxiliary storage.	<p>a. Record the pattern shown on the operator/service panel, under item 5 of the <i>Problem Summary Form</i> at the back of this guide.</p> <p>b. Go to step <b>10</b> of <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4.</p>
1928	A <b>mode switch</b> machine command to a file failed.	Call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report this code.)
192C	A <b>load SCA directory from file</b> machine command failed.	
1938	A <b>load SCA RAM1</b> machine command failed.	
1945	An unexpected error occurred as the system was checking the processing unit.	



Last four characters of the indicator code:	What the problem is:	What you should do:
1E00 through 1EFF	This is a response to the Communications Service Test.	<p><b>If you want to find out</b> what this code means, go to <i>Procedure for Performing the Communications Service Test</i> in Chapter 4.</p> <p><b>Otherwise</b>, cancel the test and turn off the lights by setting both rotary switches on the operator/service panel to 0 (Normal).</p> <p>Press the Load switch.</p> <p>Continue normal system work.</p>
3E02	There is a problem with the system console.	<ol style="list-style-type: none"> <li>a. Leave the lights on your operator/service panel as they are.</li> <li>b. Call your service representative. Explain that you have a system console problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on how to report the code.)</li> <li>c. While you are waiting for your service representative, continue this procedure.</li> <li>d. Go to another work station.</li> <li>e. Sign on to this work station as the system operator.</li> <li>f. Cancel the job that was running at the system console before the problem occurred by entering: <ul style="list-style-type: none"> <li><code>CNLJOB JOB(qconsole.qsysopr)</code></li> </ul> <p>Replace <code>qconsole.qsysopr</code> with the name of the system console job.</p> </li> <li>g. Have system operator messages sent in break mode to the controlling work station by entering: <ul style="list-style-type: none"> <li><code>CHGMSGQ MSGQ(QSYSOPR) DLVRY (*BREAK)</code></li> </ul> </li> <li>h. Continue normal system work.</li> </ol> <p><b>Note:</b> Because of the problem, you might not be able to control all system work at the controlling work station. For example, you might not be able to vary devices offline or online, power devices off or on, or use the <code>PWRDWNSYS</code> command to power down the system.</p>

Last four characters of the indicator code:	What the problem is:	What you should do:
3EC0	It appears to the system that a Read/Write-Read Only switch on the first string of 3370s is in the Read Only position.	<ul style="list-style-type: none"> <li>a. Check all of the Read/Write-Read Only switches on the first string of 3370s. Make sure the switches are in the Read/Write position.</li> <li>b. Continue normal system work. If the problem persists, or if no switch was in the Read Only position, follow the directions given for the 0818 machine check code.</li> </ul>
3EC1	It appears to the system that power to the first string of disk drives is turned off.	<ul style="list-style-type: none"> <li>a. Make sure the Power switch on the 3370/9332 controller is set to the on position.</li> <li>b. If the disk drive has an <b>Enable/Disable</b> switch, make sure it is set to the <b>Enable</b> position.</li> <li>c. If the string contains 9332 and 9335 disk drives, make sure the cable connections at the back of the disk drive are tight and make sure the address switches at the back of the disk drive are correct.</li> <li>d. If you are still having problems, turn the disk drive Power switches off and back on.</li> <li>e. See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</li> <li>f. <b>If this procedure helps you solve the problem</b>, continue normal system work.</li> </ul> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
3ED0	It appears to the system that a Read/Write-Read Only switch on the second string of 3370s is in the Read Only position.	<ul style="list-style-type: none"> <li>a. Check all of the Read/Write-Read Only switches on the second string of 3370s. Make sure all of the switches are in the Read/Write position.</li> <li>b. Continue normal system work. If the problem persists, or if no switch was in the Read Only position, follow the directions given for the 0818 machine check.</li> </ul>
3ED1	It appears to the system that power to the second string of disk drives is turned off.	<ul style="list-style-type: none"> <li>a. Make sure the Power switch on the 3370/9332 controller is set to the on position.</li> </ul>
3EE1	It appears to the system that power to the third string of disk drives is turned off.	<ul style="list-style-type: none"> <li>b. If the disk drive has an <b>Enable/Disable</b> switch, make sure it is set to the Enable position.</li> </ul>
3EF1	It appears to the system that power to the fourth string of disk drives is turned off.	<ul style="list-style-type: none"> <li>c. If the string contains 9332 and 9335 disk drives, make sure the cable connections at the back of the disk drive are tight and make sure the address switches at the back of the disk drive are correct.</li> <li>d. If you are still having problems, turn the disk drive Power switches off and back on.</li> <li>e. See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</li> <li>f. <b>If this procedure helps you solve the problem, continue normal system work.</b></li> </ul> <p><b>If this procedure does not help you solve the problem, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</b></p>
3F03	Validation of the checksum for all the checksum sets is in progress.	This is a long running function. You may have to wait for the system to finish. The IMPL procedure may take longer than usual.
3F04	Recovery of the checksum data by the disk drive is in progress.	

Last four characters of the indicator code:	What the problem is:	What you should do:
3F05	Recovery to machine interface (MI) boundaries is in progress or the rotary switch shutdown (9C) is in progress.	<p>This is a long running function. You may have to wait up to 16 minutes for the system to finish. If the system does not finish in 16 minutes, do the following:</p> <ol style="list-style-type: none"> <li>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>b. Make sure you properly labeled the dump diskettes. Save this information.</li> <li>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>d. See <i>Starting the System After a Problem Occurred</i> at the end of this procedure for more information about what happened to work in the system when the system stopped working.</li> <li>e. <b>If this procedure helps you solve the problem</b>, continue normal system work.</li> </ol> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, and report the system reference code. (See item 6 of the <i>Problem Summary Form</i> at the back of this guide for instructions on reporting this code.)</p>



Last four characters of the indicator code:	What the problem is:	What you should do:
3F06	The writing of all changed pages from saved main storage and the completion of all outstanding auxiliary storage management operations are in progress.	This is a long running function. You may have to wait for the system to finish. The IMPL procedure may take longer than usual.
3F08	DASD reconfiguration is in progress—phase 1.	
3F09	Subset DASD checksum validation is in progress.	
3F10	The system is building the storage address directory again, including the storage management permanent and free space directories. This function may take over an hour.	
3F11	DASD reconfiguration is in progress—new checksum units are being zeroed.	
3F12	DASD reconfiguration is in progress—phase 3.	
3F15	Data is being transferred from 62PC-1 to other disk units. This function may take minutes.	
3F21	The <b>data base recovery phase 1 procedure</b> is in progress. This can take several hours.	
3F22	Inappropriately-deleted-segment-group-spanning-data-space-entry recovery is in progress.	
3F23	The <b>data base recovery phase 2 procedure</b> is in progress. This procedure can take several hours if many data base files require recovery.	

<b>Last four characters of the indicator code:</b>	<b>What the problem is:</b>	<b>What you should do:</b>
7F00 through 7FFF	The 3370 reformat program is running during system power down.	Wait for the system to finish.  The last two digits change from 00 through FF to show that the program is executing.

Last four characters of the indicator code:	What the problem is:	What you should do:
3F30	The system is performing the <b>address regeneration routine</b> . The time needed for this function depends on the amount of auxiliary storage in the system; the process can range from a short time to as long as 4 hours.	This is a long running function. You may have to wait for the system to finish it. The IMPL procedure may take longer than usual to finish.
3F40	The system is checking the machine context and other user contexts with the <b>rebuild-if-damaged</b> bit on, for damage, and building them again when necessary. This function can take several hours.	
3F50	The system is checking all objects for sizes and user profiles for accuracy. Corrections are made if necessary. This function can take up to one hour.	
3F60	The <b>journal recovery</b> procedure is in progress. This takes several minutes.	
3F61	The <b>journal synchronization</b> procedure is in progress. This takes several minutes.	
3F62	The <b>journal cleanup</b> procedure is in progress. This takes less than a minute.	
3F71	The <b>commitment control recovery</b> procedure is in progress. This procedure takes several minutes.	
3F72	The <b>commitment control cleanup</b> procedure is in progress. This procedure takes a few seconds.	



This section tells you how to find out what happened to jobs and files the system was working on when the system stopped, and, if possible, how to get back the information that was lost.

Before you can check this work in the system, however, you must do an IMPL or install CPF.

To save work that the system was doing before the IMPL, you must keep this work by entering `*KEEP` beside `INCOMPLETE JOB LOGS` and `OUTPUT QUEUES` on the `START CPF PROMPT`.

### What Happened to Jobs

After you start the system again, display the messages that were sent to the history log (`DSPLOG` command) at the time of the problem. These messages describe the jobs the system was working on when it stopped. Each of these messages tells you that the job **terminated abnormally**; that is, the job ended with problems.

But parts of the job, such as spooled output files, or file updates, might be saved. The system gives you detailed information in the job log about which job actions were finished, and what the job was doing when it stopped. The system prints a job log for each job that stopped after you start the spooling subsystem (`STRSBS` command) and after you start a printer writer (`STRPRWTR` command).

If a job terminated abnormally, contact the job user. Give the user the job log from his job. The user can find out which parts of the job are still saved in the system by displaying the job queue the system was reading the job from, and by displaying the output queue where the output from the job was going to.

Also display the system operator message queue (`DSPMSG QSYSOPR` command). Roll through the display to see which spooling readers, spooling writers, and subsystems were active (working) when the problem occurred.

### What Happened to Spooling Work

When you start the spooling subsystem and spooling readers and writers, the system can start working again on the information saved on job queues and output queues. If the system started reading or writing when the problem occurred, but did not finish that process, the system starts reading or writing the job or file from its beginning after you start the reader or writer.

Information that is not saved on a job queue or output queue is lost, and that part of the job must be run again.



### What Happened to Files

The problem should not have affected any master file you were updating; however, the system might not have finished updating your file.

Check the last few changes you made to the file to see which updates the system finished. If the system did not finish making a change, make that update again. If you were using commitment control to make file updates, see *Commitment Control Functions during Abnormal System or Routing Step Termination* in the *CPF Programmer's Guide*.

### Other Damage to the System

If an object is damaged because of the problem, the system sends a message to the system operator message queue (QSYSOPR) about the damage. Go to the description of PDP Code J2, in *PDP Code Descriptions* in Chapter 2 for information on how to recover a damaged object.

### Features Available for Saving System Work

#### Power Warning Feature

If your system has the Power Warning Feature, the system can get enough power from an auxiliary power source if the system loses utility power to power down (stop working) in a normal way. Neither jobs nor file updates are lost. However, the next time you do an IMPL, the system sends you a message saying that the system terminated abnormally.

#### Backup

Backup is a procedure you do to copy all information saved in auxiliary storage on diskette or tape. If you lose information in auxiliary storage, you can put that information back into the system. You should note however, the backup copy of the information is only accurate to the last time you saved this information. See the *System/38 Operator's Guide* for instructions on how to backup your system.

#### Journal Management

Journal management, a feature of CPF, is a backup tool that lets you record all changes made to files on your system, and apply changes the system did not finish when it stopped working. See the *System/38 CPF Programmer's Guide* for more information on journal management.



### When to Use This Procedure

Use this procedure when you are having problems with:

- Two or more devices, or
- Two or more jobs,

but can still enter commands to the system at a work station or the system console.

For example, the Input Inhibited indicator is staying on longer than you expect only at work stations in the next room, or none of the printers are printing.

### Outline of This Procedure

In this procedure, you do the following:

- 1** Get information to do the procedure, such as checking for messages about the problem (step **1**).
- 2** Check for problems with the controller the devices are attached to (steps **2** through **4**).
- 3** Check the subsystem status to make sure that the subsystem is active and running properly (steps **5** through **9**).
- 4** See if one job is causing the problem, such as a looping job (steps **11** through **21**).
- 5** Check for a performance problem, such as many jobs with the status INEL (steps **22** through **31**).
- 6** Check for an operational problem, such as many held jobs (steps **32** through **34**).

Steps **5** through **34** all refer to the active jobs display (DSPACTJOB).

The procedure starts here.

Getting information to do the procedure.

1 Check the following before starting the procedure:



You can enter commands through the system console or any work station.

**If you cannot enter commands at the console or any work station, go to Procedure A: System Problem.**



Get the name of the subsystem controlling the devices or jobs with the problem. 

**How to get the name:**

- a. Display one of the jobs affected by the problem by entering:

```
DSPJOB JOB(wsl.quser.009933)
```

Replace `wsl.quser.009933` with the job name.

- b. When the `DISPLAY JOB MENU` appears on your screen, choose option 2(`job status attributes`).

On the job status attributes display, find the affected `Subsystem Name`.

If the affected devices are at the sign on prompt, the subsystem name appears in the upper right corner of the display.



You cannot find messages about the problem. 

**How to check for messages:**

See *Checking for Messages* in Chapter 2 for instructions.

After you have checked the above items, continue this procedure.

Checking for controller problems.

2 Are all of the devices affected by the problem attached to just one work station controller, remote communications adapter, or control unit?

Yes No

Go to step 5.

3 Do other devices attached to the adapter, controller, or control unit still work properly?

No Yes

Go to step 5.

How to find the attached controller:

Display the status of all devices by entering:

DSPCTLSTS

When the control unit status display appears on your screen, find the names of the devices affected by the problem. Then, find the name of the attached controller or control unit.

```

. 6/25/82 9:20:14 CONTROL UNIT STATUS DISPLAY - CTL1
CTL/DEV/M STATUS JOB NAME USER NBR
CTL1 ACTIVE
WSPRT1 ACTIVE WSPRT1 PRT1 009944
WS1 ACTIVE WS1 WS1 009933
    
```

Device

Control Unit

For example:

You can still enter commands through some work stations or a printer is still working.



4

Do the following:

- a. Vary off the control unit or controller.
- b. Vary on the control unit or controller.
- c. Continue normal system work.

If one or more of the following is true:

- **You cannot vary on and off the control unit or controller**
- **Varying these devices did not solve the problem**  
call your service representative. Explain that none of the devices attached to the adapter, controller or control unit are working properly.

#### How to vary on and off the control unit:

- a. Enter:

```
DSPCTLSTS CTLU(ctl1)
```

Replace `ctl1` with the name of the controller or control unit affected by the problem.

- b. When the control unit status display appears on your screen, find any active jobs (devices that show job names). After explaining the problem to job users, cancel those active jobs by entering a 9 in the space beside each device that has an active job.
- c. Vary off the control unit by entering a 5 in the space beside the control unit name.

6/25/82 9:20:14		CONTROL UNIT STATUS DISPLAY - CTL1			
CTL/DEV/M	STATUS	JOB NAME	USER	NBR	
CTL1	ACTIVE				
- WSPRT1	ACTIVE	WSPRT1	PRT1		009944
- WS1	ACTIVE	WS1	WS1		009933
- WS2	ACTIVE	WS2	QUSER2		009934

Enter a 5 here.

- d. Vary on the control unit by entering a 4 in the space beside the control unit name.

#### What the problem is:

The control unit or controller probably has a problem, so none of the devices attached to it can work properly.

**Checking the subsystem status function.**

5 Display all active jobs. Press the CF9 key to include suspended group jobs.

6 On the display, find the name of the subsystem controlling the device with the problems.

7 Can you find that subsystem name?

Yes No



The subsystem is not active.

Start the subsystem.

Continue normal system work.

**How to display all active jobs:**

Enter:

DSPACTJOB

**Where to find the entry:**

SBS/JOB	TYP	PL	PTY	CPU	INT	RSP	AUXIO	%CPU	FUNCTION	STS
- QBATCH	SBS	2	0	6.9			0	.0%		DEQW
- PAYROLL	BCH	1	50	2.9			0	.0%		DEQW
- QCTL	SBS	2	0	26.7			0	.0%		DEQW
- QCONSOLE	INT	2	10	1.5			32	.1%	C-INLPGM	EXC
- QLVTEZ	SBS	2	0	243.4			0	.0%		DEQW
- WS1	INT	2	20	144.3	15	1.3	424	7.6%	C-DSPACTJOB	EXC
- WS2	INT	2	20	56.4	0	.0	0	.0%	*CMDENT	LCKW
- WS3	INT	2	20	148.3	0	.0	0	.0%	*CMDENT	DEQW
- QSPL	SBS	2	0	13.0			0	.0%		DEQW
- QS SPR1	WTR	2	40	11.2			0	.0%		EVTW

Subsystem

Devices Affected By The Problem

**Note:** For problems with spooled functions, such as printing, or reading batch jobs, find the spooling subsystem name. If you do not know the spooling subsystem name, get the name from your programmer.

**What the problem is:**

The subsystem has not been started so it cannot do any work.

**How to start the subsystem:**

Enter:

STRSBS SBSD(qspl)

Replace `qspl` with the name of the subsystem you want to start.





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Is the subsystem function O-XXXXXXXX, where XXXXXXXXXXX is the name of a device?

No

Yes

The subsystem is performing an I/O operation to the attached device.

Wait 30 seconds, then press the CF5 key.

If the status changes, continue normal system work.

If the status does not change, terminate the I/O operation. To terminate the I/O operation, terminate the subsystem.

Where to find the entry:

ACTIVE JOBS DISPLAY		CPU: 12.1%		Active jobs: 19			
SBS/JOB	TYP PL PTY	CPU	INT	RSP AUXIO	FUNCTION	STS	
QBATCH	SBS 2 0	6.9		0	.0%	DEQW	
PAYROLL	BCH 1 50	2.9		0	.0%	DEQW	
QCTL	SBS 2 0	26.7		0	.0%	DEQW	
QCONSOLE	INT 2 10	1.5		32	.1%	C-INLPGM EXC	
QINTER	SBS 2 0	243.4		0	.0%	WORKSTAB5 DEQW	
WS1	INT 2 20	144.3	15	1.3	424	7.6%	CDSPACTJOB EXC
WS2	INT 2 20	56.4	0	.0	0	.0%	*CMDENT LCKW
WS3	INT 2 20	148.3	0	.0	0	.0%	*CMDENT DEQW
QSPL	SBS 2 0	13.0		0	.0%	DEQW	
QSYSPRT	WTR 2 40	11.2		0	.0%	EVTW	

What the problem is:

If a subsystem is performing an I/O operation to an attached device, that could slow down other jobs in the same subsystem. The subsystem will not perform any user requested function (for example TFRSECJOB, TFRGRPJOB, CHGJOB) until the I/O operation is complete.

How to terminate the subsystem:

Enter:

TRMSBS SBS (qspl)

Replace qspl with the name of the subsystem you want to terminate.



9

Is the subsystem status **CNL**?

No

Yes

Subsystem work is being stopped.

To use this subsystem again, start the subsystem.

Then, start the jobs you want to run in that subsystem.

**Note:** Jobs on queues start by themselves when you start the subsystem. The system starts producing output on output queues after a writer is started. This information does not apply to jobs put on queues by a **TFRJOB** (Transfer Job) command.

10

Is the subsystem status **LCKW**?

No

Yes

This is an unusual status.

Print the active jobs display.

Take the printed display to your system programmer. Explain that the subsystem shows this unusual status.

**What this status means:**

This status means that the subsystem was canceled

**What the problem is:**Someone entered the **TRMSBS** (Terminate Subsystem) command. Each job in the subsystem is in the process of finishing its work.**How to start the subsystem:**

Enter:

`STRSBS SBS0(qspl)`Replace `qspl` with the name of the subsystem you want to start**What this status means:**

This status means that the subsystem is waiting to use an object that is now reserved for use (locked).

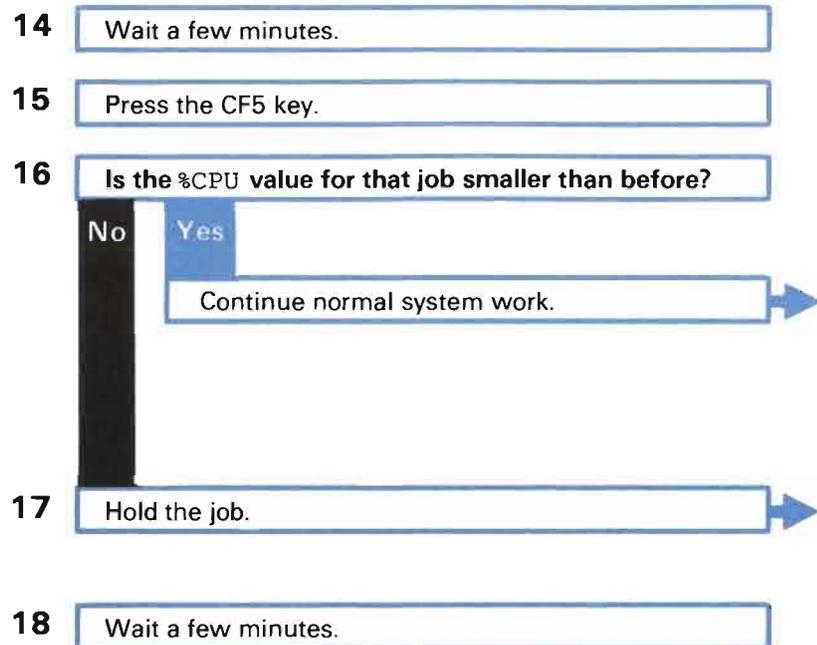
**How to print the display:**

Press the Print key, or enter:

`DSPACTJOB OUTPUT(*LIST)`

The system prints the display when the spooling subsystem is active and a printer writer is available to the assigned output queue.



**What the problem was:**

The system just finished a long job process that kept the system from working on the other jobs.

**Note:** This long wait for a response from the system could happen again if the system has to perform this step, or a similar step, again.

**How to hold the job:**

Enter a 4 n the space beside the job name.

19 Find out if other jobs started working again.

20 Did those jobs start working again?

No

Yes

Print the active jobs display.

Print the job display.

Take this information to your programmer.  
Explain that you held this job because it is  
keeping the system from finishing work on  
other jobs in the subsystem.

21 Release the job you held.

#### How to tell if jobs started working again:

Press the CF5 key and look at the %CPU column. If the value is not zero, the job is working

#### How to print the display:

Press the Print key, or enter

```
DSPACTJOB OUTPUT(*LIST)
```

The system prints this information when the spooling subsystem is active and a printer is available to the assigned output queue.

#### How to print the job display:

Enter:

```
DSPJOB JOB(ws1.quser.009933) OUTPUT(*LIST)
```

Replace `ws1.quser.009933` with the name of the job using the largest %CPU.

The system prints this information when the spooling subsystem is active and a printer writer is available to the output queue.

#### What the problem is:

One job in the subsystem is using all of the system processing power. The system cannot work on other jobs in the subsystem.

Most likely, this problem is caused by a **job loop** (a set of instructions in the program that the system repeats without end); or by some other unusually long program action.

#### How to release the job:

Enter a 6 in the space beside job name.



### Checking for a performance problem.

22 Check the status for each job in the subsystem. →

#### Where to find the status:

Look in the *STS* column of the active jobs display.

23 Does more than one job have the status *INEL*? →

No

Yes

These jobs are waiting to be processed. →

#### What the problem is:

There is not enough space in the system to do these jobs at the moment.

Wait a few minutes. The system will start doing these jobs.

While you are waiting for these jobs to start, print the active jobs display. →

#### How to print the display:

Press the Print key, or enter:

```
DSPACTJOB OUTPUT (*LIST)
```

The system prints the display when the spooling subsystem is active, and a printer writer is available to the assigned output queue.

Take the printed information to your programmer. Explain that many jobs take unusually long to start running, and there could be a performance problem.

Your programmer may want to see *Performance Tuning* in the *CPF Programmer's Guide* for information on how to fix performance problems.

Does more than one job have the status LCKW?

No

Yes

These jobs are waiting to use an object (system item) that is not available for use.

Find out which objects these jobs are waiting for by displaying the job locks.

When the job locks display appears, find out which jobs are using the locked objects, by displaying object locks for each locked object.

If you cannot find any locked object on the job locks display, the object you need to use is a system object or a record in a file that you cannot use now. In that case, cancel the job, and try it again later.

If you can find a locked object, do one of the following:

- If the user can wait to finish the job, cancel the job, and try to run it later.
- Otherwise, cancel that job that is using the object. Before you cancel the job, send a message to the user explaining the problem.

### What your problem is:

These jobs are waiting for a locked object, possibly the same one. The system cannot continue work on these jobs until the objects are available for the job to use.

### How to display job locks:

Enter a 7 in the space beside each job with the status LCKW .

```

6/25/82 9:28:43      ACTIVE JOBS DISPLAY      CPU: 12.1%
Elapsed: 00:01:48      -----ELAPSED-----      Active jobs: 19
SBS/JOB  TYP PL PTY  CPU INT  RSP AUXIO  CPU  FUNCTION  STS
- QBATCH  SBS 2 0      6.9      0      .0%      DEQW
- PAYROL  50      2.9      0      .0%      LCKW
-          7          0      0      .0%      DEQW
          32      .1%      C-INLPGM  EXC
          0      .0%      DEQW
- 424     7.6%      C-DSPACTJOB  EXC
          0%      *CMDEPR
  
```

Enter a 7 here.

### How to display object locks:

Enter a 1 in the space beside each object name.

```

6/25/82 9:28:56      JOB LOCKS      Job status: ACTIVE
Job:  WS1      User:  QUSER      Nbr:  009933
OBJECT  LIBRARY  OBJTYPE  LOCK  STS
- WS1    QSYS     *USRPRF  *SHRRD  HELD
- 1-DDSPAJB  QSYS     *FILE-DSP  *SHRNUP  HELD
- 1-QDPR    3-DSP     *SHRNUP  HELD
          *EXCLRD  HELD
          *EXCLRD  HELD
  
```

Enter a 1 here.

### How to cancel a job:

Enter a 9 in the space beside the job name.

```

6/25/82 9:29:04      OBJECT LOCKS
Object:  WS1      Library:  QSYS      Type:  *DEV
JOB      USER      NBR      LOCK  STS
- 9- WS1    QUSER      009933  *SHRNUP  HELD
  
```

Enter a 9 here.



**25** Does more than one job have one of these statuses:

DEQA, DEQW, DSPA, DSPW,  
EOFA, EOFW, EVTW, MSGW

Yes

No

Go to step **31**.

**26** Make sure you have responded to all messages about the problem. If the subsystem affected by the problem controls work stations, make sure that input data has been entered.

Wait a few minutes.

**27** Press the CF5 key.

**What the problem is:**

These jobs are waiting for another job or for a user to finish a certain piece of work.

28

Did the status of any of the jobs change?

No

Yes

Continue normal system work.

If the problem continues, do the following:

- Print the active jobs display.
- Take the printed information to your programmer. Describe the problem and the procedure you just did.

29

One of the following could be causing the problem:

- A long operation
- Operations in one job affected by a problem with another job
- Device problem with the work station controller, control unit, or auxiliary storage

**What the problem was:**

The operation that these jobs were waiting for the system to do is finished.

**How to print the display:**

Press the Print key, or enter.

```
DSPACTJOB OUTPUT (*LIST)
```

The system prints this display when the spooling subsystem is active, and a printer writer is available to the assigned output queue.



30 Print the active jobs display. 

**How to print the display:**

Press the Print key, or enter:

```
DSPACTJOB OUTPUT (*LIST)
```

The system prints this display when the spooling subsystem is active and a printer writer is available to the assigned output queue.

31 Take the printed information to your programmer. Describe the problem you are having, and the procedure you just did. Your programmer might refer to *Performance Tuning of the CPF Programmer's Guide*.

32

Does more than one job show one of these statuses?

BSCA, BSCW, CMNA, CMNW, DKTA, DKTW, MXDW, PRTA, PRTW, TAPA, TAPW, SVFW, SVFA

No

Yes

Do one of the following, depending on the status:

If the status is BSCA, BSCW, CMNA, CMNW, MXDW, wait a few minutes. Press the CF5 key. If the status changes, continue normal system work. If the status does not change, you may have a communications problem. Go to Procedure C: *Communications Problem*.

If the status is DKTA, DKTW, PRTA, PRTW, TAPA, TAPW, wait a few minutes.

For tape jobs, if the status is still TAPW after a few minutes, look at your tape drives. If the reels are moving on one of the drives and the Select light is on, the system is looking for a file on the tape. Wait for the tape to stop moving before taking further action.

Press the CF5 key. If the status changes, continue normal system work. If the status does not change, perhaps you have a problem with the device. Go to Procedure J: *Device Problem*.

If the status is SVFW or SVFA, wait a few minutes. Press the CF5 key. If the status changes, continue normal system work. If the status does not change, you have a problem with a save file operation.

**What the problem is:**

These jobs are waiting for an operation with a communications file, a BSC file, or a mixed device file. These files are used to send data across communications lines.

**What the problem is:**

These jobs are waiting for an operation using a diskette drive, printer, or tape drive.

**What the problem is:**

These jobs are waiting for an operation using a save file



### Checking for an operational problem.

33 Do most or all of the jobs have the status HLD?

No

Yes

These jobs are held.

If these jobs were not held on purpose, release them.

Continue normal system work.

34 A problem is not noted on this display.

Print the active jobs display.

35 Take the printed information to your programmer. Describe the problem and the procedure you just did.

#### What the problem is:

The system does not work on held jobs until the jobs are released (told to begin work again).

#### How to release the jobs:

Enter a 6 in the space beside the name of each held job.

```

6/25/82  9:28:43      ACTIVE JOBS DISPLAY      CPU: 12.1%
Elapsed: 00:01:48      -----ELAPSED-----      Active jobs: 19
SBS/JOB      TYP PL PTY      CPU INT  RSP AUXIO      CPU  FUNCTION      STS
- QBATCH      SBS 2 0        6.9          0      0.0%           DEQW
- PAYROLL     BCH 1 50       2.9          0      0.0%           DEQW
- QCTL        SBS 2 0       26.7         0      0.0%           DEQW
- QCONSOLE    INT 2 10       1.5          32     0.1% C-INLPGM      EXC
- QINTER      SBS 2 0      243.4         0      0.0%           DEQW
- WS1         INT 2 20     144.3      15  1.3  424  7.6% C-DSPACTJOB   EXC
- WS2         INT 2 20     56.4         0      0.0% *CMDENT      HLD
- WS3         INT 2 20     148.3         0      0.0% *CMDENT      DEQW
- QSPL        SBS 2 0       13.0         0      0.0%           DEQW
- QSYSVRT     WTR 2 40      11.2         0      0.0%           EVTW
  
```

Enter a 6 here.

#### How to print the display:

Press the Print key or enter:

```
DSPACTJOB OUTPUT (*LIST)
```

The system prints this display when the spooling subsystem is active and a printer writer is available to the assigned output queue.



### When to Use This Procedure

Use this procedure when one or more of the following has happened:

- Equipment at a remote location stopped working.
- An error message about a problem with a communications line, remote control unit (station), or remote device, told you to use this procedure.
- An operator at a remote control unit told you about a problem with the equipment at that location.
- An operator at a remote control unit asked you to do a link test (also called requester-responder test).

**Note:** Before starting this procedure, get a copy of the *System/38 Communications Problem Summary Form* at the back of this guide.

### About This Procedure

Remote communications equipment is equipment that is attached to the System/38 through a leased or switched line. Solving problems with remote equipment involves performing one or more tests to identify the cause of the problem. These causes might be:

#### Operational

Operational problems, such as using the wrong telephone number to contact remote equipment, are usually caused by incorrect instructions for using the remote equipment, or instructions that were not followed correctly. The tests in this procedure might be able to identify the specific problem. You can correct these problems yourself or with your programmer's help.

#### Related to Application Programs

The tests in this procedure might help you identify the problem. Your programmer, or the organization responsible for fixing application program problems, should fix this problem.

#### Problems With the System Programming

The tests in the procedure will identify these types of problems. Your service representative can fix the problem.



**Hardware problems**

Hardware problems are problems with one or more of the following devices used to communicate with the remote equipment:

- The System/38 communications adapter (part of the system unit)
- Modem (one at the System/38, the other at the remote location)
- Line (used for sending and receiving data)
- Remote control unit (also called controller, BSC remote device, remote host), which is the device attached to the modem at the remote location
- Devices attached to the control unit (if any)

The tests will try to identify the cause of the problem. In many cases, you must call a service representative (such as the modem service representative or IBM) to help you solve the problem. In other cases, the person who performed the configuration of the communications network must make changes to the network, such as installing equipment, or changing line and control unit descriptions saved in the system.

The figures on the following pages show the different types of communications network configurations (designs).

## Outline of This Procedure

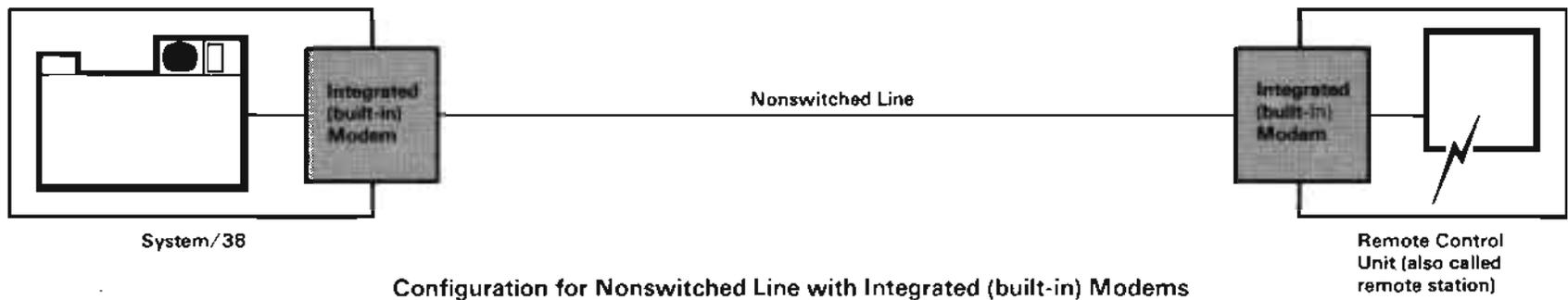
In this procedure, you try to identify which of the items above caused your problem. Specifically, you do the following:

- 1** Check values in the device, line and control unit descriptions, and check cable and address switch settings. Check these first, especially when you have problems with newly-installed equipment, or with equipment that you just changed (such as changing its description or moving the equipment).
- 2** Perform the Line Test (Procedure C.2) or Japan Line Test (Procedure C.1) to check the hardware (devices) used in the communications network.
- 3** Perform the Link Test (Procedure C.3), if needed, to check the data link (connection) between the System/38 and the control unit.
- 4** Respond to a **completion qualifier** sent at the end of the tests (Procedure C.4).

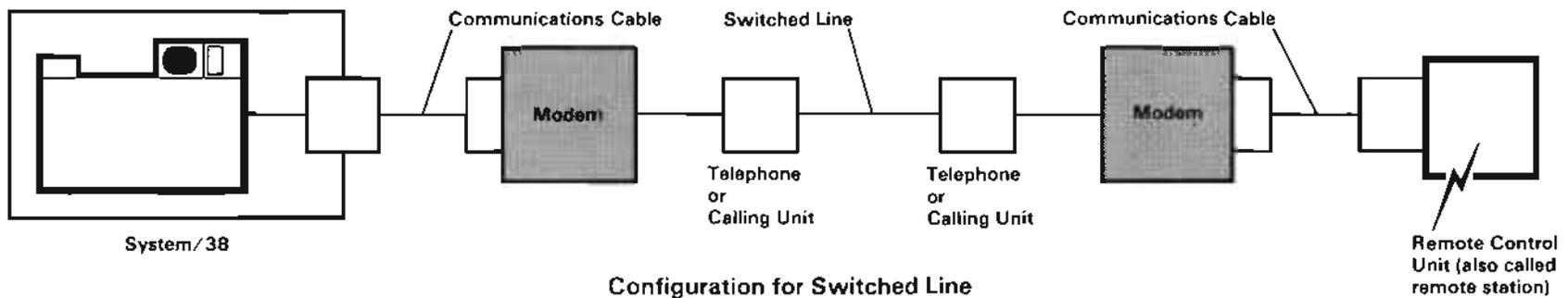




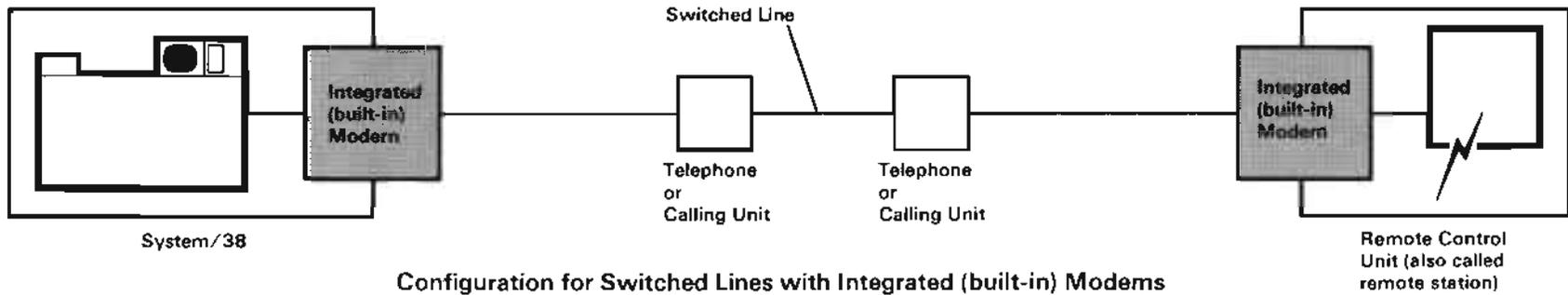
Configuration for Nonswitched Line



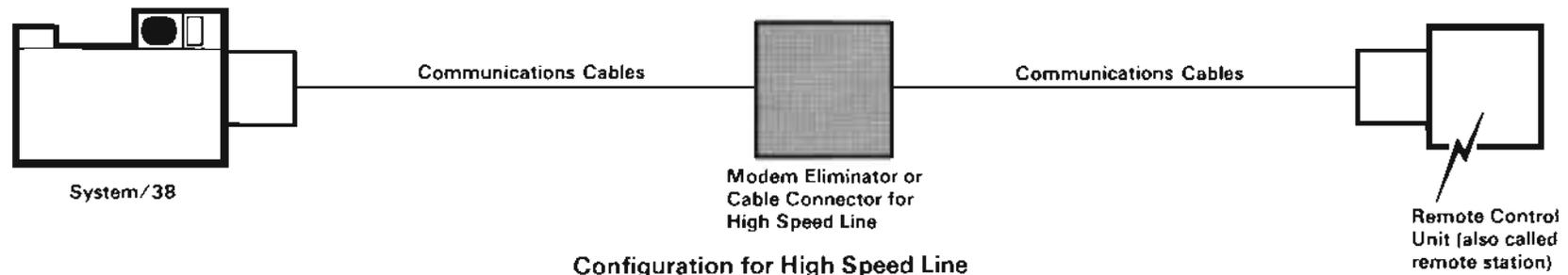
Configuration for Nonswitched Line with Integrated (built-in) Modems



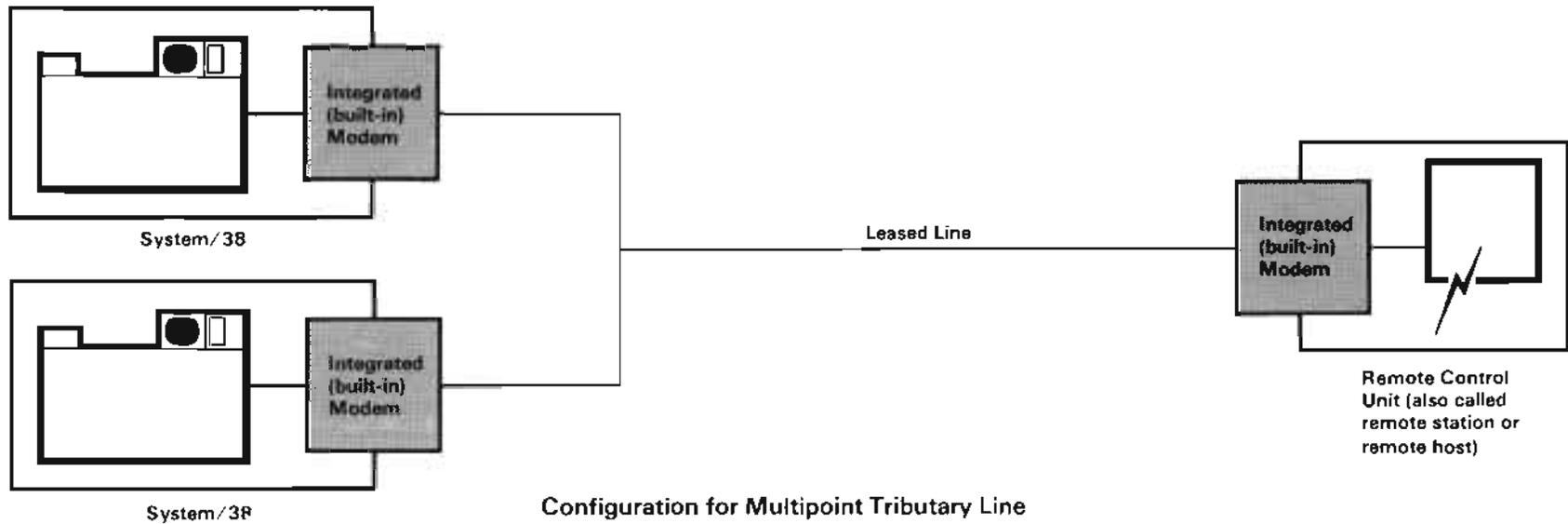
Configuration for Switched Line



Configuration for Switched Lines with Integrated (built-in) Modems

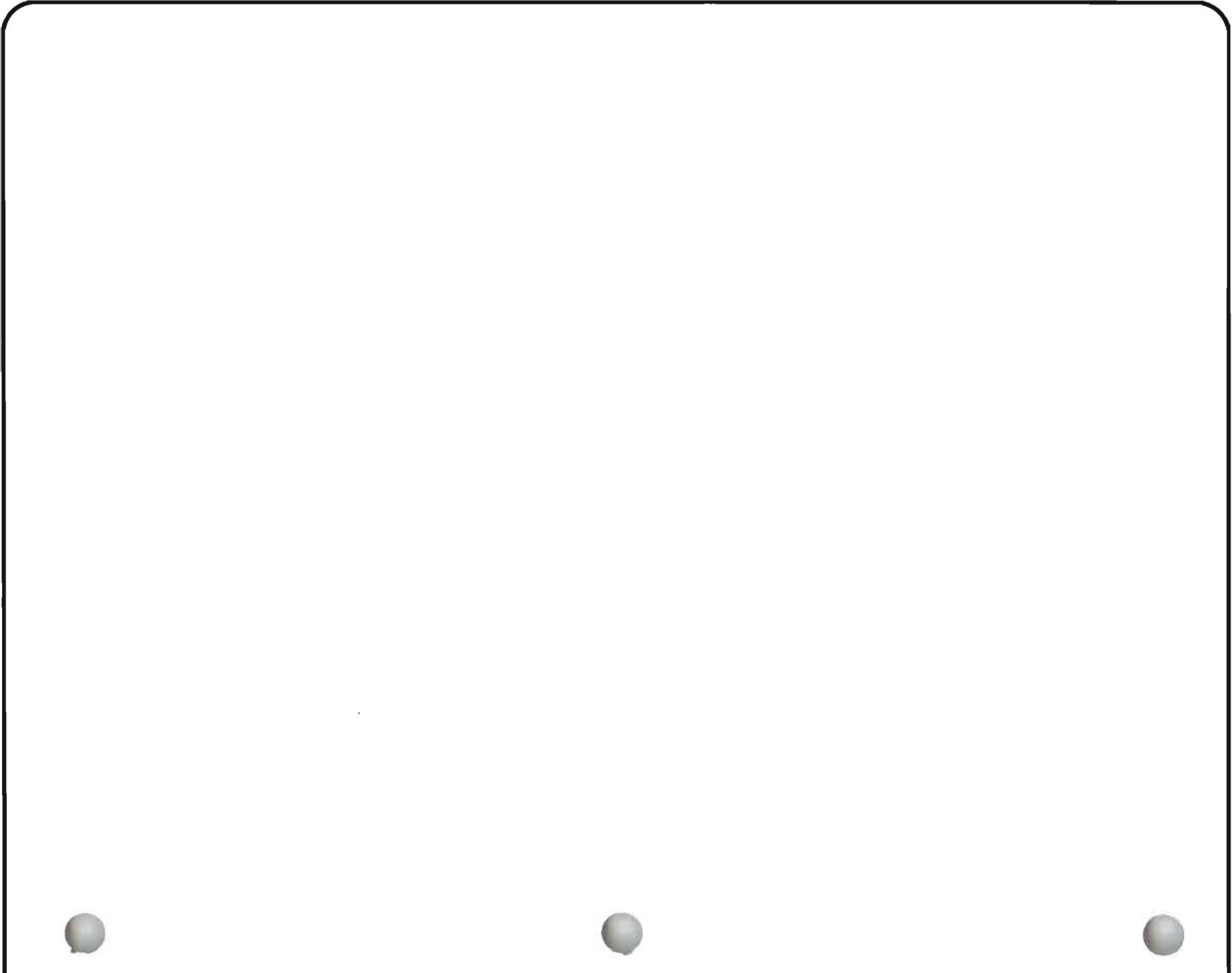


Configuration for High Speed Line



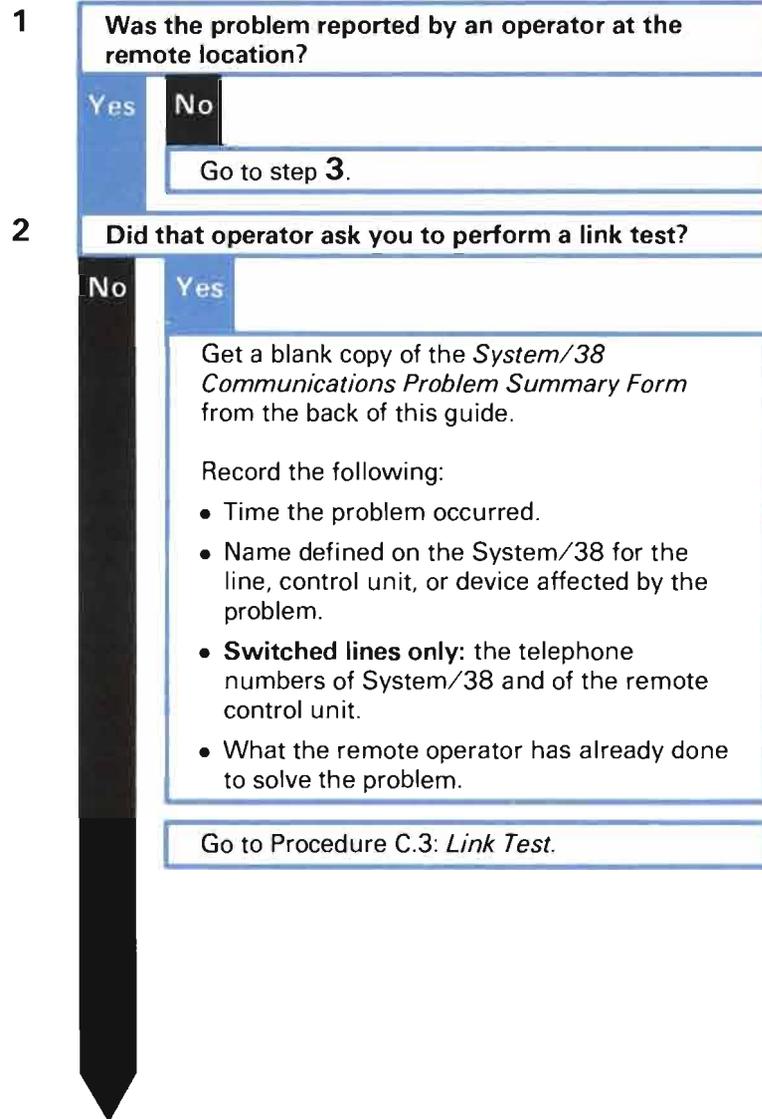
Configuration for Multipoint Tributary Line





The procedure starts here.

### Defining the problem.



#### Where to find this information:

See the configuration sheets that were prepared before your remote equipment was installed. If you are not familiar with this sheet, or have questions about it, see the person who performed the configuration.



3

**Note:** Step 1 sent you to this step.

Check the following:



An error message told you about the problem. →

**If you cannot find an error message about the problem,** go to Procedure D: *Remote Equipment Failing (No Message Sent)*.

After you have checked the above items, continue this procedure.

#### How to find the error message:

- a. Display the system operator message queue and find a message about the problem. To do this, enter:
 

```
DSPMSG MSGQ (QSYSOPR)
```
- b. When the message queue is displayed, check for messages similar to this:
 

```
Control unit CTL1 failed.
```
- c. If you cannot find a message similar to this in the system operator message queue, check for a message in the history log by entering:

```
DSPLOG LOG (QHST)
PERIOD ( (120000) (130000) )
```

Replace 120000 with the time slightly before the problem occurred. Enter the time in the format of hours, minutes, seconds.

Replace 130000 with the present time.

## Recording information about the problem.

4

Get a copy of the *System/38 Communications Problem Summary Form* from the back of this guide.

Under items 3 and 4 of the *Communications Problem Summary Form*, record the following:

- Identifier of the message you received
- Error log number from the first-level message (if any)
- Device response code (if any)
- Line, control unit and/or device named in the message.

5

Have you finished the actions described in the second-level text of the message you received?

Yes

No

Finish those actions.

**If the message told you to check values in a line, control unit, or device description,** record those values under item 6d of the *System/38 Communications Problem Summary Form*.

**If you need more information about a parameter** in a line, control unit, or device description, see the *CL Reference Manual*.

**If you solve the problem,** continue normal system work.

**If you do not solve the problem,** go to step **6**.

### Where to record this information:

3. Record the following:

Line, control unit, or device named in the message about the problem and its type (such as a line or control unit)

Name	Type
_____	_____
_____	_____

4. Record the following:

- a. Identifier of the message you received:
- b. First eight characters of the error log number in the first-level message (if any):
- c. Values to check in the description of the line, control unit or device named in the message:
- d. Other codes from the first- or second-level text (if any):

### How to get the second-level text:

- a. Put the cursor under the message.
- b. Press the Help key.



C

## Getting information about the problem.

**6** Is the problem associated with a line?

No Yes

Enter:

```
DSPLINSTS LINE (lin22nybsc)
```

Replace lin22nybsc with the name of the line affected by the problem.

Go to step **27**.

**7** Is the problem associated with a control unit?

No Yes

Enter:

```
DSPCTLSTS CTLU (ct122nybsc)
```

Replace ct122nybsc with the name of the control unit affected by the problem.

Go to step **15**.

**Getting information about the device affected by the problem.**

- 8** Is the problem associated with a device?
- Yes  No
- You could not limit the problem to a device, control unit, or line.
- Call the person who performed the configuration of this communications network. Describe the problem and decide what to do next.
- 9** Enter:
- ```
DSPDEVSTS DEV (dev22nybsc)
```
- Replace `dev22nybsc` with the name of the device affected by the problem.
- 10** When the device status display appears on your screen, display the description of the device by entering a 2 in the space beside the device name.



**11** Under item 6c of the *Communications Problem Summary Form*, record the following information from the device description:

- DEVADR (device address)
- DEVTYPE (device type)

**12** In the description, check the CTLU value (attached control unit).

**13** Is the CTLU value \*NONE (the device is not attached to a control unit)?

No

Yes

This device is not attached to the system through a remote communications line. Therefore, this procedure cannot help you solve the problem.

Go to the beginning of Chapter 1 to find the correct procedure.

**14** Return to the device status display by pressing the CF2 key.

Call the person who performed the configuration of this communications network for assistance.

**Where to record this information:**

e. Get the following information from the description of each affected device (if needed)

DEVADR  
(device address)

DEVTYPE  
(device type)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Getting information about the control unit affected by the problem.

15 **Note:** Step 7 sent you to this step.

Check the control unit status.

16 **Is the control unit status ACTIVE?**

No

Yes

The control unit is in use. Therefore, the remote communications network affected by the problem can work properly between the System/38 and the remote control unit.

The problem is probably associated with one of the devices attached to the control unit. Go back to the beginning of Chapter 1 to choose another procedure that can help you solve the problem.



17 Display the control unit description by entering a 2 in the space beside its name.

18 Check the TYPE value.

19 Is the control unit TYPE one of the following:

- 3410
- 3430
- \*WSC
- \*WSCE

No

Yes

These are not control unit TYPES for remote equipment, therefore, the affected equipment is not remote.

Go back to the beginning of Chapter 1 to find another procedure to help you solve the problem.

20

Under item 6b of the *Communications Problem Summary Form*, record the following information from the control unit description:

- TYPE
- SWITCHED
- ACTSWNBKU
- LINE
- TELNBR (telephone number)
- INLCNN (initial connection)
- LINLIST (line list)
- EML3270

Where to record this information:

You can find copies of the *Communications Problem Summary Form* and instructions for using it at the back of this guide.

21

Are both of the following true:

- The value for SWITCHED is \*NO
- The value for ACTSWNBKU is \*NO

No

Yes

Enter:

DSPLINSTS LINE (lin22nybsc)

Replace lin22nybsc with the name of the line affected by the problem.

Go to step 27.

22

The remote control unit is attached to System/ 38 through a switched line.

23

Check the LINLIST (line list) in the control unit description.



C

- 24** Are there any line names shown?
- Yes No
- The system cannot connect any of its lines to this control unit.
- Call the person who performed the configuration of this remote communications network and describe the problem. That person should change the control unit description to include line names in the line list.
- 25** Find out which line the control unit was attached to when the problem began. →

**How to find this information:**

- a. Return to your basic working display, such as the system operator menu, by pressing the CF1 key.
- b. Display the history log as follows:
 

```
DSPLOG LOG(QHST) MSGID(CPF5908)
```
- c. When the history log appears in your screen, find out which line was last connected to the control unit affected by the problem.

- 26** Return to your basic working display (if it is not on your screen already) by pressing the CF1 key.
- Enter:
- ```
DSPLINSTS LINE(lin22nybsc)
```
- Replace `lin22nybsc` with the name of the line you got in step **25**.

**Getting information about the line affected by the problem.**

27 Display the line description by entering a 2 in the space beside the line name.

28 Under item 6a of the *Communications Problem Summary Form*, record the following information from the line description:

- LINNBR
- TYPE
- CNN
- RATE
- ACTSWNBKU
- SWTCNN
- DIALMODE
- ANSMODE
- EML3270

29 Check the CNN value in the line description.

**Where to record this information:**

You can find copies of the *Communications Problem Summary Form* and instructions for using it at the back of this guide



**30** Is the CNN value in the line description \*MP (multipoint)?

Yes

No

Return to the line status display by pressing the CF2 key. You may have to press this key more than once in order to return to the display

Go to step **46**.

**31** Return to the line status display by pressing the CF2 key.

**32** Check the status of the control units attached to the line.

**33** Do any of the control units have the status ACTIVE?

No

Yes

Go to step **38**.

**34** Do any of the control units have the status RECOVERY PENDING or RCYPND ?

Yes

No

Return to the line status display by pressing the CF2 key.

Go to step **46**.

**35** Find the message in the system operator message queue about this problem. →

**36** Respond to the message. →

**37** Did any of the control unit statuses change to ACTIVE?

Yes

No

Go to step **46**.

**38** The system can communicate through the line to a control unit. You may have a problem with the modem or the control unit at the remote location.

Call the operator at the remote location and explain that there might be a problem with the modem or control unit at that location.

**How to display the system operator message queue:**

Enter

DSPMSG MSGQ(QSYSOPR)

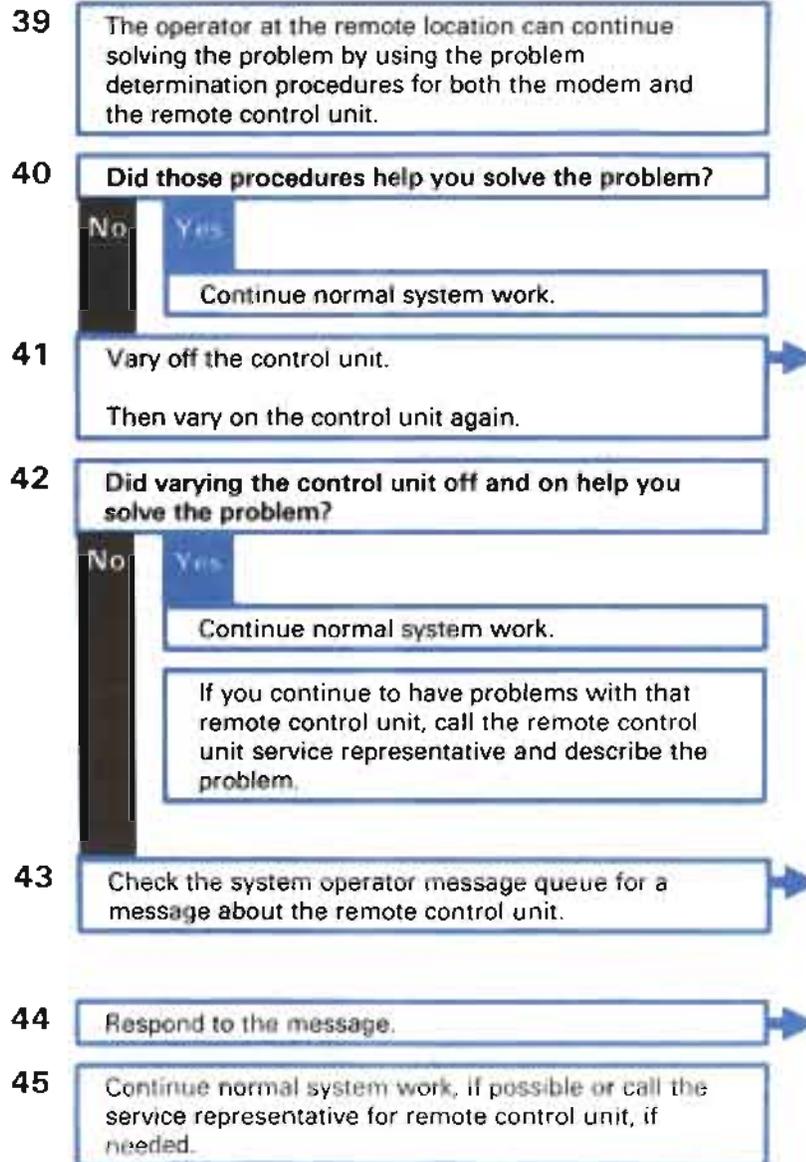
**How to respond to the message:**

Enter one of the following:

- C to cancel recovery
- G to continue recovery
- R to resume operations

See the *System/38 Operator's Guide* for instructions on how to perform the error recovery procedures.





#### How to vary off and on the control unit:

- Enter
 

```
DSPCTLSTS CTLU(ct11)
```

Replace `ct11` with the name of the controller or control unit affected by the problem.
- When the control unit status display appears on your screen, find any active jobs (devices that show job names). After explaining the problem to job users, cancel those active jobs by entering a 9 in the space beside each device that has an active job.
- Vary off the control unit by entering a 5 in the space beside the control unit name
- Vary on the control unit by entering a 4 in the space beside the control unit name.

#### How to display the system operator message queue:

Enter

```
DSPMSG MSGQ(QSYSOPR)
```

#### How to respond to the message:

See *Responding to Messages* in Chapter 2 for instructions.

## Deciding which test to use.

**46** Note: Steps **30**, **34** and **37** sent you to this step.

Vary off the network by entering a 5 in the space beside the line name.

If the system cannot vary off the network, you will receive a message in the system operator message queue telling you why the problem occurred. Respond to the message, then try again to vary off the network.

If the system can vary off the network, go to step **47**.

**47** You need to run one or more system tests to find the cause of the problem.

Are you using equipment in Japan?

Yes

No

Return to your basic working display (such as the system operator menu) by pressing the CF1 key.

Go to Procedure C.2: *Line Test*.

How to display the system operator message queue:

Enter.

```
DSPMSG MSGQ(QSYSOPR)
```

### About the tests:

The tests check the System/38 communications adapter, the local and remote modems, and the communications line for problems. When the test is finished, you are told what to fix, or which service organization, such as the common carrier or IBM, can help you fix the problem.



48 Do you have equipment attached to lines provided by the Nippon Telephone and Telegraph Company?

Yes

No

Return to your basic working display (such as the system operator menu) by pressing the CF1 key.

Go to Procedure C.2: *Line Test*.

49 Return to your basic working display (such as the system operator menu) by pressing the CF1 key.

50 Go to Procedure C.1: *Japan Line Test*.



### When to Perform This Test

Perform this test when you are told to in Procedure C: *Communications Problem*.

Only run this test in Japan and if you are using a communications network connected to Nippon Telephone and Telegraph (NTT) facilities. If you are using other facilities, go to Procedure C.2: *Line Test*.

### Outline of the Test

Before starting this test, finish Procedure C: *Communications Problem*.

In this test, you do the following:

- 1 Prepare for the test by checking the cable connections to the NTT network, and by putting the modem in a test state.

**Note:** Check that all cables and connectors to the NTT facilities are in place and secure, that power to the NTT equipment (where applicable) is ON, and that all switches, etc., are in the correct operating position.

- 2 Run the test using the `STRPDP` command.
- 3 Record information about the test on the *System/38 Communications Problem Summary Form*, such as the `PDPID` you used and the completion qualifier received at the end of the test.
- 4 Respond to the completion qualifier you receive at the end of the test to finish solving the problem. You may have to call the appropriate service organization, such as the remote equipment supplier, the common carrier, or IBM, to have the problem solved.



C.1

The test starts here.

Preparing for the test.

1

All cables and connectors to the NTT (local common carrier) facility are properly placed and secure. →

**How to connect cables and connectors:**

See the operator's guide for NTT equipment.

You have turned on power to the NTT equipment where needed.

All switches on the NTT equipment are turned on. →

**How to set the switches:**

See the operator's guide for the NTT equipment.

You have completed Procedure C: *Communications Problem*. →

**Actions performed in Procedure C:**

You do the following actions in Procedure C:

- Get the name of the line affected by the problem.
- Complete item 6 of the *Communications Problem Summary Form*.



The line you are testing is varied off.



#### How to vary off the line:

- a. Display the line status by entering

```
DSPLINSTS LINE (lin22nyb'sc)
```

Replace `lin22nyb'sc` with the name of the line you are testing.

- b. When the line status display appears on your screen, look for devices that show the status `ACTIVE` or `RECOVERY PENDING`
- c. Can you find any such devices?

No	Yes
----	-----

After describing the line problem to the users of those devices, cancel jobs on the devices by entering a `9` in the space beside the name of each device showing these statuses.

Go to step d.

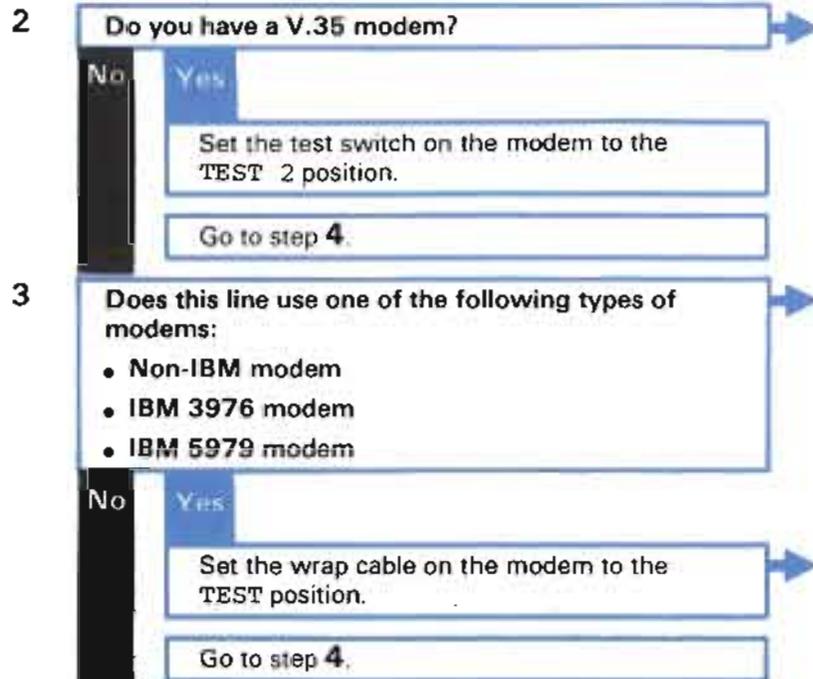
- d. Vary off the line by entering a `5` in the space beside its name.

After you have checked the above items, continue this procedure.



C.1

Step 1



#### How to find out if you have a V.35 modem:

Ask the person who performed the configuration of this communications network

#### How to find your modem type:

Ask the person who performed the configuration of this communications network.

#### How to set the wrap cable:

See the modem operator's guide

**Running the test.**

**4**

Start the test by entering the following command at the System/38:

```
STRPDP PDPID (MP5825)  
LINE (tokyo)
```

Replace *tokyo* with the name of the line you are testing.



**Recording information about the test.**

**5** While the system performs the test, get a copy of the *Communications Problem Summary Form* from the back of this guide (if you do not have one already).

**6** When the system finishes the test, a completion qualifier appears on your screen.

**What the qualifier tells you:**  
The completion qualifier, such as:

610007  
or  
C10-F365-98

identifies which part of the communications system, which you just tested, has the problem (if any).

**7** Record the following under item 5 of the *Communications Problem Summary Form*:

- The command you entered to run the test
- The completion qualifier that you received

**Where to record this information:**

5. Record the following information about the test(s) you ran

DDPID used on STRPDP command	Completion qualifier received.
_____	_____
_____	_____
_____	_____

**Responding to the completion qualifier.**

**8** Did you receive the completion qualifier:  
000000

Yes  No

The system found a problem while running the test.

Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.

**9** The system did not find a problem while running the test. The configuration figures later in this chapter show you which equipment was tested.

**10** Do you have both of the following:  
• Line type is \*BSCT.  
• EML3270 is \*YES.

Yes  No

Continue solving the problem by going to Procedure C.3: *Link Test*.

You cannot use the link test. Go to step **11**.

**How to find your line type:**

You recorded this information under item 6 of the *Communications Problem Summary Form*.



**11** Does the remote host system have the 3270 test request diagnostic routines? (The system programmer who configured the remote computer can tell you.)

Yes

No

Go to step **18**.

**12** Can the remote host system operator run the 3270 test?

Yes

No

Go to step **18**.

With the help of the remote host system programmer or operator, determine which test to run, how to run it, and how to interpret the results.

Enter: DSPLINSTS LINE(lin22nybsc). Replace lin22nybsc with the name of your line.

**13** Is the line status ACTIVE?

Yes

No

Go to step **14**.

Go to step **16**.

#### How to find your line name:

You recorded the line name under item 3 of the *Communications Problem Summary Form*.

**14** Enter a 5 before the name of the line (to vary off the line).

Enter a 4 before the name of the line (to vary on the line).

**15** Is the line status ACTIVE now?

Yes No

Call the person who configured the System/38 communications line and say that you cannot make the line status active.

**16** Run the 3270 test and interpret the results according to the directions you received from the remote host system operator or programmer.

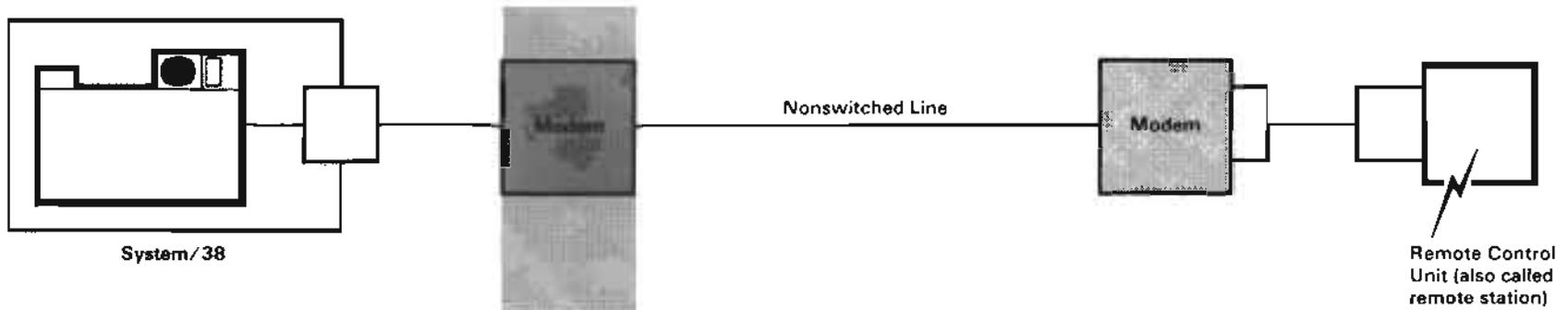
**17** Did the test run correctly?

No Yes

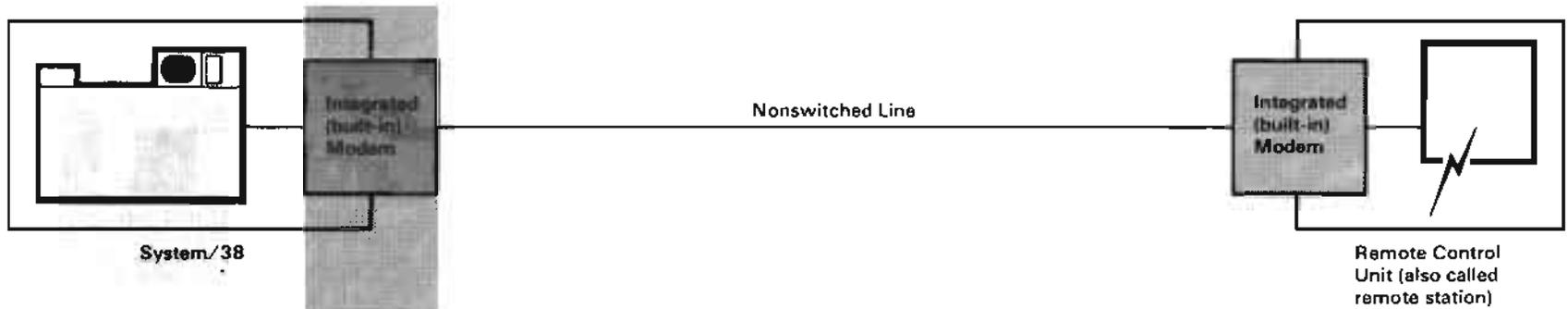
Continue normal system communications work.

**18** Call your service representative. Describe the problem and report the information you have recorded on the *Communications Problem Summary Form*.

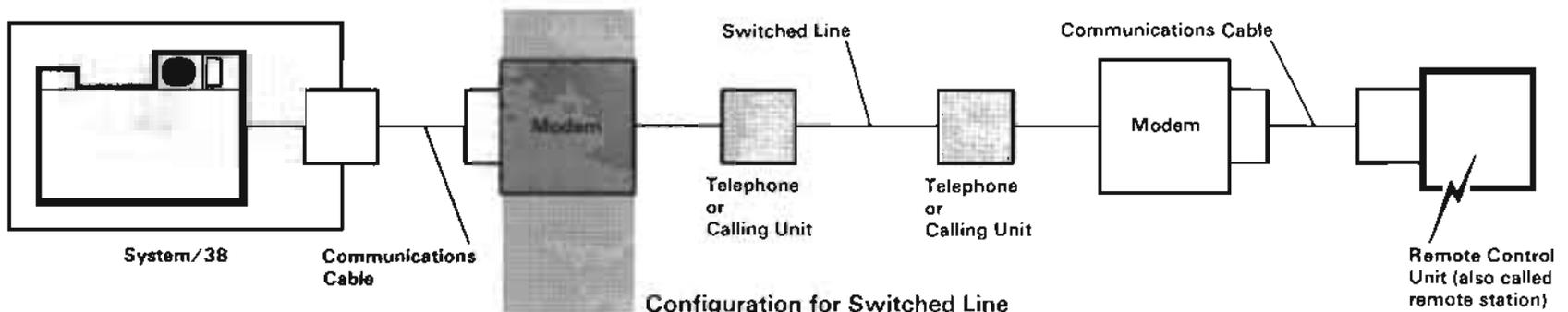




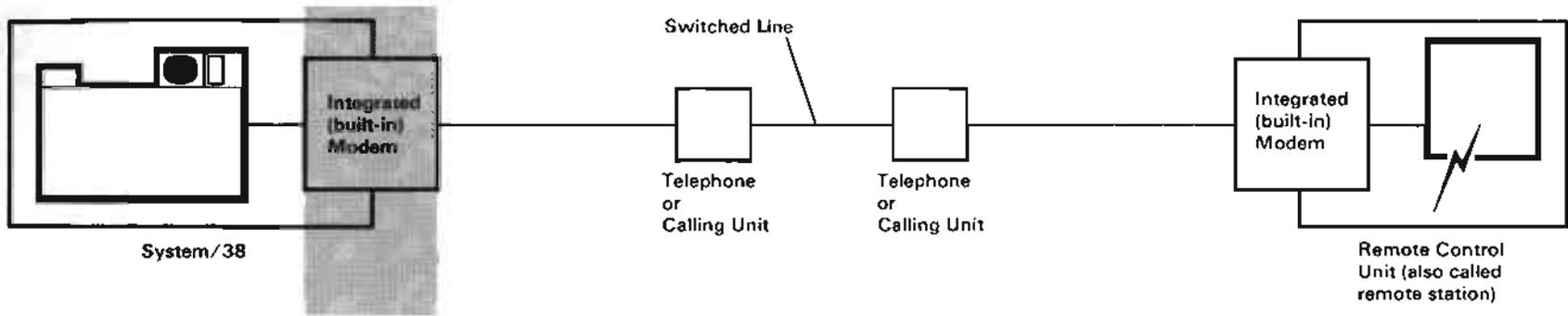
Configuration for Nonswitched Line



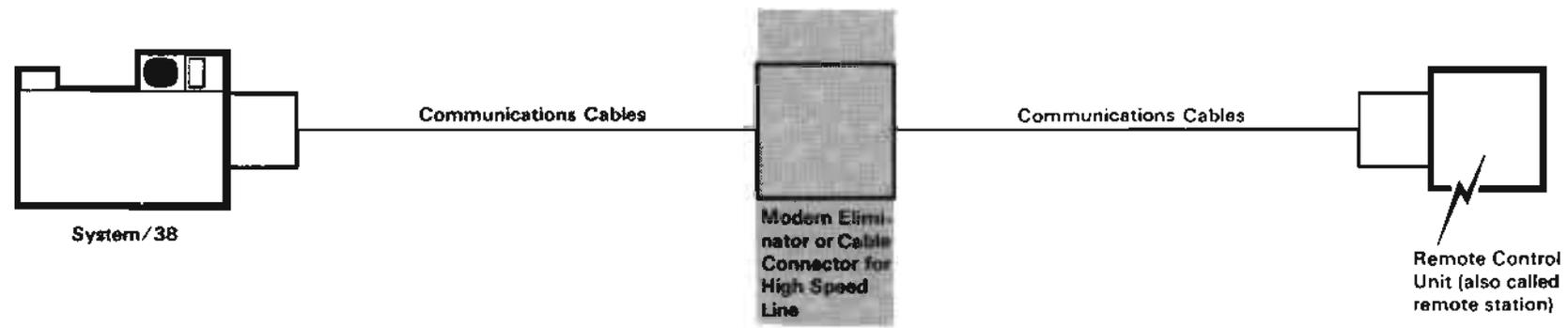
Configuration for Nonswitched Line with Integrated (built-in) Modems



Configuration for Switched Line



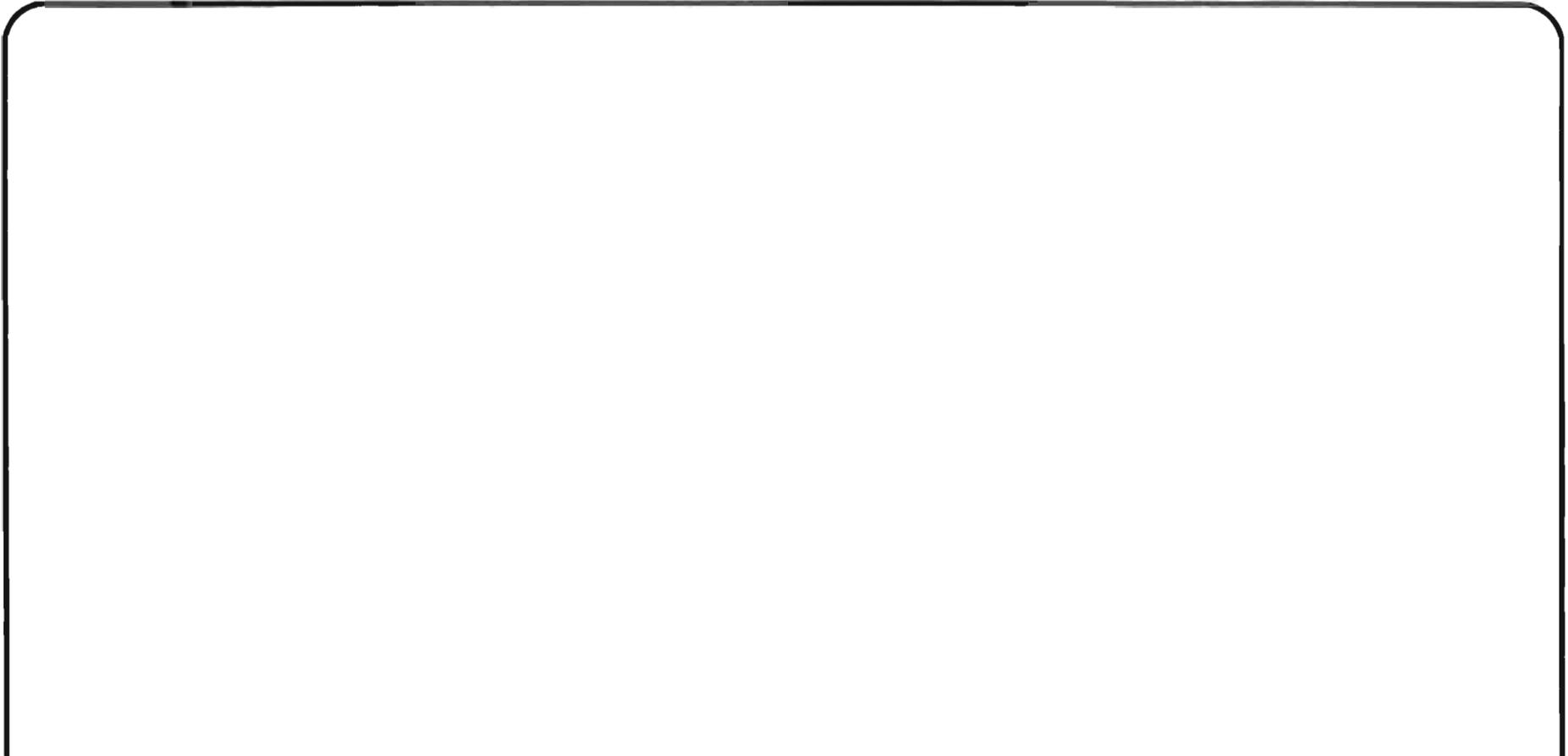
Configuration for Switched Lines with Integrated (built-in) Modems



Configuration for High Speed Line

-  Part of communications network tested.
-  Additional part tested if you use IBM modems other than 3976 or 5979.







### When to Perform This Test

Perform this test when you are told to in Procedure C: *Communications Problem*.

Do not run this test if you are using a communications network connected to Nippon Telephone and Telegraph (NTT) facilities in Japan. If you are using those facilities, go to Procedure C.1: *Japan Line Test*.

### Outline of the Test

Before starting this test, finish Procedure C: *Communications Problem*.

In this test, you do the following:

- 1 Prepare for the test by checking the cable connections to the network.
- 2 Run the test using the `STRPDP` command.
- 3 Record information about the test on the *System/38 Communications Problem Summary Form*, such as the `PDPID` you used and the completion qualifier received at the end of the test.
- 4 Respond to the completion qualifier you receive at the end of the test to finish solving the problem. You may have to call the appropriate service organization, such as the remote equipment supplier, the common carrier, or IBM, to have the problem solved.



C.2

The test starts here.

Preparing for the test.

1 Check the following before doing this test:



All cables and connectors to the modem at the system unit are properly connected and secure.



**How to connect cables and connectors:**

For twinaxial cables, see the operator's guide for the equipment.

For the IBM Cabling System, see *IBM Cabling System Planning and Installation Guide* and *IBM Cabling System Problem Determination for Twinaxial Applications*.



All switches on the modem are properly set.



**How to set the switches:**

See the modem operator's guide.



You have completed Procedure C: *Communications Problem*.



**Actions performed in Procedure C:**

You do the following actions in Procedure C:

- Get the name of the line affected by the problem.
- Complete item 6 of the *Communications Problem Summary Form*.



The line you are testing is varied off.



#### How to vary off the line:

- a. Display the line status by entering:

```
DSPLINSTS LINE(lin22nybsc)
```

Replace `lin22nybsc` with the name of the line you are testing.

- b. When the line status display appears on your screen, look for devices with the status `ACTIVE` or `RECOVERY PENDING`.
- c. Can you find any such devices?

No      Yes

After describing the line problem to the users of those devices, cancel jobs on the devices by entering a `9` in the space beside the name of each device showing a job name.

Go to step d.

- d. Vary off the line by entering a `5` in the space beside its name.

After you have checked the above items, continue this procedure.



C.2

Step 1

**Running the test.****2**

Start the test by entering the following command at the System/38:

```
STRPDP PDPID(MP5821)  
LINE(lin22nybsc)
```

Replace `lin22nybsc` with the name of the line you are testing.

## Recording information about the test.

**3** While the system performs the test, get a copy of the *Communications Problem Summary Form* at the back of this guide (if you do not have one already).

**4** When the system finishes the test, a completion qualifier appears on your screen. →

**5** Record the following under item 5 of the *Communications Problem Summary Form*: →

- The command you entered to run the test
- The completion qualifier that you received

### What the qualifier tells you:

The completion qualifier, such as:

610007

or

C10-F567-98

identifies which part of the communications system, which you just tested, has the problem (if any).

### Where to record this information:

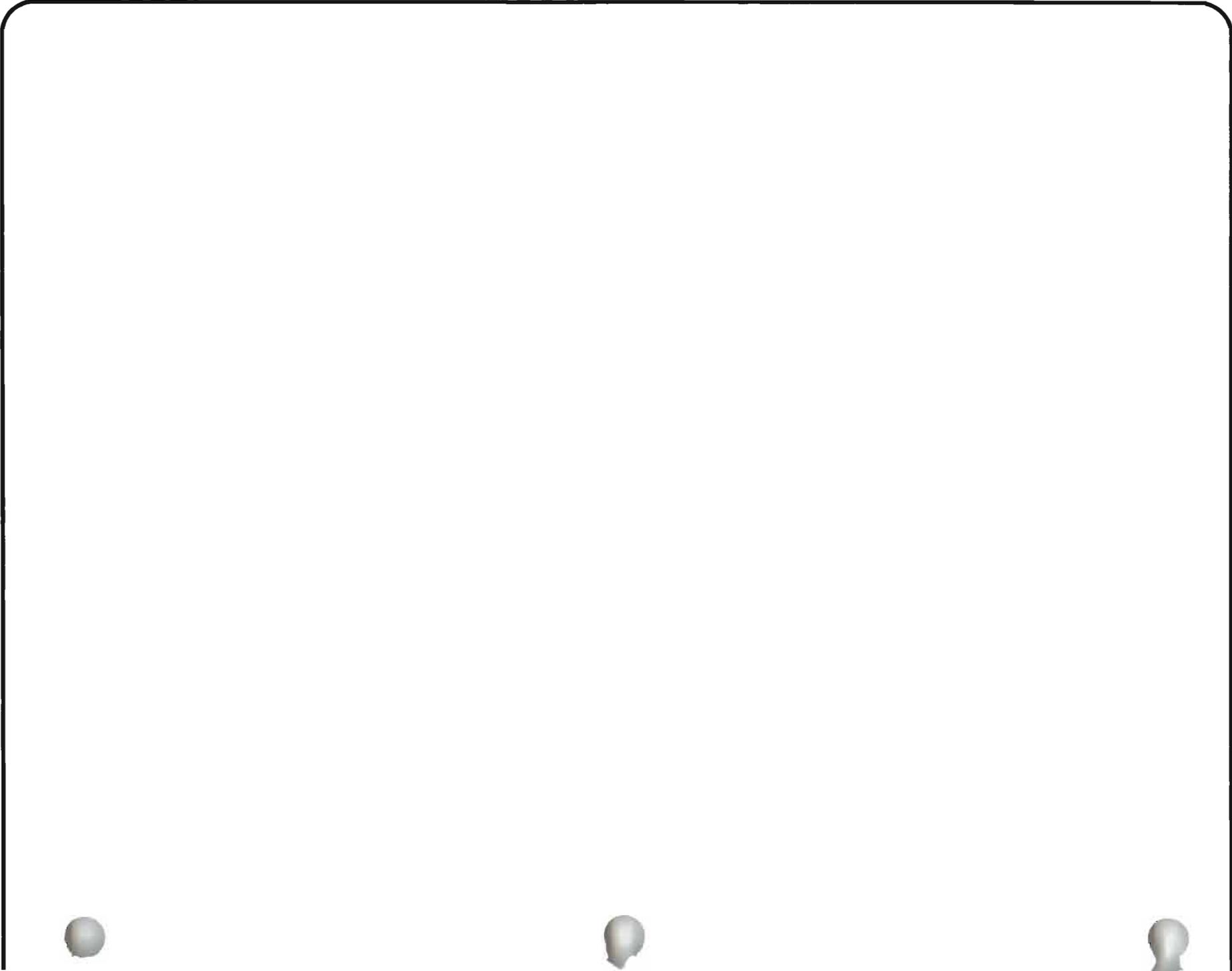
5. Record the following information about the test(s) you ran:

POPID used on  
STRPDP command

Completion qualifier  
received

_____	_____
_____	_____





Responding to the completion qualifier.

6 Did you receive the completion qualifier: 000000

Yes

No

The system found a problem while running the test.

Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.

7 The system did not find a problem while running the test. The figure on the following page shows you which equipment was tested.

8 Do you have both of the following:

- Line type is \*BSCT .
- EML3270 is \*YES .

Yes

No

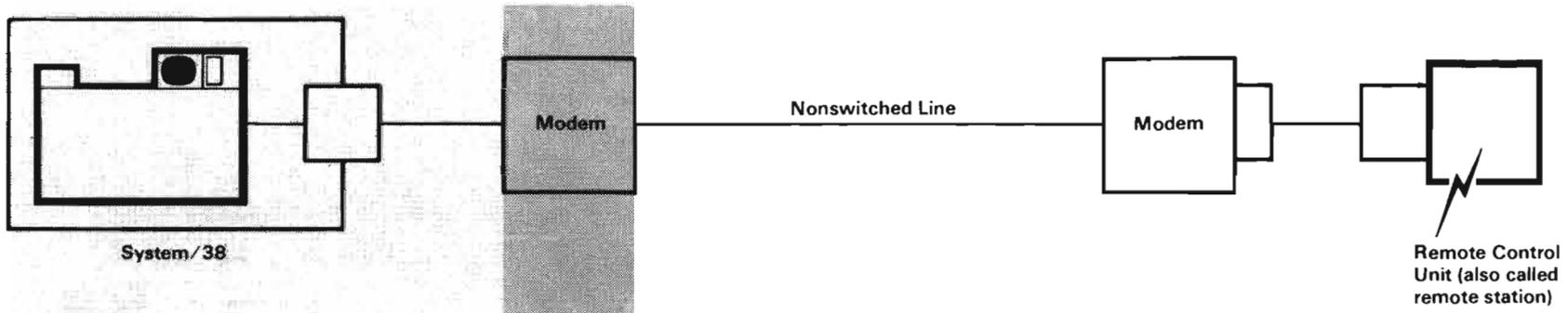
Continue solving the problem by going to Procedure C3: *Link Test*.

You cannot use the link test. Go to Procedure C.1 step 11.

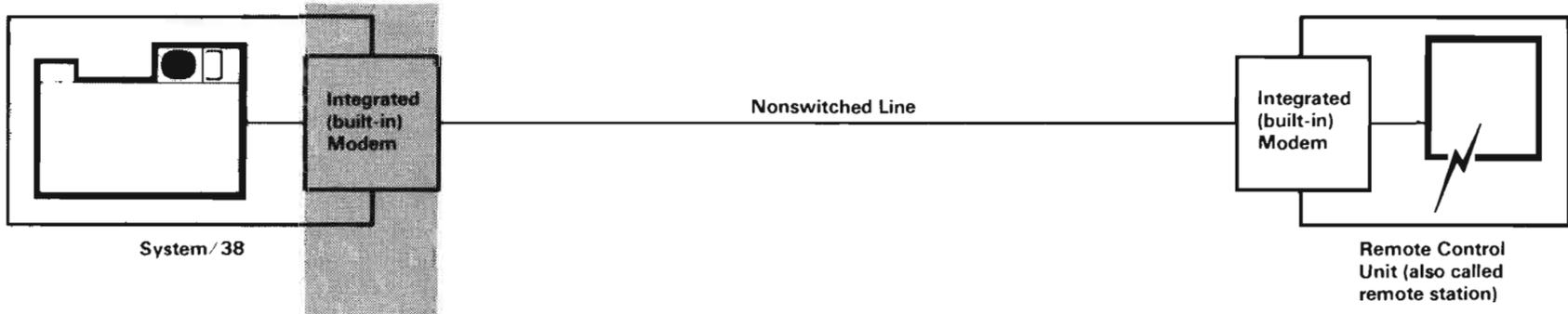
How to find your line type:

You recorded this information under item 6 of the *Communications Problem Summary Form*.

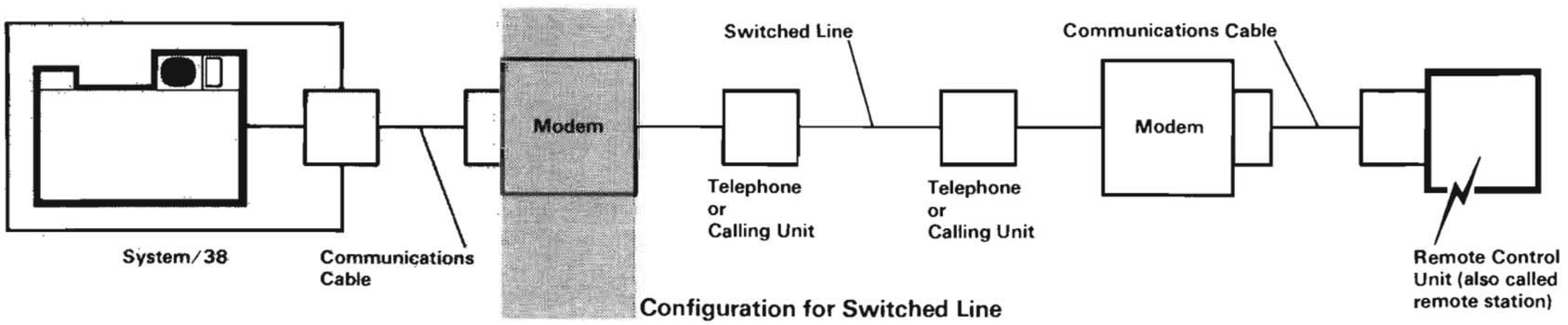




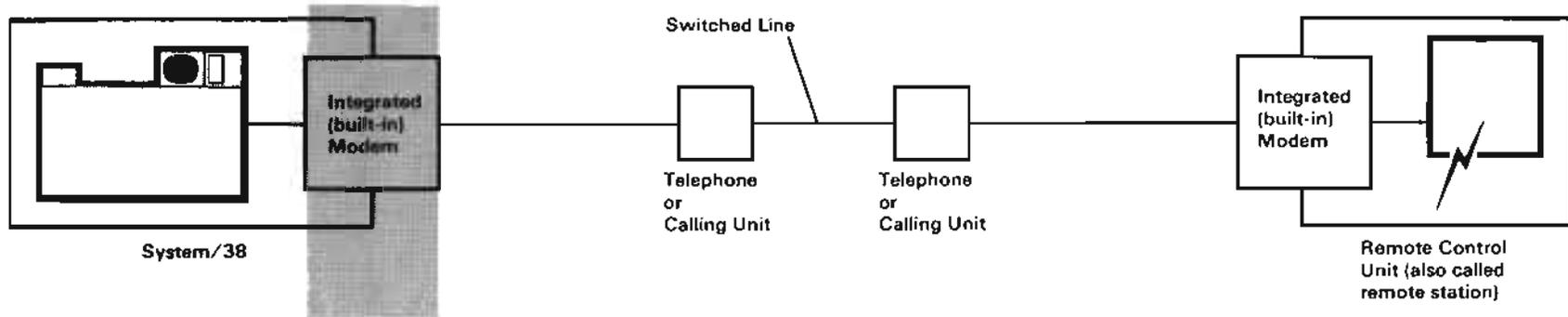
Configuration for Nonswitched Line



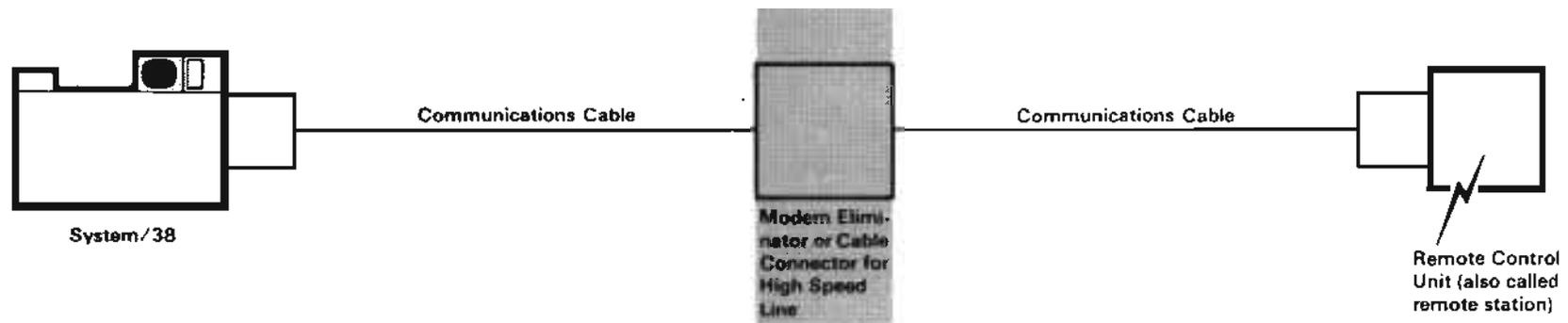
Configuration for Nonswitched Line with Integrated (built-in) Modems



Configuration for Switched Line



Configuration for Switched Lines with Integrated (built-in) Modems



Configuration for High Speed Line

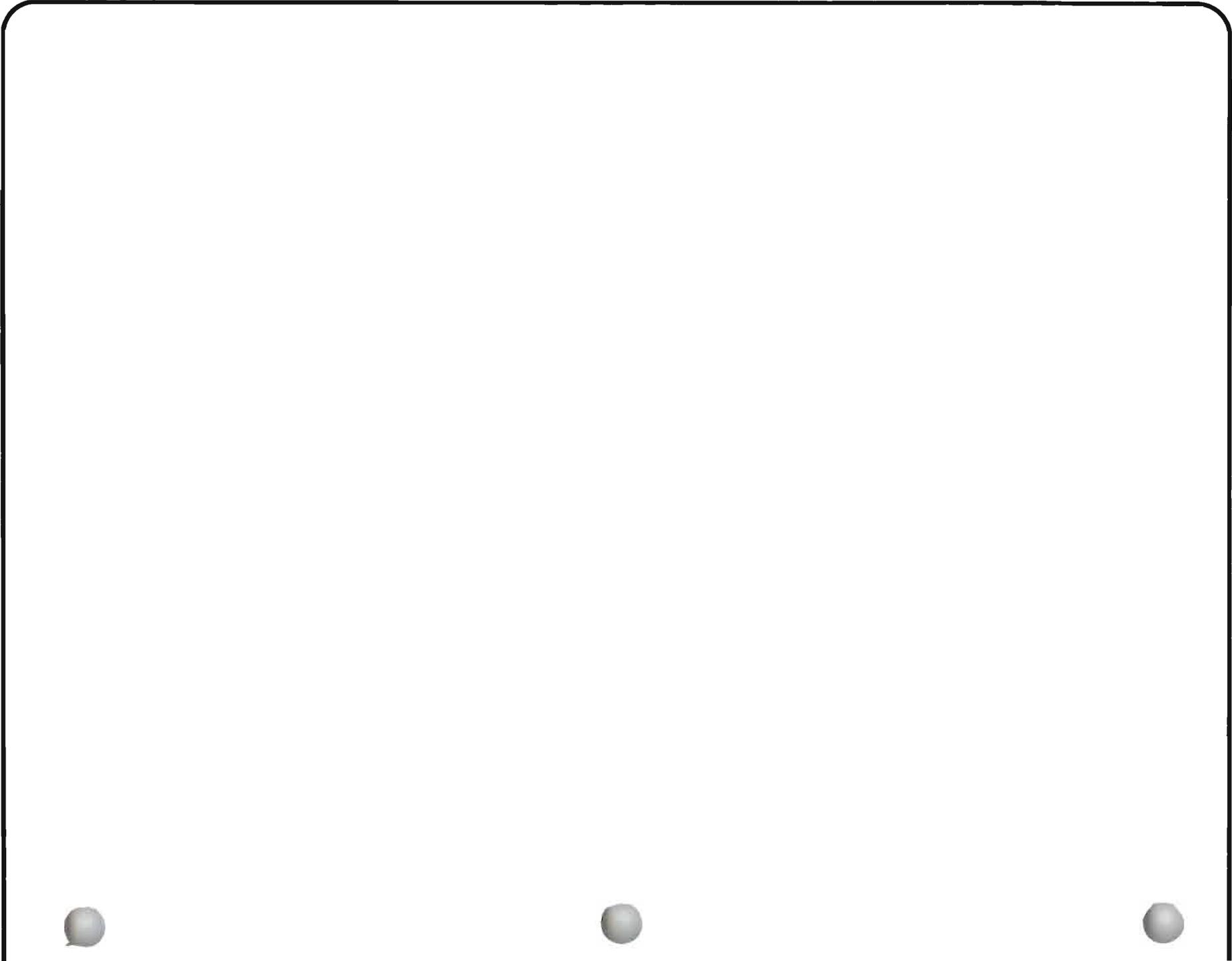


Part of communications network tested.



Additional part tested if you use IBM modems other than 3976 or 5979







### When to Perform This Test

Use this test to check the following:

- The telephone connection between the System/38 and the remote data control unit.
- The ability to send data between the System/38 and the remote control unit.

The specific test you use depends on the values used in your line and control unit descriptions.

If an operator at the remote location asked you to help run this test, you should first do Procedure C, including recording information on the *System/38 Communications Problem Summary Form*.

If an operator at the remote location did NOT ask you to help run this test, you should have finished the following before running this test:

- 1 Procedure C, including writing information needed on the *System/38 Communications Problem Summary Form*.
- 2 The appropriate Line Test. The test should have finished with the completion qualifier: 0 0 0 0 0 0



### Outline of This Test

A link test tests the telephone connection between two control units. Your local System/38, referred to as the System/38, is the local control unit. The other control unit (such as another System/38, or a System/370) is referred to as the remote control unit.

The link test you run depends on the type of protocol used on your line. You can find this information in the **TYPE** value of the description of the line affected by the problem. If both your line **TYPE** is \*BSCT and your **EML3270** is \*YES, you cannot run the link test. (You recorded this information under item 6 of the *Communications Problem Summary Form*). In those cases, call your service representative. Describe the problem, and report the information you have already recorded about the problem on the *Communications Problem Summary Form*.

The link test starts here, no matter which protocol you use on the line affected by the problem.

In this procedure, you do the following:

- 1** Vary off the line to be tested.
- 2** Determine which test to use.
- 3** Call the operator at the remote location, if you have not done so already. During the test, that operator must perform corresponding steps at the remote location.
- 4** Run the test. If you are already familiar with this test, use the following chart to decide which test to run.
- 5** Record the test you ran and the completion qualifier you received.
- 6** Respond to the completion qualifier.

The procedure starts here.

**Getting information needed to do the procedure.**

1 Get the following information before continuing this procedure:

You have recorded information as asked in Procedure C: *Communications Problem*. →

Name of the line affected by the problem. →

After you have checked the above items, continue this procedure.

**Information you recorded in Procedure C:**

You recorded the following information in Procedure C:

- The name of the line affected by the problem.
- Item 6 of the *Communications Problem Summary Form*.

**How to get the line name:**

You recorded this information under item 4 of the *Communications Problem Summary Form* as you were doing Procedure C.



### Checking characteristics of the line to be tested.

- 2  Display the status of the line affected by the problem, if it is not displayed already.
- 3  Display the line description.
- 4  In the line description, check the values for CNN and ACTSWNBKU.

#### How to display the line status:

Enter:

```
DSPLINSTS LINE (lin22nybsc)
```

Replace `lin22nybsc` with the name of the line affected by the problem.

#### How to display the description:

Enter a 2 in the space beside the line name.

5

Is one of the following true:

- The value for CNN in the line description is \*SWT (you have a switched line)
- The value for CNN in the line description is \*MP or \*PP and the value for ACTSWNBKU is \*YES

Yes

No

Press the CF2 key to return to the line status display. You may have to press this key more than one time.

Go to step **18**.

6

The line affected by the problem is being used as a switched line.

7

Do you know the name of the control unit affected by the problem?

No

Yes

Display the status of that control unit. 

Go to step **22**.

#### How to display the control unit status:

Enter:

```
DSPCTLSTS CTLU(ct122nybsc)
```

Replace ct122nybsc with the name of the control unit affected by the problem.



## Deciding which control unit to test: switched lines.

**8** Find out which remote control unit was attached to the line when the problem occurred.

In this procedure, this control unit will be called the **remote control unit**.

### How to find this information:

Return to your basic working display (such as the system operator menu) by pressing the CF1 key.

Display the history log as follows:

```
DSPLOG LOG(QHST) MSGID(CPF5908)
```

When the history log appears on your screen, find the message that tells you which control unit the line was last attached to.

If you cannot find a control unit name, contact the person who performed the configuration of your remote communications network. Describe the problem, explaining that the line is not attached to a control unit.

**9** Display the status of the remote control unit affected by the problem.

### How to display the control unit status:

Enter:

```
DSPCTLSTS CTLU(ct122nybsc)
```

Replace `ct122nybsc` with the name of the control unit affected by the problem.

**10** Display the description of the control unit affected by the problem.

### How to display the description:

Enter a 2 in the space beside the control unit name.

**11** If you have not done so already, record the following information from the control unit description under item 6b of the *Communications Problem Summary Form*,

- TYPE
- SWITCHED
- SWNBKU
- LINE
- TELNBR (telephone number)
- INLCNN (initial connection)
- LINLIST (line list)
- EML3270

### Where to record this information:

You can find copies of the *Communications Problem Summary Form* and instructions for using it at the back of this guide.

12

In the control unit description, check the (line list).

13

Can you find the name of the line affected by the problem in the line list?

Yes

No

Call the person who performed the configuration of this remote communications network and explain that this line is not listed.

Perhaps one of the following happened:

- Someone has changed the control unit description, and forgot to include this line in the line list.
- Someone deleted and recreated a line description without changing this control unit description also. Note that you must change the affected control unit description, even when you recreate a line using the same name as the line description that you deleted.



C.3

Steps 8 through 13

**14** Press the CF2 key to return to the status display. You may have to press the key more than one time.

**15** Is the status of the devices attached to the control unit either of the following?

- ACTIVE
- RECOVERY PENDING

No

Yes

The devices attached to the control unit are in use. If the status is RECOVERY PENDING, check the QSYSOPR message queue for messages.

Vary off the devices attached to the control unit that are in use.

Go to step **16**.

**16** Vary off the control unit.

**17** Go to step **24**.

#### How to check the QSYSOPR message queue:

Enter:

```
DSPMSG MSGQ(QSYSOPR)
```

See Chapter 2, *Using Messages* for more help in displaying messages

#### How to vary off these devices:

Explain the line problem to the users at the devices with the status ACTIVE or RECOVERY PENDING.

Cancel their jobs by entering a 9 in the spaces beside the names of these devices.

Then vary off these devices by entering a 5 in the space beside the name of each device showing the status ACTIVE or RECOVERY PENDING.

#### How to vary off the control unit:

Enter a 5 in the space beside the control unit name.

**Deciding which control unit to test: leased lines.**

**18** You are using a leased line.  
Decide which control unit you will test (if you have more than one control unit attached to the line).

**19** Display the description of the control unit affected by the problem. →

**20** If you have not done so already, record the following information from the control unit description under item 6b of the *Communications Problem Summary Form*:

- TYPE
- SWITCHED
- SWNBKU
- LINE
- TELNBR (telephone number)
- INLCNN (initial connection)
- LINLIST (line list)
- EML3270

→

**21** Return to the status display by pressing the CF2 key.

**How to display the description:**

Enter a 2 in the space beside the control unit name.

**Where to record this information:**

You can find copies of the *Communications Problem Summary Form* and instructions for using it at the back of this guide.



22

Is the status of the devices attached to the control unit that you are testing any of the following?

- ACTIVE
- RECOVERY PENDING

No

Yes

The devices attached to the control unit are in use. If the status is RECOVERY PENDING, check the QSYSOPR message queue for messages.

Vary off the devices attached to the control unit that are in use.

Go to step 23.

23

Vary off the control unit.

#### How to check the QSYSOPR message queue:

Enter:

```
DSPMSG MSGQ(QSYSOPR)
```

See Chapter 2, *Using Messages* for more help in displaying messages.

#### How to vary off these devices:

Explain the line problem to the users at the devices with the status ACTIVE or RECOVERY PENDING.

Cancel their jobs by entering a 9 in the spaces beside the names of these devices.

Then vary off these devices by entering a 5 in the space beside the name of each device showing the status ACTIVE or RECOVERY PENDING .

#### How to vary off the control unit:

Enter a 5 in the space beside the control unit name.

Deciding which test to use.

24 Return to your basic working display (such as the system operator menu), if it is not already displayed on your screen.

25 Is the control unit TYPE\*BSC?

No

Yes

Go to Procedure C.3-B: BSC Link Test.

26 Is your line type \*BSC?

Yes

No

Go to Procedure C.3A SDLC Link Test.

27 Is EML3270 \*YES?

Yes

No

28 Go to Procedure C.3B BSC Link Test.

You cannot continue this procedure. Go to Procedure C.1 step 11.

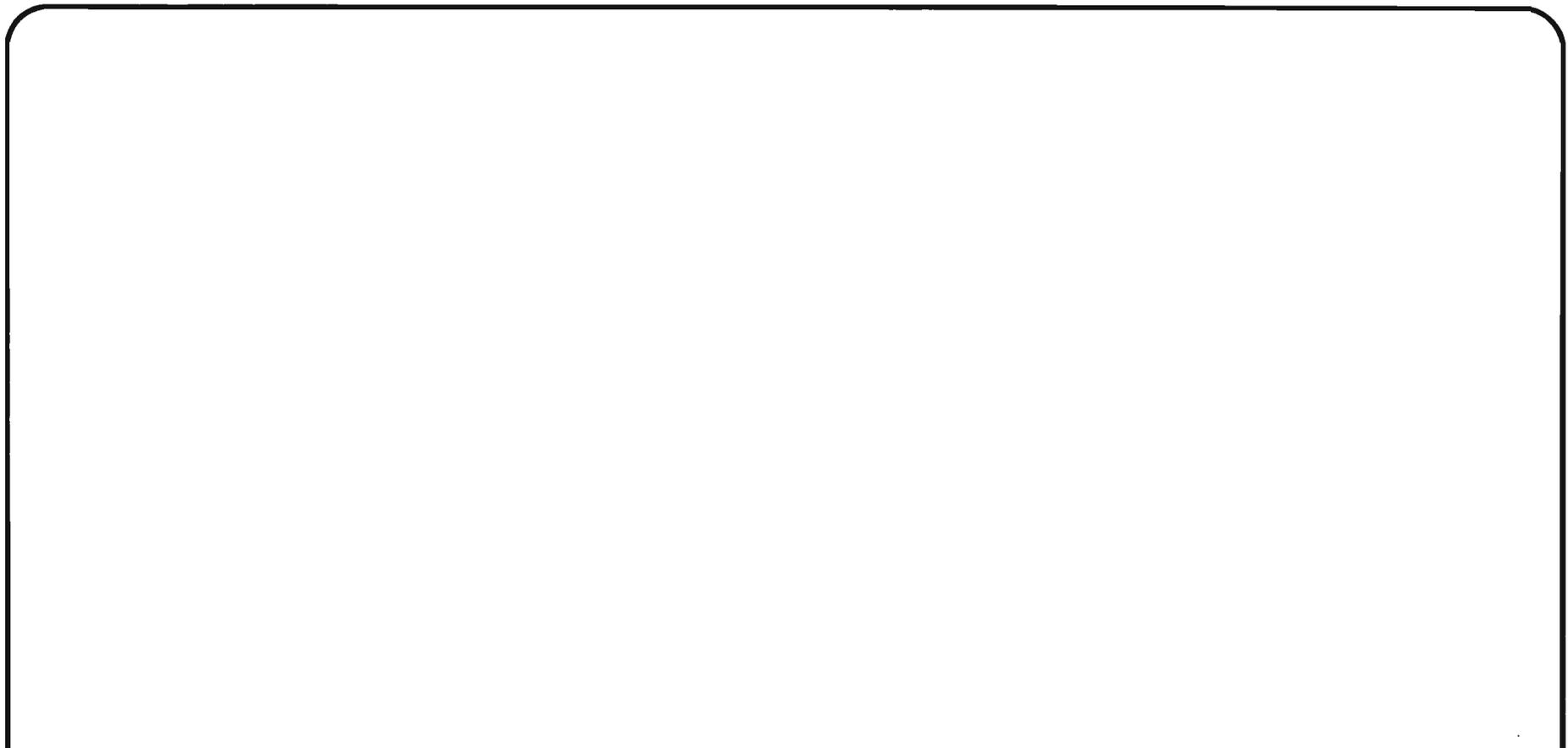
How to return to the display.

Press the CF1 key

How to find the control unit type:

You recorded this information under item 6b of the *Communications Problem Summary Form*





Start this test after finishing step **27** of Procedure C.3: *Link Test*.

Note that during the test, you must call the operator at the remote control unit. That operator makes sure that the remote control unit is prepared for the test, and if needed, help you start communications between the System/38 and the remote control unit. You are told when to call that operator.



C.3-A

**Starting the test.**

1

Vary off the line that you are testing.

**Note:** The control unit and devices to be tested should be varied off already. You varied off this equipment in Procedure C.3: *Link Test*.

**How to vary off the line:**

- a. Display the line status by entering:

```
DSPLINSTS LINE (lin22nysd1)
```

Replace `lin22nysd1` with the name of the line you are testing.

- b. Vary off the line by entering a 5 in the space beside its name.

Determining which link test to use.

2

Is one of the following true about the line description?

- The value for CNN is \*SWT (you have a switched line).
- The value for ACTSWNBKU is \*YES (the switched network backup feature on a nonswitched line is active).

No

Yes

Go to step 10.

**How to get this information:**

You recorded this information under item 6a of the *Communications Problem Summary Form*.



**Link test for nonswitched lines.**

- 3** The remote control unit is attached to a nonswitched line.

Start the test by entering the following command at the System/38:

```
STRPDP PDPID (MP5826)  
LINE (lin22nysd1)  
CTLU (ct122nysd1)
```

Replace `lin22nysd1` with the name of the line to be tested.

Replace `ct122nysd1` with the name of the control unit to be tested.

4

Within a few minutes, a message code appears on your screen.

Did you receive the message code MSG007?

No

Yes

You are running the SDLC link test on a secondary SDLC control unit. Make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, go to Procedure C.3-C: *Preparing Control Units for a Link Test*.

When the remote control unit is ready for the test, you have two minutes to press the Enter key at the System/38.

When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

Record the following under item 5 of the *Communications Problem Summary Form*:

- The command you entered to run the test
- The completion qualifier that you received

Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.

**About secondary control units:**

During this test, the System/38 checks the line and responds to a test frame sent by the primary control unit. When you press the Enter key, the other system sends the test frame.

**What the qualifier tells you:**

The completion qualifier, such as:

060007

or

C10-F432-77

identifies which part of the communications system, which you just tested, has the problem, if any.

**Where to record this information:**

You can find copies of the form and instructions for using it at the back of this guide.

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
_____	_____
_____	_____
_____	_____



**5** You received the message code MSG008.

You are running the SDLC link test on a primary SDLC control unit. Call the operator at the remote control unit. Have that operator make sure that the secondary control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

**If the remote control unit is another System/38,** you have two minutes to do step **6** after the operator at the other System/38 presses the Enter key.

**6** After you are sure that the remote control unit is ready for the test, press the Enter key at the System/38.

**7** When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

**8** Record the following under item 5 of the *Communications Problem Summary Form*:

- The command you entered to run the test
- The completion qualifier that you received

**9** Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.

**About the primary control unit:**

During the test, System/38 sends test frames to the remote control unit, and checks those frames to make sure that they were sent properly.

**What the qualifier tells you:**

The completion qualifier, such as:

060007

or

C10-F432-77

identifies which part of the communications system, which you just tested, has the problem, if any.

**Where to record this information:**

You can find copies of the form and instructions for using it at the back of this guide.

5. Record the following information about the test(s) you ran.

DDPID used on STRPUP command	Completion qualifier received:
_____	_____
_____	_____

**Link test for switched lines.**

10

**Note:** Step 2 sent you to this step.  
Find out if the remote control unit will call the System/38.

To do this, check the INLCNN value in the control unit description. 

**How to get this information:**

You recorded this information under item 6b of the *Communications Problem Summary Form*.

11

Is the INLCNN value in the control unit description \*ANS?

No 

Yes

Go to step 60.



**Link test for switched lines: System/38 calling the remote control unit.**

12 The System/38 will call the remote control unit during the test.

13 Check the SWTCNN value in the description of the line you are testing. 

14 Is the SWTCNN value in the line description \*CALL or \*BOTH?

Yes No

Call the person who performed the configuration of this communications network and explain that the CNN value in the control unit description (which is \*CALL) does not match the SWTCNN value in the line description (\*ANS). That person should change the control unit or line description. He might also check the *CL Reference Manual* for information on these values.

**How to get this information:**

You recorded this information under item 6a of the *Communications Problem Summary Form*.

**Determining if the System/38 has the autocal feature.**

**15** Find out if the system automatically makes the call to start communications with the remote control unit. 

**How to find this information:**

Check the DIALMODE value in the description of the line you are testing. You recorded this information under item 6a of the *Communications Problem Summary Form*.

If the DIALMODE value is \*AUTO, the system calls the control unit automatically.

**16** Does the system make this call automatically?

No

Yes

Go to step **54**.



**Manual call link test: Starting the procedure.**

- 17** Start the test by entering the following command at the System/38:

```
STRPDP PDPID (MP5829)  
LINE (lin22nyds1)  
CTLU (ct122nysd1)
```

Replace lin22nyds1 with the name of the line to be tested.

Replace ct122nysd1 with the name of the control unit to be tested.

- 18** Within a few minutes, a message code appears at the System/38.

**Did you receive the message code MSG001?**

No

Yes

Go to step **31**.

**Manual call link test: Connection procedures for 4-wire lines.**

19 You received the message code MSG005.

The system is waiting for you to place the call to the remote control unit. Before you place the call, call the operator at the remote control unit. Have that operator make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

Find out if the remote control unit answers calls automatically. If you are not sure how calls are answered, ask the operator at the remote control unit.

20 Does the remote control unit answer calls automatically?

Yes

No

Go to step 24.



21 Press the Enter key at the System/38.

Within two minutes, call the remote control unit. →

**How to place the call:**

The instructions for calling the remote control unit should be included in your normal operating procedure.

22 Did you hear an answer tone?

No

Yes

Put the telephone in data mode. →

Go to step **28**.

**How to put the telephone in data mode:**

See the instructions for using the telephone equipment.

23

Make sure that you dialed the correct telephone number.

**If you did not dial the correct telephone number, do the following:**

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Go back to step **17** of this link test and run the test again, using the correct telephone number.

**If you did dial the correct telephone number, do the following:**

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Call your common carrier. Explain that you were doing this link test, but could not reach the remote control unit.

You cannot continue this test. When you are able to call the remote control unit, go back to step **17** and run the test again.

24

Place the call to the remote control unit. 

**How to place the calls:**

The instructions for calling the remote control unit should be included in your normal operating procedures.



- 25 When the operator at the remote location answers, try to speak with that operator.

Can you talk to the operator at the remote location?

Yes

No

Make sure that you dialed the correct telephone number.

**If you did not dial the correct telephone number**, do the following:

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Go back to step **17** of this link test and run the test again, using the correct telephone number.

**If you did dial the correct telephone number**, do the following:

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Call your common carrier. Explain that you were doing this link test, but could not reach the remote control unit.

- 26 When the remote control unit is ready for the test, press the Enter key at the System/38.

You have 2 minutes to do step **27**.

- 27 Both you and the operator at the remote control unit put the telephones in data mode.

## Completing the link test for 4-wire manual call lines.

28 When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

29 Record the following under item 5 of the *Communications Problem Summary Form*:

- The command you entered to run the test
- The completion qualifier that you received

30 Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.

### What the qualifier tells you:

The completion qualifier, such as:

060007  
or  
C10-F432-77

identifies which part of the communications system, which you just tested, has the problem, if any.

### Where to record this information:

You can find copies of the form and instructions for using it at the back of this guide.

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
_____	_____
_____	_____



### Connection procedures for 2-wire lines.

**31** **Note:** Step **18** sent you to this step.

The message code MSG001 is displayed on your screen.

The system is waiting for you to place the call to the remote control unit.

**32** **Are the devices to be tested attached to a Nippon Telephone and Telegraph DDX public data network (Japan only)?**

No

Yes

Go to step **47**.

**33** Find out if the remote control unit answers calls automatically. If you are not sure how calls are answered, ask the operator at the remote control unit.

**34** **Does the remote control unit answer calls automatically?**

No

Yes

Go to step **43**.

**Manual call link test: Connection procedures for 2-wire lines.**

**35** Place the call to the remote control unit. 

**36** When the operator at the remote location answers the telephone, try to speak with that operator.

**Can you talk to the operator at the remote location on the telephone?**

Yes No

Make sure that you dialed the correct telephone number.

**If you did not dial the correct telephone number, do the following:**

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Go back to step **17** of this link test and run the test again, using the correct telephone numbers.

**If you did dial the correct telephone number, do the following:**

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Call your common carrier. Explain that you were doing this link test, but could not reach the remote control unit.

**How to place the call:**

The instructions for calling the remote control unit should be included in your normal operating procedures.



**37** Make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

**38** When the remote control unit is ready for the test, press the Enter key at the System/38.

You have 2 minutes to finish step **39**.

**39** Both you and the operator at the remote control unit put the telephones in data mode.

**40** When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

**How to put the telephones in data mode:**

These instructions should be included in your normal operating procedures.

**What the qualifier tells you:**

The completion qualifier, such as:

060007  
or  
C10-F432-77

identifies which part of the communications system, which you just tested, has the problem, if any.

45

Did you hear an answer tone when the remote control unit answered the call?

No

Yes

Put the telephone at the System/38 in data mode.

When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

Record the following under item 5 of the *Communications Problem Summary Form*:

- The command you entered to run the test
- The completion qualifier that you received

Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.

**What the qualifier tells you:**

The completion qualifier, such as:

060007

or

C10-F32-77

identifies which part of the communications system, which you just tested, has the problem, if any

**Where to record this information:**

You can find copies of the *Communications Problem Summary Form* and instructions for using it at the back of this guide



**46**

Make sure that you dialed the correct telephone numbers.

**If you did not dial the correct telephone number, do the following:**

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Go back to step **17** of this link test and run the test again, using the correct telephone numbers.

**If you did dial the correct telephone number, do the following:**

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Call your common carrier. Explain that you were doing this link test, but could not reach the remote control unit.

**Connection procedure for 2-wire lines connected to the DDX public data network.**

**47** Note: Step **32** sent you to this step.

You must perform a manual call link test for the equipment attached to the DDX public data network.

**48** Make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

**49** When the remote control unit is ready for the test, press the Enter key at the System/38.

You have 2 minutes to finish step **50**.

**50** Call the remote control unit. →

**How to place the call:**

Use the procedures given by Nippon Telephone and Telegraph for placing calls on the DDX Public Network

**51** When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen. →

**What the qualifier tells you:**

The completion qualifier, such as:

060007

or

C10-F432-77

identifies which part of the communications system, which you just tested, has the problem, if any

**52** Record the following under item 5 of the *Communications Problem Summary Form*:

- The command you entered to run the test
- The completion qualifier that you received

**53** Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.



### Autocall link test procedure.

**54** **Note:** Step 16 sent you to this step.

The System/38 has the autocall feature. Make sure that the remote control unit has the autoanswer feature.

#### How to find out if the remote control unit has the autoanswer feature:

Ask the operator at the remote location. That operator might check the modem user's guide.

**55** Does the remote control unit have the autoanswer feature?

Yes

No

Call the person who performed the configuration of this communications network. Explain that the System/38 has the autocall feature, but the remote control unit does not have the autoanswer feature. The two devices are not compatible. That person should make the appropriate changes.

**56** Start the test by entering the following command at the System/38:

```
STRPDP PDPID(MP5827)
LINE(lin22nysd1)
CTLU(ct122nysd1)
```

Replace ct122ny3s1 with the name of the line to be tested.

Replace ct122nysd1 with the name of the control unit to be tested.

57

Within a few minutes, the system displays the message code MSG009.

When that happens, make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

58

When the remote control unit is ready for the test, press the Enter key at the System/38.

The system performs the test.

When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

Record the following under item 5 of the *Communications Problem Summary Form*:

- The command you entered to run the test
- The completion qualifier that you received

59

Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.

**What the qualifier tells you:**

The completion qualifier, such as:

060007

or

C10-F432-77

identifies which part of the communications system, which you just tested, has the problem, if any.

**Where to record this information:**

You can find copies of the form and instructions for using it at the back of this guide.

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
_____	_____
_____	_____



Link test for switched lines in which the remote control unit calls the System/38.

60 **Note:** Step 11 sent you to this step.

The remote control unit you are testing calls the System/38 during the test.

Find out the value for SWTCNN in the line description. 

**How to find this value:**

You recorded this value under item 6a of the *Communications Problem Summary Form*.

61 **Is the value for SWTCNN in the control unit description \*ANS or \*BOTH?**

Yes No



Call the person who performed the configuration of this communications network. Explain that the INLCNN value in the control unit description (which is \*ANS) does not match the value for SWTCNN in the line description (which is \*CALL). That person should make the appropriate changes to the line or control unit description. He might also check the *CL Reference Manual* for information about these values.

62

Find out if the System/38 automatically answers the call to start communications.

**How to find this information:**

Check the ANSMODE value in the line description. You probably recorded this information under item 6 of the *Communications Problem Summary Form*.

If the ANSMODE value is \*AUTO, the System/38 answers the call automatically.

63

Is the ANSMODE value in the line description \*AUTO?

Yes

No

Go to step 82.



**Link test procedures for autoanswer lines.**

**64** Start the test by entering the following command at the System/38:

```
STRPDP POPID (MP5828)  
LINE (lin22nysd1)  
CTLU (ct122nyds1)
```

Replace `lin22nysd1` with the name of the line to be tested.

Replace `ct122nyds1` with the name of the control unit to be tested.

**65** Within a few minutes, the system displays a message code at the System/38.

**66** Did you receive the message code MSG0004?

Yes

No

Go to step **76**.



**Connection procedures for 2-wire lines.**

**67** You are running the test on a 2-wire connection with the auto-answer feature.

**68** Call the operator at the remote control unit. Have that operator make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

**69** When the remote control unit is ready to perform the test, press the Enter key at the System/38.

The operator at the remote control unit has 2 minutes to finish step **70**.

**70** Have the operator at the remote control unit call the System/38.



71

Does the telephone at the System/38 have a handset?

Yes

No

When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

Record the following under item 5 of the *Communications Problem Summary Form*:

- The command you entered to run the test
- The completion qualifier that you received

Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.

**What the qualifier tells you:**

The completion qualifier, such as:

060007

or

C10-F432-77

identifies which part of the communications system, which you just tested, has the problem, if any.

**Where to record this information:**

You can find copies of the form and instructions for using it at the back of this guide.

5. Record the following information about the test(s) you ran:

DDPID used on STRPDP command	Completion qualifier received:
_____	_____
_____	_____
_____	_____

72

Did you hear the telephone ring?

Yes

No

Make sure that the operator at the remote control unit dialed the correct telephone number.

**If that operator did not dial the correct number, do the following:**

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Go back to step **64** of this link test and run the test again, using the correct telephone number.

**If that operator did dial the correct number, do the following:**

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Call your common carrier. Explain that you were doing this link test, but could not reach the remote control unit.



73 The system performs the test.

When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

**What the qualifier tells you:**

The completion qualifier, such as:

060007  
or  
C10-F432-77

identifies which part of the communications system, which you just tested, has the problem, if any.

74 Record the following under item 5 of the *Communications Problem Summary Form*:

- The command you entered to run the test
- The completion qualifier that you received

**Where to record this information:**

You can find copies of the form and instructions for using it at the back of this guide.

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
_____	_____
_____	_____
_____	_____

75 Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.

Connection procedures for 4-wire autoanswer lines.

- 76 **Note:** Step **66** sent you to this step.
- You received message code MSG006.
- You are running this test on a 4-wire line.
- 77 Call the operator at the remote control unit. Have that operator make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.
- 78 When the remote control unit is ready for the test, press the Enter key at the System/38.
- The operator at the remote control unit has 2.5 minutes to finish step **79**.
- 79 Have the operator at the remote control unit call the System/38 on both telephones. →

**How to place the calls:**

The instructions for placing the calls should be included in your normal operating procedures.



80

Did you hear both telephones ring?

No

Yes

When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

Record the following under item 5 of the *Communications Problem Summary Form*:

- The command you entered to run the test
- The completion qualifier that you received

Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.

**What the qualifier tells you:**

The completion qualifier, such as:

060007

or

C10-F432-77

identifies which part of the communications system, which you just tested, has the problem, if any.

**Where to record this information:**

You can find copies of the form and instructions for using it at the back of this guide.

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
_____	_____
_____	_____
_____	_____

81

Make sure that the operator at the remote control unit dialed the correct telephone numbers.

**If that operator did not dial the correct telephone numbers, do the following:**

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Go back to step **64** of this link test and run the test again, using the correct telephone numbers.

**If that operator did dial the correct telephone numbers, do the following:**

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Call your common carrier. Explain that you were doing this link test, but could not reach the remote control unit.



**Manual answer link test procedures.**

**82** **Note:** Step **63** sent you to this step.

Have the operator at the remote control unit make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

**83** While the operator at the remote control unit is checking the control unit, start the test by entering the following command at the System/38:

```
STRPDP PDPID (MP5839)  
LINE (lin22nysd1)  
CTLU (ctl22nysd1)
```

Replace `lin22nysd1` with the name of the line to be tested.

Replace `ctl22nysd1` with the name of the control unit to be tested.

**84** Within a few minutes, the message code MSG003 is displayed at the System/38.

85

Is the System/38 attached to the Nippon Telephone and Telegraph DDX Public Data Network?

No

Yes

Go to step 93.



C.3.A

Steps 82 through 85

**Manual answer connection procedures for lines not attached to the DDX Public Data Network.**

**86** Tell the operator at the remote control unit to call the System/38.

**87** Did you hear the telephone ring at the System/38?

Yes

No

Make sure that the operator at the remote control unit dialed the correct telephone numbers.

**If that operator did not dial the correct telephone number**, have him place the call again, using the correct telephone number. Go back to step **82** of this link test procedure.

**If the remote operator did dial the correct telephone number**, call your common carrier. Explain that you were doing this link test, but the remote control unit could not reach the System/38.

88 Press the Enter key at the System/38.

You have two minutes to finish step 89.

89 Put the telephone at the System/38 in data mode. 

**How to put the telephone in data mode:**  
See the telephone user manual.



- 90 When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

**The completion qualifier, such as:**

060007

or

C10-F432-77

identifies which part of the communications system that you just tested, has the problem if any.

- 91 Record the following under item 5 of the *Communications Problem Summary Form*:
- The command you entered to run the test
  - The completion qualifier that you received

**Where to record this information:**

You can find copies of the form and instructions for using it at the back of this guide.

5. Record the following information about the test(s) you ran:

PDPID used on  
STRPOP command

Completion qualifier  
received:

_____	_____
_____	_____
_____	_____

92

Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.



C 3 A

Steps 90 through 92

**Manual answer connection procedures for lines attached to the DDX Public Data Network.**

**93**

**Note:** Step **85** sent you to this step.

Press the Enter key at the System/38.

**94**

Have the operator at the remote control unit call the System/38.

After the remote control unit calls the System/38, the following should happen:

- The buzzer on the DDX answering unit should sound.
- The Ready light on the DDX answering unit should turn on.

After the buzzer sounds, you have 1 minute to press the Call key on the answering unit.

95

Did you press the Call key within the time limit?

No

Yes

When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

Record the following under item 5 of the *Communications Problem Summary Form*:

- The command you entered to run the test
- The completion qualifier that you received

Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.

**What the qualifier tells you:**

The completion qualifier, such as:

060007

OR

C10-F432-77

identifies which part of the communications system that you just tested, has the problem if any.

**Where to record this information:**

You can find copies of the form and instructions for using it at the back of this guide.

5. Record the following information about the test(s) you ran:

PDPID used on  
STRPDP command

Completion qualifier  
received:

_____	_____
_____	_____
_____	_____



**96** Did you hear the buzzer sound on the DDX answering unit?

No

Yes

The procedures are running although the remote control unit did not make a connection with the System/38. Within 2.5 minutes, a code appears on your screen. Ignore the code. Go back to step **82** and run this link test again.

**97** Make sure that the operator at the remote control unit dialed the correct telephone numbers.

**If that operator did not dial the correct telephone number, do the following:**

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Go back to step **82** of this link test and run the test again, using the correct telephone number.

**If that operator did dial the correct telephone number, do the following:**

- a. Press the Enter key at the System/38. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Call your common carrier. Explain that you were doing this link test, but the remote control unit could not reach the System/38.

Start this test after finishing step **25** of Procedure C.3: *Link Test*.

Perform this test only if the following are true:

- Your line TYPE is \*BSC; or your line TYPE is \*BSCT and EML3270 is \*NO (you can find this information in the line description).
- The test can be performed at the remote control unit. (You can find this information in the communications guide for the remote equipment.)
- You do not need a service representative at the remote location to help you run this test. (You can find this information in the communications guide for the remote equipment.)

Note that if the remote control unit is another System/38, you can run this test, and you do not need a service representative to help you run it.

Note that during this test, you must call the operator at the remote control unit. That operator must make sure that the remote control unit is prepared for the test, and if needed, help you start communications between the System/38 and the remote control unit. You are told when to call that operator.



**Starting the test.**

**1** Does the remote control unit have a link test that can be run without the help of a service representative?

No

Yes

Go to step **3**.

**2** Did the operator at the remote control unit ask you to run this link test?

Yes

No

Do not run this test.

Call the person who performed the configuration of this communications network. Describe the problem. That person should make sure that all of the remote equipment is properly described to the system.

**If the remote equipment is properly described**, call your service representative and describe the problem.

## Starting diagnostic mode.

- 3 Check the CNN and ACTSWNBKU values in the description of the line you are testing. You probably recorded this information under item 6a of the *Communications Problem Summary Form*.

4 **Are either of the following true?**

- The value for CNN is \*SWT
- The value for ACTSWNBKU is \*YES

Yes

No

Put the line in diagnostic mode by entering the following command at the System/38:

```
STRPDP PDPID(BD0000)  
LINE(lin22nybsc)
```

Replace lin22nybsc with the name of the line you are testing.

**Note:** After you have entered this command, the line is left in diagnostic mode (a testing state) until you perform steps **82** and **83** of this procedure.

Go to step **75**.

- 5 If you have not done so already, record the following information from the description of the affected line under item 6a of the *Communications Problem Summary Form*:

- DIALMODE
- ANSMODE
- SWTCNN

## How to display the description:

Enter:

```
DSPLIND LIND(lin22nybsc)
```

Replace lin22nybsc with the name of the line description you are displaying.



6

If you have not done so already, record the following information from the description of the affected control unit under item 6b of the *Communications Problem Summary Form*:

- INLCNN
- LCLID

**How to display the description:**

Enter

```
DSPCUD CUD(ct.122nybsc)
```

Replace `ct.122nybsc` with the name of the control unit description you are displaying.

7

Put the line in **diagnostic mode** by entering the following at the System/38:

```
STRPDP PDPID(BD0000)
LINE(lin22nybsc)
CNNTYPE(*auto *call)
TELNBR(5550000)
LCLID(6f)
```

Replace lin22nybsc with the name of the line you are testing.

Replace \*auto \*call with the appropriate value from the chart at the right. 

Replace 5550000 with the telephone number of the remote control unit, if needed. 

Replace 6f with the LCLID you recorded from the control unit description, if any.

**Note:** After you have entered this command, the line is left in diagnostic mode (a testing state) until you perform steps **82** and **83** of this procedure.

**How to choose the CNNTYPE value:**

If the value for INLCNN in the control unit description is:	and this parameter value in the line description is:	then the CNNTYPE value you use when you enter the STRPDP command is:
*ANS	ANSMODE:*AUTO	*AUTO *ANS
*ANS	ANSMODE:*MANUAL	*MANUAL *ANS
*CALL	DIALMODE:*AUTO	*AUTO *CALL
*CALL	DIALMODE:*MANUAL	*MANUAL *CALL

**When you need to enter the telephone number:**

You need to enter the telephone number when the CNNTYPE value is \*auto \*call.



**8** Within a few minutes, a message code is displayed at the System/38.

**9** Did you receive the message code MSG004?

Yes

No

Go to step **16**.



## Connection procedures for 2-wire autoanswer lines.

**10** You are running the test on a 2-wire connection with the autoanswer feature.

Call the operator at the remote control unit. Have that operator make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

**11** When the remote control unit is ready for the test, press the Enter key at the System/38.

The operator at the remote control unit has 2 minutes to finish step **12**.

**12** Have the operator at the remote control unit call the System/38.

**13** Does the telephone at the System/38 have a handset?

Yes

No

When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

Go to step **75**.

### What the qualifier tells you:

The completion qualifier, such as:

610007

tells you if the system has put the line in diagnostic mode.



**14 Did you hear the telephone ring at the System/38?**

No

Yes

When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

Go to step **75**.

**15** Make sure the operator at the remote control unit dialed the correct telephone number.

**If the operator did not dial the correct telephone number**, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Go back to step **7** and try this procedure again.

**If that operator did dial the correct number**, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Call your common carrier. Explain that you were trying to perform this link test, but could not reach the remote control unit.

**What the qualifier tells you:**

The completion qualifier, such as:

610007

tells you if the system has put the line in diagnostic mode.

Connection procedures for 4-wire autoanswer lines.

**16** Note: Step 9 sent you to this step.

Did you receive the message code MSG006?

Yes

No

Go to step 22.

**17** The remote control unit places the call to the System/38 on two telephones.

Call the operator at the remote control unit. Have that operator make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

**18** When the operator at the remote control unit is ready to begin the test, press the Enter key at the System/38.

The operator at the remote control unit has 2.5 minutes to finish step 19.



19 Have the operator at the remote control unit call the System/38 on both telephones.

20 Did you hear both telephones ring at the System/38?

No

Yes

When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen. 

Go to step **75**.

**What the qualifier tells you:**

The completion qualifier, such as:

610007

tells you if the system has put the line in diagnostic mode.

21

Make sure the operator at the remote control unit dialed the correct telephone number.

**If the operator did not dial the correct telephone number,** do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Go back to step **7** and try this procedure again.

**If that operator did dial the correct number,** do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Call your common carrier. Explain that you were trying to perform this link test, but could not reach the remote control unit.



**Manual call link test procedure for two wire connections.**

**22** Note: Step 16 sent you to this step.

Did you receive the message code MSG001?

Yes

No

Go to step 43.

The system is waiting for you to place the call to the remote control unit.

**23** Are the devices to be tested attached to a Nippon Telephone and Telegraph DDX Public Data Network?

No

Yes

Go to step 37.

**24** Find out if the remote control unit answers calls automatically. If you are not sure how these calls are answered, ask the operator at the remote control unit.

**25** Does the remote control unit answer these calls automatically?

No

Yes

Go to step **30**.

**26** When the remote control unit is ready for the test, call the remote control unit.

You have 2 minutes to do step **27**.

**27** Press the Enter key at the System/38.

Does the telephone at the System/38 have a handset?

Yes

No

Put the telephone equipment at the System/38 in data mode. →

Go to step **75**.

**How to put the equipment in data mode:**

See the instructions for using the telephone equipment.



28

Did you hear an answer tone when you called the remote control unit?

Yes

No

Make sure you used the correct telephone number.

**If you did not use the correct telephone number**, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Go back to step **7** and try this procedure again.

**If you did dial the correct number**, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Call your common carrier. Explain that you were trying to perform this link test, but could not reach the remote control unit.

29

Put the telephone equipment at the System/38 in data mode. →

Go to step **75**.

**How to put the equipment in data mode:**

See the instructions for using the telephone equipment.

30

Place the call to the remote control unit on the telephone.

**How to place these calls:**

The instructions for placing these calls should be included in your normal operating procedures.



31

When the operator at the remote location answers the telephone, try to speak with that operator.

**Can you talk with the operator at the remote control unit on the telephone?**

Yes

No

Make sure you dialed the correct telephone number.

**If you did not dial the correct telephone number**, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Go back to step **7** and try this procedure again.

**If you did dial the correct number**, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Call your common carrier. Explain that you were trying to perform this link test, but could not reach the remote control unit.

**32** Make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

**33** You have 2 minutes to do step **34**.

**34** Both you and the operator at the remote control unit put the telephone in data mode. →

**35** When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen. →

**36** Go to step **75**.

**How to put the telephones in data mode:**

The instructions for putting the telephones in data mode should be included in your normal operating procedures

**What the qualifier tells you:**

The completion qualifier, such as:

610007

tells you if the system has put the line in diagnostic mode.



37 **Note:** Step 23 sent you to this step.

38 Before you place the call to the remote control unit make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

39 Press the Enter key at the System/38.

You have 2 minutes to finish the next step.

40 Call the remote control unit using the procedures defined by Nippon Telephone and Telegraph for the DDX Public Data Network.

41 Did you contact the remote control unit?

No

Yes

When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

Go to step 75.

**What the qualifier tells you:**

The completion qualifier, such as

610007

tells you if the system has put the line in diagnostic mode.

42

Make sure that you dialed the correct telephone number.

If you did not dial the correct telephone number, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Go back to step **7** and try this procedure again.

If you did dial the correct number, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Call your common carrier. Explain that you were trying to perform this link test, but could not reach the remote control unit.



**Manual call link test: Connection procedures for 4-wire lines.**

**43** **Note:** Step 22 sent you to this step.

**Did you receive the message code MSG005?**

Yes

No

Go to step 59.

**44** The system is waiting for you to place the call to the remote control unit. Before you place the call, make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test.*

**45** You place the call to the remote control unit on two telephones. 

Find out if the remote control unit answers these calls automatically. If you are not sure how these calls are answered, ask the operator at the remote control unit.

**How to place these calls:**

The instructions for placing these calls should be included in your normal operating procedures.

**46** Does the remote control unit answer these calls automatically?

Yes

No

Go to step **53**.

**47** Press the Enter key at the System/38.

**48** You have two minutes to finish the next 2 steps.

**49** Place the call to the remote control unit on both telephones.



50

Could you hear an answer tone (a loud, shrill tone) after the remote control unit answered the telephone calls?

Yes No

Make sure you dialed the correct telephone number.

**If you did not dial the correct telephone number**, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Go back to step **7** and try this procedure again.

**If you did dial the correct number**, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Call your common carrier. Explain that you were trying to perform this link test, but could not reach the remote control unit.

**51** When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

**52** Go to step 75.

**53** Note: Step 46 sent you to this step.

Place the call to the remote control unit on both telephones.

**What the qualifier tells you:**

The completion qualifier, such as:

610007

tells you if the system has put the line in diagnostic mode



54

When the operator at the remote location answers the telephones, try to speak with that operator.

**Can you talk with the operator at the remote control unit on both telephones?**

Yes

No

Make sure you dialed the correct telephone number.

**If you did not dial the correct telephone number**, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Go back to step **7** and try this procedure again.

**If that operator did dial the correct number**, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Call your common carrier. Explain that you were trying to perform this link test, but could not reach the remote control unit.

55 You have 2 minutes to finish the next step.

56 Both you and the operator at the remote location put the telephones in data mode. →

57 When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen. →

58 Go to step 75.

**How to put the telephones in data mode:**

The instructions for putting the telephones in data mode should be included in your normal operating procedures.

**What the qualifier tells you:**

The completion qualifier, such as:

610007

tells you if the system has put the line in diagnostic mode.



59

**Note:** Step **43** sent you to this step.

You received message code MSG003.

The remote control unit you are testing will call the System/38 during the test.

60

**Are the devices to be tested attached to the Nippon Telephone and Telegraph DDX Public Data Network?**

No

Yes

Go to step **69**.



**Manual answer connection procedure.**

**61**

The operator at the remote control unit should call the System/38 using the telephone number for the line being used.



62

**Did you hear the telephone ring?**

Yes

No

Make sure the operator at the remote control unit dialed the correct telephone number.

**If the operator did not dial the correct telephone number, do the following:**

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Go back to step **7** and try this procedure again.

**If that operator did dial the correct number, do the following:**

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Call your common carrier. Explain that you were trying to perform this link test, but could not reach the remote control unit.

**63** When you answer the telephone, speak with the other operator on that telephone.

**Can you speak to the remote control unit operator on the telephone that just rang?**

Yes: **No**

Do the following:

- a. Press the Enter key. Within 2.5 minutes, the system will display a code. Ignore this code.
- b. Do steps **82** and **83**.
- c. Call your common carrier. Explain that you were doing this link test, but could not reach the remote control unit.

**64** Have the operator at the remote control unit make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

**65** When the remote control unit is ready to begin the test, press the Enter key at the System/38.

You have 2 minutes to finish step **66**

**66** At the same time, do the following:

- You put the local modem in data mode
- Have the operator at the remote location put the remote modem in data mode

**How to put the modems in data mode:**

The instructions for putting the modems in data mode should be included in your normal operating procedures.



**67** When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

**What the qualifier tells you:**

The completion qualifier, such as:

610007

tells you if the system has put the line in diagnostic mode.

**68** Go to step **75**.

69

**Note:** Step 60 sent you to this step.

Have the operator at the remote control unit make sure that the remote control unit is ready to perform the test. If you are not sure that the remote control unit is ready for the test, see Procedure C.3-C: *Preparing Control Units for a Link Test*.

70

When the remote control unit is ready to begin the test, press the Enter key at the System/38.

You have 2 minutes to finish step 71.

71

Have the operator at the remote control unit call the System/38.

When the call is placed, the following should happen:

- The buzzer on the DDX answering unit should sound.
- The Ready light on the DDX answering unit should turn off.

After the buzzer sounds, you must press the Call key on the answering unit within 1 minute.



72 Did you press the Call key within the time limit?

No Yes

When the system finishes the test (about 2 minutes) a completion qualifier appears on your screen.

Go to step 75.

73 Did you hear the buzzer sound on the DDX answering unit?

No Yes

The procedures are running although the remote control unit did not make a connection with the System/38. Within 2.5 minutes, a code appears on your screen. Ignore the code. Go back to step 67 and run this Link Test again.

**What the qualifier tells you:**

The completion qualifier, such as:

610007

tells you if the system has put the line in diagnostic mode

74

Make sure that the operator at the remote control unit dialed the correct telephone numbers.

**If the operator did not dial the correct telephone number**, do the following:

- a. Wait for the system to finish performing the command.
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Go back to step **7** and try this procedure again.

**If that operator did dial the correct number**, do the following:

- a. Wait for the system to finish performing the command
- b. Ignore the code that appears on your screen when the system finishes the test.
- c. Do steps **82** and **83**. Then return here.
- d. Call your common carrier. Explain that you were trying to perform this link test, but could not reach the remote control unit.



## Checking diagnostic mode.

75

Did you receive either of these completion qualifiers:

620001

620002

Yes

No

Record the following information under item 5 of the *Communications Problem Summary Form*:

- The command you just entered
- The completion qualifier you received

Go to Procedure C.4: *Completion Qualifiers*.

In the completion qualifier section, find the qualifier you received.

Do steps **82** and **83** in this procedure.

Follow the actions listed under *What you should do*.

76

The line that you just put in diagnostic mode is now performing the responder function of the test (responds to test information sent by the remote control unit).

**Where to record this information:**

You can find copies of the form and instructions for using it at the back of this guide.

5. Record the following information about the test(s) you ran.

PDFID used on SERPOP Command	Completion qualifier received:
_____	_____
_____	_____

77

Can you perform the requester function of the BSC link test on the remote control unit?

Yes  No

Do not continue this test.

Do steps **82** and **83** to end diagnostic mode.

Call the person who performed the configuration of this communications network. Describe the problem. That person should make sure that all of the remote equipment is properly described to the system. See the *Guide to Program Product Installation and Device Configuration* for information on device, control unit, and line descriptions.

If the remote equipment is properly described, call your service representative and describe the problem.



C.3 B

Steps 75 through 77

### Testing the link.

**78**

Start the requestor function at the System/38 by entering:

```
STRPDP PDPID (LT9999)  
LINE (lin22nybsc)  
RUNOPT (25)
```

Replace `lin22nybsc` with the name of the line to be tested.

**Note:** RUNOPT (25) states that the system will send the test frames or characters 25 times. It is suggested that you use this value unless told otherwise.

#### If you enter a value other than 25:

Make sure that the value you enter is between 1 and 99, and is a decimal number (0 through 9).

## Identifying the problem.

79 After a few minutes, another completion qualifier appears on your screen.

80 Record the following under item 5 of the *Communications Problem Summary Form*:

- The PDPID of the test you just ran (LT9999)
- The completion qualifier that you received

81 Go to *Completion Qualifiers* later in this procedure.

In the completion qualifier section, find the qualifier you received.

Follow the actions listed under *What you should do*.

Then return here.

### What this qualifier tells you:

This qualifier identifies a problem that the communications system you just tested has, if any. The qualifier follows one of these two formats

610007  
or  
C10 5555 76

### Where to record this information:

You can find copies of the form and instructions for using it at the back of this guide

5. Record the following information about the test(s) you ran

PDPID used on STEPBY command	Completion qualifier received:
_____	_____
_____	_____



**Ending diagnostic mode.****82**

End diagnostic mode by entering the following command at the System/38:

```
STRPDP PDPID (BD8000)  
LINE (lin22nybsc)
```

Replace `lin22nybsc` with the name of the line tested.

**83**

When you receive either of these completion qualifiers, diagnostic mode has ended:

```
630001  
630002
```

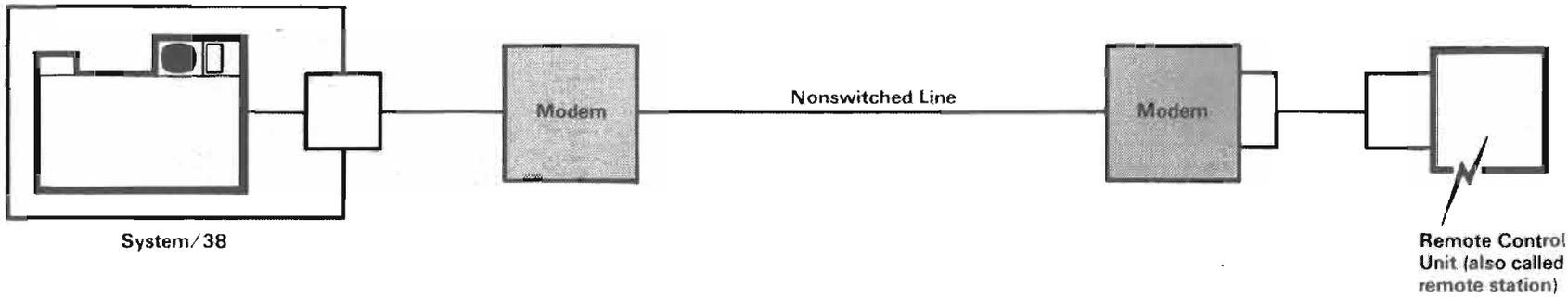
**84**

Continue normal system work.

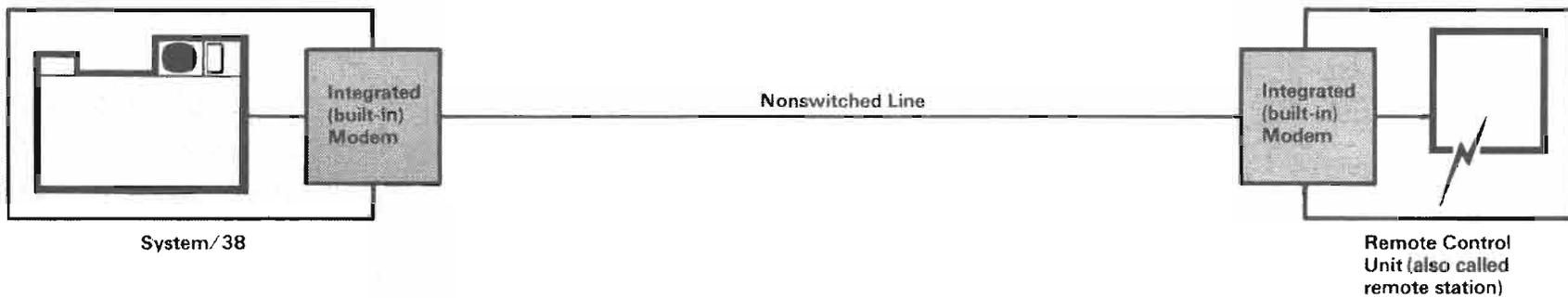


C.3 B

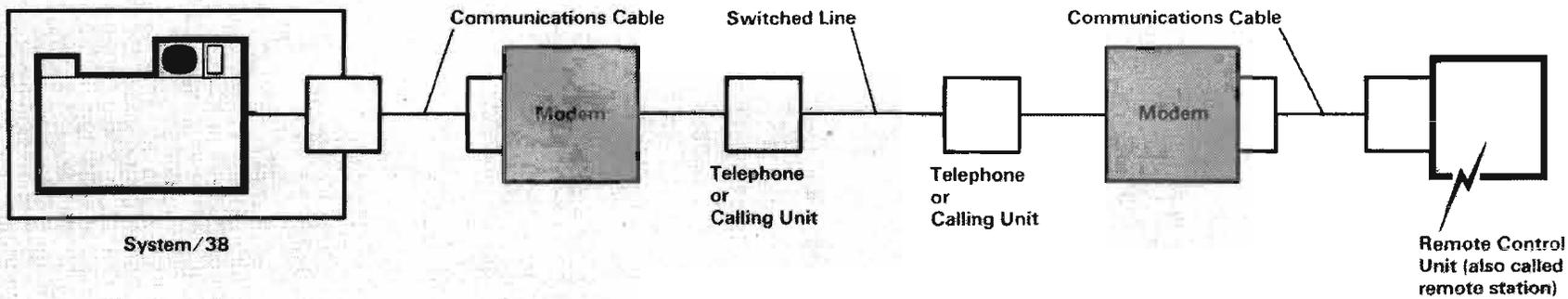
Steps 82 through 84



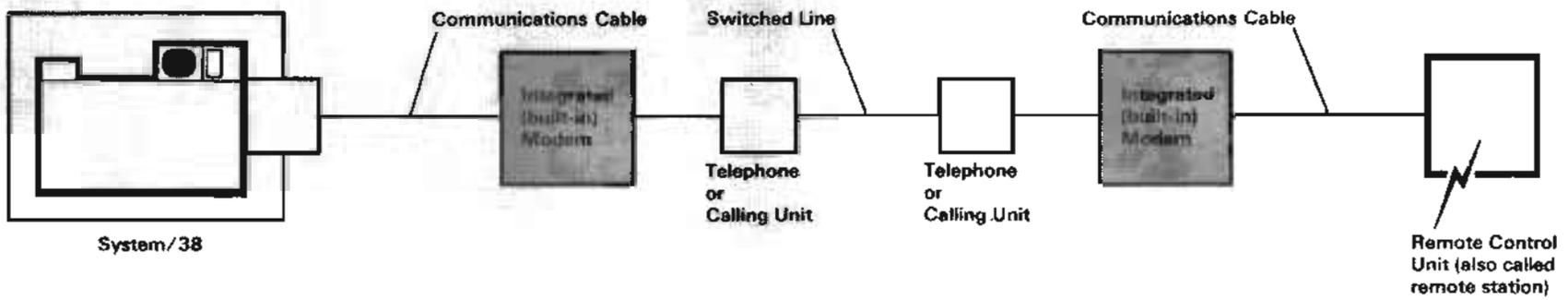
Configuration for Nonswitched Line



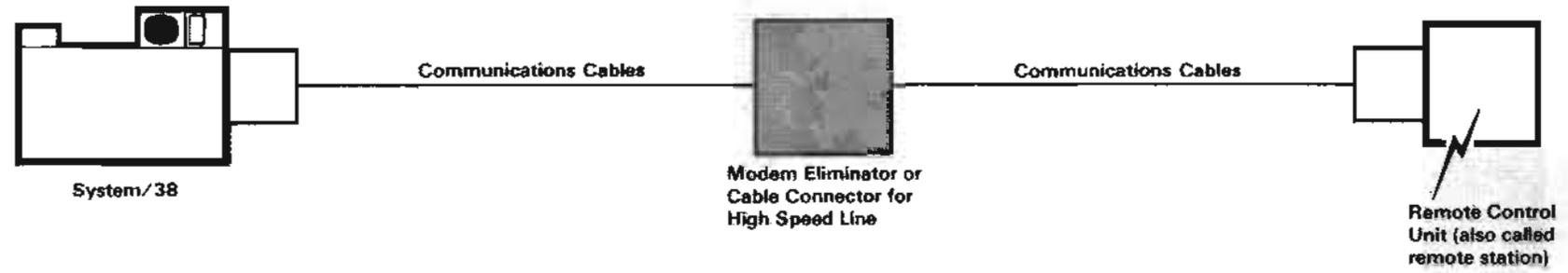
Configuration for Nonswitched Line with Integrated (built-in) Modems



Configuration for Switched Line



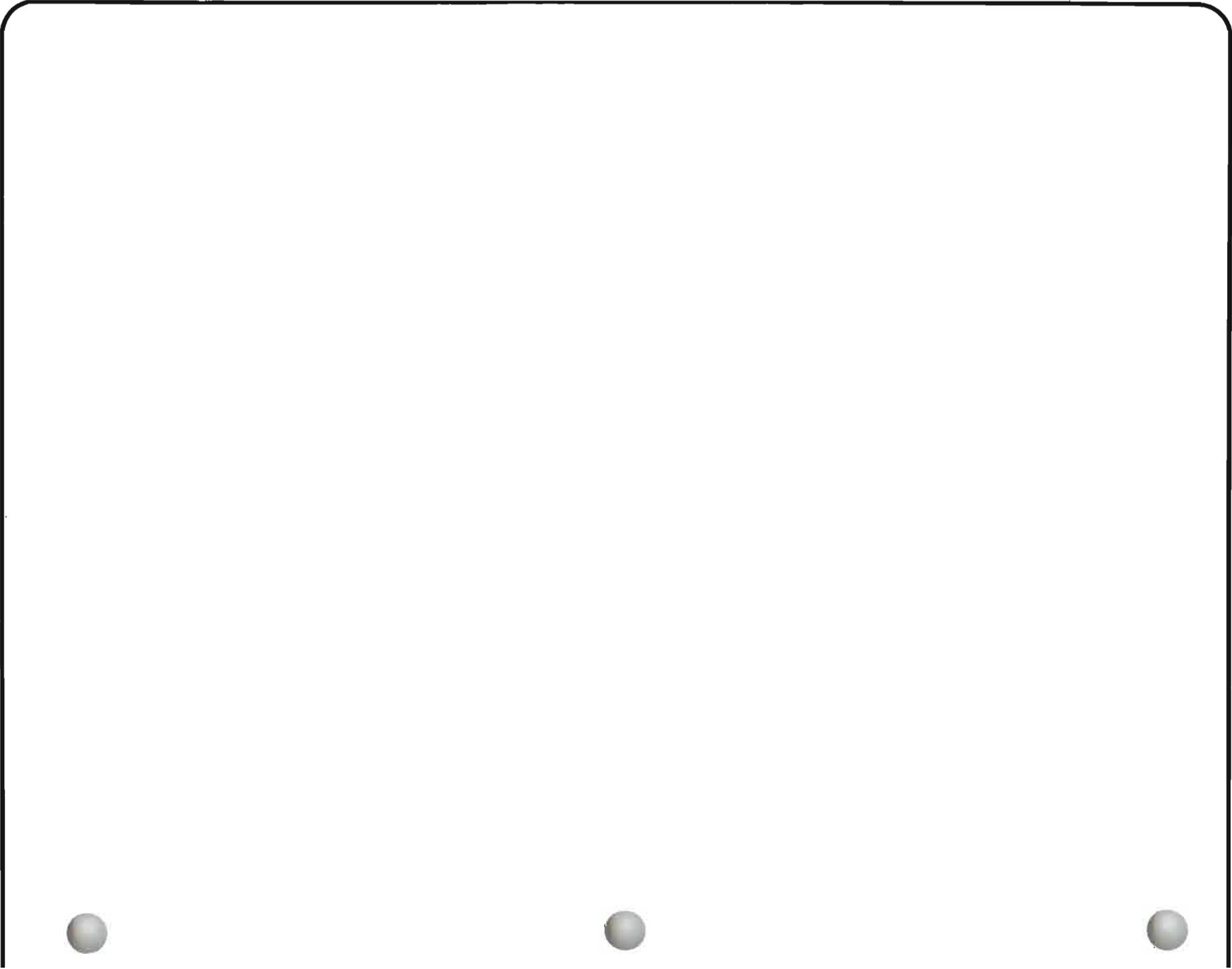
Configuration for Switched Lines with Integrated (built-in) Modems



Configuration for High Speed Line

 Part of communications network tested.





A link test tests the telephone connection between two control units. Your local System/38 is the local control unit. The other control unit, which is a different type of device depending on the configuration (design) of your communications network, is referred to as the remote control unit.

In order to run the link test, both control units must be prepared. The link test procedures in this guide only tell you how to prepare the system unit for a link test. During the test, you are given time to do corresponding steps to prepare the remote control unit for the test. This time begins when you receive a message code in the form `MSG00x` (x can be a number between 1 and 9). After the remote control unit is ready for the test, you can press the Enter key at the system unit and finish the test procedure. This section suggests how you might prepare a remote control unit for a link test.

The preparation of a control unit depends on its type. You can find the remote control unit type in its control unit description saved on the System/38. In some cases, the `EXCHID` (exchange identifier) value in the description of the remote control unit affects the way you prepare it for the test. Find the type of remote control unit you are using in the following section. Take the actions described under *How to prepare the remote control unit*.

**Remote control unit type:**

**How to prepare the remote control unit:**

5251

Do the following:

- 1 Turn the Power Switch on.
- 2 Press the Reset key on the work station.

5294

Turn the Power Switch on.

\*PEER  
(if the `EXCHID` value is `022xxxxxx`, where `xxxxxx` can be any combination of numbers)

The remote control unit is also a System/38.

The operator at that System/38 should enter the `STRPDP` command as you did, using correct values for the line and control unit descriptions at that system, and including the `PDPID` used when he enters the `STRPDP` command.

The operator at the remote control unit should follow the SDLC link test procedures for the system at the remote location.



**Remote control  
unit type:**

\*PU2

**How to prepare the remote control unit:**

The remote control unit is a primary SDLC control unit.

The operator at the remote control unit should follow the SDLC link test procedures for the system at the remote location.

\*BSC or  
\*BSCT

The operator at the remote control unit should check the following:

- 1** Can you run the BSC link test (also called BSC requester-responder test) at the remote control unit?
- 2** If you can run the test, do you need a service representative to help you run the test at the remote control unit (you do not need one to help you run the test at a System/38)?

If you answer **No** to either of these questions, and you have already started the BSC link test by entering the `STRPDP` command, let the system finish running the command. Ignore the code displayed on the system console screen when the system finishes running the command. Do steps **83** and **84** of the *BSC Link Test*. Then call your service representative. Describe the problem and report the information you recorded on the *Communications Problem Summary Form*.

If you answer **Yes** to both questions, you can continue running the link test. Have the operator at the remote control unit follow the BSC link test procedures for the remote system to put the line in diagnostic mode.

Then find out if the remote control unit must perform either the requester or the responder function during the test. If it can do either function, or the procedures for the remote control unit link test do not tell you which function to perform, you can make the decision.

If the remote control unit is a System/38, the operator at that System/38 should enter the `STRPDP` command as you did, using correct values for the line and control unit descriptions at that system, including the `PDPID` used when he enters the `STRPDP` command.



### When to Use This Procedure

Use this procedure after receiving and recording the completion qualifier from one of the following tests:

- Japan line test (Procedure C.1)
- Line test (Procedure C.2)
- SDLC link test (Procedure C.3-A)
- BSC link test (Procedure C.3-B)

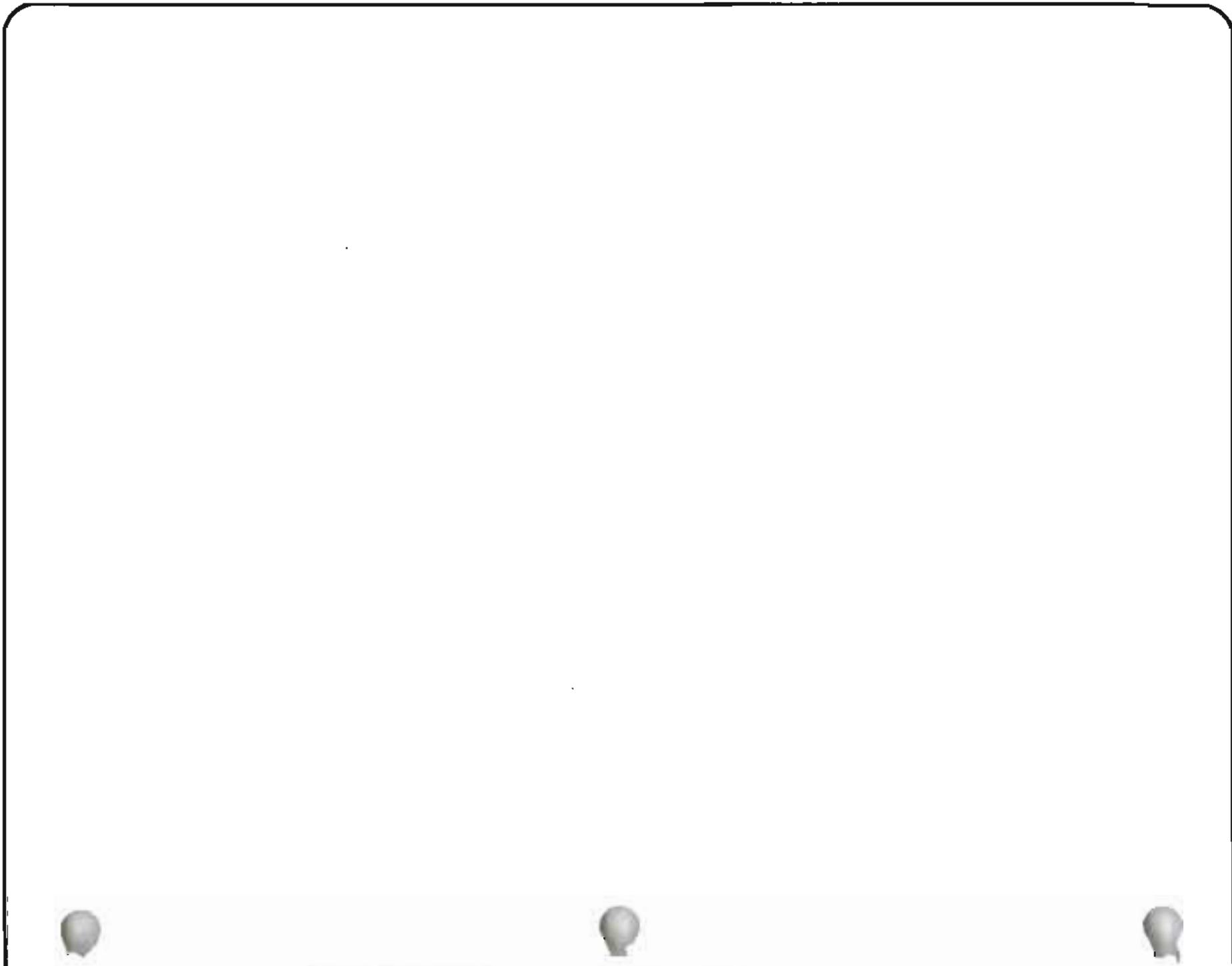
### Outline of This Procedure

This procedure has two parts:

- 1 Part One: Completion Qualifiers Beginning with Numbers
- 2 Part Two: Completion Qualifiers Beginning with Letters

Go to the appropriate part of this procedure, find the completion qualifier you received, and follow the actions described under *What you should do*.





**PART ONE: COMPLETION QUALIFIERS BEGINNING WITH NUMBERS**

You received this qualifier:	What the qualifier means:	What you should do:
000000	The system could not find any problems with the local System/38.	<p>Call the person who performed the configuration for this communications network and explain that the test ended normally.</p> <p>However, the line or control unit tested may not be described properly to the system. When the system performed the test, it used default (assumed) values for the following in the line description:</p> <ul style="list-style-type: none"> <li>• IDLETIME</li> <li>• NONPRDRCV</li> <li>• RCVTMR</li> <li>• DTRDLY</li> <li>• DIALMODE</li> <li>• ANSMODE</li> <li>• DCEGRP</li> <li>• SWTCNN</li> </ul> <p>Perhaps the actual values in your line description are not correct. The person responsible for performing the configuration of this communications network should make sure that the above values in the line description are properly set.</p> <p>He should also make sure that the INLCNN value in the description of the remote control unit is correct.</p> <p>See <i>Checking Line and Control Descriptions</i> in Chapter 3 for information on what these values should be.</p>
010000	You did not enter a correct control unit name. Perhaps you did not spell the name correctly. Or maybe someone deleted the description of that control unit.	Run the test again, making sure that you use the correct control unit name.
020000	The remote control unit was not varied on.	Run the test again, making sure that the remote control unit is varied on ( VRYCTLU command or option 4 on the control unit status display (DSPCTLSTS command)).
030000	The line was not varied on.	Run the test again, making sure that the line is varied on (VRYLIN command or option 4 on the line status display ( DSPLINSTS command)).
030001	There is a problem with the input/output monitor on the line just tested.	Call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i> .



You received this qualifier:	What the qualifier means:	What you should do:
<p>04TTRR (in SDLC, TT = the number of test frames sent, RR = the number of test frames received.)</p> <p>In BSC, TT = the number of test characters sent. RR = the number of test characters received.)</p>	<p>The link test finished normally</p>	<p>a. Did RR=00?</p> <p>No Yes</p> <p>The system did not receive a response from the remote control unit.</p> <p>Call the operator at the remote control unit.</p> <p>Have that operator make sure that the remote control unit was ready to perform the test. See Procedure C.3-C: <i>Preparing Remote Control Units for a Link Test</i> for more information.</p> <p><b>If the remote control unit was not ready for this test</b>, prepare the control unit for the test and run the test again.</p> <p><b>If the remote equipment was ready for the test</b>, follow the actions described for completion qualifier JXX YYY-YY.</p>
		<p>b. Is RR less than TT?</p> <p>No Yes</p> <p>You have an intermittent (recurring) problem. Most likely, you have a problem with the telephone connection.</p> <p>Call your common carrier and describe the problem.</p>

You received this qualifier:	What the qualifier means:	What you should do:
04TTRR (continued)		<p>c. The link test finished normally and did not find problems with the local System/38, the modems, the lines, and the remote control unit.</p> <p>However, the line or control unit tested may not be described properly to the system. When the system performed the test, it used default (assumed) values for the following in the line description:</p> <ul style="list-style-type: none"> <li>• IDLETIME</li> <li>• NONPRDCV</li> <li>• RCVTMR</li> <li>• DTRDLY</li> <li>• DIALMODE</li> <li>• ANSMODE</li> <li>• DCEGRP</li> <li>• SWTCNN</li> </ul> <p>d. Perhaps the actual values in your line description are not correct. Call the person responsible for performing the configuration of this communications network. He should make sure that the above values in the line description are properly set.</p> <p>He should also make sure that the INLCNN value in the description of the remote control unit is correct.</p> <p>He might see <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on what these values should be.</p>



You received this qualifier:	What the qualifier means:	What you should do:
<p>05TTRR (in SDLC, TT = the number of test frames sent, RR = the number of test frames received. In BSC, TT = the number of test characters sent. RR = the number of test characters received.)</p>	<p>The link test did not finish normally.</p>	<p>a. <b>Did TT equal 25 (or the value you entered for RUNOPT)?</b></p> <p style="margin-left: 40px;">Yes   No</p> <p style="margin-left: 40px;">     </p> <p style="margin-left: 80px;">Go to step d.</p> <p>b. <b>Did RR=00?</b></p> <p style="margin-left: 40px;">No   Yes</p> <p style="margin-left: 40px;">     </p> <p style="margin-left: 80px;">The system did not receive a response from the remote control unit.</p> <p style="margin-left: 80px;">Call the operator at the remote control unit.</p> <p style="margin-left: 80px;">Have that operator make sure that the remote control unit was ready to perform the test. See <i>Procedure C.3-C: Preparing Remote Control Units for a Link Test</i> for more information.</p> <p style="margin-left: 80px;"><b>If the remote control unit was not ready for this test</b>, prepare the control unit for the test and run the test again from its beginning.</p> <p style="margin-left: 80px;"><b>If the remote equipment was ready for the test</b>, follow the actions described for completion qualifier JXX YYYYY-YY.</p> <p>c. You have an intermittent (recurring) problem. Most likely, there is a problem with the telephone connection.</p> <p style="margin-left: 40px;">Call your common carrier and describe the problem.</p>

You received this qualifier:	What the qualifier means:	What you should do:
05TTRR (continued)		<p>d. <b>Have you performed either Procedure C.1: Japan Line Test or Procedure C.2: Line Test for the line affected by the problem?</b></p> <p>Yes No</p> <p>↓ ↓</p> <p>If you are testing equipment in Japan that is attached to telephone lines provided by Nippon Telephone and Telegraph, go to <i>Procedure C.1: Japan Line Test</i>.</p> <p>For equipment in other countries, or using a different common carrier, go to <i>Procedure C.2: Line Test</i>.</p> <p>e. <b>Did the line test end with completion qualifier 000000?</b></p> <p>Yes No</p> <p>↓ ↓</p> <p>Follow the actions described for that completion qualifier.</p> <p>f. <b>Most probably, the local modem has a problem. Call your modem supplier. Describe the problem and the test you just finished.</b></p> <p>If the modem supplier cannot solve the problem, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>
060000	You did not enter the correct PDPID with the STRPDP command. The PDPID you use depends on values in the descriptions of the line and remote control unit tested.	<p>Read the instructions for the test you just ran to make sure that you used the correct PDPID when you entered the STRPDP command.</p> <p><b>If you did not use the correct PDPID</b>, run the test again, using the correct PDPID.</p> <p><b>If you used the correct PDPID</b>, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>
060001	You did not enter a correct value with RUNOPT when you entered the STRPDP command (the procedure suggests that you enter 25)	<p>Run the link test again, entering the suggested value, 25, with RUNOPT.</p> <p><b>If you use another value</b>, make sure that you use a value between 1 and 99, and use only numbers (0-9) in that value.</p>



You received this qualifier:	What the qualifier means:	What you should do:
060003	The system could not reach the remote control unit during the test.	<p><b>a.</b> Call the person responsible for performing the configuration of this communications network. He should make sure that the following values in the line description are correct:</p> <ul style="list-style-type: none"> <li>• SELECT</li> <li>• NONRTNZ</li> <li>• RATETYPE</li> <li>• CLOCK</li> <li>• WIRE</li> </ul> <p>See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on how to set these values.</p> <p><b>b. Are these values set correctly?</b></p> <p>Yes No</p> <p>          </p> <p>          </p> <p>        Make the necessary changes, then continue normal system work.</p> <p><b>c. Is the line TYPE *SDLCP (you recorded this information under item 6 of the <i>Communications Problem Summary Form</i>)?</b></p> <p>No Yes</p> <p>        </p> <p>        </p> <p>        Check the CTLADR (control unit address) value in the description of the remote control unit. While checking this value, have the operator at the remote control unit check the address switches on that device.</p> <p><b>If the address setting on the device does not match the address in the description, make the necessary changes, then continue normal system work.</b></p> <p><b>If the addresses match, go to step e.</b></p>

You received this qualifier:	What the qualifier means:	What you should do:
060003 (continued)		<p>d. Is the line TYPE *SDLCS or *BSCT? (You recorded this information under item 6 of the <i>Communications Problem Summary Form</i>.)</p> <p>No Yes</p> <p>Check the STNADR (station unit address) value in the description of the line with the problem. See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on how to check this value.</p> <p>If the address is not correct, make the necessary changes, then continue normal system work.</p> <p>If the address is correct, go to step e.</p> <p>e. Make sure that the line speed is properly set on the modem. If you set the line speed on the modem through software control (that is, if the SELECT value in the line description is *YES), also make sure that the RATEYPE value in the line description is set correctly. See the modem user's guide for information on how to set the line speed on the modem. See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on how to set the RATEYPE value.</p> <p>f. Is the line speed on the modem not set correctly?</p> <p>Yes No</p> <p>Make the necessary changes, then continue normal system work.</p> <p>g. Have you performed either Procedure C.1: <i>Japan Line Test</i> or Procedure C.2: <i>Line Test</i> for the line affected by the problem?</p> <p>Yes No</p> <p>If you are testing equipment in Japan that is attached to telephone lines provided by Nippon Telephone and Telegraph, go to Procedure C.1: <i>Japan Line Test</i>.</p> <p>For equipment in other countries, or using a different common carrier, go to Procedure C.2: <i>Line Test</i>.</p> <p>continued on next page</p>



You received this qualifier:	What the qualifier means:	What you should do:
060003 (continued)		<p>h. Did the line test end with completion qualifier 000000?</p> <p>Yes No</p> <p>    Follow the actions described for that completion qualifier.</p> <p>j. Call the operator at the remote control unit.</p> <p>If possible, have that operator make sure that the equipment at the remote location is working properly.</p> <p><b>If the equipment at the remote location is not working properly,</b> follow its problem determination procedures to continue solving the problem.</p> <p><b>If that equipment is working properly,</b> you most probably have a problem that your common carrier should look into further. Call your common carrier. Describe the problem and the test you just finished.</p> <p><b>If the common carrier cannot solve the problem,</b> call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>

<b>You received this qualifier:</b>	<b>What the qualifier means:</b>	<b>What you should do:</b>
060004	The system is performing another test on this line.	Run this test again after the other test has finished.



C 4

You received this qualifier:	What the qualifier means:	What you should do:
060005	The test found intermittent (recurring) problems on the line.	<p>a. Run the test again.</p> <p>b. Did you receive this completion qualifier again?</p> <p>Yes No</p> <p style="margin-left: 40px;">   </p> <p style="margin-left: 40px;">In this section, find the description of the completion qualifier you received. Follow the actions listed there.</p> <p>c. You may have an intermittent (recurring) problem. You can do the following to solve the problem:</p> <p style="margin-left: 40px;">Call the person responsible for performing the configuration of this communications network. He should make sure that the line speed is properly set on the modem. If you set the line speed on the modem through software control (that is, if the SELECT value in the line description is *YES), also make sure that the RATETYPE value in the line description is set correctly. See the modem user's guide for information on setting the line speed on the modem. See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on how to set the RATETYPE value.</p> <p>d. Is the line speed on the modem is set correctly?</p> <p>Yes No</p> <p style="margin-left: 40px;">   </p> <p style="margin-left: 40px;">Make the necessary changes and continue normal system work.</p> <p>e. Make sure that the following values in the line description are correct:</p> <ul style="list-style-type: none"> <li>• CLOCK, which states whether the System/38 is going to provide the clocks for synchronizing the local and remote devices when sending and receiving data.</li> <li>• NONRTNZ</li> </ul>

You received this qualifier:	What the qualifier means:	What you should do:
060005 (continued)		<p>f. Are these values set correctly?</p> <p>Yes No</p> <p>Make the necessary changes and continue normal system work.</p> <p>g. Have you performed either Procedure C.1: <i>Japan Line Test</i> or Procedure C.2: <i>Line Test</i> for the line affected by the problem?</p> <p>Yes No</p> <p>If you are testing equipment in Japan that is attached to telephone lines provided by Nippon Telephone and Telegraph, go to Procedure C.1: <i>Japan Line Test</i>.</p> <p>For equipment in other countries, or using a different common carrier, go to Procedure C.2: <i>Line Test</i>.</p> <p>h. Did the line test end with completion qualifier 000000?</p> <p>Yes No</p> <p>Follow the actions described for that completion qualifier.</p> <p>i. Call the operator at the remote control unit.</p> <p>Have that operator make sure that the equipment at the remote location is working properly, if possible.</p> <p>If the equipment at the remote location is not working properly, follow its problem determination procedures to continue solving the problem.</p> <p>If that equipment is working properly, call your common carrier. Describe the problem and the test you just finished.</p> <p>If the common carrier cannot solve the problem, call both your local and remote modem suppliers. Describe the problem and the test you just finished.</p> <p>If the modem suppliers cannot solve the problem, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>



You received this qualifier:	What the qualifier means:	What you should do:
060006	The remote control unit stopped the test.	<p>a. Call the person responsible for performing the configuration of this communications network. He should make sure that the following values in the line description are correct:</p> <ul style="list-style-type: none"> <li>• SELECT</li> <li>• NONRTNZ</li> <li>• RATEYPE</li> <li>• CLOCK</li> <li>• WIRE</li> </ul> <p>See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on these values.</p> <p>b. <b>Are these values set correctly?</b></p> <p>Yes No</p> <p>Make the necessary changes, then continue normal system work.</p> <p>c. <b>Is the line TYPE *SDLCP (you recorded this information under item 6 of the <i>Communications Problem Summary Form</i>)?</b></p> <p>No Yes</p> <p>Check the CTLADR (control unit address) value in the description of the remote control unit. While checking this value, have the operator at the remote control unit check the address switches on that device.</p> <p><b>If the address setting on the device does not match the address in the description, make the necessary changes, then continue normal system work.</b></p> <p><b>If the addresses match, go to step e.</b></p>

You received this qualifier:	What the qualifier means:	What you should do:
060006 (continued)		<p>d. Is the line TYPE *SDLCS or *BSCT (you recorded this information under item 6 of the <i>Communications Problem Summary Form</i>)?</p> <p>No Yes</p> <p>Check the STNADR (station unit address) value in the description of the line with the problem.</p> <p>If the address is not correct, make the necessary changes, then continue normal system work.</p> <p>If the address is correct, go to step e.</p> <p>e. Make sure that the line speed is properly set on the modem. If you set the line speed on the modem through software control (that is, if the SELECT value in the line description is *YES), also make sure that the RATE TYPE value in the line description is set correctly. See the modem user's guide for information on how to set the line speed on the modem. See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on how to set the RATE TYPE value.</p> <p>f. Is the line speed on the modem set in correctly?</p> <p>Yes No</p> <p>Make the necessary changes, then continue normal system work.</p> <p>g. Have you performed either Procedure C.1: <i>Japan Line Test</i> or Procedure C.2: <i>Line Test</i> for the line affected by the problem?</p> <p>Yes No</p> <p>If you are testing equipment in Japan that is attached to telephone lines provided by Nippon Telephone and Telegraph, go to Procedure C.1: <i>Japan Line Test</i>.</p> <p>For equipment in other countries, or using a different common carrier, go to Procedure C.2: <i>Line Test</i>.</p> <p>continued on next page</p>



You received this qualifier:	What the qualifier means:	What you should do:				
060006 (continued)		<p>h. Did the line test end with completion qualifier 000000?</p> <table border="0"><tr><td>Yes</td><td>No</td></tr><tr><td> </td><td> </td></tr></table> <p>Follow the actions described for that completion qualifier.</p> <p>j. Call the operator at the remote control unit.</p> <p>Have that operator make sure that the equipment at the remote location is working properly, if possible.</p> <p><b>If the equipment at the remote location is not working properly</b>, follow its problem determination procedures to continue solving the problem.</p> <p><b>If that equipment is working properly</b>, you most probably have a problem that your common carrier should look into further. Call your common carrier. Describe the problem and the test you just finished.</p> <p><b>If the common carrier cannot solve the problem</b>, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>	Yes	No		
Yes	No					

You received this qualifier:	What the qualifier means:	What you should do:
060007	The remote control unit sent a disconnect command to the system unit.	<p>a. Call the operator at the remote control unit.</p> <p>b. Have that operator make sure that the remote control unit was ready to perform the test. See Procedure C.3-C: <i>Preparing Remote Control Units for a Link Test</i> for more information.</p> <p><b>If the remote control unit was not ready for this test,</b> prepare the control unit for the test and run the test again.</p> <p><b>If the remote control unit was ready for the test,</b> follow the actions described for completion qualifier JXX YYYY-YY.</p>



You received this qualifier:	What the qualifier means:	What you should do:
060008	Both the System/38 and the remote control unit are performing the requestor function of the BSC link test. One of the two devices must be the responder.	After the remote control unit finishes its part of the test, run the test again. Make sure that one device is the requestor and the other device is the responder.
060009	The line or the remote control unit will not work.	<p>a. Run the test again.</p> <p>b. Did you receive this completion qualifier again?</p> <p>Yes No</p> <p style="margin-left: 40px;">   </p> <p style="margin-left: 40px;">In this section, find the description of the qualifier you received. Follow the actions described there.</p> <p>c. Call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>
070000 080000 090000 100000 110000 120000  13xxxx (where xxxx is the last 4 characters of the PDPID you entered with the STRPDP command)  140000	There is a problem with the program that runs the STRPDP command.	Call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i> .

You received this qualifier:	What the qualifier means:	What you should do:
150000	Either the description of the line or the remote control unit that you tried to test does not exist, it is damaged, or you cannot run this test on the devices you are using.	Call the person responsible for performing the configuration of this communications network. He should check the line and control unit descriptions, and create or change them as needed. He might also check the <i>Guide to Program Product Installation and Device Configuration</i> for information on how to create these descriptions.
160000	There is a problem with the program that runs the STRPDP command.	Call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i> .



You received this qualifier:	What the qualifier means:	What you should do:				
170000	A high speed line is in use or about to be used. While that line is in use, you cannot send data through other lines attached to the same communications attachment.	<p>Do one of the following:</p> <ul style="list-style-type: none"> <li>If you are running this test on a high speed line, make sure that all of the other lines attached to the same communications attachment are varied off. To check the line status, enter:  DSPLINSTS</li> </ul> <p>On the line status display, find the status of the other lines. The lines are varied on if their status is VARIED ON.</p> <p>Find out if any jobs are using these lines. You can check this by looking for devices that have the status ACTIVE, and show a job name.</p> <p><b>Are there any active jobs?</b></p> <table border="0"> <tr> <td style="padding-right: 20px;"><b>No</b></td> <td><b>Yes</b></td> </tr> <tr> <td style="border-left: 1px solid black; height: 100px;"></td> <td style="border-left: 1px solid black; height: 100px;"></td> </tr> </table> <p>After explaining the line problem to the job users, cancel those jobs by entering a 9 in the spaces beside each device showing a job name.</p> <p>Go to *.</p> <p>*Vary off the lines by entering a 5 in the space beside the name of each line attached to this communications attachment.</p> <p>Run the test again.</p> <p>Ask the person who performed the configuration of the communication network which line (if any) is a high speed line.</p>	<b>No</b>	<b>Yes</b>		
<b>No</b>	<b>Yes</b>					

You received this qualifier:	What the qualifier means:	What you should do:				
170000 (continued)		<ul style="list-style-type: none"> <li>If a high speed line on the communications attachment is varied on, you cannot use the other lines on that attachment until the high speed line is varied off. To find out if the high speed line is varied on, display its status by entering:   <code>DSPLINSTS LINE (lin22nybsc)</code>             Replace <code>lin22nybsc</code> with the name of the high speed line.             On the line status display, find the status of the line. The line is varied on if its status is <code>VARIED ON</code>.             Find out if any jobs are using the high speed line. You can check this by looking for devices that have the status <code>ACTIVE</code> and show a job name.   <b>Are there any active jobs?</b>   <table border="0"> <tr> <td style="padding-right: 20px;"><b>No</b></td> <td><b>Yes</b></td> </tr> <tr> <td style="border-left: 1px solid black; height: 20px;"></td> <td style="border-left: 1px solid black; height: 20px;"></td> </tr> </table>           After explaining the line problem to the job users, cancel those jobs by entering a 9 in the spaces beside each device showing a job name.             Go to *.             *Vary off the line by entering a 5 in the space beside the name of the high speed line.             Run the test again.             Ask the person who performed the configuration of this communications network which line (if any) is a high speed line.         </li> </ul>	<b>No</b>	<b>Yes</b>		
<b>No</b>	<b>Yes</b>					



You received this qualifier:	What the qualifier means:	What you should do:
<p>402xxx (where xxx can be any combination of numbers 0-9 and letters A-F)</p> <p>406xxx (where xxx can be any combination of numbers 0-9 and letters A-F)</p> <p>40Axxx (where xxx can be any combination of numbers 0-9 and letters A-F)</p>	<p>A line, control unit, or device you tested is in use and varied on.</p> <p>If the qualifier you received began with 402, the system found a problem affecting one of the lines on the first communications attachment (lines 1-4).</p> <p>If the qualifier you received began with 406, the system found a problem affecting one of the lines on the second communications attachment (lines 5-8).</p> <p>If the qualifier you received began with 40A, the system found a problem affecting one of the lines on the third communications attachment (lines 9-12).</p>	<p>a. Display the status of the line you are testing by entering:</p> <pre style="text-align: center;">DSPLINSTS LINE(lin22nybsc)</pre> <p>Replace lin22nybsc with the name of the line you are testing.</p> <p>b. On the line status display, look for active jobs (devices that show a job name.)</p> <p>c. After explaining the line problem to the job users, cancel those jobs by entering a in the space beside the name of each device that has an active job.</p> <p>d. Vary off the line by entering a 5 in the space beside the line name.</p> <p>e. Run the test again.</p> <p><b>Note:</b> If you cannot find any device or control unit names on the line status display, follow this procedure using the control unit status display ( DSPCTLSTS command).</p>
<p>430000</p> <p>431000</p> <p>432000</p> <p>433000</p> <p>435000</p>	<p>There is a problem in the communications attachment on the System/38.</p>	<p>Call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>

You received this qualifier:	What the qualifier means:	What you should do:
436000	The test noted a problem between the system unit and its attached modem	<p>a. <b>Is the local modem powered on?</b></p> <p>Yes No</p> <p>Power on the modem and run this test again.</p> <p>b. <b>Is the cable to the local modem secure?</b></p> <p>Yes No</p> <p>Make the cable secure and run this test again.</p> <p>c. Call the person responsible for performing the configuration of this communications network. He should make sure that the modem features are compatible with the line and control unit descriptions.</p> <p><b>If the descriptions are not compatible,</b> make the necessary changes. Then continue normal system work.</p> <p><b>If the descriptions are compatible,</b> call your local modem supplier and describe the problem.</p> <p><b>If the modem supplier cannot solve the problem,</b> call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>
437000	<p>You probably have a problem with the local System/38</p> <p>Otherwise, you may have a line or modem problem.</p>	Call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i> .
438000 438100	The system received an unexpected response from the remote control unit.	<p>Have the operator at the remote control unit make sure that the remote control unit was ready to perform the test. See Procedure C.3-C: <i>Preparing Remote Control Units for a Link Test</i> for more information.</p> <p><b>If the remote control unit was not ready for this test,</b> prepare the control unit for the test and run the test again.</p> <p><b>If the remote equipment was ready for the test,</b> follow the actions described for completion qualifier JXX YYYY-YY .</p>



C.4

You received this qualifier:	What the qualifier means:	What you should do:
439000	You did not enter the correct PDPID with the STRPDP command. The PDPID you use depends on values in the descriptions of the line and remote control unit tested.	<p>Read the instructions for the test you just ran to make sure that you used the correct PDPID when you entered the STRPDP command.</p> <p><b>If you did not use the correct PDPID</b>, run the test again, using the correct PDPID.</p> <p><b>If you used the correct PDPID</b>, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>
440000	You did not enter the telephone number correctly when you entered the STRPDP command. Blanks, or letters were included in the telephone number.	Run the test again, making sure that you enter the telephone number correctly when you enter the STRPDP command.
450000	The test found a problem with the local modem.	Call your local IBM modem service representative. Describe the problem and the test you just finished.
455000	The test found a problem with the remote modem.	Call your remote IBM modem service representative. Describe the problem and the test you just finished.
460000 470000 480000 490000	The test found a problem with the local modem.	Call your local IBM modem service representative. Describe the problem and the test you just finished.
500000	<b>If the network you tested is a V26 BIS network:</b> the test finished normally.	Go to Procedure C.3: <i>Link Test</i> to continue solving the problem.
	<b>If you use another type of network:</b> the test found a problem with the local System/38 communications attachment.	Call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i> .
600000	The test found a problem in the local System/38 input/output monitor.	Call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i> .
610001	You did not enter the correct PDPID with the STRPDP command. The PDPID you use depends on values in the descriptions of the line and remote control unit tested.	<ol style="list-style-type: none"> <li>a. Read the instructions for the test you just ran to make sure that you used the correct PDPID when you entered the STRPDP command.</li> <li>b. Run the test again.</li> </ol>

You received this qualifier:	What the qualifier means:	What you should do:
610002	You did not enter the correct CNNTYPE with the STRPDP command. The CNNTYPE you use depends on values in the descriptions of the line and remote control unit tested.	<p>Read the instructions for the test you just ran to make sure that you used the correct CNNTYPE when you entered the STRPDP command.</p> <p><b>If you did not use the correct CNNTYPE</b>, run the test again, using the correct CNNTYPE.</p> <p><b>If you used the correct CNNTYPE</b>, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>
610003	You did not enter the telephone number correctly when you entered the STRPDP command. Blanks, or letters were included in the telephone number.	Run the test again, making sure that you enter the telephone number correctly when you enter the STRPDP command.
610004	<p>One of the following caused the problem</p> <ul style="list-style-type: none"> <li>• You did not enter the correct line name.</li> <li>• The line you are trying to test is not a BSC line</li> </ul>	<p>a. Check the line name you entered with the STRPDP command.</p> <p>b. Did you enter the line name correctly?</p> <p style="margin-left: 40px;">Yes No</p> <p style="margin-left: 40px;">   </p> <p style="margin-left: 40px;">Go back to step 7 of the BSC Link Test procedure and run the test again.</p> <p>c. Go back to the beginning of Procedure C.3: Link Test. Make sure you choose the correct test procedure.</p> <p><b>If the procedure leads you to this completion qualifier again</b>, call your local IBM service representative. Describe the problem and report the information that you recorded on the <i>Communications Problem Summary Form</i>.</p>
610005	You did not enter the correct LCLID when you entered the STRPDP command.	Run the test again, making sure that you enter the correct LCLID when you enter the STRPDP command. The test procedure tells you how to check the LCLID.



You received this qualifier:	What the qualifier means:	What you should do:
610007	The line is already in diagnostic mode.	<p>a. Do steps <b>82</b> and <b>83</b> of the Procedure C.3-B: <i>BSC Link Test</i>.</p> <p>b. Start the procedure again.</p> <p><b>If you receive this completion qualifier again</b>, call your local IBM service representative. Describe the problem and report the information that you recorded on the <i>Communications Problem Summary Form</i>.</p>
610008	You cannot run this BSC link test on a line using the 3270 Device Emulation Utility.	Call your local IBM service representative. Describe the problem and report the information that you recorded on the <i>Communications Problem Summary Form</i> .
620001 620002	The line is now in diagnostic mode.	Continue Procedure C.3-B: <i>BSC Link Test</i> procedure at step <b>76</b> .
630001 630002	The line is no longer in diagnostic mode.	Continue normal system work.
640000 64xxxx (where xxxx can be any combination of numbers 0-9 or letters A-F)	There is a problem with the program that runs the STRPDP command.	Call you local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i> .

You received this qualifier:	What the qualifier means:	What you should do:
650001 650002	The remote control unit sent a disconnect command to the system unit.	<p>a. Call the operator at the remote control unit.</p> <p>b. Have that operator make sure that the remote control unit was ready to perform the test. See Procedure C.3-C: <i>Preparing Remote Control Units for a Link Test</i> for more information.</p> <p><b>If the remote control unit was not ready for this test</b>, prepare the control unit for the test and run the test again.</p> <p><b>If the remote equipment was ready for the test</b>, follow the actions described for completion qualifier JXX YYYY-YY.</p>
650003	You did not enter the LCLID that the remote control unit expected you to use, when you entered the STRPDP command.	Run the test again, making sure that you enter the correct LCLID when you enter the STRPDP command. The test procedure tells you how to check the LCLID.





You received this qualifier:	What the qualifier means:	What you should do:
650004 and 650005 (continued)		<p>d. Is the line TYPE *SDLCS or*BSCT? (You recorded this information under item 6 of the <i>Communications Problem Summary Form</i>.)</p> <p>No Yes</p> <p>Check the STANADR (station address) value in the description of the line with the problem. See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on how to check this value.</p> <p>If the address is not correct, make the necessary changes, then continue normal system work.</p> <p>If the address is correct, go to step e.</p> <p>e. Make sure that the line speed is properly set on the modem. If you set the line speed on the modem through software control (that is, if the SELECT value in the line description is *YES), also make sure that the RATEYPE value in the line description is set correctly. See the modem user's guide for information on setting the line speed on the modem. See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on how to set the RATEYPE value.</p> <p>f. Is the line speed on the modem not set correctly?</p> <p>Yes No</p> <p>Make the necessary changes, then continue normal system work</p> <p>g. Have you performed either Procedure C.1: <i>Japan Line Test</i> or Procedure C.2: <i>Line Test</i> for the line affected by the problem?</p> <p>Yes No</p> <p>If you are testing equipment in Japan that is attached to telephone lines provided by Nippon Telephone and Telegraph, go to Procedure C.1: <i>Japan Line Test</i>.</p> <p>For equipment in other countries, or using a different common carrier, go to Procedure C.2: <i>Line Test</i>.</p> <p>continued on next page</p>



You received this qualifier:	What the qualifier means:	What you should do:
650004 and 650005 (continued)		<p>h. Did the line test end with completion qualifier 000000?</p> <p>Yes No</p> <p>Follow the actions described for that completion qualifier.</p> <p>j. Call the operator at the remote control unit.</p> <p>Have that operator make sure that the equipment at the remote location is working properly, if possible.</p> <p><b>If the equipment at the remote location is not working properly</b>, follow its problem determination procedures to continue solving the problem.</p> <p><b>If that equipment is working properly</b>, you most probably have a problem that your common carrier should look into further. Call your common carrier. Describe the problem and the test you just finished.</p> <p><b>If the common carrier cannot solve the problem</b>, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>



You received this qualifier:	What the qualifier means:	What you should do:				
<p>66xxxx (where xxxx can be any combination of numbers 0-9, and letters A-F)</p>	<p>A high speed line is in use or about to be used. While that line is in use, you cannot send data through other lines attached to the same communications attachment.</p>	<p>Do one of the following:</p> <ul style="list-style-type: none"> <li>If you are running this test on a high speed line, make sure that all of the other lines attached to the same communications attachment are varied off. To check the line status, enter:  DSPLINSTS</li> </ul> <p>On the line status display, find the status of the other lines. The lines are varied on if their status is VARIED ON.</p> <p>Find out if any jobs are using these lines. You can check this by looking for devices that have the status ACTIVE and show a job name.</p> <p><b>Are there any active jobs?</b></p> <table> <tr> <td>No</td> <td>Yes</td> </tr> <tr> <td> </td> <td> </td> </tr> </table> <p>After explaining the line problem to the job users, cancel those jobs by entering a 9 in the spaces beside each device showing a job name.</p> <p>Go to *.</p> <p>*Vary off the lines by entering a 5 in the space beside the name of each line attached to this communications attachment.</p> <p>Run the test again.</p> <p>Ask the person who performed the configuration of this communications network which line (if any) is a high speed line.</p>	No	Yes		
No	Yes					

You received this qualifier:	What the qualifier means:	What you should do:				
66xxxx (continued)		<ul style="list-style-type: none"> <li>If a high speed line on the communications attachment is varied on, you cannot use the other lines on that attachment until the high speed line is varied off. To find out if the high speed line is varied on, display its status by entering: <p style="text-align: center;">DSPLINSTS LINE (lin22nybsc)</p> <p>Replace lin22nybsc with the name of the high speed line.</p> <p>On the line status display, find the status of the line. The line is varied on if its status is VARIED ON.</p> <p>Find out if any jobs are using the high speed line. You can check this by looking for devices that have the status ACTIVE and show a job name</p> <p><b>Are there any active jobs?</b></p> <table border="0"> <tr> <td style="padding-right: 20px;">No</td> <td>Yes</td> </tr> <tr> <td style="border-left: 1px solid black; height: 20px;"></td> <td style="border-left: 1px solid black; height: 20px;"></td> </tr> </table> <p>After explaining the line problem to the job users, cancel those jobs by entering a 9 in the spaces beside each device showing a job name.</p> <p>Go to *.</p> <p>*Vary off the line by entering a 5 in the space beside the name of the high speed line.</p> <p>Run the test again.</p> <p>Ask the person who performed the configuration of this communications network which line (if any) is a high speed line.</p> </li> </ul>	No	Yes		
No	Yes					



You received this qualifier:	What the qualifier means:	What you should do:
67xxxx (where xxxx can be any combination of numbers 0-9 and letters A-F)	The system could not make the autocal connection.	<p>Make sure that the autocal unit power is turned on. Also make sure that the cables to the autocal unit are secure.</p> <p><b>If the power was not turned on, the cables were not secure, or both, fix the problem. Then run the test again.</b></p> <p><b>If the autocal unit power was turned on and its cables were secure,</b> call your modem supplier. Describe the problem and the test you just finished.</p> <p><b>If the modem supplier cannot solve the problem,</b> call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>
68xxxx (where xxxx can be any combination of numbers 0-9 and letters A-F)	The system could not make a switched connection with the remote control unit.	<p>a. <b>Have you performed either Procedure C.1: <i>Japan Line Test</i> or Procedure C.2: <i>Line Test</i> for the line affected by the problem?</b></p> <p>Yes No  <input type="checkbox"/> <input type="checkbox"/></p> <p>If you are testing equipment in Japan that is attached to telephone lines provided by Nippon Telephone and Telegraph, go to Procedure C.1: <i>Japan Line Test</i>.</p> <p>For equipment in other countries, or using a different common carrier, go to Procedure C.2: <i>Line Test</i>.</p> <p>b. <b>Did the line test end with completion qualifier 000000?</b></p> <p>Yes No  <input type="checkbox"/> <input type="checkbox"/></p> <p>Follow the actions described for that completion qualifier.</p> <p>c. Do the actions for completion qualifier CXX YYY-YY.</p>

You received this qualifier:	What the qualifier means:	What you should do:
690000	The line is not in diagnostic mode. The system cannot perform the BSClink test until the line is in diagnostic mode.	<ol style="list-style-type: none"><li>a. Go back to the beginning of Procedure C.3-B: <i>BSC Link Test</i>.</li><li>b. Run the test again.</li></ol>



## PART TWO: COMPLETION QUALIFIERS BEGINNING WITH LETTERS

You received this qualifier:	What the qualifier means:	What you should do:
AXX YYYY-Y (where XXX YYYY-YY can be any combination of numbers 0-9, and letters A-F)	You probably have a problem with the System/38 communications adapter.  Otherwise you may have a line or modem problem.	Call your local IBM service representative. Describe the problem and report the information you have recorded on the <i>Communications Problem Summary Form</i> .
BXX YYYY-YY (where XX YYYY-YY can be any combination of numbers 0-9, and letters A-F)	The test found a problem with the local modem.	Call the person responsible for performing the configuration of this communications network. He should make sure that the modem features are compatible with the line and control unit descriptions.  <b>If the descriptions are not compatible</b> , make the necessary changes. Then continue normal system work.  <b>If the descriptions are compatible</b> , call your local modem supplier. Describe the problem and the test you just finished.
CXX YYYY-YY (where XX YYYY-YY can be any combination of numbers 0-9, and letters A-F)	You probably have a problem with your local modem.  Otherwise, you have a problem with the System/38 communications adapter.	<ol style="list-style-type: none"> <li>a. Call the person responsible for performing the configuration of this communications network. He should make sure that the modem features are compatible with the CNN values in the line and control unit descriptions. If the descriptions are not correct, make the necessary changes. Then continue normal system work.</li> <li>b. Make sure that the modem cable is secure. If the modem cable is not secure, secure it. Then continue normal system work.</li> </ol> <p><b>If the modem cable is secure</b>, call your modem supplier and describe the problem.</p> <p><b>If the modem supplier cannot solve the problem</b>, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>

You received this qualifier:	What the qualifier means:	What you should do:
<p>DXX YYYY-YY (where XX YYYY-YY can be any combination of numbers 0-9, and letters A-F)</p>	<p>The test found the data set ready (DSR) when it tried to start using the autoanswer feature</p>	<p>Call the person responsible for performing the configuration of this communications network. He should make sure that the modem features are compatible with the values in the line and control unit descriptions. If the descriptions do not match the modem features, make the necessary changes. Then continue normal system work.</p> <p>If the descriptions are correct, call your modem supplier and describe the problem.</p> <p>If the modem supplier cannot solve the problem, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>
<p>EXX YYYY-YY (where XX YYYY-YY can be any combination of numbers 0-9, and letters A-F)</p>	<p>You probably have a problem with the local modem</p> <p>If not, you have a problem with the local IBM devices</p>	<p>Call the local modem supplier. Describe the problem and the test you just finished</p> <p>If the modem supplier cannot solve the problem, call your local IBM service representative. Describe the problem and report the information you recorded on the <i>Communications Problem Summary Form</i>.</p>
<p>FXX YYYY-YY (where XX YYYY-YY can be any combination of numbers 0-9, and letters A-F)</p>	<p>The processor in the communications attachment cannot work as fast as the communications line</p>	<p>Call the person responsible for performing the configuration of this communications network. He should make sure that the line speed is properly set on the modem. If you set the line speed on the modem through software control (that is, if the SELECT value in the line description is *YES), also make sure that the RATE TYPE value in the line description is set correctly. See the modem user's guide for information on setting the line speed on the modem. See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on how to set the RATE TYPE value. If the line speed on the modem is not set correctly, make the necessary changes and continue normal system work.</p> <p>If the line speed on the modem is set correctly, have the system programmer check the number of non-data base page faults for the machine storage pool. To check this number, enter:</p> <p>DSPSYSSTS</p> <p>On the system status display, check the NONDB FLTS value for pool number 1. If the value is greater than 5 faults per second, increase the machine storage pool size. (To change the size, use the CHGSYSVAL command. For information on setting the machine storage pool size, see the <i>CPF Programmer's Guide</i>.)</p> <p>If this procedure does not help you solve the problem, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>



You received this qualifier:	What the qualifier means:	What you should do:
<p>GXX YYYY-YY (where XX YYYY-YY can be any combination of numbers 0-9, and letters A-F)</p>	<p>The interface to the modem shows that the remote equipment is always sending a carrier signal.</p>	<p>a. <b>Have you performed either Procedure C.1: <i>Japan Line Test</i> or Procedure C.2: <i>Line Test</i> for the line affected by the problem?</b></p> <p>Yes No</p> <p>↓ ↓</p> <p>If you are testing equipment in Japan that is attached to telephone lines provided by Nippon Telephone and Telegraph, go to Procedure C.1: <i>Japan Line Test</i>.</p> <p>For equipment in other countries, or using a different common carrier, go to Procedure C.2: <i>Line Test</i>.</p> <p>b. <b>Did the line test end with completion qualifier 000000?</b></p> <p>Yes No</p> <p>↓ ↓</p> <p>Follow the actions described for that completion qualifier.</p> <p>c. Call the person responsible for performing the configuration of this communications network. He should make sure that the WIRE value in the line description matches the characteristics of the equipment at the remote location. Also make sure that the CNN and SWNBKU values in the line description are set correctly. See the <i>CL Reference Manual</i> for information on these values. If any of these values are set incorrectly, make the necessary changes and continue normal system work.</p> <p><b>If the values are set correctly and you have a multipoint line</b> (that is, the CNN value in the line description is *MP), power off each remote control unit one at a time to see which control unit is sending this continuous signal.</p> <p><b>If this procedure does not help you solve the problem</b>, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>



You received this qualifier:	What the qualifier means:	What you should do:
IXX YYYY-YY (where XX YYYY-YY can be any combination of numbers 0-9, and letters A-F)	Some of the test data received by System/38 had errors. You may have a line problem.	<p>a. Run the test again.</p> <p>b. Did you receive this completion qualifier again?</p> <p>Yes No</p> <p style="margin-left: 40px;">          </p> <p style="margin-left: 40px;">          </p> <p style="margin-left: 40px;">In this section, find the description of the completion qualifier you received. Follow the actions described there.</p> <p>c. You may have an intermittent (recurring) problem. To solve this problem: call the person responsible for performing the configuration of this communications network. He should make sure that the line speed is properly set on the modem. If you set the line speed on the modem through software control (that is, if the SELECT value in the line description is *YES ), also make sure that the RATE TYPE value in the line description is set correctly. See the modem user's guide for information on setting the line speed on the modem. See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on how to set the RATE TYPE value.</p> <p>d. Is the line speed on the modem set correctly?</p> <p>Yes No</p> <p style="margin-left: 40px;">          </p> <p style="margin-left: 40px;">          </p> <p style="margin-left: 40px;">Make the necessary changes and continue normal system work.</p> <p>e. Make sure that the following values in the line description are correct:</p> <ul style="list-style-type: none"> <li>• CLOCK, which states whether the System/38 is going to provide the clocks for synchronizing the local and remote devices when sending and receiving data.</li> <li>• NONRTNZ</li> </ul> <p>See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on the CLOCK and NONRTNZ values.</p>

You received this qualifier:	What the qualifier means:	What you should do:
IXX YYYY-YY (continued)		<p>f. Are these values set correctly?</p> <p>Yes No</p> <p>   </p> <p>Make the necessary changes and continue normal system work.</p> <p>g. Have you performed either Procedure C.1: <i>Japan Line Test</i> or Procedure C.2: <i>Line Test</i> for the line affected by the problem?</p> <p>Yes No</p> <p>   </p> <p>If you are testing equipment in Japan that is attached to telephone lines provided by Nippon Telephone and Telegraph, go to Procedure C.1: <i>Japan Line Test</i>.</p> <p>For equipment in other countries, or using a different common carrier, go to Procedure C.2: <i>Line Test</i>.</p> <p>h. Did the line test end with completion qualifier 000000?</p> <p>Yes No</p> <p>   </p> <p>Follow the actions described for that completion qualifier.</p> <p>continued on next page</p>



You received this qualifier:	What the qualifier means:	What you should do:
IXX YYYY-YY (continued)		<p>j. Call the operator at the remote control unit.</p> <p>Have that operator make sure that the equipment at the remote location is working properly, if possible.</p> <p><b>If the equipment at the remote location is not working properly,</b> follow its problem determination procedures to continue solving the problem.</p> <p><b>If that equipment is working properly,</b> call your common carrier. Describe the problem and the test you just finished.</p> <p><b>If the common carrier cannot solve the problem,</b> call both your local and remote modem suppliers. Describe the problem and the test you just finished.</p> <p><b>If the modem suppliers cannot solve the problem,</b> call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>



You received this qualifier:	What the qualifier means:	What you should do:
<p>JXX YYYY-YY (where XX YYYY-YY can be any combination of numbers 0-9, and letters A-F)</p>	<p>The System/38 did not receive the correct test frame or data block from the remote control unit.</p>	<p>a. Call the person responsible for performing the configuration of this communications network. He should make sure that the following values in the line description are correct:</p> <ul style="list-style-type: none"> <li>• SELECT</li> <li>• NONRTNZ</li> <li>• RATETYPE</li> <li>• CLOCK</li> <li>• WIRE</li> </ul> <p>See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on how to set these values.</p> <p>b. Are these values set correctly?</p> <p>Yes No</p> <p style="margin-left: 40px;">   </p> <p style="margin-left: 40px;">Make the necessary changes, then continue normal system work.</p> <p>c. Is the line TYPE *SDLCP? (You recorded this information under item 6 of the <i>Communications Problem Summary Form</i>.)</p> <p>No Yes</p> <p style="margin-left: 40px;">   </p> <p style="margin-left: 40px;">Check the CTLADR (control unit address) value in the description of the remote control unit. While checking this value, have the operator at the remote control unit check the address switches on that device.</p> <p style="margin-left: 40px;"><b>If the address settings on the device do not match the address in the description, make the necessary changes, then continue normal system work.</b></p> <p style="margin-left: 40px;"><b>If the addresses match, go to step e.</b></p>

You received this qualifier:	What the qualifier means:	What you should do:
JXX YYYY-YY (continued)		<p>d. Is the line TYPE *SDLCS or *BSCT? (You recorded this information under item 6 of the <i>Communications Problem Summary Form</i>.)</p> <p>No Yes</p> <p>Check the STNADR (station unit address) value in the description of the line with the problem.</p> <p>If the address is not correct, make the necessary changes, then continue normal system work.</p> <p>If the address is correct, go to step e.</p> <p>e. Make sure that the line speed is properly set on the modem. If you set the line speed on the modem through software control (that is, if the SELECT value in the line description is *YES), also make sure that the RATETYPE value in the line description is set correctly. See the modem user's guide for information on setting the line speed on the modem. See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on how to set the RATETYPE value.</p> <p>f. Is the line speed on the modem set correctly?</p> <p>Yes No</p> <p>Make the necessary changes, then continue normal system work.</p> <p>g. Have you performed either Procedure C.1: <i>Japan Line Test</i> or Procedure C.2: <i>Line Test</i> for the line affected by the problem?</p> <p>Yes No</p> <p>If you are testing equipment in Japan that is attached to telephone lines provided by Nippon Telephone and Telegraph, go to Procedure C.1: <i>Japan Line Test</i>.</p> <p>For equipment in other countries, or using a different common carrier, go to Procedure C.2: <i>Line Test</i>.</p> <p>continued on next page</p>



You received this qualifier:	What the qualifier means:	What you should do:
JXX YYYY-YY (continued)		<p><b>h. Did the line test end with completion qualifier 000000?</b></p> <p><b>Yes No</b></p> <p> </p> <p> </p> <p>Follow the actions described for that completion qualifier.</p> <p><b>j. Call the operator at the remote control unit.</b></p> <p>Have that operator make sure that the equipment at the remote location is working properly, if possible.</p> <p><b>If the equipment at the remote location is not working properly,</b> follow its problem determination procedures to continue solving the problem.</p> <p><b>If that equipment is working properly,</b> you most probably have a problem that your common carrier should look into further. Call your common carrier. Describe the problem and the test you just finished.</p> <p><b>If the common carrier cannot solve the problem,</b> call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>



C.4

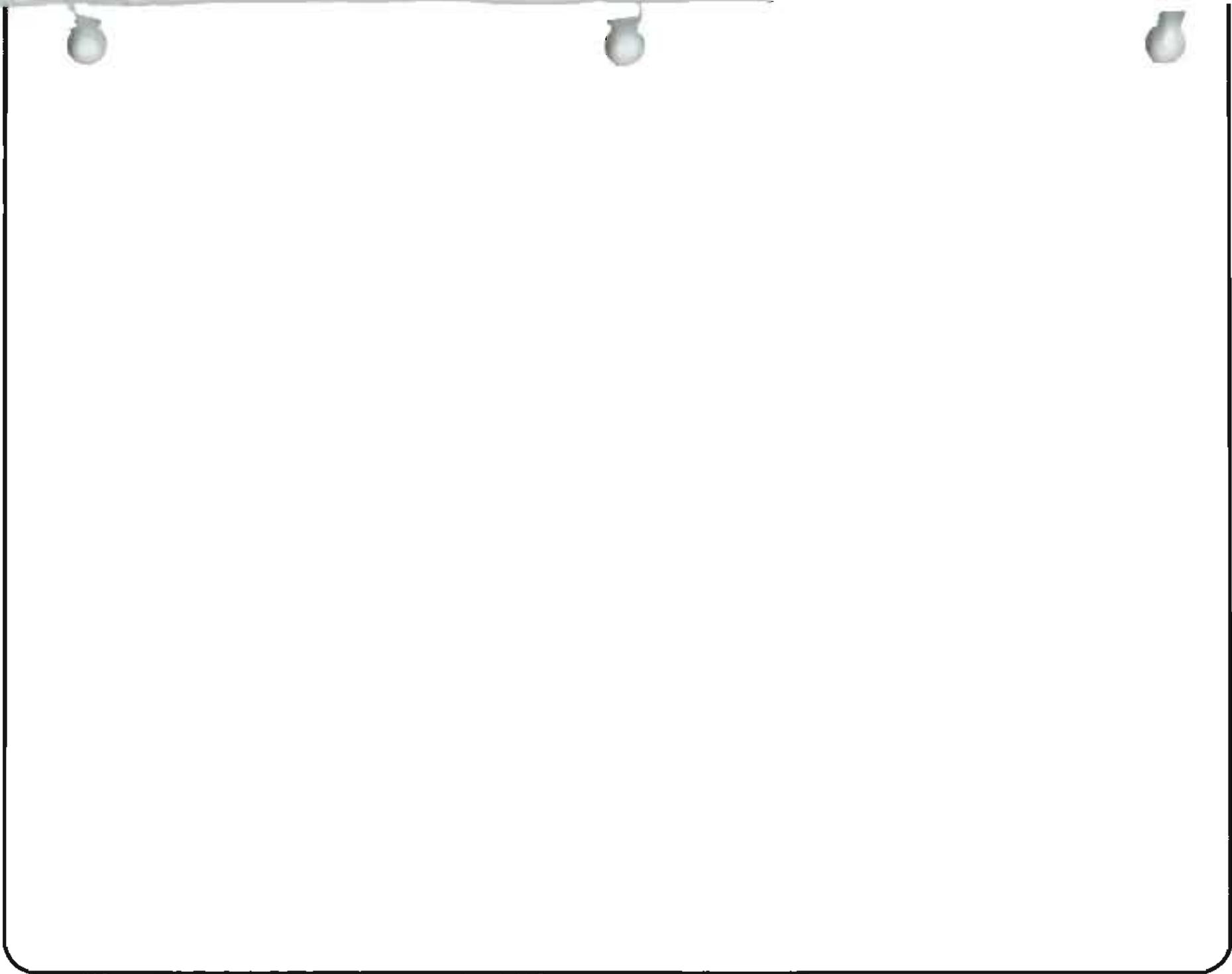
Completion qualifiers beginning with J

You received this qualifier:	What the qualifier means:	What you should do:
KXX YYYY-YY (where XX YYYY-YY can be any combination of numbers 0-9, or letters A-F)	The autocal unit shows that the telephone line is not available for use.	<p>a. <b>Have you performed either Procedure C.1: <i>Japan Line Test</i> or Procedure C.2: <i>Line Test</i> for the line affected by the problem?</b></p> <p>Yes No</p> <p style="margin-left: 40px;">       </p> <p style="margin-left: 40px;">       </p> <p style="margin-left: 40px;">If you are testing equipment in Japan that is attached to telephone lines provided by Nippon Telephone and Telegraph, go to Procedure C.1: <i>Japan Line Test</i>.</p> <p style="margin-left: 40px;">For equipment in other countries, or using a different common carrier, go to Procedure C.2: <i>Line Test</i>.</p> <p>b. <b>Did the line test end with completion qualifier 000000?</b></p> <p>Yes No</p> <p style="margin-left: 40px;">       </p> <p style="margin-left: 40px;">       </p> <p style="margin-left: 40px;">Follow the actions described for that completion qualifier.</p> <p>c. <b>Is the autocal unit set for manual use? (See the autocal unit user's guide to find out how to check this information.)</b></p> <p>No Yes</p> <p style="margin-left: 40px;">       </p> <p style="margin-left: 40px;">       </p> <p style="margin-left: 40px;">Switch the unit to data mode.</p> <p style="margin-left: 40px;">Hang up the telephone.</p> <p style="margin-left: 40px;">Continue normal system work.</p> <p>d. Call your modem supplier. Describe the problem and the test you just finished.</p> <p><b>If the modem supplier cannot solve the problem</b>, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>

You received this qualifier:	What the qualifier means:	What you should do:
<p>LXX YYYY-YY (where XX YYYY-YY can be any combination of numbers 0-9, or letters A-F)</p>	<p>The interface to the modem is not in a proper state</p>	<p>a. <b>Have you performed either Procedure C.1: <i>Japan Line Test</i> or Procedure C.2: <i>Line Test</i> for the line affected by the problem?</b></p> <p>Yes No         If you are testing equipment in Japan that is attached to telephone lines provided by Nippon Telephone and Telegraph, go to Procedure C.1: <i>Japan Line Test</i>.</p> <p>For equipment in other countries, or using a different common carrier, go to Procedure C.2: <i>Line Test</i>.</p> <p>b. <b>Did the line test end with completion qualifier 000000?</b></p> <p>Yes No         Follow the actions described for that completion qualifier.</p> <p>c. Call your local modem supplier. Describe the problem and the test you just finished.</p> <p><b>If the modem supplier cannot solve the problem</b>, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>







C 4

Completion qualifiers beginning with M



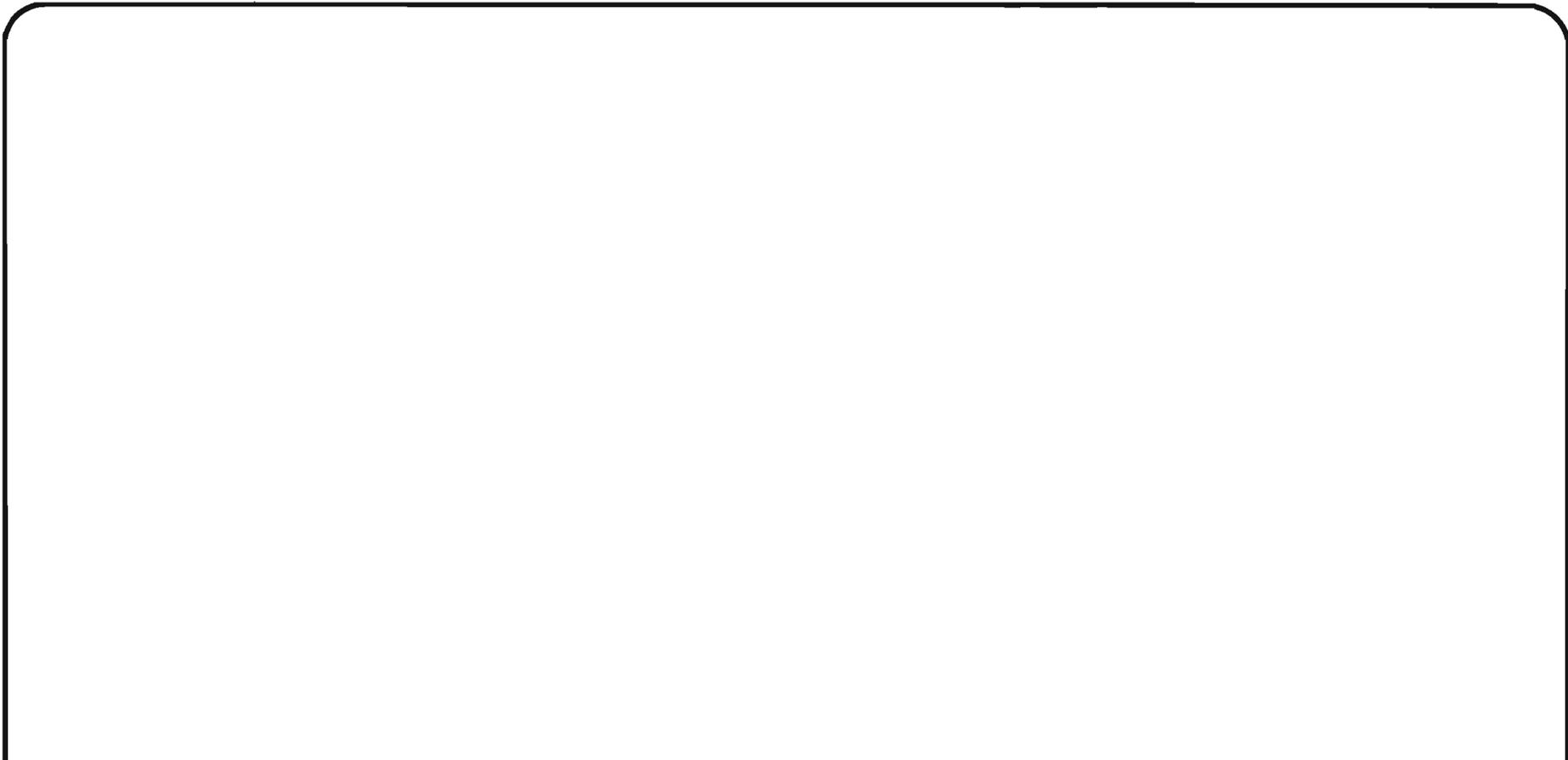
You received this qualifier:	What the qualifier means:	What you should do:
NXX YYYY-YY (continued)		<p>e. During the test, did you place the call correctly (such as using the correct telephone number)?</p> <p>Yes No</p> <p>          </p> <p>          </p> <p>        Run the test again.</p> <p>f. Most probably, you have a problem with the local modem supplier. Describe the problem and the test you just finished.</p> <p><b>If the modem supplier cannot solve the problem</b>, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>



You received this qualifier:	What the qualifier means:	What you should do:
<p>OXX YYYY-YY (where XX YYYY-YY can be any combination of numbers 0-9, or letters A-F)</p>	<p>The switched connection used to start this test was not made within 2.5 minutes after you pressed the Enter key at the System/38 (after the message code appeared on your screen). The system stopped the test.</p>	<p>a. <b>Have you performed either Procedure C.1: <i>Japan Line Test</i> or Procedure C.2: <i>Line Test</i> for the line affected by the problem?</b></p> <p>Yes No     If you are testing equipment in Japan that is attached to telephone lines provided by Nippon Telephone and Telegraph, go to Procedure C.1: <i>Japan Line Test</i>.</p> <p>For equipment in other countries, or using a different common carrier, go to Procedure C.2: <i>Line Test</i>.</p> <p>b. <b>Did the line test end with completion qualifier 000000?</b></p> <p>Yes No     Follow the actions described for that completion qualifier.</p> <p>c. <b>During the test, did you wait more than 2.5 minutes to make the switched connection with the other equipment after you pressed the enter key at the System/38?</b></p> <p>No Yes     Run the test again.</p> <p>d. <b>When the call was placed, did the operator at the remote location hear an answer tone?</b></p> <p>No Yes     Call your local modem supplier. Describe the problem and the test you just finished.</p> <p><b>If the modem supplier cannot solve the problem</b>, call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>

You received this qualifier:	What the qualifier means:	What you should do:
OXX YYYY-YY (continued)		<p>e. Call the person responsible for performing the configuration of this communications network. He should make sure that the ANSTONE value in the description of the line affected by the problem, is correct. See <i>Checking Line and Control Unit Descriptions</i> in Chapter 3 for information on the ANSTONE value.</p> <p>f. <b>Is the ANSTONE value set correctly?</b></p> <p>Yes No</p> <p>          </p> <p>          </p> <p>        Make the necessary changes, then continue normal system work.</p> <p>g. Call your local modem supplier. Describe the problem and the test you just finished.</p> <p><b>If the modem supplier cannot solve the problem,</b> call your local IBM service representative. Describe the problem and report the information recorded on the <i>Communications Problem Summary Form</i>.</p>







### **When to Use This Procedure**

Use this procedure when you are directed here by a system message or you are having problems establishing communications or transmitting data through an X.25 network.

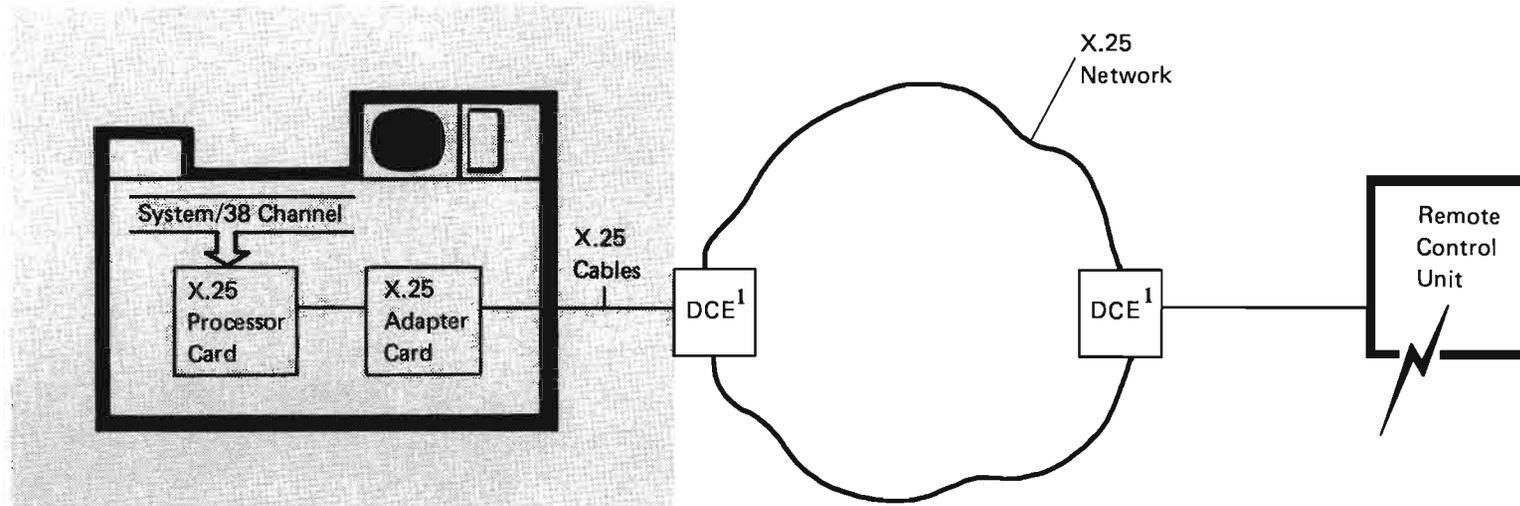
### **Outline of This Procedure**

The sections are:

- *How to run X.25 PDPs*
- *Verify Your Configuration*
- *Vary on Problems*
- *Cause/Diagnostic Codes Returned with Error Messages*



## HOW TO RUN X.25 PDPS



Communications equipment tested by PDPs

- <sup>1</sup> The data circuit-terminating equipment (DCE) is any common carrier equipment or service that connects your equipment to the network; it might be an adapter or a modem.

The X.25 problem determination procedures (PDPs) test the X.25 processor card, the X.25 adapter card, the internal cables, and the external cables to the DCE (modem). During the test, you are instructed to remove the external cable from the DCE and to connect a wrap connector. When the system finishes the test, a message is displayed that identifies which part of the communications system has the problem (if any).

The procedure starts here.

1

Start the X.25 PDPs by entering the following command:

```
STRPDP PDPID(MP5900)  
LINE(X25LINE1)
```

Replace X25LINE1 with the name of the line you are testing.

2

If the PDPs complete with no error, a message similar to this appears on your screen.

```
COMMAND ENTRY DISPLAY          SYSTEM: S00003  
.:STRPDP PDPID(MP5900) LINE(X25LINE1)  
X25LINE1 WORKED CORRECTLY.  PRESS HELP FOR ASSISTANCE.  
  
CPS-DUPLICATE      CP4-PROMPT      CP7-LOW LEVEL MESSAGES
```

A second-level message, similar to this, appears on your screen when you press the Help key.

```
SECOND LEVEL MESSAGE DISPLAY  
Msg Id: CPC6625  Type: Completion  Sev: 00  PDP Code.  
Job:           User:              Nbr:  
Date Sent: 08/25/84  Time Sent: 14:45:02  
From Pgm: QSCPDPXH  Inst: 0000  To Pgm: QCL  Inst:0000  
X25LINE1 WORKED CORRECTLY  PRESS HELP FOR ASSISTANCE.  
  
(CAUSE -- the PDP completed normally.  TECHNICAL DESCRIPTION --  
The X.25 Processor card, the X.25 I/O Adapter  
card, and the X.25 cables are operating correctly.  
If you are still having a problem, refer to section C  
of the Problem Determination Guide, SC21-7816,  
for additional assistance.  If you are still having difficulty  
after verifying your system configuration with Section C,  
you may have a network problem.)
```



If the PDPs complete with an error, a message similar to this appears on your screen.

```

COMMAND ENTRY DISPLAY          SYSTEM: S00003
::STRPDP PDPID(MP5900) LINE(X25LINE1)
X25LINE1 WORKED CORRECTLY.  PRESS HELP FOR ASSISTANCE.

```

CF3-DUPLICATE      CF4-PROMPT      CF7-LOW LEVEL MESSAGES

A second-level message similar to this, giving additional information about the error, appears on your screen when you press the Help key.

```

SECOND LEVEL MESSAGE DISPLAY

Msg Id:  CPC6626  Sec: 00  Type: Completion  08/25/84  15/40/32
Job:      User:      Nbr:
From Pgm: QSCDPXH   Inst: 0000  To pgm: QCL      Inst:0000

```

X25LINE1 FAILED. PRESS HELP. ERR: 005C-7030

```

CAUSE -- An error occurred during the X.25 cable test.
Recovery -- Call your System/3B service representative and
report the following code: 005C-7030.  Technical Description --
The X.25 processor card is operating correctly.
The X.25 adapter card or the X.25 cables are not operating
correctly.  The error occurred when 'Request To Send' was
set active, and 'Clear to Send' remained inactive.

```

**3** If the PDPs run without error, and you are still having problems, see *Verify Your Configuration* later in this section.

## VERIFY YOUR CONFIGURATION

Use this section if the PDPs (problem determination procedures) run without error and you are still having problems establishing communications or transmitting data through your network. This section explains the X.25 parameters that may cause problems.

If you are still having problems after running the PDPs and verifying your configuration, you may have a network problem.

If you need information about parameters that are not described here, or if you need more information about any of these parameters, see the *CL Reference Manual*.

## CHECKING THE LINE DESCRIPTION

### About the Line Description

The line description is an object that describes to the system a line used for remote communications. This information includes:

- Characteristics and features of the line and equipment attached to that line
- The protocol used to send and receive data on the line

When you use a line, the system uses the information in the line description to send data to and from a remote control unit. If the characteristics in the line description do not match the characteristics of the equipment you are using, the system cannot send data through the network. The system also cannot send data if the line is not matched to the remote control unit.



### How to Display the Line Description

To check a parameter in the line description, use the Display Line Description (DSPLIND) command as follows:

```
DSPLIND LIND (X25LINE1)
```

where X25LINE1 is the name of the line description you want to display.

### How to Change the Line Description

To change the line description, you can use the Change Line Description (CHGLIND) command, the Delete Line Description (DLTLIND) command, or the Create Line Description (CRTLIND) command. See the *Data Communications Programmer's Guide* and the *CL Reference Manual* for more information about these commands.

### Parameters to Check in the Line Description

**DFTPKTSIZE Parameter:** Specifies the default packet size used for this X.25 line, as provided by the network subscription.

128: The default packet size is 128.

*default-packet-size:* Enter the desired default packet size. Values of 64, 128, 256, 512, and 1024 are supported. For SVC incoming calls, System/38 supports the packet size in the Incoming Call packet facilities field, if different from this value.

Specify a control unit description (CUD) DFTPFSIZE different from a line description (LIND) DFTPFSIZE only if:

- You have subscribed to flow control negotiation and
- You want that station's virtual circuit to run with a different packet size

**For the physical services header (PSH) protocol, the DFTPFSIZE should be the same at the local and remote ends. Otherwise, the network interface adapter (NIA) will not operate properly.**

**DFTWFSIZE Parameter:** Specifies the default window size (packet level window size) used for this X.25 line, as provided by the network subscription.

2: The default window size is 2.

*default-window-size:* Enter the appropriate default window size. Values of 2 through 7 are supported for networks that use modulo 8 packet numbering; values of 2 through 15 are used for networks that use modulo 128 packet numbering.

Specify a control unit description (CUD) DFTWFSIZE different from a line description (LIND) DFTWFSIZE only if:

- You have subscribed to flow control negotiation and
- You want that station's virtual circuit to run with a different window size

**For the physical services header (PSH) protocol, the DFTWFSIZE should be the same; otherwise, the network interface adapter (NIA) will not operate properly.**



**IDLETIME Parameter:** Specifies the X.25 link level time-out (HDLC-T1). Idletime is the maximum time the System/38 will wait for a response from the network for each frame transmission.

Specify a value between 3 and 99. Each unit represents 0.1 seconds. (Time-outs from 0.3 to 9.9 seconds.)

The time-out is a function of line speed and maximum frame size. The following table shows the minimum values that should be specified for each line speed.

Line Speed (Kbps)	Value	Time (in Seconds)
19.2 to 64	3	0.3
9.6	6	0.6
4.8	12	1.2
2.4	20	2.0
1.2	30	3.0

The line speeds are most dependent on the network. Increase the minimum values based on the response time of the network's DCE.

The value should be large enough to allow the local DCE to respond within the time-out period, but not so large that the time-outs affect performance.

The default is 6 (0.6 seconds).

**LCLNETADR Parameter:** Specifies the local X.25 network address for this System/38 attachment to the network. This address is provided by the network supplier.

**\*NONE:** The system is not to insert the local network address into the X.25 Call Request or Call Accepted packets.

**S/38-local-network-address:** Enter the local X.25 network address for this System/38 attachment to the network. Up to 15 decimal digits can be specified.

Some networks require that a local network address not be inserted, some networks don't care, and some networks require that a local network address be inserted. Check to see what your network requires.

**LGLCHLE Parameter:** Specifies the entries for each of the logical channels provided for this X.25 LIND.

*\*PROMPT:* This option is only valid when the CRTLIND command is performed interactively. A prompt screen is displayed to help you enter the logical channel entries.

*\*NONE:* This option is the default for batch jobs. Use this option if the logical channel entries are supplied later in the CHGLIND command.

*LC-group #:* The first subfield, consisting of the group number (one hexadecimal digit) assigned by the network.

*LC-channel #:* The second subfield, consisting of the channel number (two hexadecimal digits) assigned by the network. (A logical group number and channel number of 000 can be specified.)

*LC-type:* The third subfield, consisting of the type of virtual circuit assigned to this logical channel. Choices are:

- \*PVC For permanent virtual circuits.
- \*SVCIN For switched virtual circuits defined as one-way incoming call only (most connections are originated by the remote DTE calling in to the system).
- \*SVCOUT For switched virtual circuits defined as one-way outgoing call only (all connections are originated by your System/38 calling out to a remote DTE).
- \*SVCBOTH For switched virtual circuits defined as two-way, which allows connections to originate from either end.

*PVC-control-unit:* The fourth subfield, contains the names of any control units connected to the PVC on this LIND.



**MAXPKTSIZE Parameter:** Specifies the largest packet size used by any control unit associated with this LIND. (Each X.25 control unit has a parameter DFTPFSIZE in the CUD object used for this comparison.) The MAXPKTSIZE value must always be equal to or greater than the default packet size as specified in the DFTPFSIZE parameter of each attached CUD object.

*\*DFTPFSIZE:* The maximum packet size is the value specified in the DFTPFSIZE parameter.

*maximum-packet-size:* Enter the desired maximum packet size value. Values of 64, 128, 256, 512, or 1024 are supported.

A switched virtual circuit (SVC) is not established if an attempt to call out is made on a line whose LIND MAXPKTSIZE is less than the CUD DFTPFSIZE.

**RETRY Parameter:** Specifies the maximum number of retries attempted for various error conditions at the interface. Values of 0 through 21 can be specified. The value is internally multiplied by 7. For instance, values of 0, 1, 2, and 3 give retries of 0, 7, 14, and 21 respectively. Any value greater than 3 gives 21 retries (the maximum).

The default value is 1 (7 retries). This is also the recommended value.

**X25NETTYPE Parameter:** Specifies the type of X.25 network.

*0101:* This value is used for most networks (including the UK/PSS network) and modulo 8 packet sequence numbering. If this parameter is set incorrectly you may receive error code D301. Check to see what HDLC initialization procedure your network requires.

*0111:* This value is specified for networks that require immediate initiation (and do not require UA response).

*0112:* This value is only used for Japanese DDX-P networks using immediate initiation and modulo 128 packet sequence numbering.

*0121:* This value is specified for networks requiring remote initiation and modulo 8 packet sequence numbering.

## CHECKING THE CONTROL UNIT DESCRIPTION

### About the Control Unit Description

The control unit description is an object that describes:

- Characteristics and features of the remote control unit, such as the station address and special calling instructions
- Added virtual circuit features used when connecting to the remote control unit

### How to Display the Control Unit Description

To check a parameter in the control unit description, use the Display Control Unit Description (DSPCUD) command as follows:

```
DSPCUD CUD (X25CNTRL)
```

where X25CNTRL is the name of the control unit description you want to display.

### How to Change the Control Unit Description

To change the control unit description, you can use the Change Control Unit Description (CHGCUD) command or the Delete Control Unit Description (DLTCUD) command or the Create Control Unit Description (CRTCUD) command. See the *Data Communications Programmer's Guide* and the *CL Reference Manual* for more information about these commands.



### Parameters to Check in the Control Unit Description

**DFTPKTSIZE Parameter:** Specifies the packet size used for this X.25 virtual circuit, as provided by the network subscription.

**\*LIND:** For PVC attachments, the same value as specified in the LIND DFTPKTSIZE parameter is used.

**default-packet-size:** Enter the appropriate default packet size. Values of 64, 128, 256, 512, and 1024 are supported. For SVC incoming calls, System/38 accepts the packet size as indicated in the X.25 'incoming call' packet facilities field, if different from this value. The MAXPKTSIZE (maximum packet size) of the LIND, which this control unit is associated with, must be greater than or equal to this parameter value.

Specify a CUD DFTPKTSIZE only if:

- You want a packet size different from the LIND DFTPKTSIZE and
- You want that station's virtual circuit to run with a different packet size

Your subscription must include flow control negotiation.

For the physical services header (PSH) protocol, the packet size should be the same at the local and remote ends. Otherwise, the network interface adapter (NIA) will not operate properly.

**DFTWDWSIZE Parameter:** Specifies the window size used for this X.25 network, as provided by the network subscription.

**\*LIND:** Default is to the same value as specified in the line description.

*default-window-size:* Enter values of 2 through 7 for networks that use modulo 8 packet numbering; enter values of 2 through 15 for networks that use modulo 128 packet numbering. For SVC incoming calls, the system accepts the window size as indicated in the 'incoming call' packet facilities field if different from the value specified here.

Specify a CUD DFTWDWSIZE only if:

- You want a window size different from the LIND DFTWDWSIZE and
- You want that station's virtual circuit to run with a different packet size

For the physical services header (PSH) protocol, the window size should be the same at the local and remote ends. Otherwise, the network interface adapter (NIA) will not operate properly.

**LINKTYPE Parameter:** Specifies the link protocol for the remote control units.

**\*NONE:** No link protocol is specified.

**\*X25LLP:** Specify this value when the remote station attached to the X.25 network is the logical link primary station; examples are PU2 and PEER.

**\*X25LLS:** Specify this value when the remote station attached to the X.25 network is the logical link secondary station; examples are 5250, 3274, 5294, PEER, 3694, 4701. This value is also used for stations whose role is negotiated.



**NETCNPWD Parameter:** Specifies the X.25 network password used for password exchange with the X.25 call request and incoming call packets (call user data field). This parameter is not valid for PVC connections.

*\*NONE:* No password is specified.

*network-connection-password:* This value may not exceed 8 characters. If fewer than 8 characters are specified, the field is padded with blanks. The password on incoming call requests must match this password or no connection is allowed. Valid passwords consist of hexadecimal values between hex 40 and hex FF. \*NONE cannot be used as a password.

This password is recommended for control units operating with the Enhanced Logical Link protocol NETPCL (\*ELLC) on SVC connections.

The password, concatenated with the remote control unit address (TELNBR parameter), must be system-wide unique. It is the only way to distinguish remote control units at the same subscription address.

You must make sure that the remote device calling in specifies at least 12 bytes of caller user data. For the data format, see the *Data Communications Programmer's Guide*.

**NETCUGID Parameter:** Specifies the X.25 closed user group identification for contacting this station, as provided by the network subscription. This parameter is only valid for SVC outgoing calls and is ignored for SVC incoming calls.

*\*NONE:* No network closed user group identification is used.

*network-closed-user-group-identification:* Enter 2 decimal digits.

The subscription at the remote end must include closed user group, and the ID must be correctly specified. If not, calls will be rejected by the remote DCE without knowledge at the remote DTE.

**NETPCL Parameter:** Specifies the X.25 logical link control protocol used by SNA for this control unit. This protocol is defined by *X.25 Interface for Attaching SNA NODES to Packet-Switched Data Networks*, GA27-3345.

The System/38 and the remote control unit must have the same logical link protocol.

**\*QLLC:** The qualified logical link control (QLLC) protocol is recommended if speed is more important than end-to-end recovery.

**\*PSH:** The physical services header (PSH) protocol is recommended for connecting a system to a remote NIA.

**\*ELLC:** The enhanced logical link control (ELLC) protocol is recommended for enhanced error recovery. ELLC has added header information, not needed with QLLC and PSH.

**Note:** When the PSH protocol is selected, the DFTPFSIZE parameter in the CUD object is limited to 64, 128, or 256, the MAXLENPIU parameter in the CUD object is limited to 256, and the MAXLENRU parameter in the DEVD object is limited to 256 or less.

**NETRSPTMR Parameter:** Specifies the logical link level LT1 time-out value. This value should be the same at the System/38 and the remote control unit.

*network-response-timeout-value:* Values from 1 through 255 may be specified, where each unit is one second. If no value is specified, a default time-out of 30 seconds is used.

Refer to the product documentation to determine the recommended value for this timer. The following examples are provided for guidance only:

CUD Type/Model	X.25/LTI Recommendation
5294	10.0 seconds
PEER (S/36)	10.0 seconds
PEER (S/38)	30.0 seconds
PU2 (3725 NCP/NPS1)	30.0 seconds
PU2 (4300ICA)	30.0 seconds



**NETRVSCRG Parameter:** Specifies for X.25 networks (SVC connections only) if reverse charging is accepted on incoming requests, or if reverse charging is requested on outgoing call request packets. When the INLCNN field is specified as \*ANS (for incoming SVCIN calls), then the first reverse charge parameter applies; when the INLCNN field is specified as \*CALL (for outgoing SVCOUT calls), then the second reverse charge parameter applies.

\*NO: No reverse charging is accepted.

\*ACCEPT: Reverse charging is accepted on incoming requests.

\*NO: No charges are requested on outgoing call requests.

\*REQUEST: Charges are requested on outgoing call request packets.

Your network subscription must include reverse charging if \*ACCEPT or \*REQUEST is selected.

**NETUSRFCL Parameter:** Specifies the X.25 network optional user facilities not supported by keywords. Hexadecimal codes are inserted into outgoing call request or call accepted packets to the network. This parameter is not valid for PVC connections.

\*NONE: These additional optional user facilities are not included in the call packets.

*network-user-facility:* Enter up to 126 hexadecimal digits (63 bytes), that are encoded directly into the optional user facility field of the call packets.

Closed user group (NETCUGID), reverse charging (NETRCVCRG), and flow control (DFTPKTSIZE, DFTWDWSIZE) are supported by keywords that do not use this parameter.

Any of the other X.25 facilities supported by IBM are available through NETUSRFCL. See *Interface for Attached SNA Nodes to Packet-Switched Data Networks*, GA27-3345, for the facilities IBM supports.

**X25ADR Parameter:** Specifies the address of the X.25 control unit.

*X25-control-unit-address:* Enter 000000 for X.25 switched control units. For X.25 nonswitched control units, specify a 6-digit hexadecimal number as follows:

**Controller Station  
Address (Digits 1-4)**

Ox yy

Where

x = The X.25 logical  
channel group number  
assigned to this  
control unit

yy = The X.25 logical  
channel number assigned  
to this control unit

**OU Number  
(Digits 5-6)**

5C or 5E

(same as in  
the LIND)



## VARY ON PROBLEMS

When you vary on an X.25 line, you may get a message indicating that an error occurred. The code takes one of two forms: \*N-XXXX-N or 00XX-70YY.

Error codes of the form \*N-XXXX-N indicate a problem that is probably not caused by System/38 hardware. Possible causes of these errors are: configuration, the network, the modem, or the remote DTE. To test our local hardware, see *How to Run X.25 PDPs* earlier in this section.

For vary on errors of the form \*N-XXXX-N, locate the XXXX error code in the following table. For vary on errors of the form 00XX-70YY, see the description later in this section.

Error Code(s)	Meaning and Recovery Procedure
B045	<p>The input/output processor (IOP) microcode returned an error indicating that a resource is not available in the IOP. Retry the operation.</p> <p>If the retry was successful, the problem was probably caused by a temporary resource shortage. If the error continues to occur, you may have a microcode problem. Report the error to your IBM service representative.</p>
B105, B121, B501, B502, B503, and B506	<p>A logical link control (LLC) level time-out occurred. A request (contact, test, XID, or disconnect) was sent or data was sent to the remote device and no response or disconnect mode response was received. Verify that the remote device is working and properly configured.</p>
B123, B203, B206, B221, and B225	<p>A logical link control (LLC) level protocol error occurred. The link was terminated because a remote device protocol was detected.</p>

Error Code(s)	Meaning and Recovery Procedure
C043	The packet level is unable to make a circuit because no virtual circuit is available. An incoming call may have taken the last virtual circuit when the local system is calling. Retry the operation.
C044	The packet level is unable to connect because a restart is in progress. Retry the operation.
C106, C111, C112, C113, C114, C301, C302, C303, and C304	The packet level detected a protocol error and attempted recovery. This is probably a local DCE problem.
D101, D103, and D106	A data link level time-out occurred between the local system and the local DTE. The remote device may not be available. Start problem determination procedures to test the local system hardware and cables. See <i>How to Run X.25 PDPs</i> earlier in this section.
D104, D203, D204, and D205	A problem occurred that caused the system or remote DTE to send a frame reject.
D121 and D125	The network is in disconnect mode. Retry the operation.
D131, D132, D133, D134, D139, and D13B	The DCE level detected a problem between the adapter and the modem. This is probably caused by an electrical connection or a modem problem on the local system. Start problem determination procedures to test the local system hardware and cables. See <i>How to Run X.25 PDPs</i> earlier in this section.
D301	A data link level time-out occurred at the System/38. Check to see what HDLC initialization procedure your network requires. Specify that value in the X25NETTYPE parameter. If this parameter is specified correctly, and you are still having problems, test the local system hardware and cables. See <i>How to Run X.25 PDPs</i> earlier in this section.



Cause/ Diagnostic Code	Meaning
00/19	Invalid packet type for state p6
00/1A	Invalid packet type for state p7
00/1B	Invalid packet type for state d1
00/1C	Invalid packet type for state d2
00/1D	Invalid packet type for state d3
00/20	Packet not allowed
00/21	Unidentifiable packet
00/22	Call on one-way logical channel
00/23	Invalid packet type on permanent virtual circuit
00/24	Packet on unassigned logical circuit
00/25	Reject not subscribed to
00/26	Packet too short
00/27	Packet too long
00/28	Invalid general format identifier
00/29	Restart with nonzero in bits 1-4, 9-16
00/2A	Packet type not compatible with facility
00/2B	Unauthorized interrupt confirmation
00/2C	Unauthorized interrupt
00/30	Timer expired, general
00/31	Timer expired for incoming call
00/32	Timer expired for clear indication
00/33	Timer expired for reset indication
00/34	Timer expired for restart indication
00/40	Call setup problem
00/41	Facility code not allowed
00/42	Facility parameter not allowed
00/43	Invalid called address
00/44	Invalid calling address
00/50	Call clearing problem
00/51	Nonzero address length field
00/52	Nonzero facility length field
00/60-7F	Not assigned problem
00/80-FF	Network specific diagnostic information

## Remote DTE Cause/Diagnostic Codes

Some error codes have an associated cause/diagnostic code (cc/dd). Cause/diagnostic codes are issued by the network or the remote DTE and may vary from network to network.

The following table lists the remote DTE cause/diagnostic codes. The codes listed here are cause/diagnostic codes that may be returned by IBM remote DTE devices.

Cause/ Diagnostic Code	Meaning
00/11	Invalid packet type for state r1
00/14	Invalid packet type for state p1
00/15	Invalid packet type for state p2
00/16	Invalid packet type for state p3
00/17	Invalid packet type for state p4
00/18	Invalid packet type for state p5
00/19	Invalid packet type for state p6
00/1B	Invalid packet type for state d1
00/31	Timer expired for incoming call
00/32	Timer expired for clear indication
00/33	Timer expired for reset indication
00/34	Timer expired for restart indication
00/50	General remote protocol error or configuration error
00/51	Undefined C-field; remote protocol error or configuration error
00/52	Unexpected C-field; remote protocol error or configuration error



Cause/ Diagnostic Code	Meaning
00/53 00/54 00/55 00/56 00/57	Missing I-field; remote protocol error or configuration error Undefined I-field; remote protocol error or configuration error I-field too long; remote protocol error or configuration error PDU reject received; protocol error Invalid header; remote protocol error or configuration error
00/58 00/59 00/5A 00/5B	Data received in wrong state; remote protocol error or configuration error Time-out; no response from remote DTE Invalid N(r); remote error Disconnect request received during recovery (host does not wish to continue) or a new call received on logical link waiting for recall
00/60	General remote protocol error or configuration error
00/61 00/62 00/63 00/64 00/65	Sequence error; remote protocol error or configuration error Header too short; remote protocol error or configuration error PSH format invalid; remote protocol error or configuration error Command undefined; remote protocol error or configuration error Invalid protocol; remote protocol error or configuration error
00/66 00/69	Data received in wrong state; remote protocol error or configuration error Time-out; no response from remote DTE



### When to Use This Procedure

Use this procedure when you have a problem with remote equipment, but did not receive a message about the problem.

Work station users might notice that the Input Inhibited indicator has stayed on longer than expected at the remote work stations, the system is responding slowly to requests, or a device is not working.

### Outline of This Procedure

In this procedure, you do the following:

- 1** Define the problem, such as a device problem, communications problem, or system problem (step **1**).
- 2** Check for operational problems, such as modem connections (step **2**).
- 3** Check the status of the affected line and its attached equipment for an unusual status (steps **3** and **4**).
- 4** Check for equipment problems by:
  - a.** Printing the CSNAP (Communications Statistical Network Analysis Procedure) history graph for the line or control unit affected by the problem (steps **5** through **7**).
  - b.** Examining the graph and checking for increased errors on the equipment (steps **8** through **12**).



The procedure starts here.

Defining the problem.

1

Is one of the following true:

- All of the affected devices are working more slowly than usual
- The Input Inhibited indicator is staying on longer than expected at many remote work stations

Yes

No

If the Input Inhibited indicator is staying on longer than you expected at one work station, go to Procedure F: *Work Station Job Problem*.

If a work station is not working properly, go to Procedure H: *Work Station Problem*.

If a printer is not working properly, go to Procedure J: *Device Problem*.

Otherwise, call your programmer and describe the problem.

#### What the problem is:

If the Input Inhibited indicator is staying on longer than you expected at one work station, you have a problem with the job active at that work station. Otherwise, there is a device problem.

#### What you might notice:

You might notice the problem in one of these ways:

- You cannot get the sign-on display
- A work station suddenly stopped working.
- A work station does not work

#### What you might notice:

You might notice these problems with a remote printer:

- The printer is not printing correctly
- The printer suddenly stopped working
- The printer does not start printing.

## Checking for problems with operations.

2 Check the following before continuing this procedure:

You have checked for messages about the problem. →

The modem is connected to the power source and is powered on (if the modem is not built into the control unit). →

You used the proper procedures to begin communications (send information to and from the system unit). →

The problem does not affect devices attached to other lines or devices attached locally to the system unit.

**If the problem does affect these devices,** go to the beginning of Chapter 1 and choose a different procedure.

After you have checked the above items, continue this procedure.

### How to check for messages:

See *Checking for Messages* in Chapter 2 for information on how to check for messages.

### How to check the modem:

Go to the modem user's guide for instructions.

### How to start communications:

Ask your programmer. These directions vary from system to system.



D

Steps 1 through 2

## Checking the line status.

- 3 Display the status of the line affected by the problem. →

### How to display the line status:

Enter:

```
DSPLINSTS LINE(lin22nybsc)
```

Replace `lin22nybsc` with the name of the line affected by the problem.

- 4 Check the following on the line status display: →

### Where to find information on the display:

6/25/82 9:20:58		LINE STATUS DISPLAY - *ALL		
LIN/CTL/DEV/M	STATUS	JOB NAME	USER	NBR
LIN22NYBSC	VARIED ON			
CTL22NYBSC	ACTIVE			
DEV22NYBSC	SIGNON DISPLAY			
LIN23NYBSC	ACTIVE			
CTL23NYBSC	ACTIVE			
DEV23NYBSC	ACTIVE	WS1	QUSER	009933

Line      Device      Control Unit



The line is varied on.

If the line is varied off, vary on the line. Then continue normal system work.



#### How to vary on the line:

Enter a 4 in the space beside the line name on the line status display.



The control unit is varied on.

If the control unit is varied off, vary on the control unit. Then continue normal system work.



#### How to vary on the control unit:

Enter a 4 in the space beside the control unit name on the line status display.



None of the devices show either of these statuses:

DIAGNOSTIC MODE

FAILED

If the devices do show one of these statuses, call your service representative and describe the problem.



None of the devices, control units, or lines show the following statuses:

RCYCNL

RCYPND

If a control unit or line shows this status, call your programmer and describe the problem. He might refer to *More Information about Solving Work Station Problems* at the end of Procedure H.

If only a device shows this status, go to step 6 of Procedure H: *Work Station Problem*.

After you have checked the above items, continue this procedure.



D

## Checking for equipment problems: Printing the CSNAP history graph.

5 Does the affected line have more than one control unit (or BSC remote device)?

Yes

No

Go to step 7.

6 Are you having problems with the devices attached to all control units?

Yes

No

Print a report about the control unit affected by the problem. 

Enter:

```
LSTCNPST CTLU(ct11)
PERIOD (('3/18/82') ('3/31/82'))
TYPE (*GRAPH)
```

Replace ct11 with the name of the control unit affected by the problem.

Replace 3/18/82 with the date 14 days before today.

Replace 3/31/82 with today's date.

**Note:** Make sure you put apostrophes (') around the dates.

Go to step 8.

### What you are doing:

You could have a problem with the control unit. The CSNAP history graph you are printing tells you if the control unit has more hardware (device) errors than usual. For more information on CSNAP, see Chapter 3.

7

Enter:

```
LSTCNPST LINE (lin22nybsc)
PERIOD ( (' 3/18/82' ) (' 3/31/82' ) )
TYPE (*GRAPH)
```

Replace `lin22nybsc` with the name of the failing (or affected) line.

Replace `3/18/82` with the date 14 days before today.

Replace `3/31/82` with today's date.

**Note:** Make sure you put apostrophes (') around the dates.

#### What you are doing:

You could have a problem with the line. The CSNAP history graph you are printing tells you if the line has had more hardware (device) errors than usual. For more information on CSNAP, go to Chapter 3.



D

### Checking for equipment problems: Examining the CSNAP history graph.

8 The system prints a graph showing the percentage of operations that had errors on the control unit or line.

On the graph, the system plots one \* for each day during the PERIOD.

9 Note the values along the left margin of the graph.

10 Do the values run from 10-90%?

No

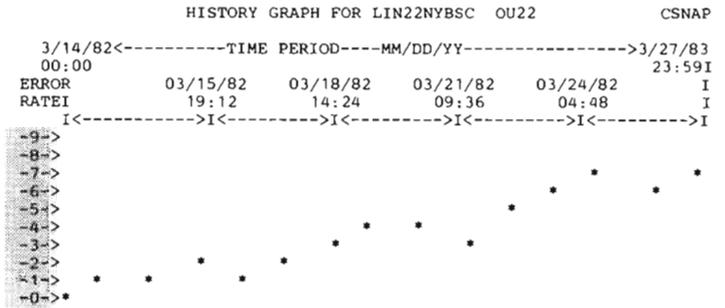
Yes

Call your programmer, and report that the line or control unit is having an unusually high number of errors. Your programmer might check *Using CSNAP to Find Line and Control Unit Problems* in Chapter 3.

### How the system prints:

The system prints the graph when the spooling subsystem is active, and a printer writer is available to the appropriate output queue.

### Where you should look:



Look here. These values will be either 0 through 9 or 10 through 90.

11

Is one or both of the following true:

- There is an increase in the number of errors
- Some of the \*s are higher than 5%

No

Yes

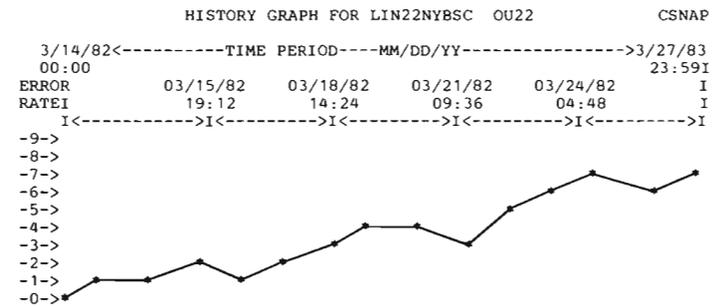
Call your programmer, and report that the line or control unit is having an increasing number of errors. Your programmer might check *Using CSNAP to Find Line and Control Unit Problems* in Chapter 3.

12

Go to Procedure B: *Subsystem Problem*.

### How to check for an increase in errors:

Connect the \*s on the graph into a straight line, like this:

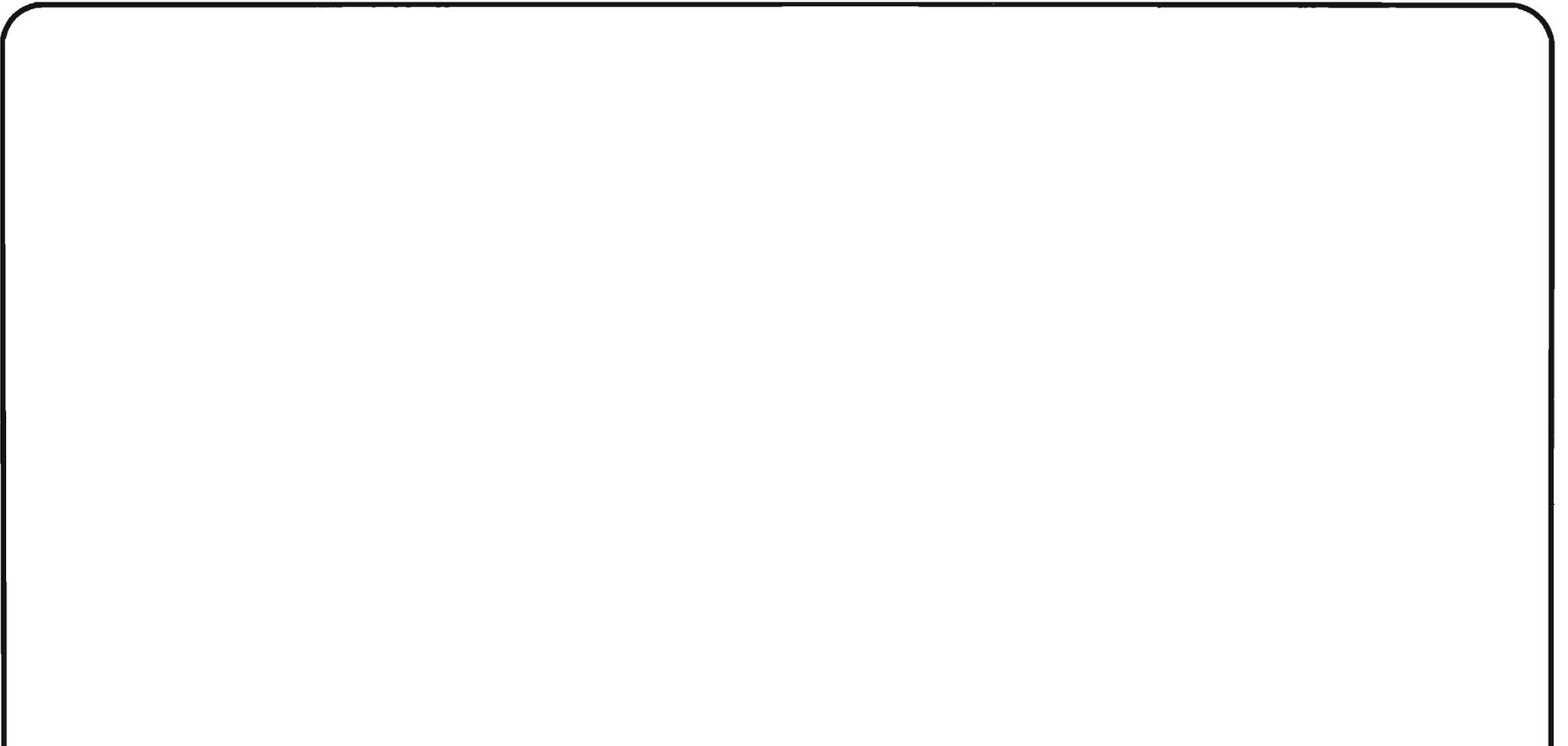


If the line goes upward at any point, there is an increase in the number of errors.

### What the problem might be:

You have a problem with the jobs using the remote equipment, you do not have a problem with the process of communications.







### When to Use This Procedure

Use this procedure when one of the following has happened:

- Output was not produced when expected.
- Output produced was not correct.

(Output can be printed on a printer, punched or printed on cards, recorded on diskette or tape, or saved in a data base file.)

If a batch job (a job started when you started a reader ( `STRxxxRDR` command), or when you entered a submit job command (commands beginning with `SBM` and ending with `JOB`)) has not yet produced output, first do Procedure G: *Batch Job Problem*.

### Outline of This Procedure

In this procedure, you do the following:

- 1** Define the problem, such as a printer problem (step **1**).
- 2** Get information about the problem, such as the spooling subsystem name (step **2**).
- 3** Check for operational problems, such as messages about the problem (steps **3** and **4**).
- 4** Check the status of spooled files (steps **5** through **8**).
- 5** Make sure the output queue is not held (steps **9** through **12**).
- 6** Check the writer and device assigned to the output queue (steps **13** through **21**).

*More Information about Solving Output Problems* at the end of this procedure describes how to solve those output problems referred to the programmer.



The procedure starts here.

Defining the problem.

- 1 In the following chart, find the *type of output problem* you are having.  
Take the action described under *What you should do*.

Type of problem:	What you should do:						
No output produced.	Go to step <b>2</b> following the chart.						
Output produced, but values not correct (for example, the system printed 500 where it should have printed 50, or printed payroll for department A instead of department B).	<p>a. Check the data the user entered.</p> <p>b. <b>Did the user enter correct values?</b></p> <table border="0" style="margin-left: 20px;"> <tr> <td style="padding-right: 10px;">Yes</td> <td>No</td> </tr> <tr> <td style="border-left: 1px solid black; height: 20px;"></td> <td style="border-left: 1px solid black; height: 20px;"></td> </tr> <tr> <td colspan="2" style="padding-left: 20px;">Run the job again, making sure you enter correct values.</td> </tr> </table> <p>c. Print the job log. See <i>Using the Job Log</i> in Chapter 2 for instructions.</p> <p>d. Go to your programmer. Explain that the system produced output, but the values printed were not correct. Your programmer might check <i>More Information about Solving Output Problems</i> at the end of this procedure.</p>	Yes	No			Run the job again, making sure you enter correct values.	
Yes	No						
Run the job again, making sure you enter correct values.							
Output produced, but not printed or recorded correctly.	<p>Do one of the following:</p> <ul style="list-style-type: none"> <li>• <b>If the output was printed on a work station printer</b>, go to step <b>7</b> in Procedure J: <i>Device Problem</i>.</li> <li>• <b>Otherwise</b>, go to step <b>10</b> in Procedure J: <i>Device Problem</i>.</li> </ul>						
Poor print quality or recording quality.	<p>Do one of the following:</p> <ul style="list-style-type: none"> <li>• <b>If the output was printed</b>, go to the problem determination procedures for the device with the problem, such as those in the printer operator's guide.</li> <li>• <b>If the output was produced on tape</b>, make sure the read/write heads on tape drive are clean. See the tape drive operator's guide for instructions on how to do this.</li> <li>• <b>If those actions do not help you solve the problem</b>, go to step <b>7</b> in Procedure L: <i>Tape Problem</i>, to see if there is a problem with the tape you tried to use.</li> <li>• <b>If the output was produced on a diskette</b>, go to step <b>7</b> in Procedure K: <i>Diskette Problem</i>, to see if there is a problem with the diskette you tried to use.</li> </ul> <p>If those procedures do not help you solve the problem, call your programmer and describe the problem. Your programmer might check <i>More Information about Solving Output Problems</i> at the end of this procedure.</p>						
Too much output produced.	<p>a. Hold the job producing the output, by entering:</p> <pre style="margin-left: 40px;">HLDJOB JOB(ws1.quser.009933) SPLFILE(*YES)</pre>						
<i>Other problems.</i>	<p>Replace ws1.quser.009933 with the name of the job producing too much output. To find the job name, use the DSPWTR command and take option 2 to display the specific writer.</p> <p>b. Go to your programmer. Explain the problem, such as the system printed too much output. Your programmer might check <i>More Information about Solving Output Problems</i> at the end of this procedure.</p>						



## Getting information about the problem.

2 Get the following information:



Your spooling subsystem name.



The name of the job that did not produce correct output.



When you get the information, continue this procedure.

### How to get your spooling subsystem name:

`QSP1` is the name of the spooling subsystem supplied by IBM. If you do not use the IBM-supplied subsystems, or if you do not know if you use them, get the correct name from your programmer.

### How to get the job name:

If the job is a batch job, ask the user who started the job to give you the job name.

If the user is not available now, enter:

```
DSPSBMJOB SBMFROM(*WRKSTN)
```

at the work station where the job was started, and find the job name on the display.

Otherwise, enter:

```
DSPJOB
```

at the work station where the request for output was submitted.

Find the job name on the display job menu. For example:

```

                                DISPLAY JOB MENU
Job:  WS1                      User:  QUSER                      Nbr:  009933
Select one of the following:
 1. All of 2 through 12
 2. Status attributes
 3. Definition attributes
 4. Execution attributes, if active
 5. Program invocation stack, if active
 6. Spooled files
 7. Locks, if active
 8. Commitment control status, if active
 9. Library list, if active
10. ...

```

This is your job name: `WS1.QUSER.009933`.

3

Check the following:



There are no messages about the problem, such as the FORMS ALIGNED ON PRINTER message. →



The job is active in the system. →

If the job is not active, you cannot do parts of this procedure. For batch jobs (jobs submitted through a spooling reader, or with a command beginning with SBM and ending with JOB), go to step **16** in Procedure G: *Batch Job Problem*, to find out why the job is not active.

After you have checked the above items, continue this procedure.

#### How to find messages:

See *Checking for Messages* in Chapter 2 for instructions on how to check for messages.

#### How to find out if a job is active:

Enter:

```
DSPACTJOB
```

When the active jobs display appears on your screen, press the CF9 key to include suspended group jobs, and then find the job name.

If you can find the job name, the job is active.

If you cannot find the job name, the job is not active.



E

Steps 2 through 3

### Checking the spooling subsystem.

4 Display all active jobs. 

5 Find out if the spooling subsystem is active. 

**If the spooling subsystem is not active, start the spooling subsystem. Then continue normal system work.** 

#### How to display the active jobs:

Enter:

```
DSPACTJOB
```

#### How to find out if the spooling subsystem is active:

The spooling subsystem is active if you can find its name on the active jobs display.

#### How to start the spooling subsystem:

a. Leave the active jobs display by pressing the CF1 key.

b. Enter:

```
STRSBS SBSD(qsp1)
```

Replace `qsp1` with the name of your spooling subsystem.

**What the problem is:** The system cannot produce any output until the spooling subsystem is active.

## Checking spooled files.

- 6 Display the spooled files for the job. 

**If you cannot display the spooled files**, the job has not produced any. In those cases, you may want to cancel the job and print its job log. Take the job log to your programmer and explain that the job did not produce the output files you expected. Your programmer might refer to *More Information about Solving Output Problems* at the end of this procedure.

### How to display the spooled files:

On the active jobs display, enter a 2 in the space beside the name of the job with output problems.

### How to cancel the job and print the job log:

Go to *Using Job Logs* for instructions on printing the job log.

### What the problem is:

The system writes output from the job into a spooled output file. The system then produces the output, such as printed data, data recorded on diskette, or data written on cards. In this case, the system was not told to produce output. Either the job has not reached the point where it is supposed to produce output, or there is a programming problem with the job.



7

Check the status of each file.

How to check the file status:

```

6/25/82 8:51:09          SPOOLED OUTPUT FILES          ***
Job:   WS1              User:  OUSER                Nbr: 009933
FILE   NBR   QUITO   LIBRARY   PTY RCD/PAG  STATUS CPY  FORMTYPE
- QSYSPT 0001  PAYROLL  FINANCE   5   1P  RDY  1  *STD
- QSYSPT 0002  PAYROLL  FINANCE   5   1P  RDY  2  *STD
- QSYSPT 0003  PAYROLL  FINANCE   5   1P  RDY  1  *STD
- QSYSPT 0004  PAYROLL  FINANCE   5   1P  RDY  1  *STD
- QSYSPT 0005  PAYROLL  FINANCE   5   1P  RDY  1  *STD

Params, OPTION 3:
1-DSP8PLF  2-DP8PLFA  3-CHG8PLFA  4-HLD8PLF  5-RLSSPLF  9-CNLSPLF
CP4-Prompt  CP5-Redisplay  CP10-Menu  HELP-Help
  
```

Look in the STATUS column.

8

Find the status of the files in the following chart.

Take the action described under *What you should do*.

File status:	What the status means:	What you should do:
CLO	The system will not produce output from this file until the rest of the job that produced the file is finished.	<p>Check for output later, when the system finishes the job.</p> <p><b>Note:</b> If you have to have the output now, do the following:</p> <ol style="list-style-type: none"> <li>a. Enter a 3 in the space beside the file name.</li> <li>b. Press the Enter key.</li> <li>c. The system displays the change spooled file attributes prompt with the correct job and file information already filled in.</li> <li>d. On the display, change the value for SCHEDULE from *JOBEND to *FILEEND or *IMMED.</li> <li>e. Press the Enter key.</li> <li>f. Press the CF5 key to refresh the display.</li> <li>g. The file status should be RDY, and the system should begin producing the file.</li> </ol> <p><b>If the system does not produce the file, or if the file status is not RDY,</b> read the information about the new status in this chart.</p>
HLD	The file was held and cannot be produced until it is released.	<ol style="list-style-type: none"> <li>a. Release the file by entering a 6 in the space beside the file name.</li> <li>b. Press the CF5 key to refresh the display.</li> <li>c. The file status should be RDY, and the system should begin producing the file.</li> <li>d. If the status is still HLD, release all spooled files for the job using the RLSJOB command.</li> </ol> <p><b>If the system does not produce the file, or if the file status is not RDY,</b> read the information about the new status in this chart.</p>
FIN	The writer already produced the output from this file, or the file was cancelled using the CNLSPLF' command.	<p>Make sure that no other user took the output.</p> <p>If not, the output is lost. Run the job again. You might also want to report the missing output to your system security officer and programmer.</p>





File status:	What the status means:	What you should do:
RDY	The writer has not started working on this file yet, or no writer is available to write the output.	<p>a. Wait a few minutes.</p> <p>b. <b>Are there any other file names shown on the display?</b></p> <p>Yes No</p> <p>Go to step <b>9</b> following this chart.</p> <p>c. The system works on this file when the files with the status RDY listed above this file on the display, or files with a higher priority, are finished.</p> <p>d. Do steps <b>9</b> through <b>15</b> following this chart. Then return here.</p> <p>e. <b>Did you answer Yes to the question in step 15?</b></p> <p>Yes No</p> <p>Continue normal system work.</p> <p>f. Start a writer to the output queue that file is waiting on.</p> <p>g. Continue normal system work.</p>
SAV	The writer produced the output from this file and saved the spool file on the output queue.	<p>Make sure that no other user took the output.</p> <p>To reproduce the output:</p> <p>a. Release the file by entering a <b>6</b> in the space beside the file name.</p> <p>b. Press the CF5 key to refresh the display.</p> <p>c. The file status should be RDY, and the system should begin producing the file.</p> <p>If the system does not produce the file, or if the file status is not RDY, read the information about the new status in this chart.</p>
WTR	The writer should be working on this file now.	<p>Make sure that the system is now producing the output from this file (for example, check the data being printed).</p> <p><b>If the system is not working on the file, go to Procedure J: <i>Device Problem</i>.</b></p>



### Checking output queues.

9 Copy the names of each output file from the job and the output queue it is on.

<input type="text"/>	<input type="text"/>
file	queue

### Where to find the names:

```
6/25/82 8:51:09      SPOOLED OUTPUT FILES      +++
Job:   WS1          User:  QUSER          Nbr: 009913

FILE      NBR      OUTQ      LIBRARY    PTY RCD/PAG  STATUS  CPY  FORMTYPE
-----
QSYSRPT  0001  PAYROLL  FINANCE    5    1P  RDY    1  *STD
QSYSRPT  0002  PAYROLL  FINANCE    5    1P  RDY    2  *STD
QSYSRPT  0003  PAYROLL  FINANCE    5    1P  RDY    1  *STD
QSYSRPT  0004  PAYROLL  FINANCE    5    1P  RDY    1  *STD
QSYSRPT  0005  PAYROLL  FINANCE    5    1P  RDY    1  *STD

Parms, OPTION 3:
1-DSPSPLF  2-DSPSPIFA  3-CHGSPLFA  4-HLDSPLF  6-RLSSPLF  9-CNLSPLF
CF4-Prompt  CF5-Reply  CF10-Menu  HELP-Help
```

Look in the OUTQ column.

10 Display all output queues.

### How to display the output queues:

Enter:

DSPOUTQ

11 Does the output queue that the files are waiting on have the status HLD ?

No Yes

Release the output queue.

Continue normal system work.  
If the problem is not solved, go to step 12.

12 Record the name of the writer that will produce the output.

How to check the status:

```

6/25/02 8:52:41      OUTPUT QUEUES
QUEUE NAME LIBRARY  FILES WRITER  STATUS
-----
DUMMY      JEP           0
NIELSEN    NIELSEN      8 QV5SPRT  ACTIVE
- CHANG     QGPL         1
- CHIANG    QGPL         0
- NANCY     QGPL         0
- SAUL      QGPL         8
- QDKT      QGPL         0
- QOFFICE   QGPL        14
- QPRINT    QGPL        23
- QPRINTS   QGPL         6
- QPRINTS   QGPL         0
    
```

CF5-Redisplay  
CF5-Redisplay  
CF5-Redisplay  
CF5-Redisplay

Look in the STATUS column.

How to release the queue:

Enter:

```
RLSOUTQ OUTQ(qprint)
```

Replace qprint with the output queue name you recorded in step 9.

What the problem was:

The output queue was held, so the system could not write (produce) the output files waiting on the output queue.

How to find the writer name:

```

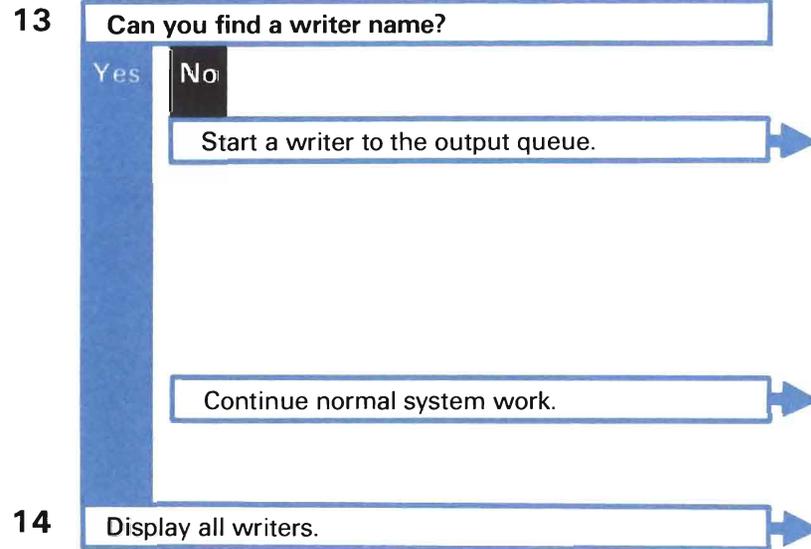
6/25/82 8:52:41      OUTPUT QUEUES
QUEUE NAME LIBRARY  FILES WRITER  STATUS
-----
DUMMY      JEP           0
NIELSEN    NIELSEN      8 QV5SPRT  ACTIVE
- CHANG     QGPL         1
- CHIANG    QGPL         0
- NANCY     QGPL         0
- SAUL      QGPL         8
- QDKT      QGPL         0
- QOFFICE   QGPL        14
- QPRINT    QGPL        23
- QPRINTS   QGPL         6
- QPRINTS   QGPL         0
    
```

HLD

Look in the WRITER column.



## Checking writers.



### How to start a writer:

To start a writer to the output queue, enter the appropriate start writer command (beginning with `STR` and ending with `WTR`).

For example, to start a printer writer, enter:

```
STRPRTWTR DEV(wsprt1) OUTQ(files)
```

### What the problem was:

There was no writer assigned to write (produce) your output.

### How to display all writers:

Enter:

```
DSPWTR
```

15

Is the device named the same device or file where you expected the system to write the output?

Yes

No

A writer has not been started to the correct device or file.

Look for the output at the device or file named on the display.

Continue normal system work.

How to find the device name:

6/25/82 9:19:23 WRITERS DISPLAY													
WTR	TYPE DEV OUTO LIB STATUS FORMTYPE												
QSYSPT	PRT QSYSPT JOY QSPR ACCT *NONE												
Parms, OPTIONS 3,4,6,9: <table border="0" style="width: 100%;"> <tr> <td>1-DSPWTR</td> <td>2-DSPOUTO</td> <td>3-CHGWTR</td> <td>4-HLDWTR</td> <td>6-RLSWTR</td> <td>9-CNLWTR</td> </tr> <tr> <td>CF4-Prompt</td> <td>CF5-Redisplay</td> <td>CF7-STRPRTWTR</td> <td>HELP-Help</td> <td></td> <td></td> </tr> </table>		1-DSPWTR	2-DSPOUTO	3-CHGWTR	4-HLDWTR	6-RLSWTR	9-CNLWTR	CF4-Prompt	CF5-Redisplay	CF7-STRPRTWTR	HELP-Help		
1-DSPWTR	2-DSPOUTO	3-CHGWTR	4-HLDWTR	6-RLSWTR	9-CNLWTR								
CF4-Prompt	CF5-Redisplay	CF7-STRPRTWTR	HELP-Help										

Look in the DEV column.

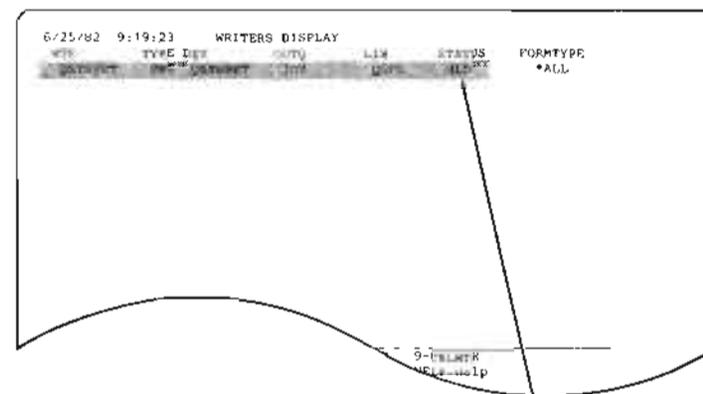
What the problem is:

The system wrote the output on a different device than you expected.



16 Check the status of the writer. 

How to check the status:



WTR	TYPE DET	DUTY	LIM	STATUS	FORMTYPE
					*ALL

9-ELMTR  
\_

Look in the STATUS column.

17 Is the writer ACT/MSGW?

No

Yes

Respond to the action message the writer is waiting for. 

How to display the message:

1. Enter option 1 (DSPWTR)
2. Press CF6-DSPMSG

18 Is the writer ACT/HLD or JOBQ/HLD (held)?

No

Yes

Release the writer.

Continue normal system work.

19 Is the status JOBQ?

No

Yes

The writer is on the QSPJ job queue and the job is held, or the QSPJ subsystem has the maximum number of jobs active.

If the QSPJ job queue is held, release it; if not, describe the problem and the procedure to the system programmer.

20 The status is ACT.

Is the system working on the output from any job?

No

Yes

Continue normal system work. The output should be produced soon.

21 Go to Procedure J: Device Problem.

**How to release the writer:**

Enter a 6 in the space beside the writer name.

6/25/82 9:19:23 WRITERS DISPLAY		LIB	STATUS	FORMTYPE	
WTR	TYPE DEV	OUTO	LIB	STATUS	FORMTYPE
QSYSPT	PRT QSYSPT	JOY	QGPL	HLD	*ALL

Enter a 6 here.

**What the problem might be:**

You probably have a problem with the device that is supposed to produce the output.



## MORE INFORMATION ABOUT SOLVING OUTPUT PROBLEMS

This section tells you how to continue solving those output problems noted by the system operator earlier in this procedure. (It is assumed that the operator has already given the correct commands to start the output device and writer, and has made sure that the device does not have any problems of its own, such as the wrong print image).

### PROBLEM: OUTPUT VALUES NOT CORRECT

If the program printed output in the correct format, but the values were incorrect, check the following:

**Correct library list** Check the library list used when running the program (DSPLIBL command). Perhaps data from a file with the same name, but in a different library, was used.

If the library list is wrong, correct it (RPLLIBL command or ADDLIBL command) and run the job again.

**Correct file** Make sure you used the correct file. Check the program listing to make sure you referred to the correct data files when updating, and later printing, output.

If you did not use the correct file, change your program. (You will have to compile it again too. You might also want to test the program. See the programmer's guide for the language used in the program to find out how to test the program.) Then run the job again. If you did use the correct file, perhaps the information in the file is not correct. To find out if the information in the file is correct, do the following:

- 1** Check changes to the file (if any) to see that the correct data was entered. If the file is a data base file, you can use the **journal** function to see these updates. (The journal function keeps a record of all file changes.) See the *CPF Programmer's Guide* for information on how to use the journal function. If the expected changes were not made, or if the changes made are not correct, run the job again, making the correct changes.
- 2** If the expected changes were made, check the master file to make sure the information saved there is correct. (The master file is named either in the program listing, or in the data description specifications (DDS) for the files used in the program.) If the information in the master file is not correct, make necessary changes to the file and run the job again.

- Program problems** Check the program listing to make sure calculations are performed correctly and that the program produces output at the correct time during the program. (You might want to use the **debug** function to follow the program as it performs calculations and produces output. See the *CPF Programmer's Guide* for instructions on how to use the debug function.) Make necessary changes to your program (you will have to compile the program again), and run the job again.
- Correct DDS** Check the data description specifications (DDS) for your files to make sure that logical files (if any) correctly get information from the physical files referred to.

#### PROBLEM: OUTPUT NOT FORMATTED CORRECTLY

If output was produced, but was not in the correct format (appearance), check the following:

- Device file** Check the device file, (such as the printer file or diskette file) used in the program. Find out if the device (*DEV*) named in the file description matches the type of device used to print the output. If they do not match, the system is not formatting the output correctly because it does not have proper instructions. If possible, print the output on another device (*STRPRTWTR* command). You may have to run the job again to get output values to print.
- Print image** Check the print image and character set used (if any) when the output was printed.
- If the values are incorrect, change the image or character set, and print the output again. You may have to run the job again to get the output.
- File description** Check the description of the file to make sure that the format of output is correctly described. For information on how to check and change files, see the *DDS Reference Manual*. If the values are not correct, change them. Then print the output again. You may have to run the job again to get the output.



## PROBLEM: OUTPUT PRODUCED ON WRONG DEVICE

If output was produced on the wrong device, (for example, you expected output to be printed on a work station printer, but was printed instead on the system printer) one of the following caused the problem:

- Output was sent to the wrong output queue.
- The writer started to the output queue, where the job's information was sent, is writing on a different device than you expected.

To find the cause of the problem, find out which output queue the job sent output to (use the DSPJOB command and choose option 3, job definition attributes). The output queue may be different if it was changed when you submitted the job or while the job was running. Note that the output queue name shown is the default output queue, (the output queue where spooled output files are sent if you do not change the output queue). You can change the output queue when you submit a job, or while the job is running. If you changed the output queue, this is information not shown on the display job menu.

**If this is the output queue you expected information to be sent to:** The device named on the command that started a writer to this output queue was not correct. If you want to change the device that is producing output, do the following:

- 1 Cancel the writer assigned to the output queue (CNLWTR command).
- 2 Start the writer again, choosing the correct device. For example, to start a printer writer to the output queue wsjobs and have the output printed on work station printer wsprt1, enter:

```
STRPRTWTR DEV(wsprt1) OUTQ(wsjobs)
```

- 3 Continue normal system work.

**If the output queue shown is not the one you expect information to be sent to:** Find out why output was sent to the wrong output queue. To find out why output was sent to the wrong queue, do the following:

- 1 Display the job description (DSPJOB command). When the job description display appears on your screen, check the OUTPUT QUEUE. If the output queue named is different than the output queue you expected information to be sent to, change the output queue name (CHGJOB).
- 2 If the output queue named is the output queue you expected information to be sent to, check the output queue named in the description of the printer file used in the program (CHGPRTF command). The system sends information to the OUTPUT QUEUE named in the printer file, if that output queue is different than the one named in the job description. If you want information sent to the same output queue as the other output from the job, change the value for OUTQ to \*JOB.

## PROBLEM: NO SPOOLED OUTPUT FILES PRODUCED

If you could not find any spooled file names when you displayed the spooled files for the job, one of the following probably caused the problem:

- The job has not reached a point where it produces spooled output files.
- The amount of output produced by the job is not enough to fill the print buffer (approximately 500-4000 bytes). The print buffer size depends on:
  - Main storage size of your system.
  - Whether `SCHEDULE (*IMMED)` is specified for the print file, which requires a smaller print buffer.
  - For systems with less than two megabytes of main storage, whether the job is batch or interactive.
- You have a programming problem.

To find out if the job has reached a point where it should produce spooled output files, display the active jobs (`DSPACTJOB` command). On the display, find the `CMD/FUNCTION` the job is working on now.

**If the job has not reached a point where it should produce spooled output files:** wait. The job should start producing these files later.

**If the job should have produced output by now:** check the program listing to find out why no spooled output files were produced. Check the references to files in your program, to make sure they correctly get files, record new information, and produce the expected output files. See the *DDS Reference Manual* for instructions on using files.

## PROBLEM: NO NON-SPOOLED OUTPUT PRODUCED

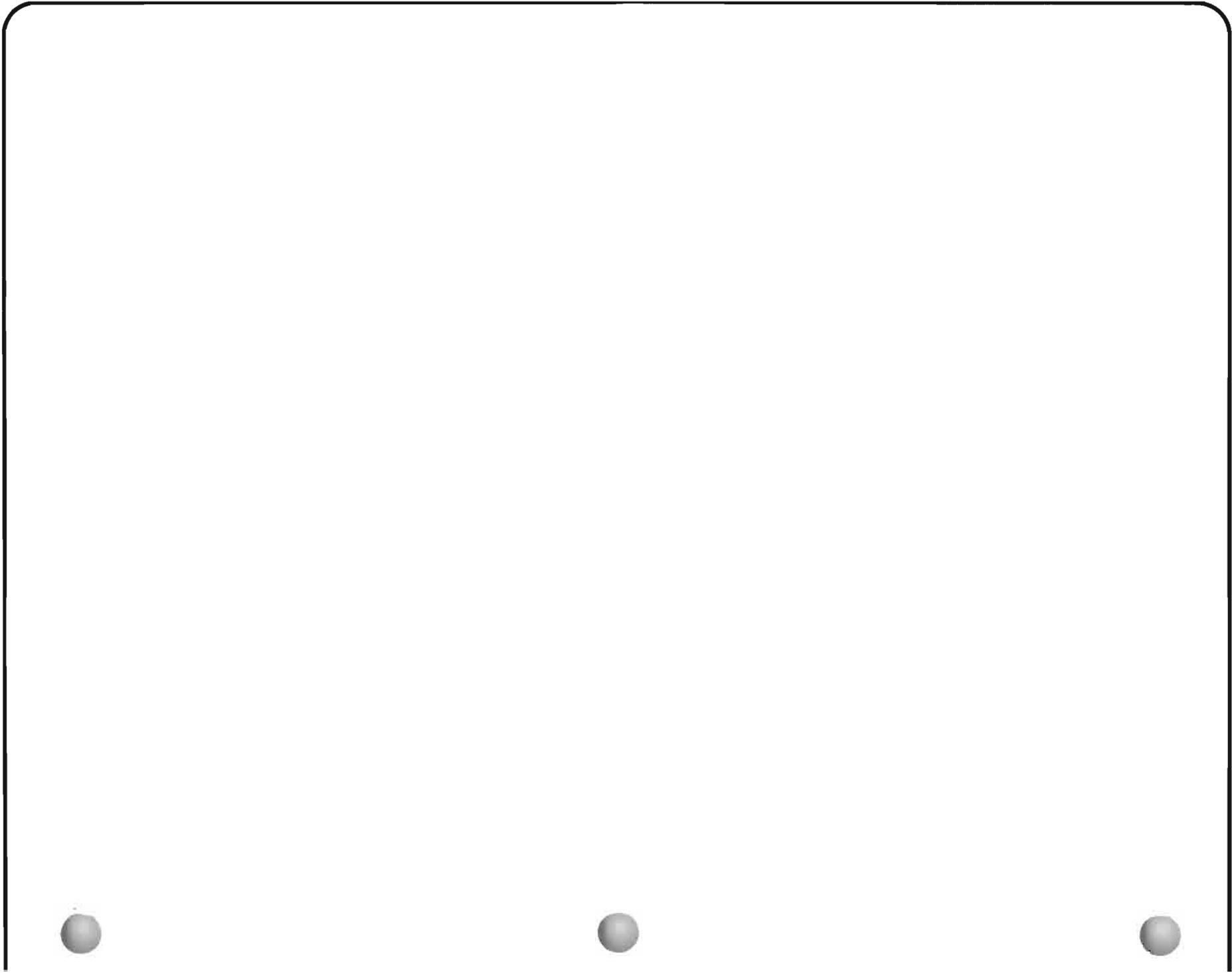
If no output has been produced on a device for the job, one of the following probably caused the problem:

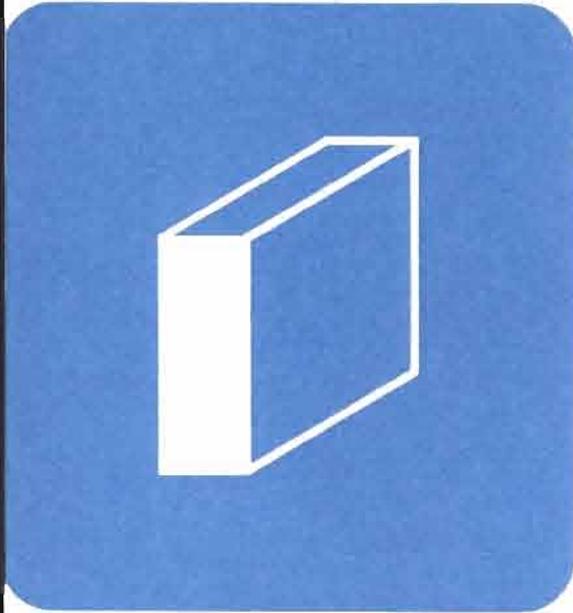
- The job has not reached a point where it produces output on a device.
- The amount of output produced is less than one page.
- You have a programming problem.

If the job has not reached a point where it should produce output on a device: wait. The job should produce more output later.

If the job should have produced output by now: check the program listing to find out why no output files were produced. Check the references to files in your program, to make sure they correctly get files, record new information, and produce the expected output files. See the *DDS Reference Manual* for instructions on using files.







### When to Use This Procedure

Use this procedure when one of the following happens:

- The Input Inhibited indicator at one work station has stayed on longer than expected.
- A work station is working more slowly than expected.

You do these activities at the system console. The user at the work station with the problem must help you do this procedure.

### Outline of This Procedure

In this procedure, you do the following:

- 1** Check for operational problems, such as pressing the Error/Reset key (steps **1** and **2**).
- 2** Get the full job name (steps **3** through **8**).
- 3** Check the job status for unusual situations, such as performance problems (steps **9** and **10**).

*More Information about Solving Work Station Job Problems* at the end of this procedure describes how to solve those problems referred to the programmer.



The procedure starts here.

### Checking for operational problems.

1 Check the following before starting the procedure.



There are no messages about the work station or the job. →



The work station user has pressed the Error/Reset key. →

**If the key has not been pressed**, press it.

If the Input Inhibited indicator turns off, continue normal system work.

If the Input Inhibited indicator stays on, continue this procedure.

After you have checked the above items, continue this procedure.

#### How to find messages:

See *Checking for Messages* in Chapter 2 for instructions on how to check for messages

#### What your problem might be:

When you make certain mistakes entering data at a work station, such as entering numbers where you should enter letters, your keyboard locks, and the Input Inhibited indicator stays on until you press the Error/Reset key.

You might also notice a blinking code in the bottom left corner of your screen telling you about the problem

2

Is this the first time the job has been run or the first time the job has been run since changes were made to the programs in the job?

No

Yes

Leave the job as it is until you are asked to do otherwise.

Ask the user to stop work on the job until the problem is solved. Do not cancel the job.

Go to your programmer, and describe the problem.



**Where your programmer can find information on how to solve the problem:**

Your programmer can find procedures for solving programming problems in the reference manual for the language or utility used in the program.

Your programmer can also refer to *More Information about Solving Work Station Problems* later in this procedure.



F

## Getting the full job name.

3

Ask the user to get the system request menu.


**How to get the system request menu:**

- a. At the work station affected by the problem, press the Shift key and the Sys Req/Attn key at the same time.
- b. The following pattern appears on the bottom line of the display screen.  

```

|_|_|_|_|_|

```
- c. Press the Enter key.
- d. The system request menu appears on your screen

4

Can the user get the system request menu?

Yes

No

Call your programmer, and explain that you could not get the system request menu. Your programmer might check *More Information about Solving Work Station Job Problems* at the end of this procedure for information about the problem.


**What the problem might be:**

One of the following might cause this problem.

- A condition in the program you are using
- A problem with the work station controller through which the work station is attached to the system

5

Ask the user to display the current job.

### How to display the job:

Enter a 3 in the space beside Option.

```

SYSTEM REQUEST MENU          System: SYSTEM01
Select one of the following:
 1. Transfer to secondary interactive job
 2. Cancel previous request
 3. Display current job
 4. Display messages (msgq)
 5. Send message 'msg' tomsgq
10. Invoke system request program at source system, if BGNPASTHR active
11. Transfer to source/target system, if BGNPASTHR active
90. Sign off (*NOLIST *LIST)
Option: 3 CF4-Prompt (4, 5 and 90)
Parameter:

```

Enter a 3 here.

The system then displays the DISPLAY JOB MENU.

6

Have the user give you the full job name.

### How to find the full job name:

You can find the full job name on the first line of the display job menu:

```

Job: WSI User: QUSER Nbr: 009933
DISPLAY JOB MENU
Select one of the following:
 1. All of 2 through 12
 2. Status attributes
 3. Definition attributes
 4. Execution attributes, if active
 5. Program invocation stack, if active
 6. Spooled files
 7. Locks, if active
 8. Commitment control status, if active
 9. Library list, if active
10. Open files, if active
11. File overrides, if active
12. Job log, if active or on job queue
Option: 1
CF3-CHGJOB

```

This is the full job name: WSI.QUSER.009933



7 Tell the user to leave the system request menu and return to the job with the problem. 

8 Ask the user to leave the job as it is until you finish the next part of the procedure.

DO NOT cancel the job.

**How to return to the original job:**

- a. Press the CF1 key. The system displays the system request menu.
- b. Press the CF1 key again. The system returns the user to his job.

Checking the job status.

9 Display all active jobs. 

10 On the display, find the name of the job with the problem and its status. 

**If you cannot find the job name, the job is not active. Call your programmer. Explain that the Input Inhibited indicator is staying on for a job that is not active.**

How to display active jobs:

Enter:

DSPACTJOB

Where to find the name and status of the job:

```

6/25/82 9:28:43 ACTIVE JOBS DISPLAY CPU: 12.1%
Elapsed: 00:01:48 -----ELAPSED----- Active jobs: 19
SBS/JOB TYP PL PTY CPU INT RSP AUXIO CPU FUNCTION STS
- QBATCH SBS 2 0 6.9 0 0 .0% DEQW
- PAYROLL BCH 1 50 2.9 0 0 .0% DEQW
- QCTL SBS 2 0 26.7 0 0 .0% DEQW
- QCONSOLE INT 2 10 1.5 32 .1% C-INLPGM EXC
- QINTER SBS 2 0 243.4 0 0 .0% DEQW
- WS1 INT 2 20 144.3 15 1.3 424 7.6% C-DSPACTJOB EXC
- WS2 INT 2 20 56.4 0 .0 0 .0% *CMDENT LCKW
- WS3 INT 2 20 148.3 0 .0 0 .0% *CMDENT DEQW
- SPL SBS 2 0 13.0 0 0 .0% DEQW
- QSYSPR: WTR 2 40 11.2 0 0 .0% EVTW
    
```

Job name                      Subsystem that the job is in                      Status



11

Find the status of the job in the following chart.

Take the action described under *What you should do*.

Job status:	What the status means:	What you should do:								
BSCA , BSCW , CMNA , CMNW	The system is in the process of sending data across the communications line, or is waiting for data to be returned.	<ol style="list-style-type: none"> <li>a. Wait a few minutes.</li> <li>b. Press the CF5 key.</li> <li>c. Did the status change?   <table style="margin-left: 20px;"> <tr> <td style="padding-right: 20px;">No</td> <td>Yes</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> <tr> <td colspan="2" style="text-align: center;">Read the description of the new status in this chart.</td> </tr> </table> </li> <li>d. Possibly you have a communications problem. Go to step <b>5</b> in Procedure D: <i>Remote Equipment Problem (No Message Received)</i>.</li> </ol>	No	Yes					Read the description of the new status in this chart.	
No	Yes									
Read the description of the new status in this chart.										
CNL , TRM	The job is in the process of ending (finishing its work and closing the files it used).	To start the job again, sign on to the work station after the system ends the job.								



Job status:	What the status means:	What you should do:
DEQA, DEQW, EOFA, EOFW, EVTW, TIMA, TIMW	Your job is waiting for an action to occur. The action could be a user action (such as reading data from a card reader), a job action (such as receiving a message from another job), or a system action.	<p>a. Make sure that the system has read all data needed by the job (such as from diskettes or cards). If the system has not finished reading, find out why and fix the problem.</p> <p>b. Wait a few minutes.</p> <p>c. Press the CF5 key.</p> <p>d. <b>Did the status change to EXC (executing or running)?</b></p> <p style="margin-left: 40px;">No    Yes</p> <p style="margin-left: 40px;">       </p> <p style="margin-left: 80px;">The job is running.</p> <p style="margin-left: 80px;">Continue normal system work.</p> <p>e. <b>Is the status still DEQA, DEQW, EOFA, EOFW, EVTW, TIMA, or TIMW?</b></p> <p style="margin-left: 40px;">Yes   No</p> <p style="margin-left: 40px;">       </p> <p style="margin-left: 80px;">Read the description of the new status in this chart.</p> <p>f. There could be a programming problem. Gather the following information for your programmer:</p> <p style="margin-left: 40px;">1) Print the active jobs display by pressing the Print key or by entering:</p> <p style="margin-left: 80px;">DSPACTJOB OUTPUT (*LIST)</p> <p style="margin-left: 80px;">Return to your basic working display, such as the system operator menu, if it is not displayed now, by pressing the CF1 key.</p>

Job status:	What the status means:	What you should do:				
DEQA, DEQW, EVTW (continued)		<p>2) Then print more job information by entering:</p> <pre>DSPJOB JOB(ws1.quser.009933) OUTPUT(*LIST)</pre> <p>If you want a job log of the failing job, print the job information by entering:</p> <pre>DSPJOBLOG JOB(ws1.quser.009933) OUTPUT(*LIST)</pre> <p>Replace ws1.quser.009933 with the name of the job with the problem.</p> <p>The system prints the information when the spooling subsystem is active, and a printer writer is available to the output queue.</p> <p><b>g.</b> Hold the job by entering:</p> <pre>HLDJOB JOB(ws1.quser.009933) SPLFILE(*YES)</pre> <p>Replace ws1.quser.009933 with the name of the job with the problem.</p> <p><b>h.</b> Take the printed information to your programmer. Explain that you held this job because it is waiting unusually long for an action to occur. Your programmer might check <i>More Information about Solving Work Station Job Problems</i> at the end of this procedure.</p>				
DKTA, DKTW	<p>The job is waiting for a diskette operation.            The system cannot continue work on the job until the operation is finished.</p>	<p><b>a.</b> Check the diskette drive.</p> <p><b>b.</b> <b>Is a diskette properly mounted on the diskette drive?</b> (See the <i>System/38 Operator's Guide</i> for instructions.)</p> <table border="0"> <tr> <td style="padding-right: 10px;"><b>Yes</b></td> <td><b>No</b></td> </tr> <tr> <td style="border-left: 1px solid black; height: 100px;"></td> <td style="border-left: 1px solid black; height: 100px;"> <p>Mount the diskette properly.</p> <p>Continue normal system work.</p> </td> </tr> </table> <p><b>c.</b> Possibly, you have a diskette drive problem. Go to Procedure J: <i>Device Problem</i>.</p>	<b>Yes</b>	<b>No</b>		<p>Mount the diskette properly.</p> <p>Continue normal system work.</p>
<b>Yes</b>	<b>No</b>					
	<p>Mount the diskette properly.</p> <p>Continue normal system work.</p>					



Job status:	What the status means:	What you should do:
EXC	The system is doing your job now, perhaps the system is doing a long job function.	<p>a. Wait a few minutes.</p> <p>b. Press the CF5 key.</p> <p>c. <b>Did the status change?</b></p> <p style="margin-left: 2em;">No    Yes</p> <p style="margin-left: 2em;">          </p> <p style="margin-left: 4em;">Read the description of the new status in this chart.</p> <p>d. There could be a programming problem with the job. Gather the following information about the problem for your programmer:</p> <p style="margin-left: 2em;">1) Print the active jobs display by pressing the Print key, or by entering:</p> <p style="margin-left: 4em;">DSPACTJOB OUTPUT(*LIST)</p> <p style="margin-left: 4em;">When you get the printed display, identify the job with the problem.</p> <p style="margin-left: 4em;">Return to your basic working display, such as the system operator menu, if it is not displayed now, by pressing the CF1 key.</p> <p style="margin-left: 2em;">2) Then print more job information for the failing job, by entering:</p> <p style="margin-left: 4em;">DSPJOB JOB(wsl.quser.009933) OUTPUT(*LIST)</p> <p style="margin-left: 4em;">If you want a job log of the failing job, print the job log by entering:</p> <p style="margin-left: 4em;">DSPJOBLOG JOB(wsl.quser.009933) OUTPUT(*LIST)</p> <p style="margin-left: 4em;">Replace wsl.quser.009933 with the failing job name.</p> <p style="margin-left: 4em;">The system prints this information when the spooling subsystem is active, and a printer writer is available to the output queue.</p> <p>e. Hold the job by entering:</p> <p style="margin-left: 4em;">HLDJOB JOB(wsl.quser.009933) SPLFILE(*YES)</p> <p style="margin-left: 4em;">Replace wsl.quser.009933 with the name of the job with the problem.</p> <p>f. Take the printed information to your system programmer. Explain that you held this job because it was taking unusually long to finish, and there could be a programming problem. Your programmer might check <i>More Information about Solving Workstation Job Problems</i> at the end of this procedure.</p>

Job status:	What the status means:	What you should do:
HLD	The job is held. The system cannot continue working on the job until it is released.	<p>Unless someone purposely held the job, release the job by entering a 6 in the space beside the job name.</p> <p>The system starts work on the job.</p>
INEL	The job is waiting to be processed.	<p>a. Wait a few minutes.</p> <p>b. Press the CF5 key.</p> <p>c. Did the status change to EXC?</p> <p style="margin-left: 20px;">No    Yes</p> <p style="margin-left: 40px;">          </p> <p style="margin-left: 40px;">The job is running.</p> <p style="margin-left: 40px;">Continue normal system work.</p> <p style="margin-left: 40px;">If the job stops again, and shows this status, call your system programmer. Explain that the job continually has an INEL status. There might be a performance problem. Your programmer might want a copy of the active jobs display, and might check <i>More Information about Solving Work Station Job Problems</i> at the end of this procedure.</p> <p>d. Is the status still INEL?</p> <p style="margin-left: 20px;">Yes    No</p> <p style="margin-left: 40px;">          </p> <p style="margin-left: 40px;">Read the description of that status in this chart.</p> <p>e. Call your system programmer. Explain that this job is taking unusually long to start processing, and there may be a performance problem. Your programmer might want a copy of the active jobs display and might check <i>More Information about Solving Work Station Job Problems</i> at the end of this procedure.</p>



Job status:	What the status means:	What you should do:
LCKW	Your job is waiting to use an object that another user locked; the system cannot continue working on the job until the object is available for use.	<p>a. Enter a 7 in the space beside the job name to find out which object this job is waiting for.</p> <p>b. When the locked objects display appears, enter a 1 in the space beside the name of each object with the status WAIT to find out which jobs are using or waiting to use these objects.</p> <p>c. The system presents separate displays for each object showing the name of each job either using or waiting to use that object.</p> <p>d. Do one of the following:</p> <ul style="list-style-type: none"> <li>• <b>If the job needs to use the object now</b>, cancel the job using the object, and all jobs waiting for the object. Before canceling the jobs, send a message to each job user explaining the problem.</li> <li>• <b>If the user can wait to use the object</b>, cancel that job, and run it again later.</li> </ul> <p><b>To cancel a job</b>, enter a 9 on the display in the space beside the job name.</p> <p><b>Note:</b> Certain types of locked objects are not displayed on the object locks display. In those cases go to <i>More Information about Solving Work Station Job Problems</i> at the end of this procedure for more information on what you should do.</p>
MSGW	The job is waiting to receive a message. The system cannot continue work on the job until the message is received.	<p>a. Wait a few minutes.</p> <p>b. Press the CF5 key.</p> <p>c. <b>Did the status change?</b></p> <p style="margin-left: 20px;">No    Yes</p> <p style="margin-left: 20px;">         </p> <p style="margin-left: 40px;">Read the description of the new status in this chart.</p> <p>d. Call your programmer. Explain that this job is waiting to receive a message. Your programmer might check the status of the job that is supposed to send the message and make sure that the send and receive message commands are properly stated in the program.</p>

Job status:	What the status means:	What you should do:
MXDW	The job is waiting for an operation using a mixed device file to finish.	<p>a. Wait a few minutes.</p> <p>b. Press the CF5 key.</p> <p>c. <b>Did the status change?</b></p> <p style="margin-left: 40px;">No    Yes</p> <p style="margin-left: 80px;">          </p> <p style="margin-left: 120px;">Read the description of the new status in this chart.</p> <p>d. <b>Did this problem occur at a remote work station (one that is attached to the system through a communications line)?</b></p> <p style="margin-left: 40px;">Yes    No</p> <p style="margin-left: 80px;">          </p> <p style="margin-left: 120px;">Call your programmer. Explain that you have waited unusually long for an operation on this file. Your programmer might refer to <i>More Information about Solving Work Station Job Problems</i> at the end of this procedure.</p> <p>e. Possibly you have a communications problem. Go to step <b>5</b> in Procedure D: <i>Remote Equipment Problem (No Message Received)</i>.</p>
PRTA, PRTW	The job is waiting for a printer operation to end.	<p>a. <b>Has the printer been printing for an unusually long time?</b></p> <p style="margin-left: 40px;">No    Yes</p> <p style="margin-left: 80px;">          </p> <p style="margin-left: 120px;">Call your programmer. Explain that the printer has printed for an unusually long time. Your programmer might refer to <i>More Information about Solving Output Problems</i> at the end of Procedure E for more information about this problem.</p> <p>b. <b>Has the printer printed at all?</b></p> <p style="margin-left: 40px;">Yes    No</p> <p style="margin-left: 80px;">          </p> <p style="margin-left: 120px;">Go to Procedure E: <i>Output Problem</i>.</p> <p>c. Wait for the operation to finish. Then continue normal system work.</p>





## MORE INFORMATION ABOUT SOLVING WORK STATION JOB PROBLEMS

This section suggests how a programmer might continue solving problems noted by the system operator earlier in this procedure.

If you cannot solve the problem after using this section, call your service representative and describe the information you already know about the problem.

### PROBLEM: NEW OR CHANGED PROGRAM DOES NOT RUN

If you are running the program for the first time, or for the first time after changing the programs in the job, perhaps you have a problem with the program. Make sure that the program runs properly. To do this, use the CPF trace and debug functions. See the *CPF Programmer's Guide* for instructions on using these functions. Also run the program on another work station.

**If the program does not run properly**, make necessary changes to the program, compile it again and run the job again.

**If the program runs properly**, go back to step **2** of this procedure.

**PROBLEM: CANNOT GET SYSTEM REQUEST MENU**

In one of these three situations, you cannot get the system request menu:

- The work station where you are trying to get the system request menu is controlled by a program that does not let you get the system request menu.
- The work station controller (local work stations), or control unit (remote work stations), through which the work station is attached to the system, has a problem.
- The work station has a problem.

To find out which of these is causing the problem, find out if the program used in the job at the work station lets users display the system request menu.

**If the program does not let users display the system request menu**, then try displaying information about that job from another work station. The user might not be authorized to display the system request menu.

**If the program does let users display the system request menu**, find out if users at other work stations attached to the same work station controller can get the system request menu.

If other users can get the system request menu, then the work station has a problem. Call your service representative and explain that you cannot get the system request menu.

If other users cannot get the system request menu, then either the work station controller those work stations are attached to, or subsystem controlling those jobs has a problem. Go to Procedure B: *Subsystem Problem* to find out if which of these is causing the problem.

## PROBLEM: JOB STATUS SHOWS A PROBLEM

This section describes in more detail those problems noted when the operator checked the **active jobs display** earlier in the procedure, and suggests ways to solve these problems, if possible.

**Status:** **What you should do:**

**EXC** Status EXC means that the program is executing, or running. Jobs that have this status and that have a problem usually have been running longer than expected. A program problem can cause this to happen.

To fix this problem, first check for a **program loop**. A program loop is a series of instructions the system performs many times until a certain condition is met. For example, a job may process the payroll starting with Aaron and continue processing it until it processes the payroll for Zyuck. If the ending condition is never stated in the program, or if it is not stated properly, you have an **infinite loop**. The system does not stop performing these loops until the looping job is canceled.

To find an infinite loop, first follow the program actions with the CPF debug function and see which statements are causing the loop. For information on the CPF debug function, see the *CPF Programmer's Guide*.

**When you find which statements are looping**, check the program listing to find the cause of the loop. Look for the following:

- A statement ending the loop. If you cannot find one, add it. Compile the program again. Then run the job again.
- The placement of the statement ending the loop. The ending statement should be the last statement in the loop. If it is not, move the statement. Compile the program again. Then run the job again.
- The number of times the system is to perform the loop. Make sure there is a specific value stated, so that the system stops performing the loop when that value is reached. If this value is not stated, add it to the program. Compile the program again. Then run the job again.

If you cannot find a loop, the system is probably working on a long instruction in the program. Perhaps the system has more data to process than you expected. Or, the instructions in the program do not properly tell the system how to do the function.



**Status:**    **What you should do:**

**EXC**    On the active jobs display (DSPACTJOB command if you do not have a copy of the display), find out which command or function (CMD/FUNCTION) in the job the system is performing. Also, (con-  
tinued) check the %CPU (percentage of total processing time spent on this job) and see if this is larger than you might expect. This would be the first sign of a program problem.

Next, use the CPF trace and debug functions to find out what the problem is. For instructions on how to use these functions, see the *CPF Programmer's Guide*. Make necessary changes to the program (if any), compile the program again and run the job again.

**INEL**    Jobs with the status INEL (ineligible) are not currently scheduled to be worked on. When another job leaves the active state, this job will be scheduled for processing. Usually, problems with system performance can cause jobs to have this status. The following are reasons why these jobs are waiting and not being processed:

- Execution priority. The **execution priority** for jobs in this job class might be lower than that for other job classes. The system works on jobs with a higher execution priority first. You can change the execution priority (EXCPTY value) for the job class so that the job is processed more quickly. See the *CPF Programmer's Guide* for instructions on how to change the execution priority of a job class.
- Time slice. The **time slice** (the amount of time the system has to process the job) might be so small that the system can only process bits of the job at a time. Give the job a larger time slice so the system can finish more of it during one slice.

To correct this problem, do one or more of the following:

- Change the system values for the type of job you are using (CHGSYSVAL command). See *Performance Tuning* in the *CPF Programmer's Guide* for information on which system values to change.
- Change the routing entry (CHGRTGE command) in the description of the subsystem controlling the job with the problem, choosing a different job class. Changing the job class changes its priority and time slice (available main storage time). If the class you need to use does not exist, create the class (CRTCLS command).

**Status: What you should do:**

**INEL**  
(con-  
tinued)

- If this is a one-time problem, change the characteristics of the job so that it has a higher priority. Use the CHGJOB command. See *Performance Tuning* (Chapter 19) of the *CPF Programmer's Guide* for information on which characteristics (such as the time slice or execution priority) to change. See the *CL Reference Manual* for more information about the CHGJOB command.
- Check the program listing. Perhaps a more efficient use of statements might help the system finish the job in the time limit.

To find out how you might change the program, check the active jobs display (DSPACTJOB command if you do not have a copy of the display). Find out which command or function (CMD/FUNCTION) in the job the system is performing. Also, check the %CPU (percentage of total processing time spent on this job) and see if this is larger than you might expect. This would be the first sign of a program problem.

Next, use the CPF trace and debug functions to find out what the problem is. For instructions on how to use these functions, see the *CPF Programmer's Guide*. Make necessary changes to the program (if any), compile the program again, then run the job again. Check the %CPU value on the active jobs display to see how you can code more efficiently.

**LCKW**

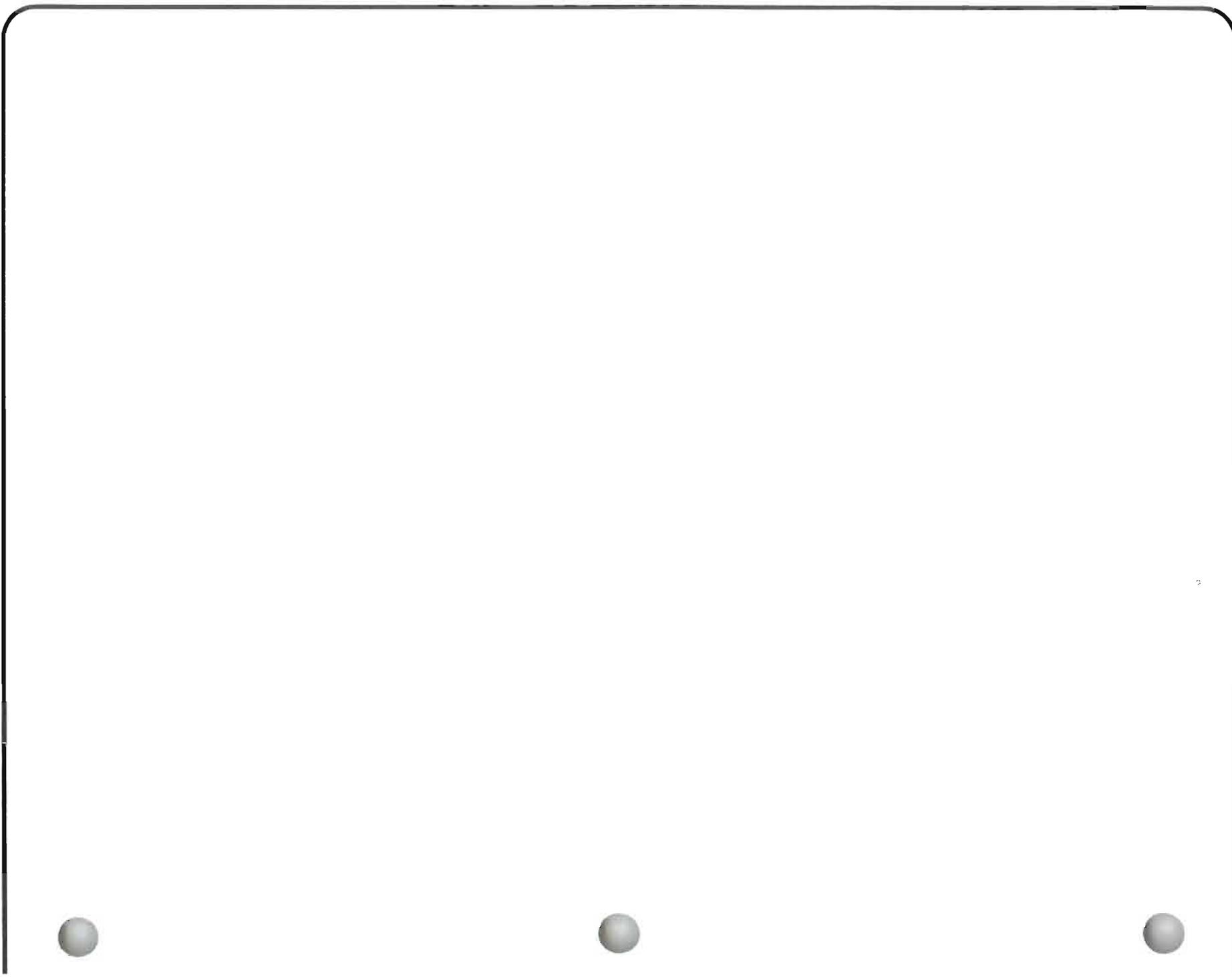
Jobs with the status LCKW (locked wait) are waiting to use an object that is currently locked by another job. Usually, you can find out which object the job is waiting to use by checking the job locks display. You can find out which job is using that object by checking the object locks display. Then you can either try the job later or cancel the job using the object. This information is described in the procedure.

However, certain locked objects are not displayed on these displays:

- Record locks. When two users try to update a record at the same time, only the first user to press the Enter key can update that record.
- Internal locks. These are system objects that users cannot usually use. If one of these objects stays locked, call your service representative and explain the problem.

You can avoid certain lock situations by checking how you describe the use of objects in your programs. If objects are allocated (reserved for use) so that no user can share the object, only one user can work with the object at any one time. You may have forgotten to deallocate the object (make available for use again) after a program is finished using it. Or perhaps too many people are updating the same locked object at the one time.





## When to Use This Procedure

Use this procedure when you have a problem with a batch job, such as when you cannot display its status, or the job is taking unusually long to finish.

(A batch job is a job you submitted with one of the following commands: SBMJOB, SBMCRDJOB, SBMDBJOB, SBMDKTJOB, or when you started a spooling reader.)

**Note:** If you know that the system finished the job, but did not produce the expected output, go to Procedure E: *Output Problem*.

## Outline of This Procedure

In this procedure, you do some of the following:

- 1 Get information about the problem, such as the name of the job (steps **1** and **2**).
- 2 Check for operational problems, such as getting the job display (steps **3** through **5**).
- 3 Check the job status on the status attributes display (steps **6** through **8**).
- 4 Make sure that a job queue was properly chosen and is started (steps **9** through **12**).
- 5 Check the job status for unusual situations, such as performance problems (steps **13** through **15**).
- 6 Check the history log to see if a job was started (steps **16** through **19**).
- 7 Make sure the spooling subsystem is active (step **20**).
- 8 Make sure that a reader was properly chosen and is active (steps **21** through **28**).

*More Information about Solving Batch Job Problems* at the end of this procedure describes how to solve those problems referred to the programmer.



The procedure starts here.

**Getting information about the problem.**

1 Check the following before starting the procedure. 

There are no messages about the job.

After you have checked the above item, continue this procedure.

**How to find messages:**

See *Checking for Messages* in Chapter 2 for instructions on how to check for messages.

2

Get the following information:



The name of the job with the problem.



**How to get the job name:**

Ask the user who started the job.

**If the user is not available now, enter:**

```
DSPSBMJOB SBMFROM(*WRKSTN)
```

at the work station where the job was started.

**If you still cannot get the name, call your programmer.**



The spooling subsystem name.



**How to get the spooling subsystem name:**

`qsp1` is the name of the spooling subsystem supplied by IBM. If you do not use this subsystem name, or if you do not know if you use this subsystem name, get the correct name from your programmer.

When you get the information, continue this procedure.



G

### Checking for operational problems.

3

Is this the first time the job has been run or the first time the job has been run since changes were made to the programs used in the job?

No

Yes

This job probably has a programming problem.

Hold the job. 

Call your programmer. Explain that you held this job because it took unusually long to run, and there could be a programming problem. Your programmer might want to check the problem determination procedures in the reference manual for the language or utility used in the program.

#### How to hold a job:

Enter:

```
HLDJOB JOB(payroll.quser.009933)
SPLFILE(*YES)
```

Replace `payroll.quser.009933` with the name of the job with the problem.

4

Display the job with the problem.

**How to display the job:**

Enter:

```
DSPJOB JOB (payroll.quser.009933)
```

Replace payroll.quser.009933 with the name of the job with the problem.

5

Could you display the job?

Yes

No

Go to step 16.

**What your problem is:**

The job is not in the system. That is, the system either has not started, or has finished your job. Otherwise, you could display the job.



## Checking the job status attributes.

6 Display the job status attributes.

How to display the job status attributes:

```

                                DISPLAY JOB MENU
Job:  PAYROLL      User: QUSER      Nbr: 009933
Select one of the following
 1. All of 2 through 12
 2. Status attributes
 3. Definition attributes
 4. Execution attributes, if active
 5. Program invocator stack, if active
 6. Spooled files
 7. Locks, if active
 8. Commitment control status, if active
 9. Library list, if active
10. Open files, if active
11. File overrides, if active
12. Job log, if active or on job queue

Option:
CP3-MSGJOB
  
```

Enter a 2 beside the word OPTION.

7 On the job status attributes display find the job status.

How to find the job status:

```

6/25/82  8:50:47      JOB STATUS ATTRIBUTES      +++
Job:  PAYROLL      USER: QUSER      Nbr: 009933
Status of job:      ACTIVE
Date/time entered system: 06/25/82 08:49:21
Date/time started:    06/25/82 08:49:22
Subsystem name:       QBATCH
Subsystem pool id:    2
Submitted by job/user/nbr:
Type of job:         BATCH
Program return code: 0
Controlled cancel requested: NO
System name:         XXXXXXXX

CP5-Redisplay      CF10-Menu
  
```

Look here. In this example, the status is ACTIVE.

8 Find the job status in the following chart.

Take the action described under *What you should do*.

Job status:	What the status means:	What you should do:
ACTIVE	The system is working on the job now.	Go to step <b>13</b> later in this procedure.
ACTIVE HELD	The job is held by the system. The system cannot continue work on the job until you release it.	<p>a. Press the CF1 key.</p> <p>b. Your basic working display (such as the system operator menu) appears on your screen.</p> <p>c. Enter:</p> <p style="padding-left: 40px;">RLSJOB JOB (payroll.quser.009933)</p> <p style="padding-left: 40px;">Replace payroll.quser.009933 with the name of the job with the problem.</p> <p>d. The system starts work on the job.</p>
CANCEL , TRM	The job is in the process of ending (finishing its work and processing the files it used).	Run the job again after the system ends the job.
JOBQ	Your job is waiting on a job queue to be processed.	Go to step <b>9</b> following this chart.
JOBQ HELD	The job is waiting on a job queue to be read into the system, and then processed. But the job is held, and cannot be read into the system until you release the job.	<p>a. Press the CF1 key.</p> <p>b. Your basic working display (such as the system operator menu) appears on your screen.</p> <p>c. Enter:</p> <p style="padding-left: 40px;">RLSJOB JOB (payroll.quser.009933)</p> <p style="padding-left: 40px;">Replace payroll.quser.009933 with the name of the job with a problem.</p> <p>d. The system starts work on the job.</p>
OUTQ	The system finished running the job, and output files from the job are waiting on an output queue.	Go to step <b>4</b> in Procedure E: <i>Output Problem</i> .



Job status:	What the status means:	What you should do:
OUTQ HELD	The job is waiting on an output queue for its spooled files to be written (printed or recorded). But the job is held, and its files cannot be written until you release the job.	<p>a. Press the CF1 key.</p> <p>b. Your basic working display (such as the system operator menu) appears on your screen.</p> <p>c. Enter:</p> <pre>RLSJOB JOB (payroll.quser.009933)</pre> <p>Replace payroll.quser.009933 with the name of the job with a problem.</p> <p>d. The system starts work on the job.</p>
TFRJOB TFRBCH	The job is waiting on a job queue, and is waiting to be processed.	Go to step <b>9</b> following this chart.

## Checking job queues.

9 Find out which job queue the job is waiting on. 

### How to find the job queue name:

- Press the CF10 key (from the JOB STATUS ATTRIBUTES display).
- When the display job menu appears on your screen, choose option 3 (job definition attributes).
- On the job definition attributes display, find the job queue name.

```
6/25/82 8:50:51          JOB DEFINITION ATTRIBUTES      +++
JOB:  PAYROLL           U:  QUSER           Nbr: 009933
JOB DESCRIPTION NAME:   JOBQ             QBATCH
LIBRARY NAME:          QGPL             QGPL
JOB QUEUE NAME:        JOBQ             QBATCH
LIBRARY NAME:          QGPL             QGPL
JOB PRIORITY (ON JOBQ): JOBPTY          5
OUTPUT PRIORITY (ON OUTQ): OUTPTY         5
CANCEL SEVERITY:       CNLSEV          30
JOB LOGG (ON OUTQ) (EXT): LOG             4 00 *SECLVL
                                LOGCLPGM *YES
                                OUTQ        PUBS
                                PUBS
                                06/25/82
```

Look here. In this example, the job queue is QBATCH in the library QGPL.

10 Display all job queues. 

### How to display all job queues:

- Press the CF1 key to return to your basic working display (such as the system operator menu).
- Enter:

DSPJOBQ





**Checking the job status.**

13 Display all active jobs. 

14 Find the name and status of the job with the problem. 

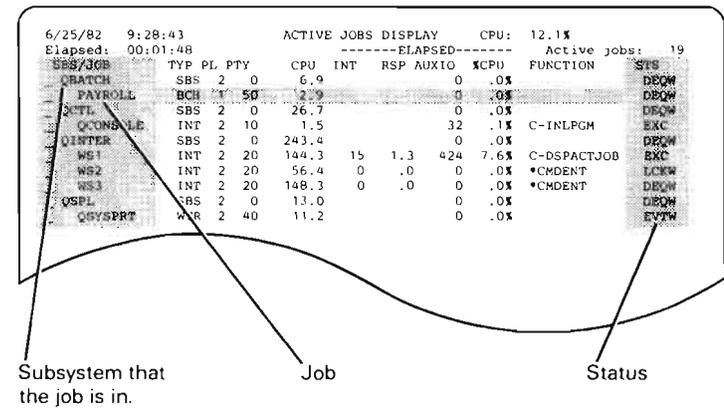
15 Find the status of the job in the following chart.  
Take the action described under *What you should do*.

**How to display active jobs:**

Enter:

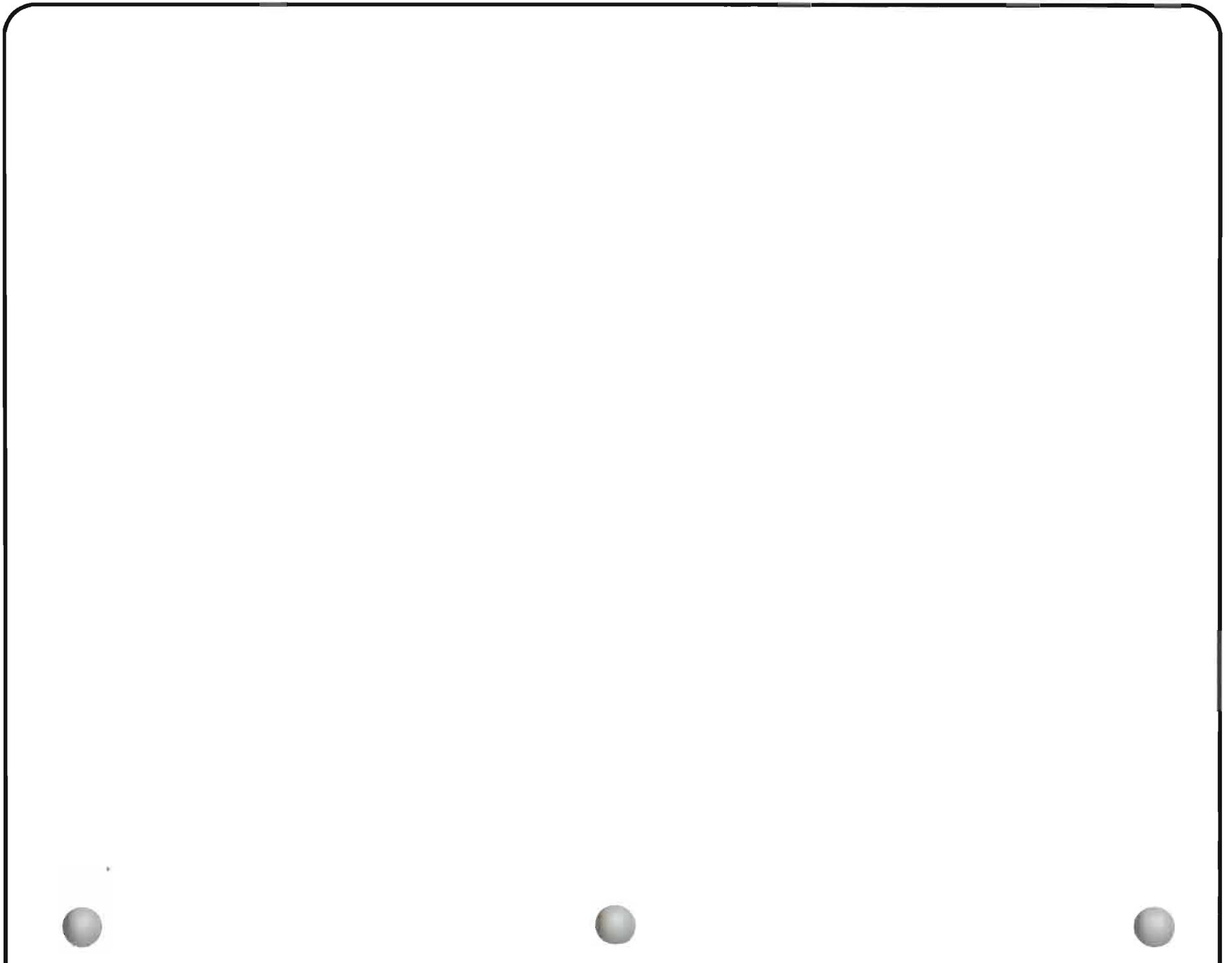
DSPACTJOB

**How to find the name and status of the job:**



SPS/JOB	TYP	PL	PTY	CPU	INT	RSP	AUXIO	%CPU	FUNCTION	STS
QBATCH	SBS	2	0	6.9				0 .0%		DEQW
PAYROLL	BCH	1	50	2.9				0 .0%		DEQW
ACTL	SBS	2	0	26.7				0 .0%		DEQW
QCONSULE	INT	2	10	1.5			32	.1%	C-INLPGM	EXC
QINTER	SBS	2	0	243.4				0 .0%		DEQW
WS1	INT	2	20	144.3	15	1.3	424	7.6%	C-DSPACTJOB	EXC
WS2	INT	2	20	56.4	0	.0	0	.0%	*CMDENT	LCRW
WS3	INT	2	20	148.3	0	.0	0	.0%	*CMDENT	DEQW
QSPL	SBS	2	0	13.0				0 .0%		DEQW
QVSPRT	INT	2	40	11.2				0 .0%		EXC





Job status:	What the status means:	What you should do:
BSCA, BSCW, CMNA, CMNW	The system is in the process of sending data across the communications line, or waiting for data to be returned.	<p>a. Wait a few minutes.</p> <p>b. Press the CF5 key.</p> <p>c. <b>Did the status change?</b></p> <p style="margin-left: 40px;">No    Yes</p> <p style="margin-left: 80px;">          </p> <p style="margin-left: 80px;">Read the description of the new status in this chart.</p> <p>d. Possibly you have a communications problem. Go to step <b>5</b> in Procedure D: <i>Remote Equipment Problem (No Message Received)</i>.</p>
CNL, TRW	The job is in the process of ending (finishing its work and closing the files it used).	To start the job again, submit the job again after the system ends the job.



Job status:	What the status means:	What you should do:
DEQA, DEQW, DLYW, EOFA, EOFW, EVTW, TIMA, TIMW	Your job is waiting for an action to occur. The action could be a user action (such as reading data from a card reader), a job action (such as receiving a message from another job), or a system action.	<p>a. Make sure that the system has read all data needed by the job (such as from diskettes or cards). If not, find out why and correct the problem.</p> <p>b. Wait a few minutes.</p> <p>c. Press the CF5 key.</p> <p>d. Did the status change to EXC (executing or running)?</p> <p style="margin-left: 2em;">No    Yes</p> <p style="margin-left: 4em;">         </p> <p style="margin-left: 4em;">The job is running.</p> <p style="margin-left: 4em;">Continue normal system work.</p> <p>e. Is the status still DEQA, DEQW, DLYW, EOFA, EOFW, EVTW, TIMA, or TIMW?</p> <p style="margin-left: 2em;">Yes    No</p> <p style="margin-left: 4em;">         </p> <p style="margin-left: 4em;">Read the description of the new status in this chart.</p> <p>f. There could be a programming problem. Gather the following information for your programmer:</p> <p style="margin-left: 2em;">1) Print the active jobs display by pressing the Print key or by entering:</p> <p style="margin-left: 4em;">DSPACTJOB OUTPUT (*LIST)</p> <p style="margin-left: 4em;">Return to your basic working display, such as the system operator menu, if it is not displayed now, by pressing the CF1 key.</p>

Job status:	What the status means:	What you should do:									
DEQA, DEQW, DLYW, EOFW, EOFW, EVTW, TIMA, TIMW (continued)		<p>2) Then print more job information by entering the following two commands:</p> <pre>DSPJOB JOB (payroll.quser.009933) OUTPUT (*LIST)</pre> <pre>DSPJOBLOG JOB (payroll.quser.009933) OUTPUT (*LIST)</pre> <p>Replace payroll.quser.009933 with the name of the job with the problem.</p> <p>The system prints the information when the spooling subsystem is active, and a printer writer is available to the output queue.</p> <p>g. Hold the job by entering:</p> <pre>HLDJOB JOB (payroll.quser.009933) SPLFILE (*YES)</pre> <p>Replace payroll.quser.009933 with the name of the job with the problem.</p> <p>h. Take the printed information to your programmer. Explain that you held this job because it is waiting unusually long for an action to occur. Your programmer might check <i>More Information about Solving Batch Job Problems</i> at the end of this procedure.</p>									
DKTA, DKTW	<p>The job is waiting for a diskette operation. The system cannot continue work on the job until the operation is finished.</p>	<p>a. Check the diskette drive.</p> <p>b. <b>Is a diskette properly mounted on the diskette drive?</b> (See the <i>System/38 Operator's Guide</i> for instructions.)</p> <table border="0"> <tr> <td style="padding-right: 10px;">Yes</td> <td>No</td> <td></td> </tr> <tr> <td style="border-left: 1px solid black; height: 40px;"></td> <td style="border-left: 1px solid black; height: 40px;"></td> <td>Mount the diskette properly.</td> </tr> <tr> <td style="border-left: 1px solid black; height: 40px;"></td> <td style="border-left: 1px solid black; height: 40px;"></td> <td>Continue normal system work.</td> </tr> </table> <p>c. Possibly, you have a diskette drive problem. Go to Procedure J: <i>Device Problem</i>.</p>	Yes	No				Mount the diskette properly.			Continue normal system work.
Yes	No										
		Mount the diskette properly.									
		Continue normal system work.									



Job status:	What the status means:	What you should do:						
EXC	The system is doing your job now, or perhaps the system is doing a long job function such as sorting a list in alphabetical order.	<p>a. Wait a few minutes.</p> <p>b. Press the CF5 key.</p> <p>c. <b>Did the status change?</b></p> <table border="0"> <tr> <td style="padding-right: 20px;">No</td> <td>Yes</td> <td></td> </tr> <tr> <td style="border-left: 1px solid black; height: 40px;"></td> <td style="border-left: 1px solid black; height: 40px;"></td> <td>Read the description of the new status in this chart.</td> </tr> </table> <p>d. There could be a programming problem with the job. Gather the following information for your programmer:</p> <ol style="list-style-type: none"> <li>1) Print the active jobs display by pressing the Print key, or by entering: <p style="margin-left: 40px;"><code>DSPACTJOB OUTPUT (*LIST)</code></p> <p style="margin-left: 40px;">When you get the printed display, identify the job with the problem.</p> <p style="margin-left: 40px;">Return to your basic working display, such as the system operator menu, if it is not displayed now, by pressing the CF1 key.</p> </li> <li>2) Then print more job information for the job with the problem, by entering the following two commands: <p style="margin-left: 40px;"><code>DSPJOBLOG JOB (payroll.quser.009933) OUTPUT (*LIST)</code></p> <p style="margin-left: 40px;"><code>DSPJOB JOB (payroll.quser.009933) OUTPUT (*LIST)</code></p> <p style="margin-left: 40px;">Replace <code>payroll.quser.009933</code> with the name of the job with the problem.</p> <p style="margin-left: 40px;">The system prints this information when the spooling subsystem is active, and a printer writer is available to the output queue.</p> </li> </ol> <p>e. Hold the job by entering: <p style="margin-left: 40px;"><code>HLDJOB JOB (payroll.quser.009933) SPLFILE (*YES)</code></p> <p style="margin-left: 40px;">Replace <code>payroll.quser.009933</code> with the name of the job with the problem.</p> </p> <p>f. Take the printed information to your system programmer. Explain that you held this job because it was taking unusually long to finish, and there may be a programming problem. Your programmer might check <i>More Information about Solving Batch Job Problems</i> at the end of this procedure.</p>	No	Yes				Read the description of the new status in this chart.
No	Yes							
		Read the description of the new status in this chart.						

Job status:	What the status means:	What you should do:
HLD	The job is held. The system cannot continue working on the job until it is released.	<p>Unless someone purposely held the job, release the job by entering a 6 in the space beside the job name.</p> <p>Continue normal system work.</p>
INEL	The job is waiting to be processed.	<p>a. Wait a few minutes.</p> <p>b. Press the CF5 key.</p> <p>c. <b>Did the status change to EXC (executing or running)?</b></p> <p style="margin-left: 20px;">No    Yes</p> <p style="margin-left: 20px;">       </p> <p style="margin-left: 40px;">Continue normal system work.</p> <p style="margin-left: 20px;">If the job stops again and shows this status, call your system programmer. Explain that the job continually has an INEL status. There might be a performance problem. Your programmer might want a copy of the active jobs display and might check <i>More Information about Solving Batch Job Problems</i> at the end of this procedure.</p> <p>d. <b>Is the status still INEL?</b></p> <p style="margin-left: 20px;">Yes    No</p> <p style="margin-left: 20px;">       </p> <p style="margin-left: 40px;">Read the description of the new status in this chart.</p> <p>e. Call your system programmer. Explain that this job is taking unusually long to start processing, and there might be a performance problem. Your programmer might want a copy of the active jobs display and might check <i>More Information about Solving Batch Job Problems</i> at the end of this procedure.</p>



Job status:	What the status means:	What you should do:						
LCKW	Your job is waiting to use an object that another user locked; the system cannot continue working on the job until the object is available for use.	<p><b>a.</b> To find out which object this job is waiting for, enter a 7 in the space beside the job name.</p> <p><b>b.</b> When the locked objects display appears, enter a 1 in the space beside the name of each object with the status WAIT.</p> <p><b>c.</b> The system presents separate displays for each object showing the name of each job using, or waiting to use that object.</p> <p><b>d.</b> Do one of the following:</p> <ul style="list-style-type: none"> <li>• <b>If the job needs to use the object now</b>, cancel the job using the object, and all jobs waiting for the object. Before canceling the jobs, send a message to each job user explaining the problem.</li> <li>• <b>If the job can wait to use the object</b>, cancel the job now, and run it later.</li> </ul> <p><b>To cancel a job</b>, enter a 9 in the space beside the job name.</p> <p><b>Note:</b> The locked objects display does not display all locked objects. See <i>More Information about Solving Batch Job Problems</i> at the end of this procedure for more information on what you should do.</p>						
MSGW	The job is waiting to receive a message. The system cannot continue work on the job until the message is received.	<p><b>a.</b> Wait a few minutes.</p> <p><b>b.</b> Press the CF5 key.</p> <p><b>c.</b> <b>Did the status change?</b></p> <table style="margin-left: 20px;"> <tr> <td style="padding-right: 20px;">No</td> <td>Yes</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> </table> <p style="margin-left: 40px;">Read the description of the new status in this chart.</p> <p><b>d.</b> Call your programmer. Explain that this job is waiting to receive a message. Your programmer might check the status of the job that is supposed to send the message and make sure that the send and receive message commands are properly stated in the program.</p>	No	Yes				
No	Yes							

Job status:	What the status means:	What you should do:
MXDW	The job is waiting for an operation using a mixed device file to finish.	<p>a. Wait a few minutes.</p> <p>b. Press the CF5 key.</p> <p>c. <b>Did the status change?</b></p> <p style="margin-left: 40px;">No    Yes</p> <p style="margin-left: 40px;">         </p> <p style="margin-left: 80px;">Read the description of the new status in this chart.</p> <p>d. <b>Did this problem occur at a remote work station (one that is attached to the system through a communications line)?</b></p> <p style="margin-left: 40px;">Yes   No</p> <p style="margin-left: 40px;">         </p> <p style="margin-left: 80px;">Call your programmer. Explain that you have waited unusually long for an operation on this file. Your programmer might refer to <i>More Information about Solving Job Problems</i> at the end of this procedure.</p> <p>e. Possibly you have a communications problem. Go to step <b>5</b> in Procedure D: <i>Remote Equipment Problem (No Message Received)</i>.</p>
PRTA, PRTW	The job is waiting for a printer operation to end.	<p>a. <b>Has the printer been printing for an unusually long time?</b></p> <p style="margin-left: 40px;">No    Yes</p> <p style="margin-left: 40px;">         </p> <p style="margin-left: 80px;">Call your programmer. Explain that the printer has printed for an unusually long time. Your programmer might refer to <i>More Information about Solving Output Problems</i> at the end of Procedure E for more information about this problem.</p> <p>b. <b>Has the printer printed at all?</b></p> <p style="margin-left: 40px;">Yes   No</p> <p style="margin-left: 40px;">         </p> <p style="margin-left: 80px;">Go to Procedure E: <i>Output Problem</i>.</p> <p>c. Wait for the operation to finish. Then continue normal system work.</p>



Job status:	What the status means:	What you should do:
TAPA, TAPW	The job is waiting for a tape operation to end.	<p>a. Check the tape drive.</p> <p>b. <b>Is a tape properly mounted on the tape drive?</b> (See the <i>System/38 Operator's Guide</i> for instructions.)</p> <p>Yes No</p> <p>          </p> <p>          </p> <p>        Mount the tape properly.</p> <p>        Continue normal system work.</p> <p>c. Possibly, you have a tape drive problem. Go to Procedure J: <i>Device Problem</i>.</p>
SVFW, SVFA	The job is waiting for a save file operation to complete.	<p>a. Wait a few minutes.</p> <p>b. Press the CF5 key.</p> <p>c. <b>Did the amount of CPU time that was used change?</b></p> <p>Yes No</p> <p>          </p> <p>          </p> <p>        Call your programmer. Explain that you have waited unusually long for an operation on this file.</p> <p>     </p> <p>        The job is running normally.</p>

Finding out if the system started the job.

16 Note: Step 5 sent you to this step.

Display messages in the history log about the job.

17 Could you display any messages about the job?

Yes

No

The system has not started the job. Submit the job again.

18 Look for a message that the job completed or terminated abnormally (ended with problems).

How to display the messages in the history log about the job:

Enter:

```
DSPLOG JOB(payroll.quser.009933)
```

Replace payroll.quser.009933 with the name of the job.

Example of a message that might be displayed:

```
Job PAYROLL.quser.009933 started  
03/31/82 07:16:20
```

What the problem is:

The system has not read the job yet. The system cannot schedule the job to be worked on.

Example of a message that a job completed:

```
Job PAYROLL.quser.009933 completed  
03/31/82 07:25:42; 32 seconds CPU time
```



19

Could you find that message?

No

Yes

The job is finished.

Find the job log (if possible) among the output at the system printer or on an output queue.

Call your programmer. Give him the job log (if any). Explain that the history log shows the job is finished, but the job actually has not finished; or it terminated abnormally (ended with problems).

Submit the job again.

**For information on job logs:**

Go to *Using the Job Log* in Chapter 2.

**What the problem is:**

One of the following caused the problem:

- A programming problem, or a problem with system operations, probably caused this problem.
- Actions by another person caused the system to stop the job before it finished.

**How to submit the job:**

Ask your programmer for the correct instructions for submitting the job.

## Checking the spooling subsystem.

20 Find out if the spooling subsystem is active.

If the spooling subsystem is not active, start the spooling subsystem. Then continue normal system work.

### How to find out if the spooling subsystem is active:

Enter:

```
DSPACTJOB
```

The spooling subsystem is active if you can find its name on the active jobs display.

### How to start the spooling subsystem:

a. Return to your basic working display by pressing the CF1 key.

b. Enter:

```
STRSBS SBSD(qspl)
```

Replace `qspl` with the name of your spooling subsystem.

### What the problem is:

The system cannot start working on the job until it is read into the system. Reading is a spooled function. But, the spooling subsystem is not active. The system cannot do any spooling operations until you start the spooling subsystem.



**Checking readers.**

21 Display all readers. →

**How to display all readers:**

Enter:  
DSPRDR

22 Are there any reader names shown? →

**Where to find reader names:**

Yes No

6/25/82	8:56:18	READERS	DISPLAY		
RDR	TYPE	DEV/FILE	MBR	STATUS	
CARDS	CRD	5424		ACT	

Reader Name

Start a reader to the appropriate device (such as a diskette drive) or file. →

**How to start a reader:**

Enter one of the start reader commands: STRCRDRDR, STRDBRDR, or STRDKTRDR.

Continue normal system work. →

**What the problem is:**

The system cannot start working on the job until the job is read from cards, diskettes, or from a file. The system cannot start reading until you start a reader.

23

Find the name of the device or file from which the system is going to read the job.

How to find the device or file name:

READERS DISPLAY				
JOB	TYPE	DEV/FILE	MBR	STATUS
CARDG	CPD	3424		ACT

(F5)-Redisplay

Reader and the device the system reads the job from

24

Is the device or file name shown?

Yes

No

A reader has not been started to the correct device or file.

Start a reader to the correct device or file.

The system starts work on the job.

How to start a reader:

Enter the appropriate start reader command. STRCRDRDR (Start Card Reader), STRDBRDR (Start Data Base Reader), or STRDKTRDR (Start Diskette Reader).



25 Check the reader status. →

26 Is the status JOBQ

No

Yes

The reader is on the QSPL job queue and the job is held; or the QSPL subsystem has the maximum number of jobs active.

If the QSPL job queue is held, release it; if not, describe the problem and the procedure to the system programmer.

27 Is the reader JOBQ/HLD or ACT/HLD (held)?

No

Yes

Release the reader.

The system starts work on the job. →

28 The reader should be ACT (active; the system is reading your job now). →  
 If the reader status is not ACT, go to Procedure J: *Device Problem*.

**How to check the reader status:**

6/25/82 8:56:18 READERS DISPLAY				
RDR	TYPE	DEV/FILE	MBR	STATUS
CARDS	CRD	3424		ACT
CF5-Redisplay				

Look under STATUS.

**How to release the reader:**

Enter a 6 in the space beside the reader name.

**What the problem is:**

The reader is held, and cannot start reading jobs until you release it.

**What the problem is:**

There is probably a problem with the device that is supposed to read the data.

## MORE INFORMATION ABOUT SOLVING BATCH JOB PROBLEMS

This section suggests how a programmer might continue solving problems noted by the system operator earlier in this procedure.

If you cannot solve the problem after using this section, call your service representative and describe the information you already know about the problem.

### PROBLEM: NEW OR CHANGED PROGRAM DOES NOT RUN

If you are running the program for the first time or for the first time after changing the programs in the job, perhaps you have a problem with the program. Make sure that the program runs properly. To do this, use the CPF trace and debug functions. See the *CPF Programmer's Guide* for instructions on using these functions.

If the program does not run properly, make necessary changes to the program, compile it again and run the job again.

If the program runs properly, go back to step **2** of Procedure G.



## PROBLEM: JOB STATUS SHOWS A PROBLEM

This section describes in more detail those problems noted when the operator checked the **active jobs display** earlier in the procedure. This section also suggests ways to solve these problems, if possible.

### Status: What you should do:

**EXC** Status EXC means that the program is executing, or running. Jobs that have this status and that have a problem usually have been running longer than expected. A program problem can cause this to happen.

To fix this problem, first check for a **program loop**. A program loop is a series of instructions the system performs many times until a certain condition is met. For example, a job may process the payroll starting with Aaron and continue processing it until it processes the payroll for Zyuck. If the ending condition is never stated in the program, or if it is not stated properly, you have an **infinite loop**. The system does not stop performing these loops until the looping job is canceled.

To find an infinite loop, first follow the program actions with the CPF debug function and see which statements are causing the loop. For information on the CPF debug function, see the *CPF Programmer's Guide*.

**When you find which statements are looping**, check the program listing to find the cause of the loop. Look for the following:

- A statement ending the loop. If you cannot find one, add it. Compile the program again. Then run the job again.
- The placement of the statement ending the loop. The ending statement should be the last statement in the loop. If it is not, move the statement. Compile the program again. Then run the job again.
- The number of times the system is to perform the loop. Make sure there is a specific value stated, so that the system stops performing the loop when that value is reached. If this value is not stated, add it to the program. Compile the program again. Then run the job again.

If you cannot find a loop, the system is probably working on a long instruction in the program. Perhaps the system has more data to process than you expected, Or, the instructions in the program do not properly tell the system how to do the function.

**Status: What you should do:**

**EXC** (continued) On the active jobs display (DSPACTJOB command if you do not have a copy of the display), find out which command or function (CMD/FUNCTION) in the job, the system is performing. Also check the %CPU (percentage of total processing time spent on this job) and see if this is larger than you might expect. This would be the first sign of a program problem.

Next, use the CPF trace and debug functions to find out what the problem is. For instructions on how to use these functions, see the *CPF Programmer's Guide*. Make necessary changes to the program (if any), compile the program again, and run the job again.

**INEL** Jobs with the status INEL (ineligible) are not currently scheduled to be worked on. When another job leaves the active state, this job will be scheduled for processing. Usually, problems with system performance can cause jobs to have this status. The following are reasons why these jobs are waiting and not being processed:

- Execution priority. The execution priority for jobs in this class might be lower than that for other jobs. The system works on jobs with a higher execution priority first. You can change the execution priority for the job class to get the job processed. See the *CPF Programmer's Guide* for instructions on how to change the execution priority for a job class.
- Time slice. The **time slice** (the amount of time the system has to process the job) might be so small that the system can only process bits of the job at a time. Give the job a larger time slice so the system can finish more of it during one slice.

To correct this problem, do one or more of the following:

- Change the system values for the type of job you are using (CHGSYSVAL command). See *Performance Tuning* (Chapter 19) of the *CPF Programmer's Guide* for information on which system values to change.
- Change the routing entry (CHGRTGE command) in the description of the subsystem controlling the job with the problem, choosing a different job class. Changing the job class changes its priority and time slice (available main storage time). If the class you need to use does not exist, create it (CRTCLS command).



**Status: What you should do:****INEL**  
(con-  
tinued)

- If this is a one-time problem, change the characteristics of the job so that it will be processed. Use the CHGJOB command. See *Performance Tuning* (Chapter 19) of the *CPF Programmer's Guide* for information on which characteristics (such as the time slice or execution priority) to change. See the *CL Reference Manual* for more information about the CHGJOB command.
- Also check the program listing. Perhaps a more efficient use of statements might help the system finish the job in the time limit.

To find out how you might change the program, check the active jobs display ( DSPACTJOB command if you do not have a copy of the display). Find out which command or function ( CMD/FUNCTION ) in the job, the system is working on. Also check the %CPU (percentage of total processing time spent on this job) and see if this is larger than you might expect for a job of this type. This would be the first sign of a program problem.

Next, use the CPF trace and debug functions to find out what the problem is. For instructions on how to use these functions, see the *CPF Programmer's Guide*. Make necessary changes to the program (if any), compile the program again, then run the job again. Also check the %CPU value on the active jobs display, to see how you can code more efficiently.

**Status:** What you should do:

**LCKW** Jobs with the status LCKW (locked wait) are waiting to use an object that is currently locked by another job. Usually, you can find out which object the job is waiting to use by checking the job locks display. You can find out which job is using that object by checking the object locks display. Then you can either try the job later or cancel the job using the object. This information is described in the procedure.

However, certain locked objects are not displayed on these displays:

- Record locks. When two users try to update a record at the same time, only the first user to press the Enter key can update that record.
- Internal locks. These are system objects that users cannot usually use. If one of these objects stays locked, call your service representative and explain the problem.

You can avoid certain lock situations by checking how you describe the use of objects in your programs. If objects are allocated (reserved for use) so that no user can share the object, only one user can work with the object at any one time. You may have forgotten to deallocate the object (make available for use again) after a program is finished using it. Or perhaps too many people are updating the same locked object at the one time.



**PROBLEM: PROBLEM FOUND USING THE HISTORY LOG**

Earlier in this procedure, someone checked the history log to see if the job with the problem was started and if it has ended.

- **If you cannot find a message that the job was started:** perhaps the job has not been read into the system. Make sure that the reader from which the system will read the job is started (both starting the device which will read the job, and using the start reader commands). Then continue normal system work.

**If this does not solve the problem:** check the batch input stream. Make sure that it begins with a `//JOB` command. If it does not begin with this command, change the batch input stream and run the job again. If the batch job stream does begin with the `//JOB`, call your service representative. Explain that the system will not read this job.

- If the job was started, but you cannot find a message that the job ended, check the batch input stream. Make sure it ends with the `//ENDJOB` command. If it does not end with this command, change the batch input stream and run the job again. If the batch input stream does end with this statement, call your service representative. Explain that the system lost a job.
- If you find a message that the job ended, or terminated abnormally (ended with problems), and you did not expect the job to end at this time, check the job log for information about the problem. Go to *Using the Job Log* in Chapter 2 for instructions on how to print the job log and how to use the job log to find the cause of problems.



### When to Use This Procedure

Use this procedure when one or more of the following has happened at one work station:

- The work station power is turned on, but you cannot get the signon display.
- The System Available indicator on the work station is off.
- Your display screen was unexpectedly cleared.
- The work station is not working at all.

**Note:** If these problems occurred at more than one work station, go to Procedure A: *System Problem*. If the work station is working more slowly than expected, go to Procedure F: *Work Station Job Problem (Input Inhibited On Too Long)*.

### Outline of This Procedure

In this procedure, you do the following:

- 1** Check for operational problems, such as pressing the Error/Reset key (step **1**).
- 2** Check the work station status for unusual situations, such as diagnostic mode (steps **2** through **5**).

*More Information about Solving Work Station Problems* at the end of this procedure describes how to continue solving work station problems if this procedure and the procedures in the operator's guide for the work station do not help you solve the problem.



The procedure starts here.

### Checking for operational problems.

- 1 Check the following with the user at the work station that has the problem.

If you fix any of these conditions, continue normal work.

#### At the system unit:

-  You have checked for messages about the problem. 

#### How to find messages:

See *Checking for Messages* in Chapter 2 for instructions on how to check for messages.

#### At the work station with the problem:

-  The work station is not working.  
If the work station is working, but more slowly than expected, go to Procedure F: *Work Station Job Problem (Input Inhibited On Too Long)*.

-  The Power switch is set on.

-  The keyboard is connected to the work station. 

#### How to connect the keyboard to the work station:

See the setup guide for the work station

-  The work station is plugged into the power outlet.

-  The Brightness Control is set high enough to display characters.



Cables are connected properly.



The Error/Reset key has been pressed.



Error lights do not show a problem (for example, the Line Sync light is off on a 5251 Display Station).



If the error lights do show a problem, go to problem determination procedures in the device guide for the work station with the problem.



**5251 Display Stations only:** the keylock is unlocked.



**5251 Display Stations only:** Status switch is set to Normal.



**5292 Display Stations only:** Color is properly adjusted.



After you have checked the above items, continue this procedure.

#### How to connect cables:

For twinaxial cables, see the operator's guide for the work station to get instructions on how to connect cables.

For the IBM Cabling System, see *IBM Cabling System Planning and Installation Guide* and *IBM Cabling System Problem Determination for Twinaxial Applications*.

#### How to check these lights:

See the operator's guide for the work station to get information on which lights show problems.

#### How to adjust color:

See the *5292 Display Station Operator's Guide* for instructions.



### Checking the work station status.

2  

3  

#### How to get the work station name:

See your system programmer. Your programmer might check the device configuration records to find the name.

#### How to display the work station status:

Enter:

```
DSPDEVSTS DEV(ws1)
```

Replace `ws1` with the name of the work station with the problem.

4

Check the status of the device with the problem, its attached control unit, and its attached line (if any).

How to get the name and status:

```
6/25/82  9:20:14      DEVICE STATUS DISPLAY - WS1
CTL/DEV/M  STATUS      JOB NAME  USER      NBR
-  CTL1      ACTIVE      WS        WS1       009933
-  WS1
```

Diagram showing lines from the terminal output to labels: CTL1 points to "Name of Attached Control Unit", WS1 points to "Work Station Name", and ACTIVE points to "Status".

	Name	Status
Work station with the problem	WS1	ACTIVE
Attached control unit	CTL1	ACTIVE
Attached line (if any)		

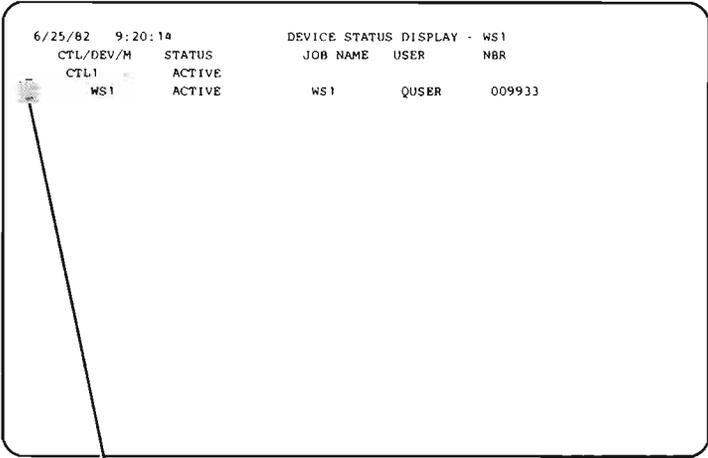
5

In the following chart, find the status of the work station with the problem.

Take the action described under *What you should do*.



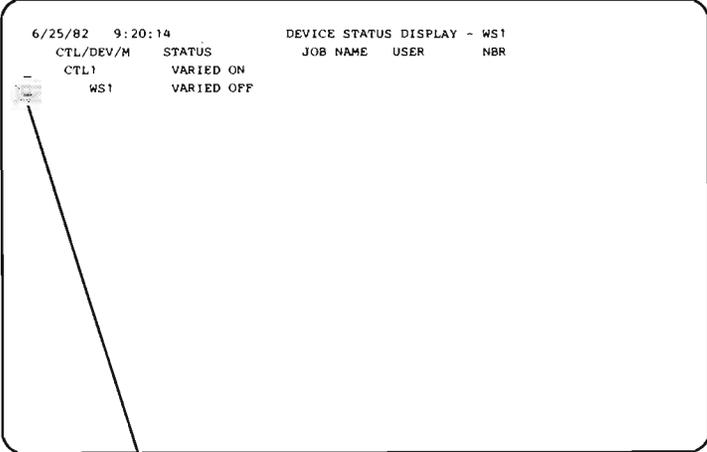
H

Work station status:	What the status means:	What you should do:
ACTIVE	This is a normal status. You probably have a device problem.	Go to the problem determination procedures in the device guide for the work station with the problem.
DIAGNOSTIC MODE	The work station is set to a testing status.	Call your service representative. Ask him to change this status.
FAILED	The work station cannot be used.	<p>a. Vary off the work station by entering a 5 in the space beside the to work station name.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> 6/25/82  9:20:14          DEVICE STATUS DISPLAY - WS1 CTL/DEV/M  STATUS          JOB NAME  USER      NBR CTL1      ACTIVE WS1       ACTIVE          WS1      QUSER    009933 </pre>  </div> <p style="text-align: center;">Enter a 5 here.</p> <p>b. When the updated display appears on your screen, vary on the work station by entering a 4 in the space beside the work station name.</p> <p>c. Do one of the following when the updated display appears on your screen:</p> <ul style="list-style-type: none"> <li>• If the status changed to <b>SIGNON DISPLAY</b>, continue normal system work.</li> <li>• If the status did not change to <b>SIGNON DISPLAY</b>, find the displayed status on this chart and take the action described for that status.</li> </ul> <p><b>If this procedure does not help you solve the problem</b>, call your service representative. Describe the problem, explaining that the work station has this status.</p>

Work station status:	What the status means:	What you should do:
RCYCNL <b>(recovery canceled)</b>	Automatic error recovery, that is, a system procedure for correcting problems with remote equipment, stopped.	<p>a. Record the status of the attached line and control unit.</p> <p>b. Return to your basic working display (such as the system operator menu) by pressing the CF1 Key.</p> <p>c. <b>Did the line have the status:</b>            RCYPND or RCYCNL</p> <p><b>No</b>   <b>Yes</b>                         Enter:            RSMLINRCY LINE(lin22nybsc)            Replace lin22nybsc with the name of the line affected by the problem.            Go to step e.</p> <p>d. <b>Does the control unit have the status:</b>            RCYPND or RCYCNL</p> <p><b>No</b>   <b>Yes</b>                         Enter:            RSMCTLR CY CTL(ct122nybsc)            Replace ct122nybsc with the name of the control unit affected by the problem.            Go to step e.</p> <p>e. Enter:            RSMDEVRCY DEV(ws22nybsc)            Replace ws22nybsc with the name of the work station affected by the problem.</p> <p>f. Continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, you probably have a problem with the remote equipment. Go to Procedure C: <i>Communications Problem</i> to continue solving the problem.</p>



Work station status:	What the status means:	What you should do:				
RCYPND (recovery pending)	The system is performing automatic error recovery, that is, a system procedure for correcting problems with remote equipment.	<p>a. Check the status of the attached control unit and line.</p> <p>b. Do either of them show the status:</p> <p style="padding-left: 40px;">RCYPND</p> <table border="0" style="margin-left: 40px;"> <tr> <td style="padding-right: 10px;">Yes</td> <td>No</td> </tr> <tr> <td style="border-left: 1px solid black; height: 100px;"></td> <td style="border-left: 1px solid black; height: 100px;"></td> </tr> </table> <p style="margin-left: 40px;">You probably have a problem with the work station. Go to the problem determination procedures in the work station operator's guide to continue looking for the cause of the problem.</p> <p>c. Stop the automatic error recovery. Return to your basic working display (such as the system operator menu) by pressing the CF1 Key.</p> <p style="padding-left: 40px;">To stop automatic error recovery for lines enter:</p> <p style="padding-left: 80px;">STPLINRCY LINE(lin22nybsc)</p> <p style="padding-left: 40px;">Replace lin22nybsc with the name of the line using error recovery.</p> <p style="padding-left: 40px;">To stop automatic error recovery for control units enter:</p> <p style="padding-left: 80px;">STPCTLRKY CTLU(ct122nybsc)</p> <p style="padding-left: 40px;">Replace ct122nybsc with the name of the control unit using error recovery.</p> <p>d. Go to Procedure C: <i>Communications Problem</i> to continue looking for the cause of the problem.</p>	Yes	No		
Yes	No					
SIGNON DISPLAY	Your work station is ready to use, according to the system.  You probably have a device problem.	Try to sign on using valid sign on information. If you cannot sign on, go to the problem determination procedures in the device guide for the work station.				
SYSREQ	This is the second of two jobs active at the same work station.  This job was stopped for a while, so the user at the work station could work on another job.	Check the other status shown for this work station.				

Work station status:	What the status means:	What you should do:
VARIED OFF	The work station is varied offline, that is, according to the system, the work station is not connected to the system.	<p>a. Check the status of the attached line (remote devices only) and control unit.</p> <p>b. Vary on the line (if any), control unit*, and work station by entering a 4 in the spaces beside their names.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> 6/25/82  9:20:14          DEVICE STATUS DISPLAY - WS1 CTL/DEV/M  STATUS      JOB NAME  USER      NBR -          -          -          -          - CTL1      VARIED ON WS1      VARIED OFF </pre>  </div> <p>c. Do one of the following when the updated display appears on your screen:</p> <ul style="list-style-type: none"> <li>● If the status changed to <code>SIGNON DISPLAY</code>, continue normal system work.</li> <li>● If the status did not change to <code>SIGNON DISPLAY</code>, find the displayed status on this chart and take the action described for that status.</li> </ul> <p>If this procedure does not help you solve the problem, call your service representative. Describe the problem, explaining that the work station has this status.</p>

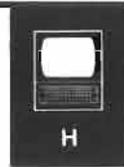
\*Control unit also refers to work station controller (for local work stations)



Work station status:	What the status means:	What you should do:
VARIED ON	<p>This is a normal status.</p> <p>You may have a device problem.</p>	<p>a. Wait a few minutes.</p> <p>b. Press the CF5 key.</p> <p>c. The system updates the display.</p> <p>d. <b>Did the work station status change?</b></p> <p style="margin-left: 2em;">No    Yes</p> <p style="margin-left: 2em;">         </p> <p style="margin-left: 4em;"><b>If the status is ACTIVE or SIGNON DISPLAY</b>, continue normal system work.</p> <p style="margin-left: 4em;"><b>If the status is not ACTIVE or SIGNON DISPLAY</b>, read the description of the new status in this chart.</p> <p>e. Start the subsystem or program that puts the first display, such as the sign-on display, on the work station screen. For example, to start the subsystem <code>qinter</code>, enter:</p> <p style="margin-left: 4em;"><code>STRSBS SBSD(qinter)</code></p> <p>f. Continue normal system work.</p> <p><b>If this procedure does not help you solve the problem</b>, go to the problem determination procedures in the device guide for the work station to continue solving the problem.</p>

Work station status:	What the status means:	What you should do:
VARYONP	<p>One of the following caused the problem:</p> <ul style="list-style-type: none"> <li>• You tried to vary on a work station before the system could make a connection with the remote control unit.</li> <li>• The work station is not set up properly (for example, the cables are not connected properly or the work station switches are not set properly).</li> <li>• The work station is not powered on.</li> </ul>	<p>a. Wait a few minutes.</p> <p>b. Press the CF5 key.</p> <p>c. The system updates the display.</p> <p>d. <b>Did the work station status change?</b></p> <p><b>No</b>   <b>Yes</b></p> <p>If the new status is ACTIVE, SIGNON, or VARIED ON, continue normal system work.</p> <p>If the new status is not ACTIVE, SIGNON, or VARIED ON, read the description of the new status in this chart.</p> <p>e. Go to the problem determination procedures in the device guide for the work station to continue solving the problem.</p> <p><b>If those procedures do not help you solve the problem, call your programmer and describe the problem. Your programmer might refer to <i>More Information about Solving Work Station Problems</i> at the end of this procedure.</b></p>
None of the statuses shown.	The work station is in an unusual state.	Call your service representative. Describe the problem, explaining that the work station has this status.

\*Control unit also refers to work station controller (for local work stations)



## MORE INFORMATION ABOUT SOLVING WORK STATION PROBLEMS

If the procedure just described has not helped you solve your problem, use the information in this section to continue looking into the situation.

### PROBLEM: CANNOT VARY ON DEVICE

If you cannot vary on the work station, perhaps you have a problem with the control unit (or work station controller) that the work station is attached to, or an installation problem (that is the work station is not properly installed, its address switches are not properly set, and/or the device is not properly described). In those cases, the system cannot communicate with (send data to and receive data from) the device. To solve the problem, check the following:

**Control unit** Check for a problem with the attached control unit (or work station controller).

To do this, enter:

```
DSPDEVSTS DEV (ws1)
```

Replace *ws1* with the name of the work station affected by the problem.

On the device status display, check the control unit status.

Find that status in the following chart, and take the action described under *What you should do*.

#### The control unit

status is:	What you should do:
ACTIVE	The control unit does not have a problem. Continue looking for a work station problem.
RCYCNL ( <b>recovery cancelled</b> )	Automatic error recovery, that is, a system procedure for correcting problems with remote equipment, was cancelled. You probably have a problem with the remote equipment.  Go to Procedure C: <i>Communications Problem</i> to continue looking for the cause of the problem.

**The control unit status is:**

**What you should do:**

RCYPND  
(**recovery pending**)

The system is in the process of performing automatic error recovery, that is, a system procedure for correcting problems with remote equipment.

Check the status again in a few minutes. If the recovery process continues, you might consider stopping error recovery (STPCTLR CY, STPDEVRCY, and STPLINRCY commands), and using Procedure C: *Communications Problem* to look into the problem further.

VARIED OFF

The control unit is varied off, so you cannot vary on its attached devices.

Vary on the control unit (enter a 4 in the space beside its name).

When the control unit varies on, vary on the work station. Then continue normal system work.

**Other**

You have a control unit problem. Call your service representative and describe the problem.

**Device description**

Make sure the work station is properly described to the system.

To do this, check the description ( DSPDEV D command) of the work station. Make sure the characteristics of the work station you are using match those described to the system. For example, check the device name, address, and work station model type.

For instructions on how to describe devices, see the *Guide to Program Product Installation and Device Configuration*.

**Address switches**

Make sure the work station address switches are set properly. See the work station installation instructions for information on how to set the address switches.

Make sure the termination switch on each device using the **cable-thru feature** (a means of attaching several devices to one control unit) is properly set. See the work station installation or setup guide for instructions on setting termination switches.

**Cables**

For twinaxial cables, see the operator's guide for the work station to make sure the cables are connected properly.

For the IBM Cabling System, see *IBM Cabling System Planning and Installation Guide* and *IBM Cabling System Problem Determination for Twinaxial Applications*.

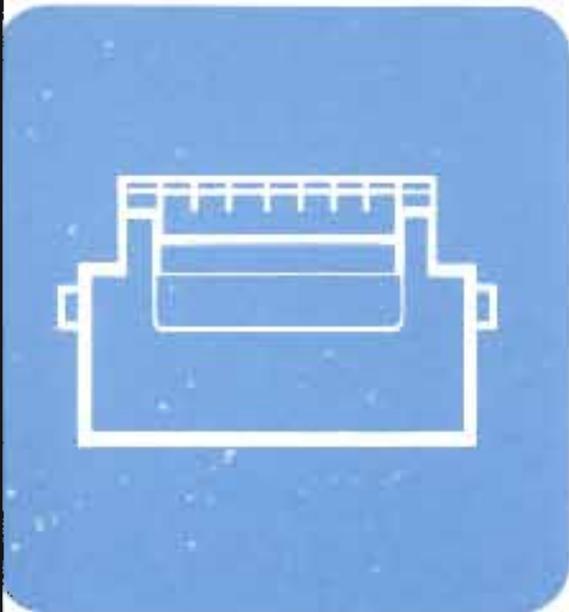


**PROBLEM: NO SIGNON DISPLAY AT A WORK STATION THAT IS VARIED ON**

Check the subsystem description (DSPSBSD) for the subsystem that controls the work station. Make sure the subsystem is active. If the subsystem is not active, use the STRSBS command to start it.

Make sure the subsystem has either a name entry or a type entry for the work station. If the subsystem description does not have a valid entry for the work station, do the following:

1. Terminate the subsystem (TRMSBS)
2. Change the subsystem description (ADDWSE)
3. Start the subsystem again (STRSBS)



### When to Use This Procedure

Use this procedure when a device, other than a work station, does not work after you have correctly given it a command. Also use this procedure if the device is not working properly. These devices include:

- Work station and system printers
- Multi-function card units
- Magnetic tape devices
- Diskette drive

You might notice that the device is not working at all, or is not producing correct output.

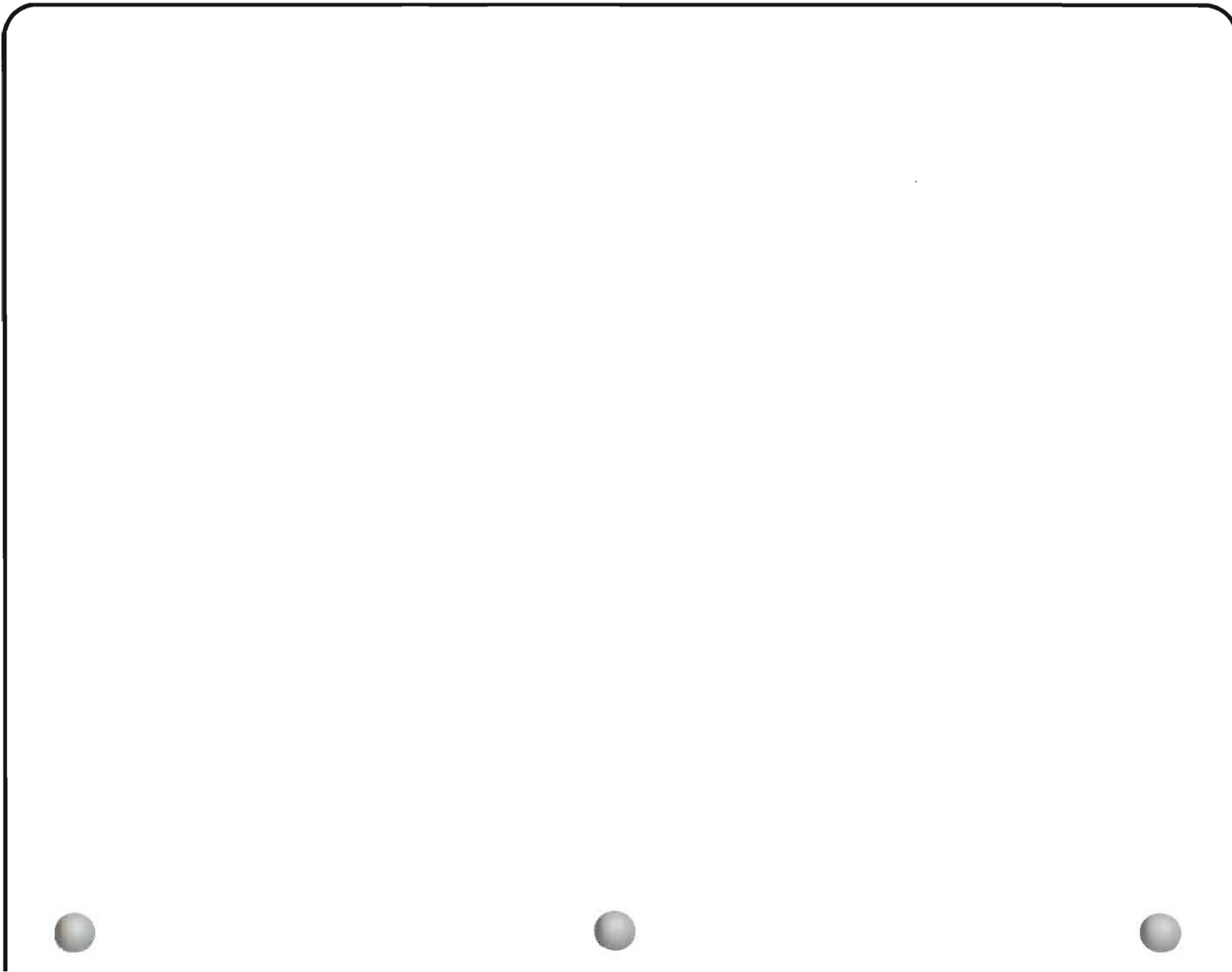
If you are having problems with more than one device, go to Procedure B: *Subsystem Problem*.

### Outline of This Procedure

In this procedure, you do the following:

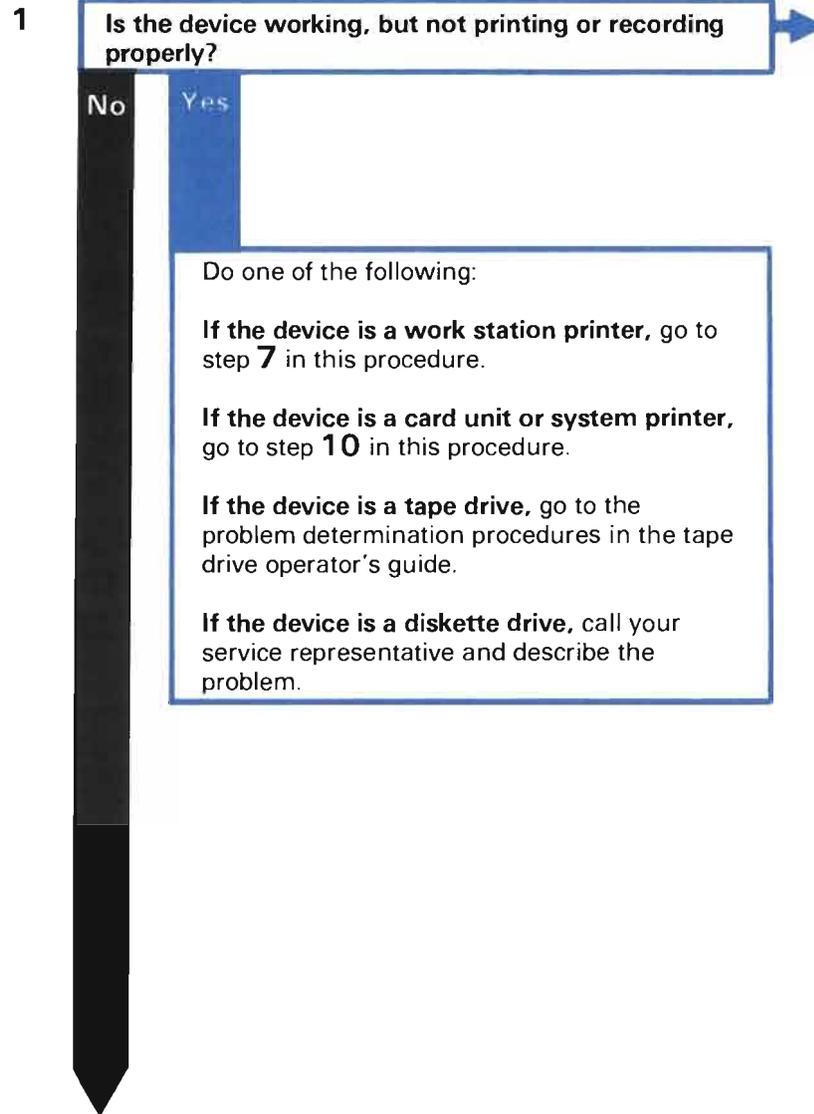
- 1 Define the problem, such as a printing or recording problem (step 1).
- 2
  - a. Check operational problems, such as jammed diskettes (step 2). Then check the device status for unusual situations, such as diagnostic mode (steps 3 through 6).  
or
  - b. Test work station printers (steps 7 through 9).  
or
  - c. Test devices (steps 10 through 13).





The procedure starts here.

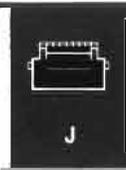
Defining the problem.



For example:

You might notice:

- Printers are printing wrong characters, or the print quality is poor.
- Information recorded on diskette or tape is missing, or recorded with mistakes.



## Checking for operational problems.

2

Check the following with the user at the device affected by the problem.

If you fix any of these conditions, continue normal system work.

### At the system unit:



You have checked for messages about the problem. Do not forget to check the device message queue. →

### How to find messages:

See *Checking for Messages* in Chapter 2 for instructions on how to check for messages.

### At the device with the problem:



The Power switch is set on. (Do not check for diskette drive problem).



The cables are properly connected. (Do not check for diskette drive problem). →

### How to connect cables:

For twinaxial cables see the operator's guide for the device to get instructions on how to connect cables



The device is plugged into the wall outlet. (Do not check for diskette drive problem).

For the IBM Cabling System, see *IBM Cabling System Planning and Installation Guide* and *IBM Cabling System Problem Determination for Twinaxial Applications*.



**Printers only:** Print belt does not need to be changed. →

### How to change the print belt:

Go to the printer operator's guide for instructions.



**Line printers only (3203, 3262, 5211):** The print image in the printer matches the print image for the file being printed (if any).

This does not apply to the 4245 printer.



**Tape drives only:** The read/write heads are clean.



**Diskette drives only:** Jammed diskettes are removed from the diskette drive.

After you have checked the above items, continue this procedure.

#### How to check the print image:

Call your programmer. Have your programmer check the values entered on the CRTPRINT command. Make sure those values match the characteristics of the print image in the printer. See the *CPF Programmer's Guide* for more information.

#### How to clean the read/write heads:

Go to the tape drive operator's guide for instructions.

#### How to remove jammed diskettes:

See the *System/38 Operator's Guide* for instructions.



J

Step 2

**Checking the device status.**

3 Get the name of the device with the problem. ➔

4 Display the status of the device with the problem. ➔

5 Check the status of the device with the problem, its attached control unit (if any), and its attached line (if any). ➔

**How to get the device name:**

See your system programmer. Your programmer can check the device configuration to get the name.

**How to display the device status:**

Enter:

```
DSPDEVSTS DEV(wsprt1)
```

Replace `wsprt1` with the name of the device with the problem.

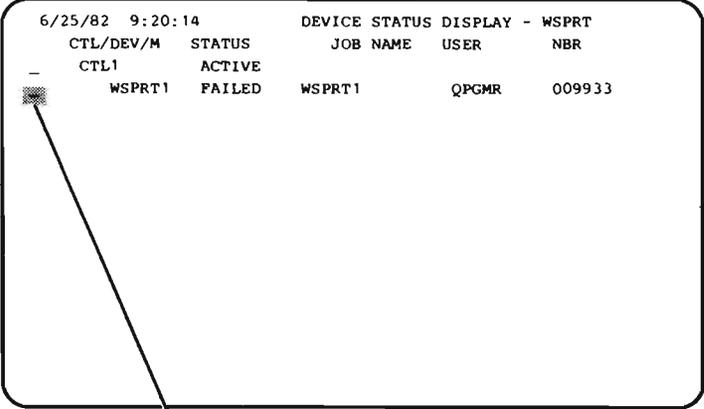
**How to find the status:**

CTL/DEV/M	STATUS	DEVICE STATUS DISPLAY	JOB NAME	USER	NBR
CTL1	ACTIVE	WSPRT1	QPGMR	009933	

Name of Attached Control Unit      Device Name      Device Status

	Name	Status
Device with the problem	WSPRT1	ACTIVE
Attached control unit	CTL1	ACTIVE
Attached line (if any)	—	—

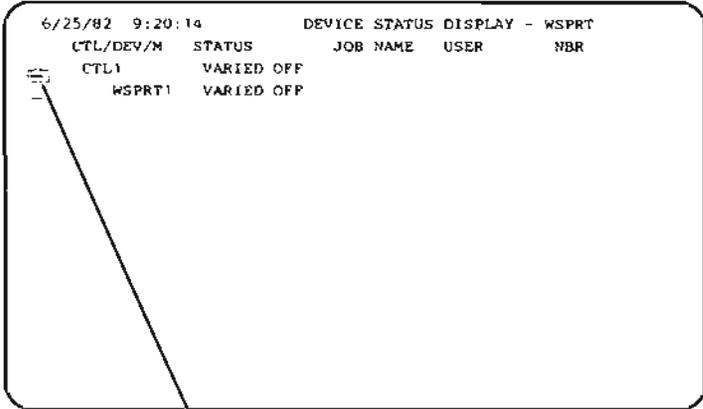


Device status:	What the status means:	What you should do:
<p>FAILED</p>	<p>The device cannot be used.</p>	<p>a. Vary off the device by entering a 5 in the space next to its name.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> 6/25/82  9:20:14      DEVICE STATUS DISPLAY - WSPRT CTL/DEV/M  STATUS      JOB NAME  USER      NBR -          CTL1        ACTIVE           WSPRT1     FAILED    WSPRT1    QPGMR     009933           </pre>  </div> <p>b. When the updated display appears on your screen, vary on the device by entering a 4 in the space beside its name.</p> <p>c. When the updated display appears on your screen, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem,</b> call your service representative. Describe the problem, explaining that the device has this status.</p>

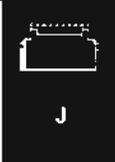
Device status:	What the status means:	What you should do:
FAILED/RDR FAILED/WTR	The device cannot be used, and a spooling reader or writer is using the device	<ol style="list-style-type: none"> <li>a. Display the reader or writer by entering: DSPRDR *ALL or DSPWTR *ALL.</li> <li>b. On the writers display, find the name of the device with the problem in the column. Cancel each reader or writer waiting to use this device by entering a 9 in the space beside the reader or writer name.</li> <li>c. Vary off the device with the problem by entering a 5 in the space beside its name.</li> <li>d. When the updated display appears on your screen, vary on that device by entering a 4 in the space beside the device name.</li> <li>e. When the updated display appears on your screen, continue normal system work.</li> </ol> <p>If this procedure does not help you solve the problem, call your service representative. Describe the problem, and explain that the device has this status.</p>



Device status:	What the status means:	What you should do:
POWERED OFF	The device is turned off, according to the system.	<p>a. Check the status of the attached control unit*.</p> <p>b. <b>Is the control unit* powered off?</b></p> <p><b>No</b>   <b>Yes</b></p> <p> </p> <p>Press the CF1 key.</p> <p>When your basic working display appears (such as the system operator menu), power on the control unit, by entering:</p> <pre>PWRCTLU CTLU(ct11) STATUS(*ON)</pre> <p>Replace ct11 with the name of the control unit.</p> <p>Go to step c.</p> <p>c. Power on the device. If the device has a Power switch, turn that switch on. Otherwise, enter:</p> <pre>PWRDEV DEV(wsprt1) STATUS(*ON)</pre> <p>Replace wsprt1 with the name of the device with the problem.</p> <p>d. Return to the device status display by entering:</p> <pre>DSPDEVSTS DEV(wsprt1)</pre> <p>Replace wsprt1 with the name of the device with the problem.</p>

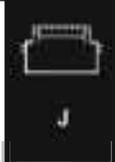
Device status:	What the status means:	What you should do:
POWERED OFF (continued)		<p>e. Vary on the control unit (if any) and device by entering a 4 in the space beside the controller name.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> 6/25/82  9:20:14      DEVICE STATUS DISPLAY - WSPRT CTL/DEV/M  STATUS      JOB NAME  USER      NBR CTL1      VARIED OFF WSPRT1    VARIED OFF           </pre>  </div> <p>f. When the updated display appears on your screen, continue normal system work.</p> <p><b>If this procedure does not help you solve the problem, call your service representative. Describe the problem, explaining that the device has this status.</b></p>

\*Control unit also refers to work station controller (used by devices that are connected to the system directly without using remote communications lines)





Device status:	What the status means:	What you should do:				
<p>RCYPND (recovery pending)</p>	<p>The system is performing automatic error recovery, that is, a system procedure for correcting problems with remote equipment.</p>	<p>a. Check the status of the attached control unit and line.</p> <p>b. Do either of them show the status:</p> <pre>RCYPND</pre> <table border="0"> <tr> <td style="padding-right: 10px;">Yes</td> <td>No</td> </tr> <tr> <td style="border-left: 1px solid black; height: 100px;"></td> <td style="border-left: 1px solid black; height: 100px;"></td> </tr> </table> <p>You probably have a problem with the device. Go to the problem determination procedures in the device operator's guide to continue looking for the cause of the problem.</p> <p>c. Stop the automatic error recovery.</p> <p>Return to your basic working display (such as the system operator menu) by pressing the CF1 Key.</p> <p>To stop automatic error recovery for lines enter:</p> <pre>STPLINRCY LINE(lin22nybsc)</pre> <p>Replace lin22nybsc with the name of the line using error recovery.</p> <p>To stop automatic error recovery for control units enter:</p> <pre>STPCTLRcy CTLU(ct122nybsc)</pre> <p>Replace ct122nybsc with the name of the control unit using error recovery.</p> <p>d. Go to Procedure C: <i>Communications Problem</i> to continue looking for the cause of the problem.</p>	Yes	No		
Yes	No					



Device status:	What the status means:	What you should do:				
VARIED OFF	The device is varied offline. According to the system, the device is not connected to the system.	<p>a. Check the status of the attached line (remote printers only) and control unit*.</p> <p>b. <b>Is the control unit off?</b></p> <table border="0" style="margin-left: 20px;"> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">No</td> <td style="padding-left: 5px;">Yes</td> </tr> <tr> <td style="border-right: 1px solid black; height: 100px;"></td> <td> <p>Press the CF1 key.</p> <p>When your basic working display appears such as the system operator menu, power on the control unit, by entering:</p> <pre style="margin-left: 20px;">PWRCTLU CTLU(ct11) STATUS(*ON)</pre> <p>Replace ct11 with the name of the control unit* name.</p> <p>Go to step c.</p> </td> </tr> </table> <p>c. Return to the device status display (if it is not on your screen already) by entering:</p> <pre style="margin-left: 20px;">DSPDEVSTS DEV(prt1)</pre> <p>Replace prt1 with the name of the device with the problem.</p>	No	Yes		<p>Press the CF1 key.</p> <p>When your basic working display appears such as the system operator menu, power on the control unit, by entering:</p> <pre style="margin-left: 20px;">PWRCTLU CTLU(ct11) STATUS(*ON)</pre> <p>Replace ct11 with the name of the control unit* name.</p> <p>Go to step c.</p>
No	Yes					
	<p>Press the CF1 key.</p> <p>When your basic working display appears such as the system operator menu, power on the control unit, by entering:</p> <pre style="margin-left: 20px;">PWRCTLU CTLU(ct11) STATUS(*ON)</pre> <p>Replace ct11 with the name of the control unit* name.</p> <p>Go to step c.</p>					

**Device status:**

**What the status means:**

**What you should do:**

VARIED OFF  
(continued)

d. Vary on the line (if any), control unit, and device by entering a 4 in the space beside the name.

```
6/25/82  9:20:14          DEVICE STATUS DISPLAY - WSPRT1
CTL/DEV/M  STATUS      JOB NAME  USER      NBR
CTL1      VARIED OFF
WSPRT1    VARIED OFF  WS
```

Enter a 4 here.

e. When the updated display appears on your screen, continue normal work.

**If this procedure does not help you solve the problem,** call your service representative. Describe the problem and report this status.

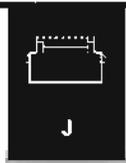
\*Control unit also refers to work station controller (used by devices that are connected to the system directly, without using remote communications lines).





Device status:	What the status means:	What you should do:				
VARYONP	<p>One of the following caused the problem:</p> <ul style="list-style-type: none"> <li>You tried to vary on a remote work station printer before its attached control unit was varied on.</li> <li>The device is not set up properly (for example, the cables are not connected properly).</li> </ul>	<ol style="list-style-type: none"> <li>Wait a few minutes.</li> <li>Press the CF5 key.</li> <li>The system updates the display.</li> <li>Did the device status change?           <table border="0" style="margin-left: 20px;"> <tr> <td style="padding-right: 10px;">No</td> <td>Yes</td> </tr> <tr> <td style="border-left: 1px solid black; height: 100px;"></td> <td style="border-left: 1px solid black; height: 100px;"></td> </tr> </table> <p style="margin-left: 40px;">If the status is VARIED ON or ACTIVE, continue normal system work.</p> <p style="margin-left: 40px;">If the status is not VARIED ON or ACTIVE, read the description of the new status in this chart.</p> </li> <li>Go to the problem determination procedures in the operator's guide for the device to continue solving the problem.</li> </ol> <p><b>If those procedures do not help you solve the problem, call your programmer and describe the problem. Your programmer might refer to <i>More Information about Solving Device Problems</i> at the end of this procedure.</b></p>	No	Yes		
No	Yes					
None of the statuses shown.	The device is in an unusual state	Call your service representative. Describe the problem, explaining that the device has this status.				

\*Control unit also refers to controller (used by devices that are connected to the system directly, without using remote communications lines).



## Testing work station printers.

7

**Note:** Step 1 sent you to this step.

Check the following before starting the test.



The Ready light on the work station printer is on.



The work station printer is loaded with forms.

After you have checked the above items, continue this procedure.

### How to turn the Ready light on:

- a. Press the Stop switch on the printer control panel.
- b. Press the Start switch.

8

Start the test by entering:

```
VFYPRT DEV(prt1)
```

Replace `prt1` with the name of the printer to be tested. To run this test, the printer must not have a spooled writer assigned to it.

9

When the test ends, check the pattern printed against the patterns shown on the following pages.

**If the patterns match**, your printer prints correctly. Continue solving the problem using the determination procedures in the printer operator's guide.

**If the patterns do not match**, call your service representative. Report that the printer did not print this test pattern correctly.

#### What the test does:

The system prints a test pattern on your printer. If the pattern prints correctly, the printer is working properly.

#### What the problem is:

A problem in the printer machinery causes the printer to print wrong characters.









If you have a 3812 or 5219 printer, the pattern looks like this:

```

1          WORKSTATION PRINTER VERIFICATION TEST          1

4          This procedure can be selected from the prime option menu of 4
5          the verification tests. This test pattern is printed on a 5219 5
6          printer and has been developed to exercise the printer without 6
7          operator intervention. Successful completion of the test verifies 7
8          that the system, controller, and printer cabling operate correctly. 8

10         This is the left column.          This is the right column. 10
11         This is the left column. This is the left column. This is the right column. This 11
12         is the left column. This is the left column. This is the right column. This is the 12
13         left column. This is the left column. This is the right column. This is the right 13
14         column. This is the left column.          column. This is the right column 14

16         THIS LINE IS HIGHLIGHTED.          16

18         This entire sentence is underlined.          18

20         Each word in this sentence is underlined.          20

22         The letters A B C are underlined.          22

24         above and below and above and below and above and below and above 24

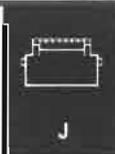
26         XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 26

28         XXXXXXXX          -----          XXXXXXXX          28
29         XXXXXXXX          CRLF          XXXXXXXX          30
30         XXXXXXXX          NNNNN          XXXXXXXX          31
LEFT      XXXXXXXX          SSSSS          XXXXXXXX          32
32         XXXXXXXX          XXXXXXXX          XXXXXXXX          32
33         XXXXXXXX          AUTO          XXXXXXXX          34
34         XXXXXXXX          RRRRR          XXXXXXXX          34
LEFT      XXXXXXXX          UUUUU          XXXXXXXX          35
36         XXXXXXXX          XXXXXXXX          XXXXXXXX          36
37         XXXXXXXX          I I I I          XXXXXXXX          36
38         XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 38

40         ABCDEFGHIJKLMNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          a          40
41         BCDEFGHIJKLMNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          ab          41
42         CDEFGHIJKLMNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abc          42
43         DEFGHIJKLMNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcd          43
44         EFGHIJKLMNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcde          44
45         FGHJKLMNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdef          45
46         GHIJKLMNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefg          46
47         HIJKLMNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefgh          47
48         IJKLMNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghi          48
49         JJKLMNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghij          49
50         KLMNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghijk          50
51         LNNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghijkl          51
52         MNOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghijklm          52
53         NOPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghijklmn          53
54         OPQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghijklmno          54
55         PQRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghijklmnop          55
56         QRSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghijklmnopq          56
57         RSTUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghijklmnopqr          57
58         STUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghijklmnopqrs          58
59         TUVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghijklmnopqrst          59
60         UVWXYZ          0123456789          z,?-/,: (=)+-          abcdefghijklmnopqrstu          60
61         VWXYZ          0123456789          z,?-/,: (=)+-          abcdefghijklmnopqrstuv          61
62         WXYZ          0123456789          z,?-/,: (=)+-          abcdefghijklmnopqrstuvw          62
63         XYZ          0123456789          z,?-/,: (=)+-          abcdefghijklmnopqrstuvwxy          63
64         YZ          0123456789          z,?-/,: (=)+-          abcdefghijklmnopqrstuvwxy          64
65         Z          0123456789          z,?-/,: (=)+-          abcdefghijklmnopqrstuvwxy          65

67         THIS CONCLUDES THE TEST          67

```



**Testing system printers and card units.****10****Note:** Step 1 sent you to this step.

In the following chart, find the type of device you are testing.

Take the action described under *Do the following to prepare for the test.*

**If you are testing this device:****Do the following to prepare for the test:**

Multi-function card unit (MFCU)

Put cards in hopper 1.

During the test, the MFCU prints and punches 40 cards. It then sends a message telling you to put the punched cards in hopper 2 to be read. Make sure you have enough cards.

System printer

Load the printer to be tested with forms.

During the test, the printer prints pages for 100 seconds. Make sure you have enough forms.

11

Start the test by entering:

```
STRCNFCHK DEV(prt1)
```

Replace the prt1 with the name of the device you are testing.



12

Does the pattern printed by the device match the pattern shown on the following pages?

Yes

No

Call your service representative. Report that the device did not print this test pattern correctly.



13

Your device works correctly.

Go to the determination procedures in the operator's guide for the device, such as the printer operator's guide, to continue solving the problem.

**What the test does:**

The system prints a test pattern, or writes and reads test records, on the device. If the pattern prints correctly, or if the records are written and read correctly, the device is working properly.

**What the problem is:**

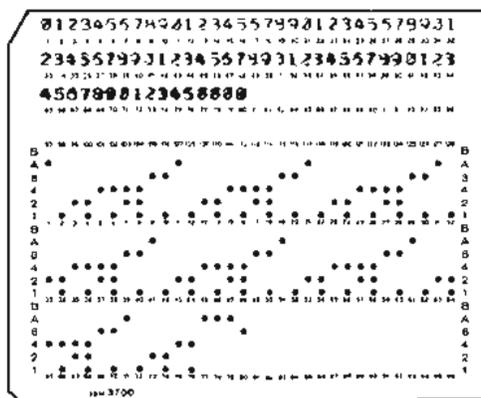
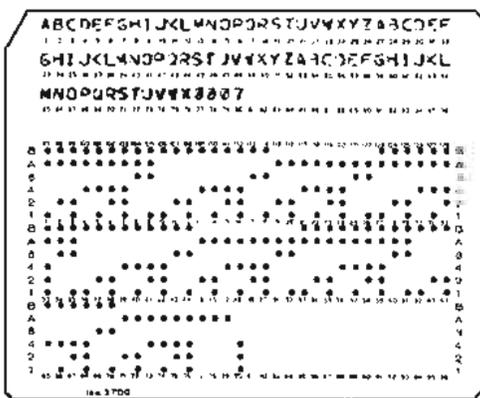
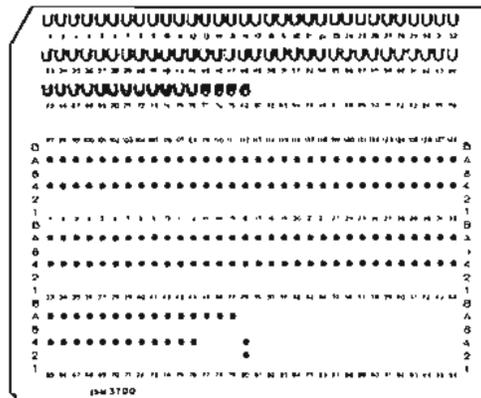
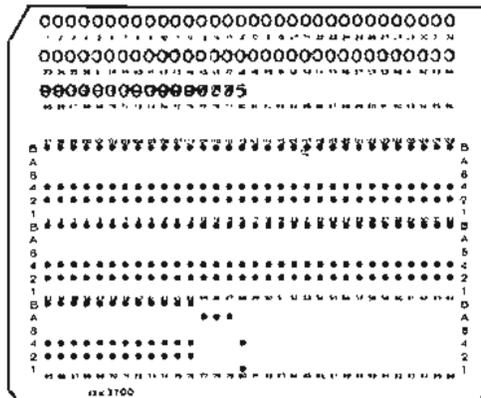
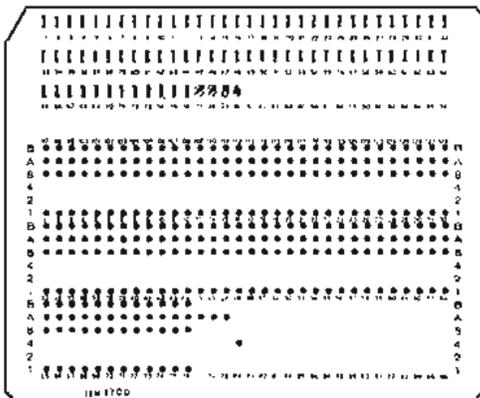
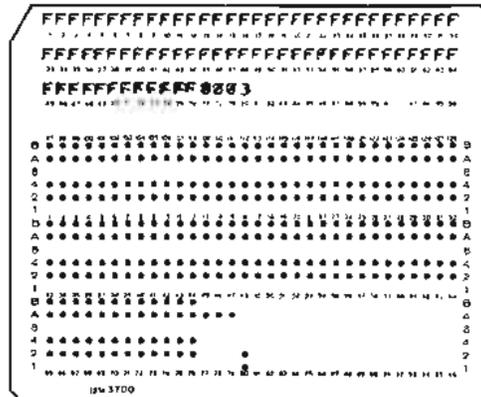
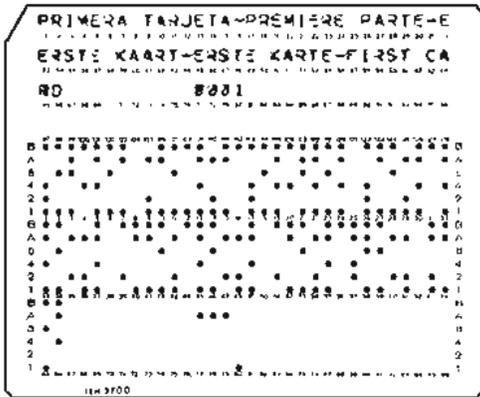
A problem in the machinery causes the device to print or punch wrong characters





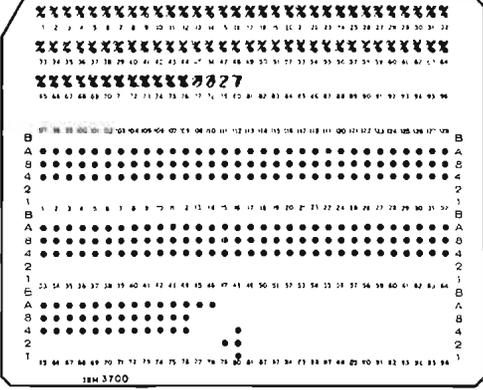
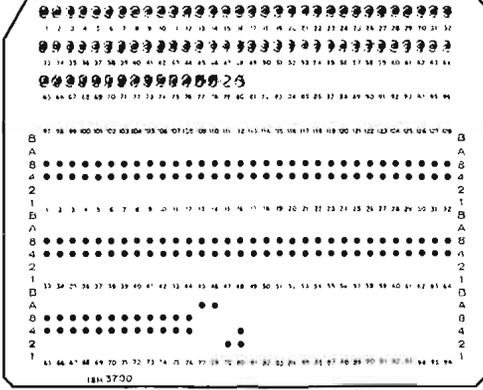
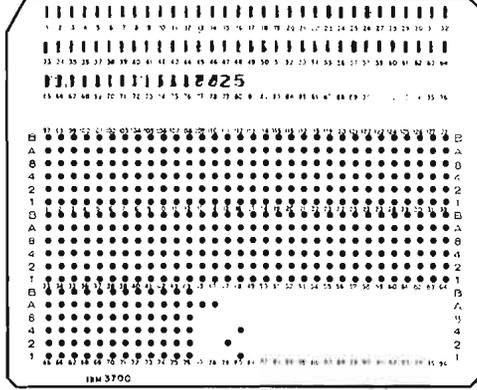
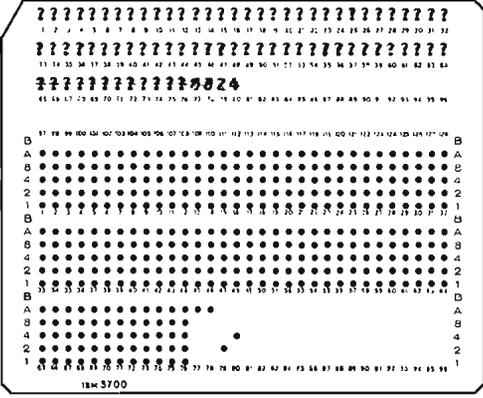
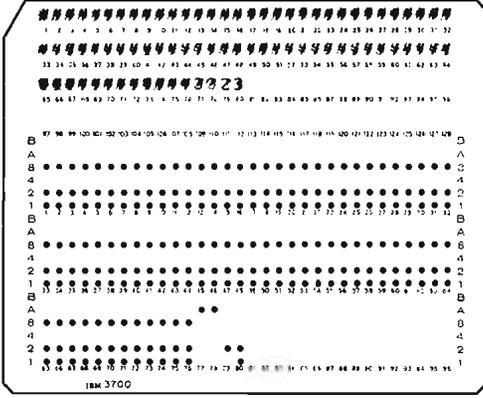
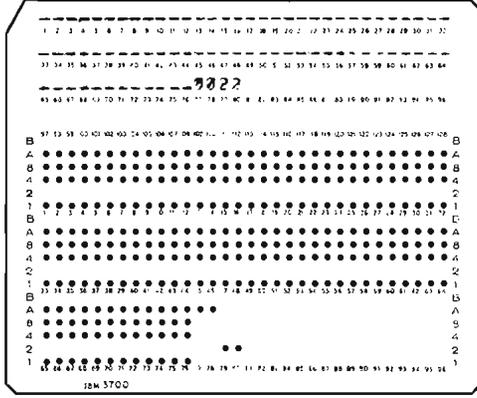
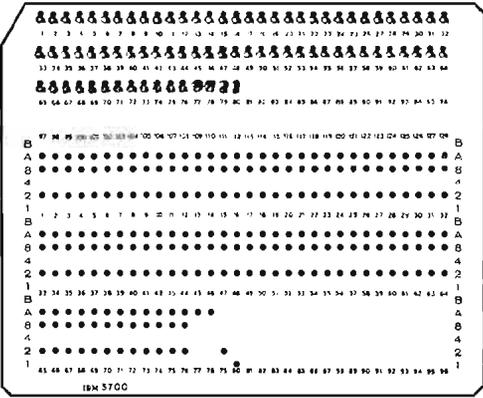
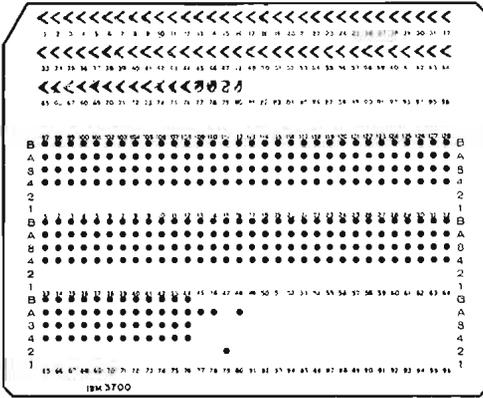
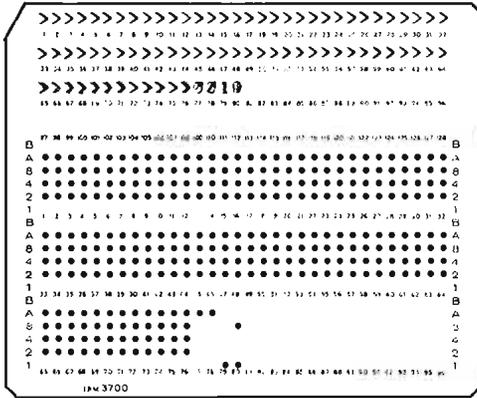


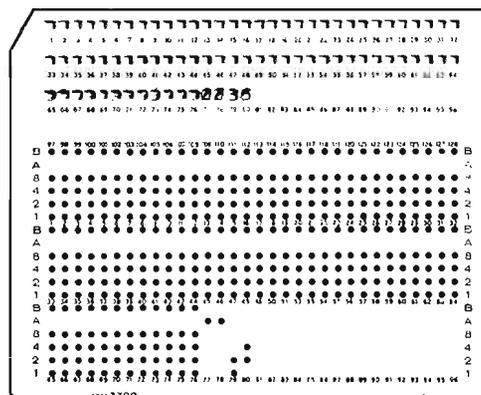
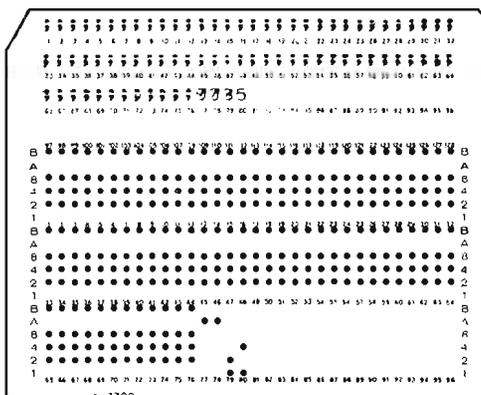
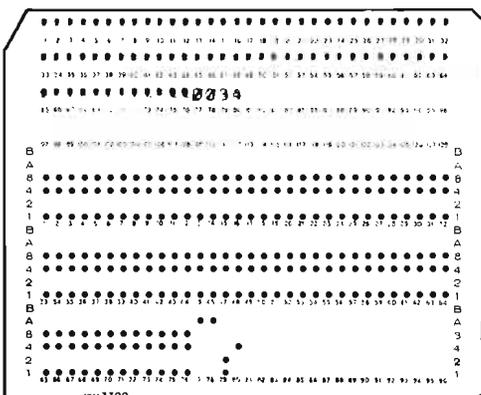
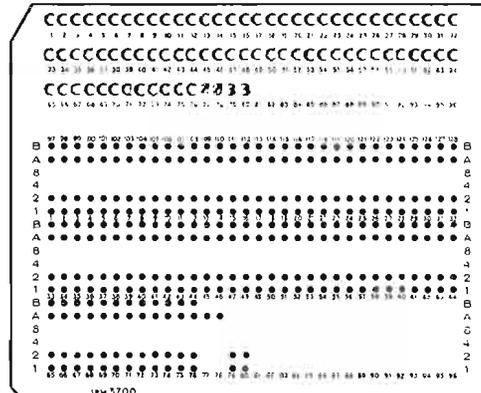
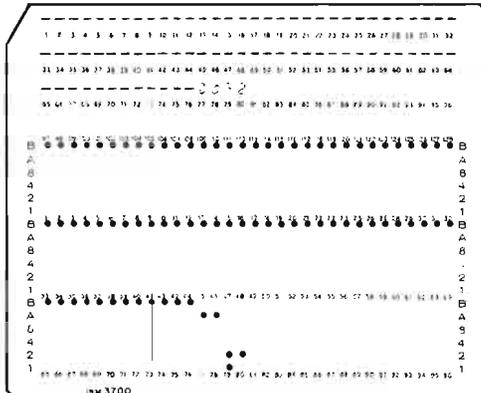
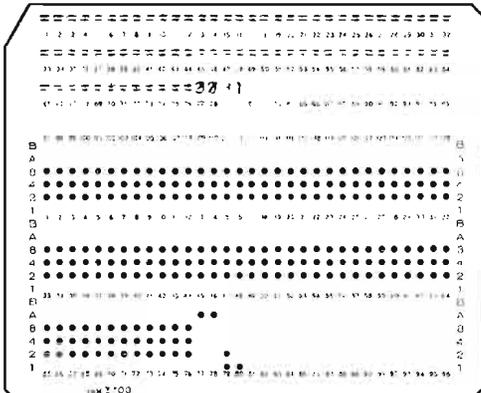
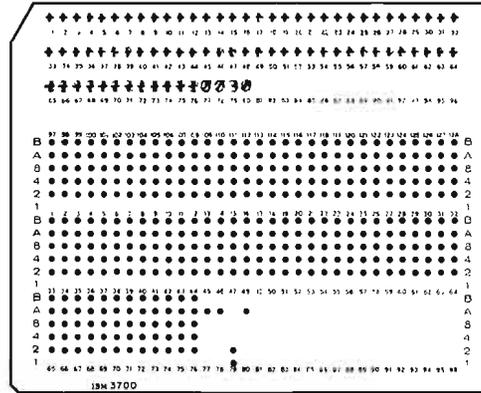
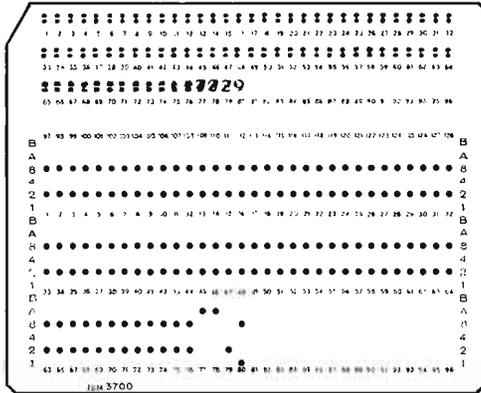
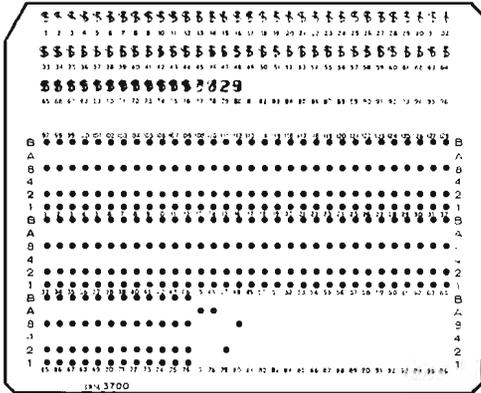
STRCNFCHK pattern for the MFCU:





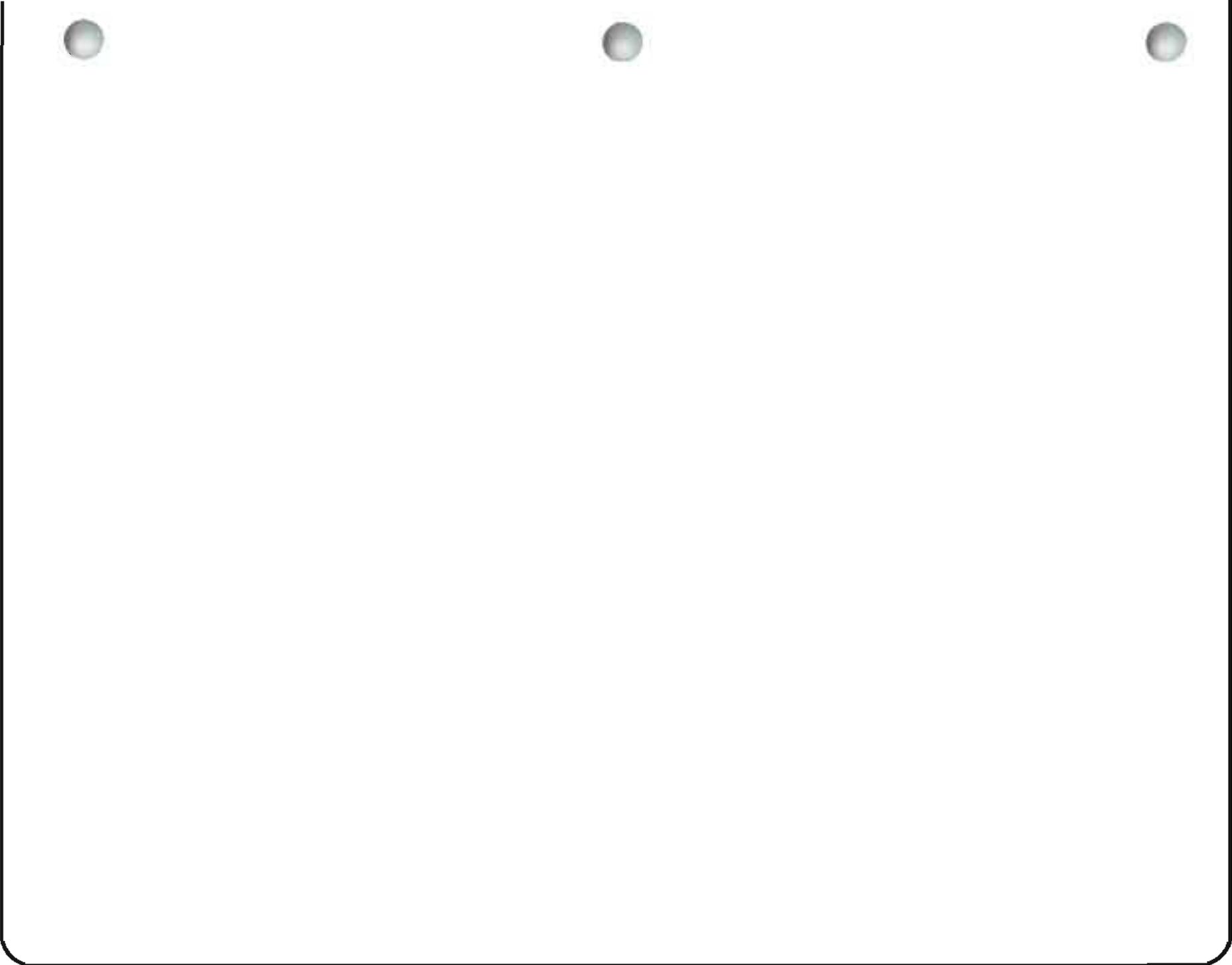
### STRCNFCHK pattern for the MFCU: (continued)





J





J

Step 13

1-529

## MORE INFORMATION ABOUT SOLVING DEVICE PROBLEMS

If the procedure just described has not helped you solve the problem, use the information in this section to continue looking into the situation.

### PROBLEM: OUTPUT PRODUCED ON WRONG DEVICE

If the system is writing output on the wrong device, see the section with this name in *More Information About Solving Output Problems* at the end of Procedure E.

### PROBLEM: CANNOT VARY ON DEVICE

If you cannot vary on the device, perhaps you have a problem with the control unit (or device controller) that the device is attached to, or perhaps you have an installation problem. That is, is the device set up properly, are its address switches set properly, and is it properly described? In those cases, the system cannot communicate with (send data to and receive data from) the device. To solve the problem, check the following:

#### Control unit

Check for a problem with the attached control unit (device controller). (Do not check this for system printer and diskette drive problems.)

To do this, enter:

```
DSPDEVSTS DEV (wsprt)
```

Replace `wsprt` with the name of the device affected by the problem.

On the device status display, check the control unit status.

Find the status in the following chart, and take the action described under *What you should do*.

#### The control unit status is:

#### What you should do:

ACTIVE

The control unit does not have a problem. Continue looking for a device problem.

RCYCNL  
(recovery  
cancelled)

Automatic error recovery, that is, a system procedure for correcting problems with remote equipment, was cancelled. You probably have a problem with the remote equipment.

Go to Procedure C: *Communications Problem* to continue looking for the cause of the problem.

RCYPND  
(recovery  
pending)

The system is in the process of performing automatic error recovery, that is, a system procedure for correcting problems with remote equipment.

In a few minutes, press the CF5 Key. Check the new status. If the recovery process continues, you might consider stopping error recovery (STPCTLRKY, STPDEVRCY, and STPLINRCY commands), and using Procedure C: *Communications Problem* to look into the problem further.

VARIED OFF

The control unit is varied off, so you cannot vary on its attached devices.

Vary on the control unit (enter a 4 in the space next to its name).

When the control unit varies on, vary on the device. Then continue normal system work.

OTHER

You have a control unit problem. Call your service representative and describe the problem.

Device  
description

Make sure the device is properly described to the system.

To do this, check the description (DSPDEV command) of the device. Make sure the characteristics of the device you are using match those described to the system. For example, check the device name, address, and device model type.

Address  
switches

For more information on device descriptions, see the *CPF Programmer's Guide*. Make sure the device address switches are set correctly.

To do this, make sure the address switches on the back of the device are set to the address stated in the device configuration records.

See the device installation guide for instructions on setting the address switches.

Cables

For twinaxial cables, see the operator's guide for the work station to make sure the cables are connected properly.



For the IBM Cabling System, see *IBM Cabling System Planning and Installation Guide* and *IBM Cabling System Problem Determination for Twinaxial Applications*.

**PROBLEM: CANNOT START DEVICE BY COMMAND**

If you cannot start the device, perhaps you did not use the proper command.

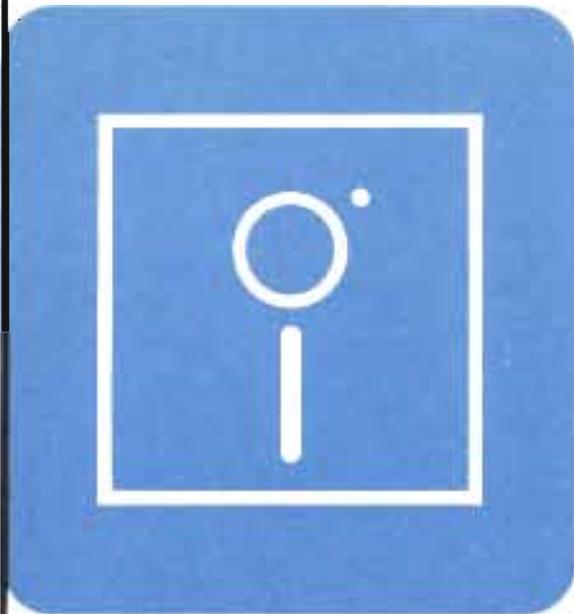
**PROBLEM: DEVICE DOES NOT PRODUCE OUTPUT CORRECTLY**

If the device is not producing output correctly, but the **verify printer** pattern (step **7**) or **confidence check** pattern (step **10**) does not show a problem, perhaps you have a problem with the media or file you are using.

**If the problem is with a diskette or tape**, find out if the diskette or tape you are using has a problem. For possible diskette problems, go to step **7** in Procedure K: *Diskette Problem*. For possible tape problems, go to step **7** in Procedure L: *Tape Problem*.

If the diskette or tape does not have a problem, check the display or diskette file for problems. For more information on file problems, see *Output Formatted Incorrectly in More Information About Output Problems* at the end of Procedure E.

**Otherwise:** check for a problem with the display (or print) file used. For more information on display file problems, see *Output Formatted Incorrectly in More Information About Output Problems* at the end of Procedure E.



### When to Use This Procedure

Use this procedure when one of the following happens:

- A message says you have a problem with a diskette and told you to use this procedure.
- Information you expected to find on a diskette is missing or is not complete.

In order to finish this procedure, you need to know the volume identifier (VOLID) of the diskette with problems.

### Outline of This Procedure

In this procedure, you do the following:

- 1** Get information to do the procedure, such as the volume identifier of the diskette with problems (step **1**).
- 2** Find out if the information you are interested in is saved on the diskette (steps **2** through **6**).
- 3** Check for diskette damage by:
  - a.** Printing the volume statistics report (steps **7** through **9**).
  - b.** Examining the volume statistics report (steps **10** through **16**).

*What You Should Do with Damaged Diskettes* at the end of this procedure tells you how to handle damaged diskettes.

The procedure starts here.

Checking for operational problems.

1 Check the following before starting the procedure.



There are no messages about the problem.



**How to find messages:**

See *Checking for Messages* in Chapter 2 for instructions on how to check for messages

Getting information to do the procedure.

2 Get the following information before starting the procedure.



Volume identifier (VOLID) of the diskette with problems.



**How to find the volume identifier:**

If you received a message about the problem, the message should tell you the volume identifier.

Otherwise, you can put the diskette with the problem in the diskette drive, and enter the DSPDKT command (see step 4 for an example). The system displays the volume identifier.

If you cannot get the volume identifier, you cannot continue this procedure. Call your programmer and describe the problem. Your programmer might refer to *What You Should Do with Damaged Diskettes* at the end of this procedure.



**Why you cannot continue this procedure:**

In this procedure you use system reports about diskettes. If the diskette does not have an identifier, the system cannot save information about the diskette. If two diskettes have the same identifier, the system combines information about both diskettes in one report, so you do not get accurate information

If another diskette uses the same identifier as the one with the problem, you cannot continue this procedure. Call your programmer and describe the problem. Your programmer might refer to *What You Should Do with Damaged Diskettes* at the end of this procedure.

After you have checked the above item, continue this procedure.

## Finding information on the diskette.

**3** Are you having problems finding information, such as a data file, on the diskette? 

Yes

No

Go to step 7.

**4** Put the diskette with problems into slot 1 (\*S1) of the diskette drive.

**5** Do one of the following: 

- If the diskette has an object or library saved on it, enter:  
DSPDKT LOC (\*S1) DATA (\*SAVRST)
- If not, enter:  
DSPDKT LOC (\*S1) DATA (\*LABELS)

**How to put diskettes into the diskette drive:**

See the *System/38 Operator's Guide* for instructions.

**What the DSPDKT command does:**

The DSPDKT command displays a list of everything that is saved on the diskette. The DSPDKT command also tells you the volume identifier of the diskette.

6 On the display, find the name of the object that has the information you are interested in.

7 Can you find the object name?

Yes

No

The information you are interested in is not saved on this diskette.

Find the diskette with the information.

Continue normal system work.

## Checking for diskette damage: printing the volume statistics report.

8 Print the volume statistics report by entering:  
`LSTERRLOG TYPE (*VSDR)`

9 The system writes the volume statistics report into a spooled output file.

10 When the system prints the report, find the part of the report about diskettes.

### What the command does:

If you choose \*VSDR when entering the LSTERRLOG command, the system prints a **volume statistics report**, telling you how the volumes (diskettes and tapes) used on your system are working.

The report has two parts: one for diskettes, another for tapes.

### How to get the report printed:

The system, as it is supplied by IBM, writes the report into a spooled output file named QPCSMRPT on the output queue QPRINT.

The system starts printing the report when the spooling subsystem is started, a printer writer is started to the output queue, and a printer is ready.

### How to find the part of the report about diskettes:

The part of the report for diskettes looks like this:

VOLID	DRIVE	READ ERRORS	READ OPS	WRT VFY ERRORS	WRT VFY OPS	TOTAL ERRORS	TOTAL OPS
ALPHA	72MD	0	1251	0	0	0	1251
BETA	72MD	200	1498500	44	980020	270	2493034
GAMMA	72MD	10	OVRFLOW	120	OVRFLOW	139	OVRFLOW
JRQ2	72MD	1024	10240	2048	20000	3087	36825
OMEGA	72MD	6	3346	0	2433	11	5839
QUASAR	72MD	472	4658493	5210	3486247	6257	OVRFLOW
STAR	72MD	23	78564	57	87832	83	169784
TOPS	72MD	0	2506	0	6372	7	9005

### Checking for diskette damage: examining the volume statistics report.

- 11 Find the volume identifier (VOLID) of the diskette you are having problems with.

#### Where to find the identifier:

VOLID	DRIVE	READ ERRORS	READ OPS	WRT VFY ERRORS	WRT VFY OPS	TOTAL ERRORS	TOTAL OPS
ALPHA	72MD	0	1251	0	0	0	1251
BETA	72MD	200	1498500	44	980020	270	2493034
GAMMA	72MD	10	OVRFLOW	120	OVRFLOW	139	OVRFLOW
JRQ2	72MD	1024	10240	2048	20000	3087	36825
OMEGA	72MD	6	3346	0	2433	11	5839
QUASAR	72MD	472	4658493	5210	3486247	6257	OVRFLOW
STAR	72MD	23	78564	57	87832	83	169784
TOPS	72MD	0	2506	0	6372	7	9005

Look here.

12 Divide the TOTAL ERRORS by TOTAL OPS (operations).

This gives you the **error rate**.

Where to find the information:

VOLID	DRIVE	READ ERRORS	READ OPS	WRT VFY ERRORS	WRT VFY OPS	TOTAL ERRORS	TOTAL OPS
ALPHA	72MD	0	1251	0	0	0	1251
BETA	72MD	200	1498500	44	980020	278	2493034
GAMMA	72MD	10	OVRFLOW	120	OVRFLOW	119	OVRFLOW
JRQ2	72MD	1024	10240	2048	20000	1087	36825
OMEGA	72MD	6	3346	0	2433	11	5839
QUASAR	72MD	472	4658493	5210	3486247	6257	OVRFLOW
STAR	72MD	23	78564	57	87832	83	169784
TOPS	72MD	0	2506	0	6372	7	9005

For diskette BETA, divide 270 by 2493034

**Note:** If the value for TOTAL OPS or TOTAL ERRORS is OVRFLOW, do the following:

1. Run again the job using the diskette.
2. Go back to step 7.

What OVRFLOW means:

The volume statistics report can print up to seven digits for a specific report value. If a value is larger than seven digits, the system prints the word OVRFLOW.

13 Is the error rate greater than the error rate for other diskettes?

Yes No

Go to step 15.

**14** Your diskette is probably damaged, and should not be used anymore. 

You might want to copy the information saved on this diskette onto another diskette. You might not be able to save all of the information from the damaged diskette. See *What You Should Do with Damaged Diskettes* at the end of this procedure for instructions on how to copy this information.

**15** Continue normal system work.

**What the problem is:**

Through use, the diskette has been damaged. Information cannot be read from, or copied onto, the diskette without certain problems occurring, and possibly some information lost.

16

Is the error rate for most of the other diskettes as high, or higher than, the error rate for the diskette with problems?

No

Yes

Call your service representative. Report that the volume statistics report shows you might have a problem with the diskette drive. Also report the error message you received, if any.

While you are waiting for your service representative, continue normal work that does not use diskettes.

17

The report does not show a problem. Call your programmer and describe the situation.

**How to find the error rate:**  
See the instructions for step 11

**What the problem is:**  
A problem with the diskette drive is causing problems with most or all of the diskettes used on your system.



K

## WHAT YOU SHOULD DO WITH DAMAGED DISKETTES

### HOW DISKETTES BECOME DAMAGED

Through use, the recording surface of the diskette can become physically damaged or worn down, and lose its ability to record information. If this happens, the whole **sector**, or part of the diskette that is damaged, cannot be read from, or written onto.

You might be able to use some parts of the diskette. But when the system starts working with the damaged part of the diskette, the system stops operation using the diskette and sends you a message.

### WHAT YOU SHOULD DO WITH DAMAGED DISKETTES

If you learn in Procedure K: *Diskette Problem* that your diskette is damaged, you should not use the damaged diskette again until you **reinitialize** it (make the diskette ready for use again). However, when you reinitialize the diskette, you lose all of the information saved on that diskette. To save information stored on the diskette, and then reinitialize the diskette, do the following:

- 1 Copy the information saved on this diskette onto another diskette. To do this, put both the damaged diskette and an undamaged diskette into the diskette drive. Then enter the DUPDKT command. For example, to copy information from the damaged diskette that you put in diskette position \*s1 (left diskette position) onto an undamaged diskette that you put in position \*s2, enter:

```
DUPDKT FROMLOC (*s1) TOLOC (*s2)
```

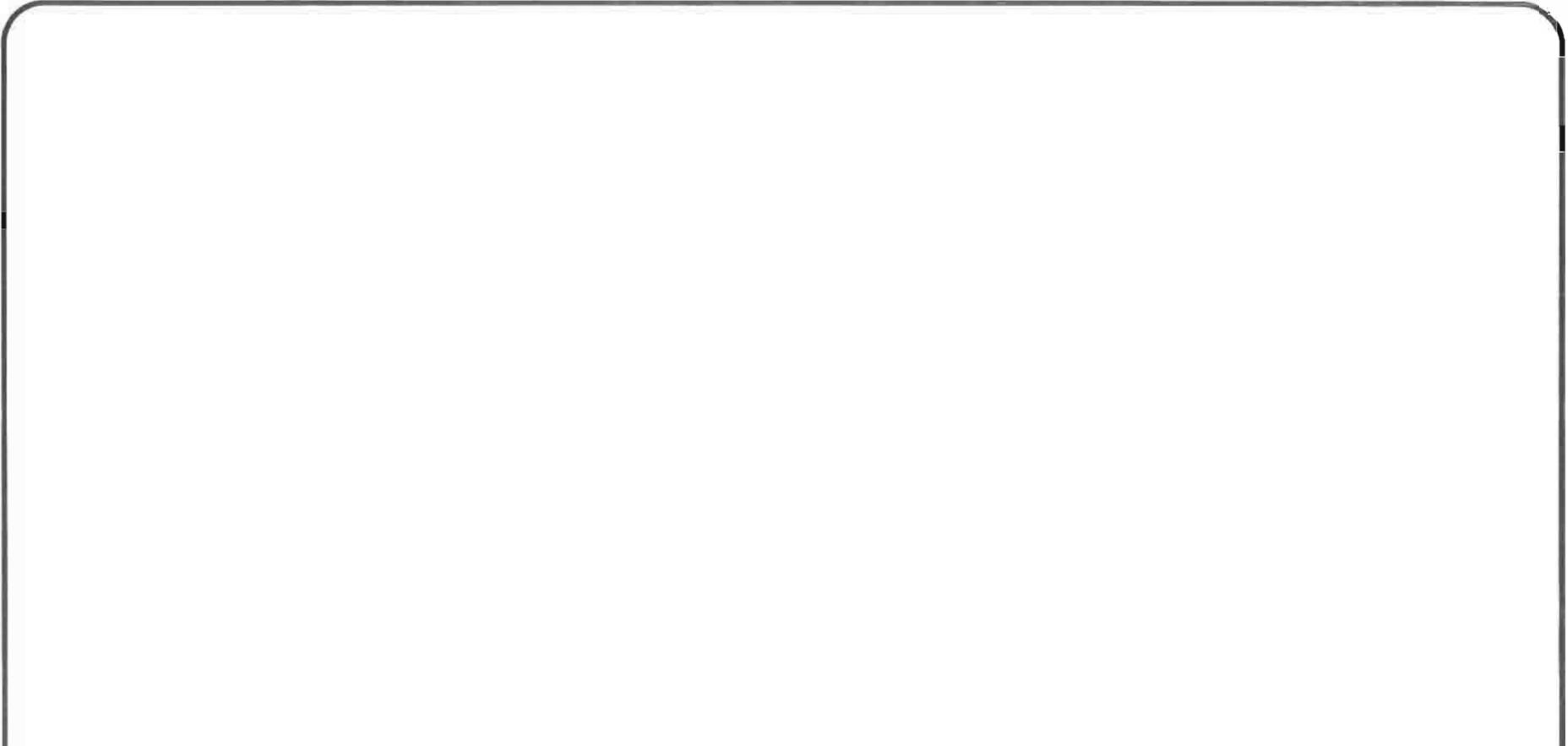
- 2 The system copies the information onto the undamaged diskette, if possible. The system cannot copy information from the damaged parts onto the other diskette. You will have to add this information again (when you update the file, or edit the program saved on the diskette).
- 3 **If you want to use the damaged diskette again:** try to reinitialize (make ready for use again) it. To do this, put the diskette in the diskette drive. Then enter the INZDKT command. For example, to reinitialize the diskette named `payfil` that you put in slot \*s1 (left diskette slot) of the diskette magazine drive, enter:

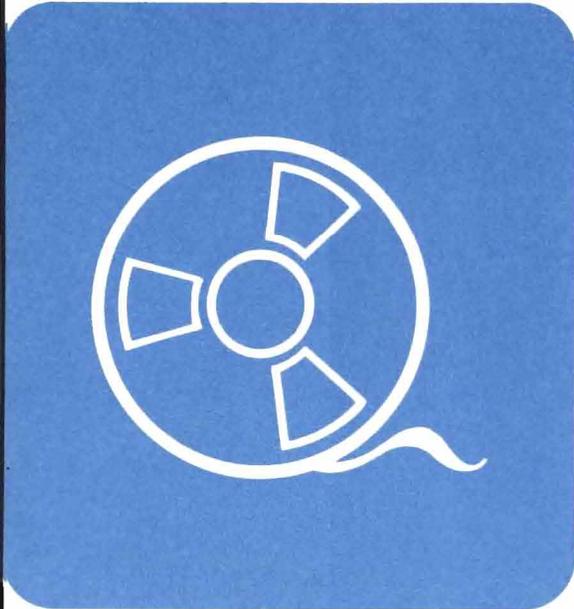
```
INZDKT LOC(*s1) NEWVOL(payfil)
```

The system reinitializes the diskette. Any information that was saved on that diskette is lost. However, you can use this diskette for saving other information. The system marks the damaged parts of the diskette so that the system does not use them. If most parts of the diskette are damaged, the system sends you a message saying that it cannot reinitialize the diskette. In that case, you cannot continue using the diskette.

**If you saved important information on that diskette,** and have no copy of the information, call your service representative and describe the problem. He *might* be able to save some of the information.







### When to Use This Procedure

Use this procedure when one of the following happens:

- A message says you have a problem with a tape and told you to use this procedure.
- Information you expected to find on a tape is missing or is not complete.

In order to finish this procedure, you need to know the volume identifier (VOLID) of the tape affected by the problem.

### Outline of This Procedure

In this procedure, you do the following:

- 1** Get information to do the procedure, such as the volume identifier of the tape with problems (step **1**.)
- 2** Find out if the information you are interested in is saved on the tape with problems (steps **2** through **6**).
- 3** Check for tape damage by:
  - a.** Printing the volume statistics report (steps **7** through **9**).
  - b.** Examining the volume statistics report (steps **10** through **19**).



The procedure starts here.

### Getting information to do the procedure.

1

Get the following information before starting the procedure.



Check that there are no messages about the problem.



#### How to find messages:

See *Checking for Messages* in Chapter 2 for instructions on how to check for messages.



Find the volume identifier (VOLID) of the tape with the problem.



#### How to find the volume identifier:

If you received a message about the problem, the message should tell the volume identifier.

Otherwise, you can load the tape with the problem, onto the tape drive and enter the `DSPTAP` command (see step **4** for an example). The system displays the volume identifier of the tape.

If another tape uses the same identifier as the one with the problem, you cannot continue this procedure. Call your programmer and describe the problem.



#### Why you cannot continue this procedure:

In this procedure you use system reports about tapes. If the tape does not have an identifier, the system cannot save information about the tape. If two tapes have the same identifier, the system combines information about both tapes in one report, so you do not get accurate information.

If you cannot get the volume identifier, you cannot continue this procedure. Call your programmer and describe the problem.

After you have checked the above item, continue this procedure.

## Checking for information on the tape.

- 2 

Are you having problems finding information, such as a data file, on the tape?

Yes  No

Go to step 7.
- 3 

Load the tape you are having problems with on one of your tape drives.
- 4 

Do one of the following:

  - If you saved objects or libraries on the tape, enter:  
DSPTAP DEV (nnnnn) DATA(\*SAVRST)
  - If not, enter:  
DSPTAP DEV (nnnnn) DATA(\*LABELS)

Replace nnnnn with the name of the drive you loaded the tape on.
- 5 

On the display, find the name of the object, such as a file, that you are interested in.

### How to load tapes on the tape drive:

See the *System/38 Operator's Guide* for instructions.

### What the DSPTAP command does:

The DSPTAP command displays a list of everything that is saved on the tape.



6

Can you find the object name?

Yes

No

The information you are interested in is not saved on this tape.

Find the tape with the information.

Continue normal system work.

## Checking for tape damage: printing the volume statistics report.

7 Print the volume statistics report by entering:  
LSTERRLOG TYPE (\*VSDR)

8 The system writes the volume statistics report into a spooled output file.

9 When the system prints the report, find the part of the report about tapes.

### What the command does:

If you choose \*VSDR when entering the LSTERRLOG command, the system prints a **volume statistics report**, telling you how the volumes (diskettes and tapes) used on your system are working.

The report has two parts: one for diskettes, another for tapes.

### How to get the report printed:

The system, as it is supplied by IBM, writes the report into a spooled output file named QPCSMRPT on the output queue QPRINT.

The system begins printing the report when the spooling subsystem is started, a printer writer is started to the output queue, and a printer is ready.

### How to find the part of the report about tapes:

The part of the report about tapes looks like this:

VOLID	DRV/DNS	READ ERRORS	READ OPS	WRITE ERRORS	WRITE OPS	WRITE SKIPS	NOISE
ALPHA	3411 P	7	2537	42	8246	73	0
ALPHA	3410-1P	215	48434	723	46784	1456	0
ALPHA	3410-2P	23	OVRFLOW	82	2225	437	0
BAKER	3410-3N	0	3468	7	48569		31



## Checking for tape damage: examining the volume statistics report.

- 10 Find the volume identifier (VOLID) for the tape you are having problems with, and its tape drive (DRV/DNS).

**Note:** If you have more than one tape drive, you will probably find the volume identifier listed as many times as the number of tape drives you have. The system saves separate information on how the tape works on each tape drive.

- 11 Divide READ ERRORS by READ OPS for each time the volume identifier name appears on the report.

This gives you the **read error rate**.

If the value for READ ERRORS or READ OPS is OVRFLOW, do the following:

1. Run again the job using the tape.
2. Go back to step 7.

### Where to find the identifier:

VOLID	DRV/DNS	READ ERRORS	READ OPS	WRITE ERRORS	WRITE OPS	WRITE SKIPS	NOISE
ALPHA	3411 P	7	2537	42	8246	73	0
ALPHA	3410-1P	215	48434	723	46784	1456	0
ALPHA	3410-2P	23	OVRFLOW	82	2225	437	0
BAKER	3410-3N	0	3468	7	48569		31
FELIX	3411 N	3	3456	8	2847		12
PINHD1	3410-1P	2857	OVRFLOW	345	8764578	821	0
PINHD2	3411 P	25	238747	35	747491	64	0
SLUGO1	3410-1N	0	468	2	848		5

Look here.

### Where to find the information:

The name ALPHA appears three times, therefore, you must find 3 read error rates.

VOLID	DRV/DNS	READ ERRORS	READ OPS	WRITE ERRORS	WRITE OPS	WRITE SKIPS	NOISE
ALPHA	3411 P	7	2537	42	8246	73	0
ALPHA	3410-1P	215	48434	723	46784	1456	0
ALPHA	3410-2P	23	OVRFLOW	82	2225	437	0
BAKER	3410-3N	0	3468	7	48569		31
FELIX	3411 N	3	3456	8	2847		12

For tape ALPHA, divide 7 by 2537; then divide 215 by 48434; then 23 by 4445.

### What OVRFLOW means:

The volume statistics report can print up to seven digits for a specific report value. When a value is larger than seven digits, the system prints the word OVRFLOW.

12

Is one of the following true?

- All of the read error rates you figured are the same.
- Your system has more than one tape drive.

Yes

No

Go to step 17.

13

Find the read error rates for other tapes used on the system.

14

Is the error rate greater than the error rates for other tapes used on those tape drives?

Yes

No

The report does not show a problem.

See your programmer. Perhaps one of the following is causing the problem:

- The copy of the object (system item) saved in the system was not complete, or was damaged when you copied the object onto the tape.
- You did not handle the tape properly, causing problems using it.



**15** Your tape is probably damaged, and should not be used anymore.

Copy the information saved on this tape onto another tape. You might not be able to save all of the information from the damaged tape.

**16** Continue normal system work.

**What the problem is:**

Through use, the tape has been damaged. Information cannot be read from, or copied onto, the tape without certain problems occurring and possibly some information lost. Call your service representative to help you recover as much information as possible from the tape.

17 Find the read error rates for other tapes used on the tape drive where the tape had the highest error rate. (If you only have one tape drive, figure the read error rate for other tapes used on the tape drive.)

18 Is the error rate for other tapes used on this tape drive higher than their read error rate when used on other tape drives?

Yes

No

There is a problem with the tape drive.

Clean the read/write heads on the tape drive.

If this does not solve your problem, call your service representative. Explain that you might have a problem with the tape drive, and explain the procedure you have done so far. Also describe the error message you received (if any).

**How to find the error rate:**

See the instructions for step 11.

For example, if the tape had highest read error rate on when on DRV (drive) 3411, look at the read error rates for other tapes used on that tape drive.

**What the problem might be:**

A problem with the tape drive is causing problems with most or all of the tapes used on your system.

**How to clean the read/write heads:**

See the operator's guide for the tape drive.



19

Do you have more than one tape drive?

Yes

No

Your tape is damaged, and should not be used anymore. Copy the information saved on this tape onto another tape. Note that you might not be able to save all of the information from the damaged tape.

Continue normal system work.

20

Use this tape on one of the other tape drives.

Clean the read/write heads of the tape drive on which the problem occurred. Then use this tape drive again.

**If the tape has problems when used on other tape drives,** the tape is damaged and should not be used anymore. Copy the information saved on this tape onto another tape. Note that you might not be able to save all the information from the damaged tape.

**If cleaning the read/write heads** does not stop tapes from having problems when used on the tape drive, then the tape drive is damaged. Call your service representative and describe the problem.

#### What the problem is:

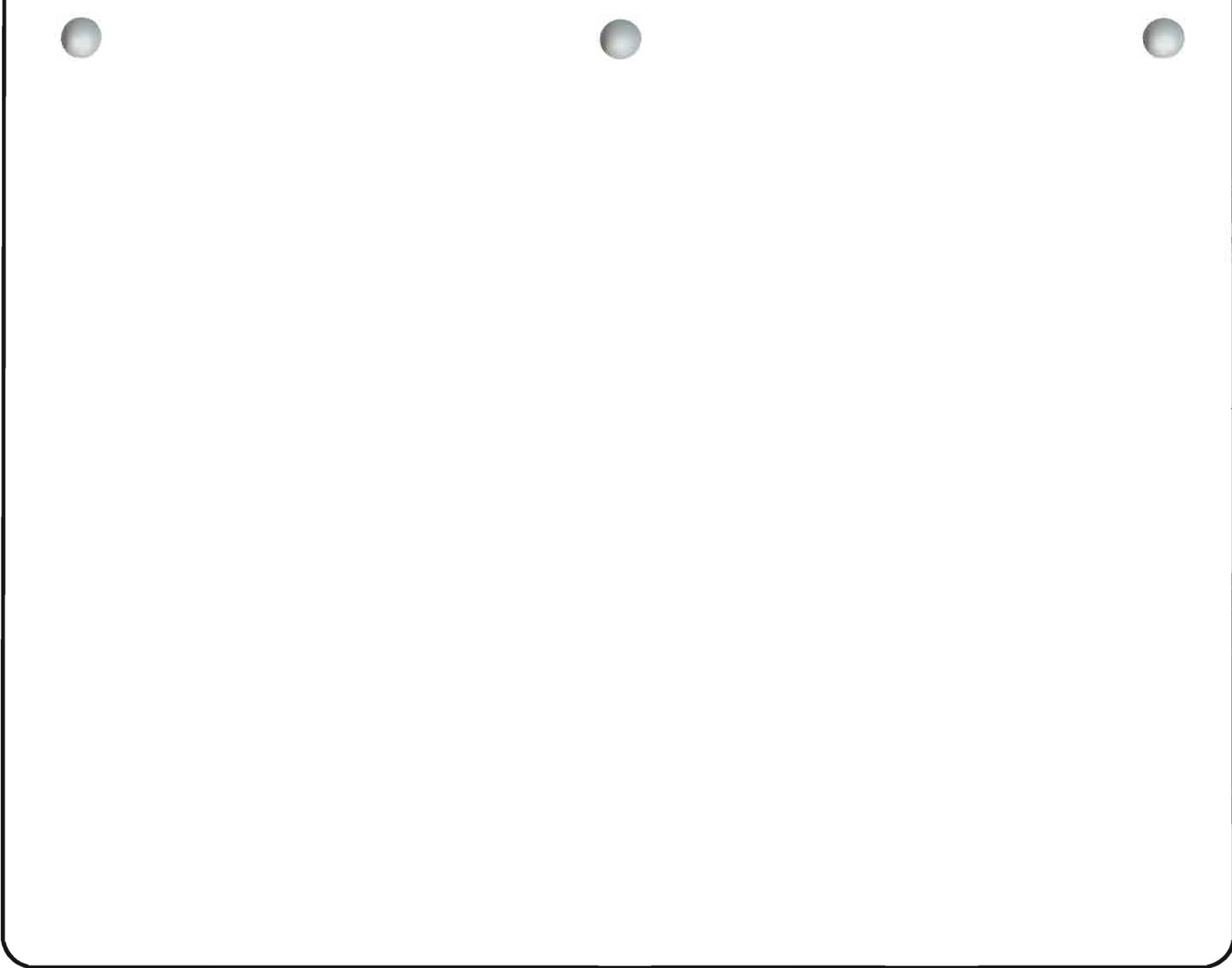
Through use, the tape has been damaged. Information cannot be read from, or copied onto, the tape without certain problems occurring, and possibly some information lost.

#### How to clean the read/write heads:

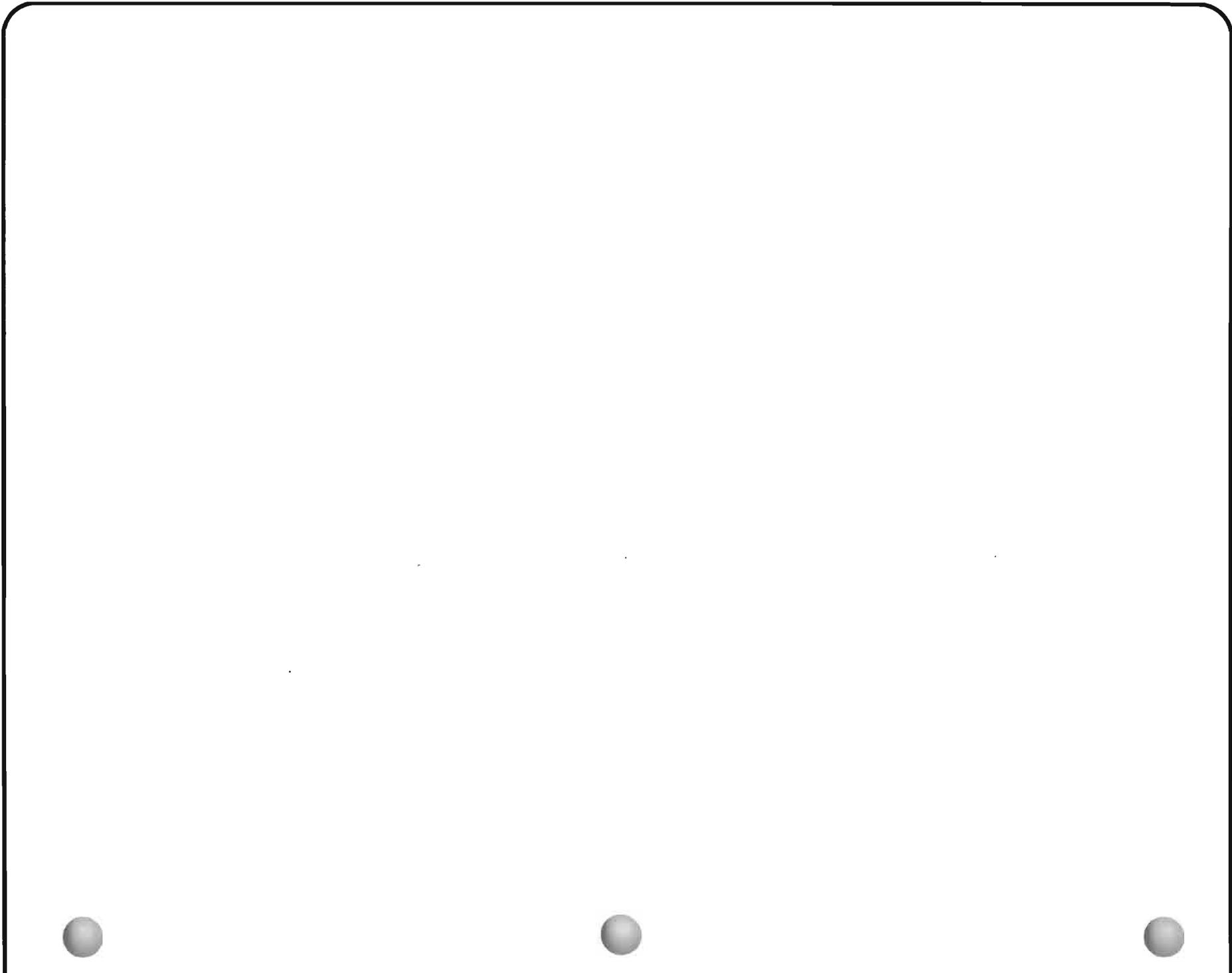
See the *System/38 Operator's Guide* for instructions.

#### What the problem is:

Through use, the tape has been damaged. Information cannot be read from, or copied onto, the tape without certain problems occurring, and possibly some information lost.



**Part Two: Getting Information About Problems**





This chapter describes the following:

- Where to find messages in the system.
- How to display or print the job log and use it to find messages about a problem.
- How to display or print the history log, and use it to find messages about a problem.
- How to respond to messages.
- PDP codes.
- Error log numbers (from the first-level message).



Follow the procedure in this section **BEFORE** doing the following procedures in Chapter 1:

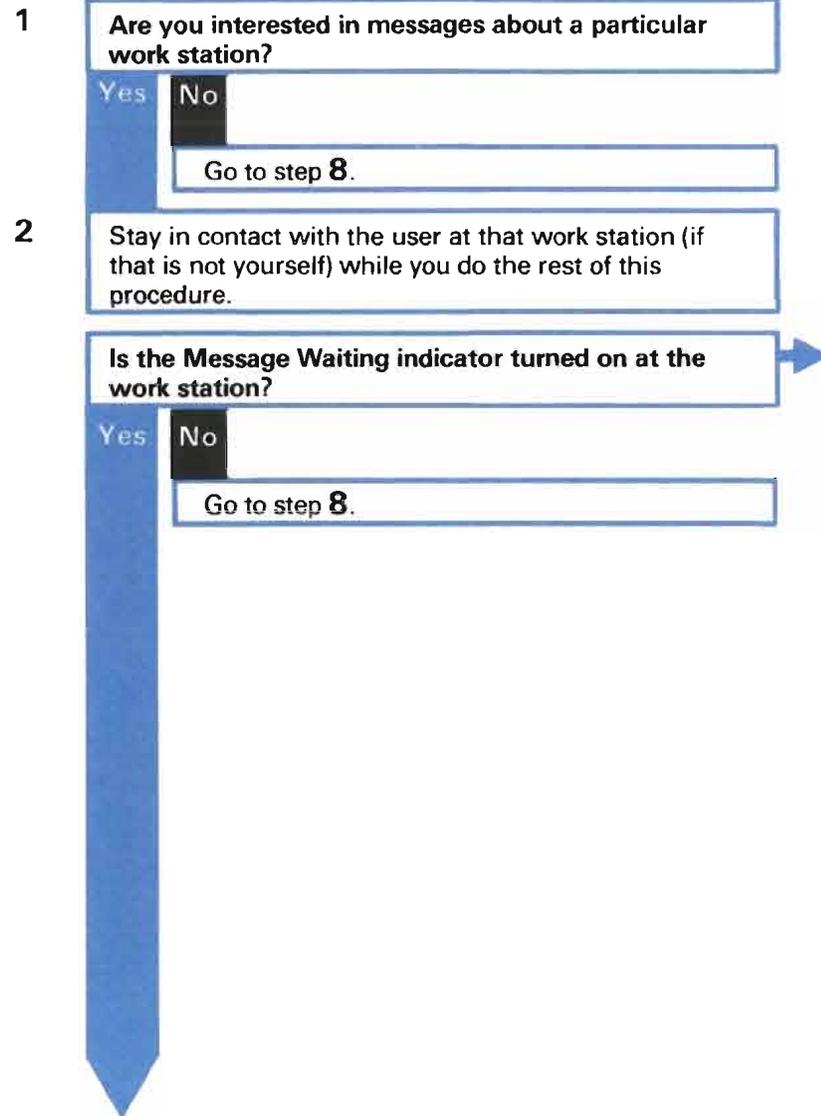
- Procedure D: *Remote Equipment Problem, (No Message Received)*
- Procedure E: *Output Problem*
- Procedure F: *Work Station Job Problem (Input Inhibited On Too Long)*
- Procedure G: *Batch Job Problem*
- Procedure H: *Work Station Problem*
- Procedure J: *Device Problem*
- Procedure K: *Diskette Problem*
- Procedure L: *Tape Problem*

Also use this procedure when you need to know where to look for error messages, job or device status messages, or inquiry messages (messages that you must respond to).



The procedure starts here.

Displaying work station messages.



#### About the Message Waiting indicator:

The Message Waiting indicator on your display station screen turns on when a message is received by the work station message queue. This indicator stays as long as the work station message queue has messages in it.

3

Is one of the following true:

- The Input Inhibited indicator is turned on
- The user cannot get the command entry display
- The user cannot get a menu that lets him enter commands (such as the system operator menu)

No

Yes

Tell the user to get the system request menu. →

If you cannot get the system request menu, see your programmer. Explain that you could not get the system request menu. Your programmer might refer to *More Information about Solving Work Station Job Problems* at the end of Procedure F for more information about this problem. →

Ask the user display to display the work station messages. →

Go to step 5.

### How to get the menu:

At the same time, press the Shift key and the Sys Req/Attn key. The following pattern appears on the bottom of your screen.

```
|_|_|_|_|
```

Press the Enter key.

### What your problem might be:

There could be a performance or programming problem, because the system usually responds to your request for the system request menu. Or, your work station is controlled by a certain program, so the system cannot display the system request menu for you.

### How to display messages:

Enter a 4 in the space beside Option on the system request menu.

```

SYSTEM REQUEST MENU          System: SYSTEM01
Select one of the following:
 1. Transfer to secondary interactive job
 2. Cancel previous request
 3. Display current job
 4. Display messages (msgq)
 5. Send message 'msg' tomsgq
10. System request menu at source system (If BGNPASTHR active)
11. Transfer to source/target system (If BGNPASTHR active)
90. Sign off (*NOLIST *LIST)
Option: _ CP4-Prompt (4, 5 and 90)
Parameters:

```

Enter a 4 here.



4

Ask the user to enter:

DSPMSG

at his work station.

5

Respond to each message if needed, by entering the correct reply or taking the correct action.



6

Ask the user to return to his original job.



7

Continue normal system work.

If you also want to see messages about system operations, continue this procedure.

**How to respond to messages:**

Go to *Responding to Messages* in this chapter for instructions.

**How to return to the original job:**

Press the CF1 key. This returns the user to the system request menu.

Press the CF1 key again. This returns the user to his original job at the point where he stopped it.

## Checking the system operator message queue.

8 At the system console, display the system operator message queue.

9 Is the delivery mode:  
\*DFT  
(default delivery mode)?

Yes

No

Go to step 13.

### How to display the system operator message queue:

Enter.

```
DSPMSG MSGQ(QSYSOPR)
```

If you receive a message saying that the system operator message queue is allocated to another job, go to the *System/38 Operator's Guide* for instructions on displaying this queue.

### How to find the delivery mode:

```
MESSAGE QUEUE- QSYSOPR                      System: SYS01
Seq: 00  Delivery: BREAK                      Pgm: DSPMSG
Wtr QSYSPRT stopped printing file QQRYPRT at page 33.

CF6 - Remove a message  CF7 - Display all  CF8 - Remove all
```

Look next to Delivery

This is the delivery mode.



- 10 Change the delivery mode, so the system does not respond to inquiry messages with default (assumed) replies.

#### What the problem is:

In default delivery mode, the system gives an assumed response to reply to these messages. In many cases, the given reply tells the system to stop the process or cancel the job it is working on.

#### How to change the delivery mode:

Enter:

```
CHGMSGQ MSGQ(QSYSOPR) DLVRY(*break) SEV(50)
```

Replace **\*break** with the way you want the system to send messages. In **break mode**, the system breaks into your job to send you an inquiry message.

- 11 Check the history log to see what types of operations were stopped, and which jobs were canceled, while the system operator message queue was in default delivery mode.

#### How to display the history log:

See *Using the History Log* in this chapter for instructions on displaying the history log.

- 12 Did these messages give you information about the problem?

No

Yes

Fix the problem.

Continue normal system work.

When you start system work, you might want to start again the jobs and functions that the system canceled.

13

Look for messages that show one of the following:

- A problem (error).
- Something that needs your attention.
- You need to respond to a message.

**Example messages:**

Example of a problem message:

```
Control unit CTL1 failed;  
ERR:0022-9876-65A32FB22905EDB15
```

Example of a message that needs your attention:

```
Press Start on printer
```

Example of a message that you need to respond to:

```
Forms aligned on printer prt1? (CGIR)
```

14

Are there any such messages?

No

Yes

Respond to the message.

Continue normal system work.

**How to respond to messages:**

See *Responding to Messages* in this chapter for instructions.



15 Do you want to continue looking for messages?

No

Yes

Go to one of the following procedures:

- For information about a certain job, go to *Using the Job Log* in this chapter.
- For messages about system operations, go to *Using the History Log* in this chapter.

16 Do one of the following:

- If another procedure in this guide sent you to this procedure, return to that procedure.
- If you are trying to solve a problem, go to Part I of this guide to find out which procedure to use.
- Otherwise, continue normal system work.

#### What these message logs tell you:

The system records more detailed information about system and job actions in these logs. The history log also covers information on system work for a longer time period than covered in the system operator message queue.

This section describes how to print or display a job log, and how to identify the parts of a job log, and find information in it that might note a problem.

The system prints a job log for each job in the system after the job is finished. The job log is a record of each system action in your job, such as which programs you started and stopped, and each message sent to your job. You can check this information to see if each action was an action you expected to occur, and if not, what might have caused this action.

The amount of information included in the job log depends on the logging parameters chosen for the job. The logging parameters include:

- The message level, which determines how much information is included in the job log. If the message level is 0, no job log is printed.
- The message severity, which issues only messages that fit the message severity used.
- The message text level, which defines what message text is to be logged. You can log:
  - Only first-level message text (\*MSG)
  - Both first- and second-level message text (\*SECLVL)
  - No message text unless the job ends abnormally (\*NOLIST)

Note that you can change the Logging parameters by using the JOB , SBMJOB , or CHGJOB command. If the logging parameters are changed, the logging values in the job description are no longer correct.

For more information about logging parameters, see the *CL Reference Manual*.



## Printing or displaying the job log.

- 1 Check the following before you print or display a job log: 



Get the name and the output queue of the job you are interested in.

### How to find the job name:

If the job is a work station job, display the job by entering:

DSPJOB

at the work station where the job is active.

The job name is shown on the top line of the display job menu.

```

                                DISPLAY JOB MENU
Job:  WSL      User:  QUSER      Nbr:  009933
Select one of the following:
 1. All of 2 through 12
 2. Status attributes
 3. Definition attributes
 4. Execution attributes, if active
 5. Program invocation stack, if active
 6. Spooled files
 7. Locks, if active
 8. Commitment control status, if active
 9. Library list, if active
10. Open files, if active
11. File overrides, if active
12. Job log, if active or on job queue

Option: 1

CP3-CHGJOB
  
```

This is your job name: **WSL . QUSER . 009933.**

If the job is a batch job (a job started by entering a command beginning with SMB and ending with JOB , or a job started when you started a spooling reader), enter:

DSPSBMJOB

at the work station where you started that job.

The system displays a list of all batch jobs that are currently active and started at that work station.

### How to find the output queue:

Select option 3 on the display job menu and check the value for OUTQ .



The job is still active.

**Note:** If the job is not active, there might still be a job log waiting to be printed. See step **4** of this procedure.

After you have checked the above items, continue this procedure.

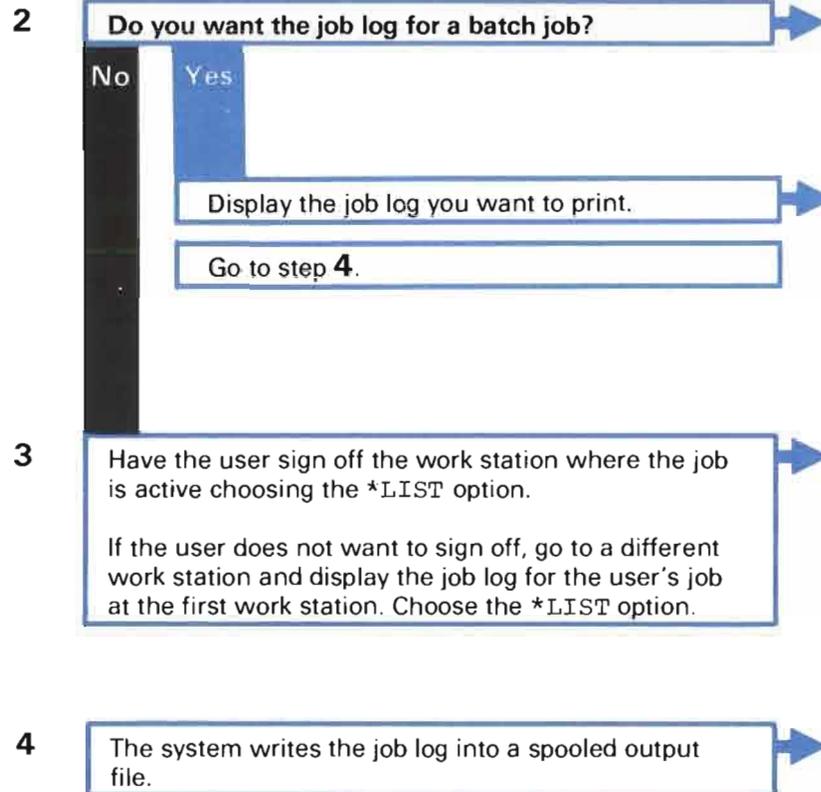
#### How to find out if a job is still active:

Display which jobs are currently active by entering:

```
DSPACTJOB
```

If you can find the name of the job you are interested in on the display, the job is active.



**What a batch job is:**

A batch job is a job started by entering a command beginning with and ending with SBM, or a job started when you started a spooling reader.

**How to display the job log:**

Enter:

```
DSPJOBLOG JOB(wsl.quser.009933)
OUTPUT(*LIST)
```

Replace `wsl.quser.009933` with the name of the job you want to cancel.

**How to sign off:**

Enter:

```
SIGNOFF *LIST
```

at the work station where the job you are interested in is active. If you cannot sign off, use the System Request key and enter option 90 with the \*LIST parameter.

**Which output file:**

The system, as it is shipped from IBM, writes the job log into a spooled output file named QPJOBLOG.

5

Do you want to display the job log?

No

Yes

Display the output queue where job logs are sent.

Display the job log file.

Find the information you are interested in.

Continue normal system work.

#### How to display the output queue:

Enter.

```
DSPOUTQ OUTQ(qprint)
```

Replace `qprint` with the name of the output queue assigned to the job. As the system is shipped from IBM, `qprint` is the output queue where job logs are sent to be printed.

If you do not know which output queue job logs are sent to, you can use the `DSPJOB` command and select option 3 on the display job menu.

#### How to display the job log file:

Enter a 1 in the space beside the name of file `qpjoblog` that has your job name.

#### How to find information in the job log:

See *Reading the Job Log* later in this section for instructions on how to read a job log.



6 You want to print the job log. The system prints the job log automatically. 

Was a job log printed?

Yes

No

Call your programmer and explain that no job log was printed.

One of the following probably caused this problem:

- Job logs are not produced for jobs running on your system.
- The printer is not working properly. Go to Procedure E: *Output Problem* to start solving the problem.

7 When the job log is printed, look for messages that describe a problem.

For more information on reading job logs, go to *Reading the Job Log* later in this section.

8 Continue normal system work.

### How the system starts printing:

The system starts printing when the following happen:

- a. The spooling subsystem is active. To start the spooling subsystem, enter:

```
STRSBS SBSD(qspl)
```

Replace `qspl` with the name of your spooling subsystem. `qspl` is the name of the spooling subsystem supplied by IBM.

- b. A printer writer is started to the output queue where the file was sent to. Start a printer writer by entering:

```
STRPRTWTR DEV(qsysprt) OUTQ(qprint)
```

Replace `qsysprt` with the name of the printer that will print the job log. `qsysprt` is the name given by IBM for the system printer.

Replace `qprint` with the name of the output queue where job logs are sent. On the system supplied by IBM, job logs are sent to the `qprint` output queue.

If you do not know the names used on your system, ask your programmer.

- c. The printer must be ready.

## Reading the job log

This section describes how to find specific information in a job log.

### What a job log is

The job log is a record of each message the system sent because of a job. These messages include the following:

- Commands you entered from the keyboard (but not commands in a program).
- All responses to your requests.
- Messages about programs the system ran as a result of your requests. These messages are not normally displayed at a work station.

The system prints this information after the job ends.

You may not find all of these messages in your job log. The messages written into your job log are at or above the message severity level (importance) stated in the LOG parameter of your job description. Job descriptions are described in more detail in the *CPF Programmer's Guide*.



**Information in the job log.**

The message type. For example, RQS (request) indicates a command issued within the job.

The time each message was sent.

The message identifier. You would use this identifier, for example, to find the PDP code.

The full name of the job (job name, user name, and job number).

The message severity (importance).

```
5714SS1 R02 MOB 800919          SYSTEM/38 JOB LOG
JOB NAME - WSPR1                USER - QSPLOJB          NBR - 000205
TIME  MSGID  SEV  TYPE  MESSAGE TEXT
141608 CPF1124 00 INFO JOB WSPR1.QSPLJOB.000205 STARTED ON 09/30/80 AT 14:16:08.
RQS -CALL QSPWTRM1.QSYS
```

```
141617 CPF5316 99 SNDR VERIFY ALIGNMENT ON FILE QPSPLPRT.QSYS DEVICE WSPPR1 (I C G R)
ENTER I TO ACCEPT CURRENT ALIGNMENT AND CONTINUE PRINTING, OR ENTER C TO
CANCEL PROCESSING, OR ENTER G TO SKIP TO FIRST LINE OF NEXT FORM, REPRINT F
IRST LINE AND CONTINUE PRINTING OR ENTER R TO REPRINT FIRST LINE AND STOP TO
VERIFY FORMS ALIGNMENT AGAIN.
```

The instruction that the program sending the message was working on when the message was sent. This is a machine instruction and does not correspond to an instruction in a high level language program (such as RPG III).

The program and instruction to which the message or request was sent.

The program and instruction which sent the message or request.

The date and time the system started the job.

```
09/30/80 14:16:08          PAGE 1
FROM PGM          INST  TO PGM          INST
QWTPPLPP          0024 *EXT          0000
QWTCCSBJ          0000 QCL           0000
QPNXPRMA          0087 QPNXPRMA       0087
```

## Using the job log to solve problems

To find information about a problem, look in the job log for messages that might note a problem. The system sends the following types of messages:

- \*COMP (completion). A message telling you that the system finished a function.
- \*COPY (sender's copy). A copy of any inquiry or notify message kept by the sender.
- \*DIAG (diagnostic). A message about a problem that occurred in a system function, application program, or with input data.
- \*ESCAPE (escape). A message that describes a condition that, unless monitored, causes a program to terminate abnormally (end with problems).
- \*INFO (informational). A message that tells you information about a function.
- \*INQ (inquiry). A message that you must reply to.
- \*NOTIFY (notify). A message that tells you about a condition you must fix, or that must be replied to.
- \*RPY (reply). A response to an inquiry or notify message that you received.
- \*RQS (request). A message that asks the receiver to perform a function. The receiver could be another program.
- \*STATUS (status). A message that describes the status of a program.

Function check and escape messages describe the most serious problems. However, they usually follow messages that describe the problem in more detail.

*Try this example:*

Look at the example job log on the following page.

The job log lists the events leading up to a problem in the order those events occurred.

Note that an error occurred between the system and the printer WSPR1, so the system sent an **escape** message. The printer stopped working, and the system canceled the printer writer using the printer, as shown by the **two** escape messages.

As you can see, sometimes it is helpful to read the messages that were sent before the messages that show the most severe problems.



5714551 R02 MON 800919 SYSTEM/36 JOB LOG  
 JOB NAME - WSPR1 USER - QSPLJCB NBR - 000205

The writer was successfully started

A message to check the alignment of the printer was sent.

```

141608 CFF1124 00 INFO JOB SIGNAL RECEIVED, JOB STOPPED BY SIGNAL ON 09/25/80 AT 14:16:08.
          -CALL OPERATOR, DATA

141617 CFF5316 99 SNDR VERIFY ALIGNMENT ON FILE QSPRPT.DCFF DEVICE WSPR1 AT C O G BY
          ENTER 1 TO ACCEPT CURRENT ALIGNMENT AND CONTINUE PRINTING, OR ENTER 2 TO
          CANCEL PROCESSING, OR ENTER 3 TO SKIP TO FIRST LINE OF NEXT FORM, REPRINT F
          IRST LINE AND CONTINUE PRINTING OR ENTER 4 TO REPRINT FIRST LINE AND STOP TO
          VERIFY FORM ALIGNMENT AGAIN.

141649 RPY
141657 CFF5266 50 ESC UNEXPECTED ERROR ON PRINTER WSPR1. SIGNAL STATUS IS OCCASION
          SEE MESSAGE IN USER'S MESSAGE GUIDE, PAGE 7136 FOR DEFINITION OF SIGN
          AL STATUS.
          FUNCTION CHECK. CHECKER IGNORED BY QSPRPTM AT 14:16:48.
          SEE MESSAGES PREVIOUSLY LISTED. CORRECT ERRORS. SUBMIT REQUEST AGAIN.

141702 CFF2472 50 COMP JOB CANCELED. JOB WITH SEVERITY SIGNAL 50 OR OPERATOR CANCELED SEVERITY RECEIVED AT QCL.
          SEE MESSAGE PREVIOUSLY LISTED TO DETERMINE MESSAGE THAT CAUSED JOB TO BE CANCELED. CORRECT ERRORS. SUBMIT REQUEST AGAIN.
          POSTING STEP TERMINATED ABNORMALLY.
          SEE MESSAGES IN JOB LOG.

141704 CFF1164 00 COMP JOB WSPR1 SIGNAL 50/5000 COMPLETED ON 09/25/80 AT 14:17:04.
  
```

09/25/80 14:16:08 PAGE 1

FROM PGM	INST TO PGM	INST
QWTRN.FPF	0024 *EXT	0000
QWVCCSBJ	0000 QCL	0000
QPNXPRMA	0067 QWSPRMA	0067
QMRDSMSS	0125 QPNXPRMA	0067
QPNXPRMA	0104 QSPRPTMT	0068
QWUNMSG	0000 QCL	0043
	0085 *EXT	0000
QWTPITPP	003F *EXT	0000
QWTRCEOJ	005F *EXT	0000

Because the writer program could not fix the problem, this function check was sent.

The system also stopped the writer, as shown by the three messages.

When the writer began, this message showed that a problem occurred with the communications between the system and the printer.

The writer was stopped until the operator entered this reply.

This section describes the following:

- How to get information about system work from the history log.
- How to find problems by reading the history log.

The *history log* is a record of all major system events. This record includes:

- All jobs started, including batch jobs and subsystem jobs
- All jobs finished and if those jobs finished normally
- Errors on devices and objects that were damaged
- Copies of each message sent to the system operator message queue

You could examine the history log to find out how a job ended, device errors that happened, and objects (information saved in system storage) that were damaged. The history log also covers a period longer than that covered by the system operator message queue, so you have a more complete record of system work.



## Getting information from the history log.

1

Find the type of information you want in the following chart.

Take the action described under *How to get the information*.

### Type of information you want:

Messages about a certain job.

### How to get the information:

#### If you want to display this information:

a. Enter:

```
DSPLOG JOB(ws1.quser.009933)
```

Replace `ws1.quser.009933` with the name of the job you want information about.

b. See *Reading the History Log* in this section for information on how to use the history log to find the cause of problems.

c. Continue normal system work.

#### If you want to print this information:

a. Enter:

```
DSPLOG JOB(ws1.quser.009933) OUTPUT(*LIST)
```

Replace `ws1.quser.009933` with the name of the job you want information about.

b. Go to step **2** following this chart.

**Type of information you want:**

A certain message (for example, message cpf1988)

**How to get the information:**

**If you want to display the information:**

- a. Enter:

```
DSPLOG MSGID(cpf1988)
```

Replace cpf1988 with the identifier of the message you want to display. If you enter 0 for any of the last four characters of the MSGID, the system displays all messages between 0 and 9. For example, if you enter CPF1980, the system displays all messages between CPF1980 and CPF1989.

- b. See *Reading the History Log* for information on how to use the history log to find the cause of problems.
- c. Continue normal system work.

**If you want to print this information:**

- a. Enter:

```
DSPLOG MSGID(cpf1988) OUTPUT(*LIST)
```

Replace cpf1988 with the identifier of the message you want to display. If you enter 0 for any of the last four characters of the MSGID, the system displays all messages between 0 and 9. For example, if you enter CPF1980, the system displays all messages between CPF1980 and CPF1989.

- b. Go to step **2** following this chart.



**Type of information you want:**

All information about today's system work.

**How to get the information:****If you want to display the information:**

- a. Enter:

```
DSPLOG
```

- b. See *Reading the History Log* in this section for information on how to use the history log to find the cause of problems.

- c. Continue normal system work.

**If you want to print the information:**

- a. Enter:

```
DSPLOG OUTPUT (*LIST)
```

- b. Go to step **2** following this chart.

**Type of information you want:**

All information about system work during a certain time period.

**How to get the information:**

**If you want to display the information:**

- a. Enter:

```
DSPLOG PERIOD((090000 061882)(100000 061982))
```

Replace 090000 with the beginning time of the period in the form: hours minutes seconds.

Replace 061882 with the beginning date of the period in the form: month date year.

Replace 100000 with the ending time of the period in the form: hours minutes seconds.

Replace 061982 with the ending date of the period in the form: month date year.

- b. See *Reading the History Log* in this section for information on how to use the history log to find the cause of problems.
- c. Continue normal system work.

**If you want to print the information:**

- a. Enter:

```
DSPLOG PERIOD((090000 061882)(100000 061982)) OUTPUT(*LIST)
```

Replace 090000 with the beginning time of the period in the form: hours minutes seconds.

Replace 061882 with the beginning date of the period in the form: month date year.

Replace 100000 with the ending time of the period in the form: hours minutes seconds.

Replace 061982 with the ending date of the period in the form: month date year.

- b. Go to step 2 following this chart.



2 The system writes the history log into a spooled output file.

3 When the history log is printed, look in the history log for messages that describe a problem.

4 Continue normal system work. The following section, *Reading the History Log*, explains how to find information in the history log.

**If a history log is not printed**, make sure that you entered the correct values on the STRPRTWTR and STRSBS commands. If you did enter the commands correctly, go to Procedure E: *Output Problem* in Chapter 1.

#### Which output file:

The system, as it is shipped from IBM, writes the history log into a spooled output file named QPDSPLOG:

#### How the system starts printing:

The system starts printing when the following occur:

- a. The spooling subsystem is active. To start the spooling subsystem enter:

```
STRSBS SBSD(qspl)
```

Replace `qspl` with the name of your spooling subsystem. `qspl` is the name of the spooling subsystem supplied by IBM.

- b. A printer writer is started to the output queue where the history log was sent to. Start a printer writer by entering:

```
STRPRTWTR DEV(qsysprt) OUTQ(qprint)
```

Replace `qsysprt` with the name of the printer that will print the history log. `qsysprt` is the name given by IBM for the system printer.

Replace `qprint` with the name of the output queue where the system sends the history log.

If you do not know which output queue the logs are sent to, you can use the DSPJOB command and select option 3 on the display job menu.

If you do not know the names used on your system, ask your programmer.

- c. The printer must be ready.

## Reading the history log

### What the history log is.

The history log is a complete record of system activity, including:

- A record of each job started and finished. If a job did not finish normally, that is noted, too.
- A record of each device problem, and other messages describing problems with devices.
- A note about each object (system item) that is damaged.
- Copies of each message sent to the system operator message queue.

You display or print all of the history log, or you can get certain pieces of information from it, such as certain error messages, messages about a certain job, or messages about system work on a certain day.



Information in the history log.

MSGID	SEV	MSG TYPE	Message text	Time message was sent
CPF1164	00	COMPLETION	JOB WS1.QSFCOFF.000405 STARTED ON 10/02/80 AT 16:11:21.	10/02/80 16:11:21
CPF1164	00	COMPLETION	JOB WS1.QSFCOFF.000405 COMPLETED ON 10/02/80 AT 16:15:41.	10/02/80 16:15:41
CPF2677	70	INFO	DEVICE WS1 UNUSABLE.	10/02/80 10:15:56
CPF2727	00	COMPLETION	DEVICE WS1 VARIED OFF	10/02/80 16:16:02
CPF1195	70	INFO	SUBSYSTEM QINTER DEALLOCATED WORK STATION WS1.	10/02/80 16:16:02
CPF3390	00	INFO	WRITER QSYSVRT ENDED	10/02/80 16:18:41
CPF1164	00	COMPLETION	JOB QSYSVRT.QSPLJOB.000375 COMPLETED ON 10/02/80 AT 16:18:44.	10/02/80 16:18:44
CPF1124	00	INFO	JOB WSPR1.QSPLJOB.000406 STARTED ON 10/02/80 AT 16:19:13.	10/02/80 16:19:13
CPF3382	00	INFO	WRITER WSPR1.QSPLJOB.000406 SUCCESSFULLY STARTED BY USER QSYSOPR	10/02/80 16:19:16
CPF5316	99	INQUIRY	VERIFY ALIGNMENT ON FILE QPSPLPRT.QSYSDEVICE WSPR1 (I C G R)	10/02/80 16:19:22
CPF5316	99	INQUIRY	VERIFY ALIGNMENT ON FILE QPSPLPRT.QSYSDEVICE WSPR1 (I C G R)	10/02/80 16:19:35
CPF0930	60	INFO	QCONSOLE QSYSOPR 000354 PWRDNGYS COMMAND EXECUTION IN PROGRESS.	10/02/80 16:21:43
CPF1164	00	COMPLETION	JOB QBATCH.QSYS.000357 COMPLETED ON 10/02/80 AT 16:21:44.	10/02/80 16:21:44
CPF1164	00	COMPLETION	JOB WSPR1.QSPLJOB.000406 COMPLETED ON 10/02/80 AT 16:21:49.	10/02/80 16:21:50
CPF0927	60	INFO	SUBSYSTEM QBATCH TERMINATED.	10/02/80 16:21:56
CPF1164	00	COMPLETION	JOB QINTER.QSYS.000356 COMPLETED ON 10/02/80 AT 16:21:56.	10/02/80 16:21:57
CPF1164	00	COMPLETION	JOB QCONSOLE.QSYSOPR.000354 COMPLETED ON 10/02/80 AT 16:22:01.	10/02/80 16:22:01
CPF1164	00	COMPLETION	JOB QSPL.QSYS.000358 COMPLETED ON 10/02/80 AT 16:22:03.	10/02/80 16:22:03
CPF0927	60	INFO	SUBSYSTEM QSPL TERMINATED.	10/02/80 16:22:06
CPF0927	60	INFO	SUBSYSTEM QINTER TERMINATED.	10/02/80 16:22:14
CPF1164	00	COMPLETION	JOB QCTL.QSYS000355 COMPLETED ON 10/02/80 AT 16:22:29.	10/02/80 16:22:29
CPF0927	60	INFO	SUBSYSTEM QCTL TERMINATED.	10/02/80 16:22:32
CPF2727	60	COMPLETION	DEVICE QCONSOLE VARIED OFF	10/02/80 16:22:30

Identifier of the message such as cpf1000

Severity (importance) of message

Message type, such as information (\*INFO) or inquiry (\*INQ)

Message text

Time message was sent

Which user message was sent to

Date message was sent

## Using the history log to solve problems.

Here are some suggestions on how to use the history log to solve a problem:

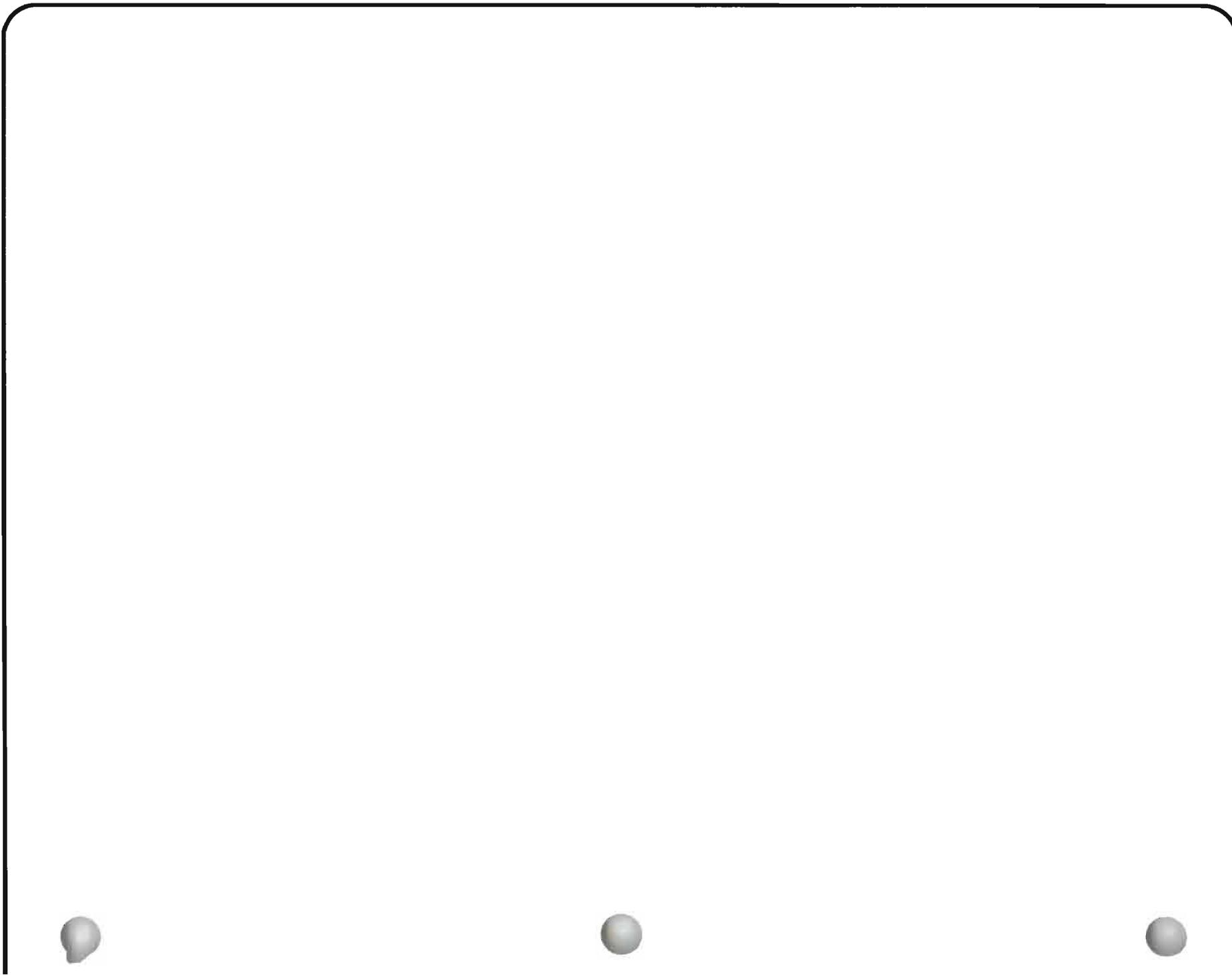
- If you are trying to find out why a job had problems, check for messages saying that the job started. If the job started, look for a message saying the job finished. If there is no message that the job finished, the job did not finish. The message saying that the job finished might tell you that the job **terminated abnormally**, that is, had problems so the system stopped the job.

Look for messages about programming and device problems. A problem with a device the job was using might have caused the job problem. A programming problem with the job might also have caused the problem.

- If you want to find out more about a device problem, look for messages about the device. Also look for messages about the control unit the device is attached to and communications line if the device is in a remote location, and the subsystem controlling the device.
- If you want to find out more about a system problem, look for messages about the subsystems controlling system work and damaged objects in the system.

Also look for messages sent just before the problem occurred. Often, these messages tell you about the problem that caused a job or device to fail.





Use the procedure in this section when you have received a message from the system, but do not know how to get more information about the message.

For example, you do not know how to correct the problem described in the message, or what error codes in the message mean.

When you finish this procedure, you will be able to find all three levels of text about a message:

- **First-level message text** that tells you that some event happened in the system.
- **Second-level message text** that tells you more about what happened and, if needed, how to fix the situation described in the message.
- **Problem determination (PDP) code.** The description of the PDP code, which you can find in this guide, gives you more information about the message.



## The procedure starts here.

Starting the procedure.

### 1 Check the following before continuing this procedure:



Make sure the message you received is displayed on your screen before continuing the procedure.



**If the message is not displayed, you cannot continue this procedure.**

After you have checked the above item, continue this procedure.

### How to display the messages:

First, the message must be saved in a message log or queue.

**Messages received at work stations** are saved in the work station message queue until they are removed.

You can display these messages by entering:

```
DSPMSG
```

at the work station where the message was first sent.

If you cannot find the message you received, you might find a copy of the message in the job log for the job that was active at that work station when that message was first sent. See *Using Job Log* in this chapter for information on how to display job logs, and use job logs to find problems.

**If the message was displayed in the system operator message queue,** you can find a copy of that message in the history log.

Display the history log by entering:

```
DSPLOG
```

Using the roll keys, roll through the history log displays until you find the message.

**If you know the identifier (7-character message ID) of the message,** display the message by entering:

```
DSPLOG MSGID (cpf1000)
```

Replace `cpf1000` with the identifier of the message.

## Displaying the first-level message text.

2 Look at the message on the screen and its identifier.

3 Does the message contain an error log number?

No

Yes

Record the first 8 characters of the number under item 6c on the *System/38 Problem Summary Form*.

If you call your service representative, report this code.

Go to step 4.

### What this message tells you:

The message on the display screen is the first-level message and describes a situation you should be aware of.

### An error log number is:

An error log number is a 24-character code in the form.

ERR: 0022-3467-98AF3B678E43C901

that describes a problem with the one of the devices attached to your system.

### Where to record the code:

If you received error log number

0022-3467-98AF3B678E43C901

you would record the code as follows

#### 6 Record the following:

- a Code shown on the system console screen (if any)         (See Note)
- b Indicator code F 0  -    (See Note)
- c First 8 characters of the error log number (if any) 00         (See Note)

Note: When you call for service, report the first code you record in this section. Call this code the **system reference code**.

Record the code here

You can find copies of the form and instructions for using it at the back of this guide.

### How to find out what the error log number means:

The meanings of error log numbers are described in *Error Log Numbers* later in this chapter.

That section only describes the meaning of that code. Your message describes what you should do about the situation described by the code



Displaying second-level text.

4 Get the second-level text. →

5 Read the information and take the actions indicated. →

6 **Are there any codes named in the message that are not described?**

**No** ↓

**Yes** →

Look up the description of the message in the *System/38 Messages Guide*.

The code is explained there.

Then return here.

Go to step **7**.

**How to get the second-level text:**

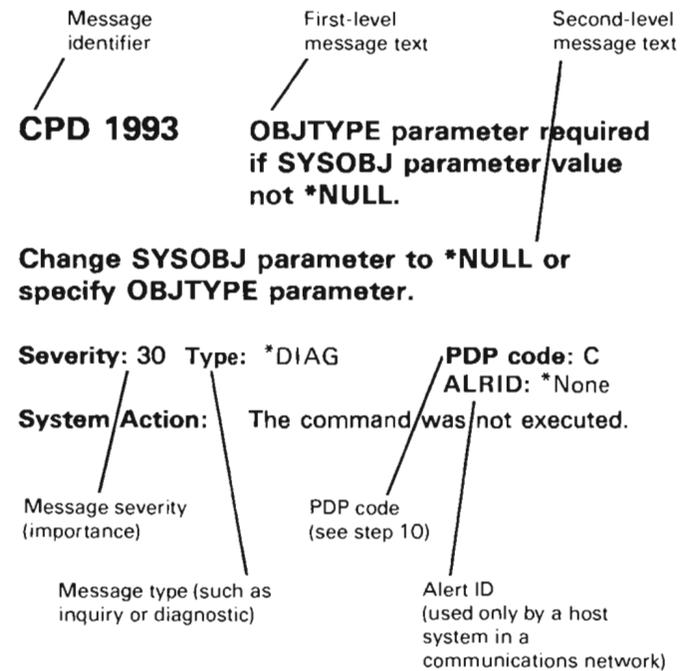
Move the cursor under the message and press the Help key.

**What second-level text describes:**

The second-level message text tells you what you can do to correct the situation noted in the first-level message.

The text tells you to take an action, or points you to another message.

The message description begins with several codes. The following figure shows you what these codes mean.



7

Did the second-level text tell you to see previous messages?

No

Yes

There are other messages sent before this one that, when read with this message, tell you why the problem occurred.

Find these previous messages.

Try to solve the problem.

If you need more information about the message, go to step **9**.

#### How to find previous messages:

If you used the `DSPMSG` command to display the message:

- a. Get the command entry display. If your basic working display is the system operator menu, return to that display and press the CF3 key.
- b. When the command entry display appears on your screen, press the CF7 key.

If you are reading a job log or a history log, look for previous messages that occurred within the same period of time.

#### What previous messages tell you:

Previous or low-level messages give you more detailed information about the situation noted in the message. For example, if you received a message saying 13 objects were restored, the low-level messages tell the names of those objects.



8

Is another message mentioned in the second-level text?

No

Yes

Information in the description of that message might tell you how to correct the situation.

Read the description of that message.

If you need more information about the message, go to step **9**.

#### How to find the description of another message:

First, find the message identifier in the message you received

Then enter.

```
DSPMSGD MSGID (cpf1000) MSGF (QCPFMSG)
```

Replace `cpf1000` with the identifier of the message you want to display

9

Do you need more information to respond to the message?

Yes

No

Correct the situation.

Continue normal system work.

10

You can find more information in the PDP code description.

To find the PDP code, look in the upper right corner of the second-level message display, or display the description of the message.

Find the PDP code for the message.

Look up the description of the PDP code in *PDP Codes* later in this chapter, and take the actions described under *What you should do*.

If you still need help correcting the situation, go to your system programmer. Describe the problem, and give him the information you have collected so far.

### What the PDP code description tells you:

The description first tells you why the problem occurred. Then it suggests how to correct the situation.

### How to display the message description:

Enter:

```
DSPMSGD MSGID(cpf1000) MSGF(QCPFMSG)
```

Replace `cpf1000` with the identifier of the message you received

### How to find the PDP code:

Look here

1/27/83 10-33-24		MESSAGE DESCRIPTION DISPLAY	
MESSAGE ID	CPF5908	MESSAGE FILE	QCPFMSG LIBRARY (SYS)
FIRST-LEVEL MESSAGE TEXT			
CONTROL UNIT #1 CONTACTED ON LINE #2.			
SEVERITY CODE		SEV	0
MESSAGE DATA FIELD FORMATS			
FIELD	DATA TYPE	LENGTH	*VARY BYTES OR DEC POS
E1	*CHAR	10	
E2	*CHAR	10	
LOG TO SERVICE LOG		LOG	*NO
LEVEL OF MESSAGE WHEN ADDED		LVL	10/01/82 #1
SEV CODE		PDP CODE	F

The PDP code for this message is F.





### **What a PDP code is.**

The PDP (problem determination procedure) code is a 1- to 5-character code given to most messages sent by the system. The code leads you to a description in this guide that tells you why the system sent the message. If the message identified a problem, the PDP code description also suggests how you can solve that problem.

### **When to use the PDP code description.**

Use the information in the PDP code description when the first- and second-level message text does not have enough information to help you correct the situation noted by the message.

### **How to find the PDP code for a certain message.**

To find the PDP code for a certain message, display its description by entering:

```
DSPMSGD MSGID(cpf1000) MSGF(QCPFMSG)
```

Replace `cpf1000` with the message identifier.

On the message description display, find the PDP code. Then read its description on the following pages.



## PDP CODE DESCRIPTIONS

### PDP CODE C—STATEMENT STRUCTURE PROBLEM

**About the message:** Messages with PDP code C tell you about structure errors in a statement (such as using a comma when you should have used a period, or forgetting to add a blank). The system found these errors when it compiled (translated into a language the machine can read) your program or when you entered the statement using the syntax checker.

**What you should do:** The text of the message you received should help you solve this problem. The first-level text tells you which statement had the problem. The second-level text suggests how you might correct the problem.

To check the syntax rules (rules for entering statements, such as how to use commas, periods, blanks, and hyphens) for the language used in the program with the problem, see the reference manual for that language. In that manual, you might also check the description of the command or statement with the problem.

Also look for problems in other parts of the statement. Perhaps a problem with one part of the statement is causing the system to send a message about another part of the statement.

Make necessary changes to the statement with the problem.

### PDP CODE D—DOCUMENTATION (COBOL Messages Only)

This is not an error message.

**About the message:** COBOL messages with PDP code D identify statements and clauses flagged by the FIPS (Federal Information Processing Standard) flagger. These statements and clauses do not meet federal standards for COBOL programs. The standards vary depending upon the option you chose when the system compiled (translated into a language the machine can read) your program ( NO, H, HI, LI or L).

**What you should do:** You may want to change your program to meet the federal standard. For more information on these standards, see the *IBM System/38 COBOL Reference Manual*.

## PDP CODES DDM—DISTRIBUTED DATA MANAGEMENT PROBLEMS

### PDP CODE DDM1—ABNORMAL CONDITION ON REMOTE DDM SYSTEM

**About the message:** Messages with PDP code DDM1 tell you about a problem found by a remote DDM system. The problem is not like any condition on your local system. The remote system cannot process the DDM command request.

**What you should do:** Use the information in this message to solve the problem. The first-level message text identifies the problem. The second-level text suggests how you might correct the problem.

The following could help you determine the cause of the problem:

- Function requested by the local system when the error occurred
- Error description
- Local DDM file name accessed when the error occurred
- Remote system name where the error was found
- Job name on the remote system where the error was found
- Remote file name accessed through the local DDM file

If this message does not give you enough information to solve the problem, try the following steps until the problem is solved.

- 1 Look for other messages before or after this message for information about the same DDM file.
- 2 Sign on the remote system where the error occurred. Display or print the remote target job log (and any other error log information about the problem) to find the cause of the problem.

Also, refer to DDM publications for the remote source system.

If you are still having a problem, look for the DDM error description xxxx (where xxxx is a **code point**) in the second-level help text. For additional information about the code point, go to Appendix C in the *IBM System/38 Distributed Data Management User's Guide*, SC21-8036.



## PDP CODE DDM2—INVALID DDM OBJECT RECEIVED FROM REMOTE SOURCE DDM SYSTEM

**About the message:** Messages with PDP code DDM2 tell you about a problem found by your local system. This problem is caused by a remote source DDM system sending your local system an invalid DDM object for the DDM command request. The remote system did not use the DDM architecture correctly. Your local system cannot process the command.

**What you should do:** Use the information in this message to solve the problem. The first-level message text identifies the problem. The second-level text suggests how you might correct the problem.

The following could help you determine the cause of the problem:

- Function requested by the remote system when the error occurred
- Error description
- Local file name accessed when the error occurred
- Remote system name that issued the command request
- Job name on your local system where the error was found
- Name of the DDM file that is accessing the local file

Record the identifier of the message you received and its PDP code, under item 7b of the *System/38 Problem Summary Form*. You can find copies of the form and instructions for using it at the end of this guide.

Save any dump information that was printed when you received this message. Also, print the job logs for the jobs affected by the problem, and the date and time that the problem occurred. See *Using the Job Log* in Chapter 2 for instructions on how to print the job log.

Then call your service representative. Describe the problem, and report the identifier of the message you received and its PDP code.

## PDP CODE DDM3—COMMAND PARAMETER IS NOT SUPPORTED BY YOUR LOCAL SYSTEM

**About the message:** Messages with PDP code DDM3 tell you about a DDM command parameter sent by a remote source system that is not supported by your local system. Your local system cannot process the DDM command request.

**What you should do:** Use the information in this message to solve the problem. The first-level message text identifies the problem. The second-level text suggests how you might correct the problem.

The following could help you determine the cause of the problem:

- Function requested by the remote system when the error occurred
- Error description
- Local file name accessed when the error occurred
- Remote system name that issued the command request
- Job name on your local system where the error was found
- Name of the DDM file that is accessing the local file

If this message does not give you enough information to solve the problem, look for other messages before or after this message for information about the same file.

Also, refer to DDM publications for the remote source system.

If you are still having a problem, look for the DDM error description `xxxx` (where `xxxx` is a **code point**) in the second-level help text. For additional information about the code point, go to Appendix C in the *IBM System/38 Distributed Data Management User's Guide*, SC21-8036.



## **PDP CODE DDM4—INVALID DDM OBJECT RECEIVED FROM REMOTE TARGET DDM SYSTEM**

**About the message:** Messages with PDP code DDM4 tell you about a problem found by your local system. The problem is caused by a remote target DDM system sending your local system an invalid DDM object. The remote system did not use the DDM architecture correctly. Your local system cannot process the DDM object returned.

**What you should do:** Use the information in this message to determine the problem. The first-level message text identifies the problem. The second-level text suggests how you might correct the problem.

The following could help you determine the cause of the problem:

- Function requested by your local system when the error occurred
- Error description
- Remote file name accessed when the error occurred
- Remote system name that handled the command request
- Job name on the remote system where the error was caused
- Name of the DDM file that is accessing the remote file

Record the identifier of the message you received and its PDP code, under item 7b of the *System/38 Problem Summary Form*. You can find copies of the form and instructions for using it at the end of this guide.

Save any dump information that was printed when you received this message. Also, print the job logs for the jobs affected by the problem, and the date and time that the problem occurred. See *Using the Job Log* in Chapter 2 for instructions on how to print the job log.

Then call your service representative. Describe the problem, and report the identifier of the message you received and its PDP code.

## PDP CODE DDM5—INCORRECT USE OF DDM ARCHITECTURE AT SOURCE OR TARGET SYSTEM

**About the message:** Messages with PDP code DDM5 tell you about an incorrect use of the DDM architecture at your local or remote system. The message text indicates which system caused the error. The DDM request cannot be processed.

**What you should do:** Use the information in this message to determine the problem. The first-level message text identifies the problem. The second-level text suggests how you might correct the problem.

The following could help you determine the cause of the problem:

- System name, where the error was caused
- Error description
- System name, where the error was found

If this message does not give you enough information to determine the problem:

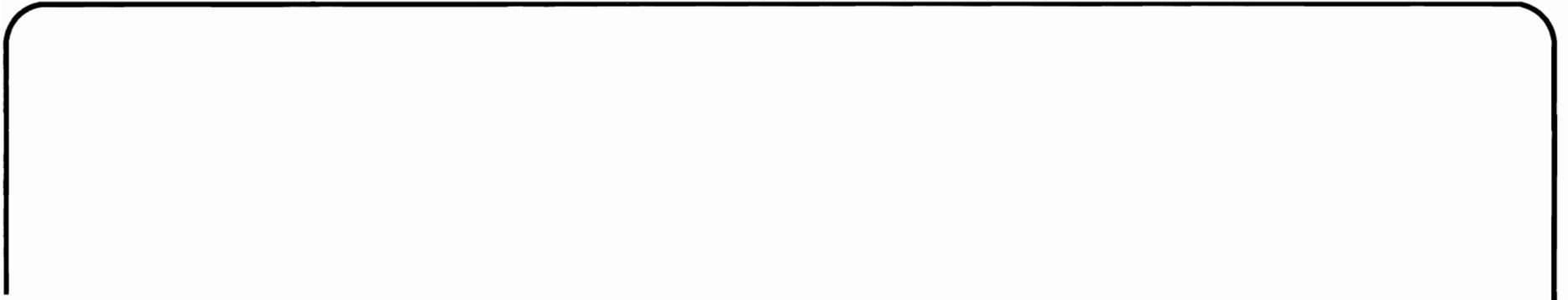
- 1** Look for other messages in the job log before or after this message for information about the same DDM file.
- 2** Sign on the remote system where the error occurred. Display or print the remote system job log (and any other log information about the problem) to find the cause of the problem.

Record the identifier of the message you received and its PDP code, under item 7b of the *System/38 Problem Summary Form*. You can find copies of the form and instructions for using it at the end of this guide.

Save any dump information that was printed when you received this message. Also, print the job logs for the jobs affected by the problem, and the date and time that the problem occurred. See *Using the Job Log* in Chapter 2 for instructions on how to print the job log.

Then call your service representative. Describe the problem, and report the identifier of the message you received and its PDP code.





## PDP CODE E—PROBLEM WHILE PROCESSING

**About the message:** Messages with PDP code E tell you about a problem the system found while performing your request (something you asked the system to do, such as performing a command or statement, or adding a record to a file). Because of the problem, the system might not have finished your request, or might not have finished it as you expected.

**What you should do:** Use the information in this message to solve the problem. The first-level text identifies the problem. The second-level text suggests how to solve that problem.

If this message does not give you enough information to solve the problem, look for other messages about the problem. Most likely, those messages describe the problem in more detail, and were sent before the system sent this message. If you do not know how to find other messages about the problem, see *Checking for Messages* earlier in this chapter and follow the instructions for displaying low-level messages.

## PDP CODE F—JOB STATUS MESSAGES

**About the message:** This is not an error message.

Messages with PDP code F tell you the status of your request to the system. For example, messages with PDP code F might tell you the system finished part of a job, accepted a command, or started work on your request.

**What you should do:** These messages are for your information only.



## PDP CODE G—COMMAND OR STATEMENT NOT ENTERED CORRECTLY

### Messages other than COBOL

**About the message:** Messages with PDP code G tell you that a statement was not entered correctly. The types of problems that can cause the system to send messages with this PDP code include:

- Misspelling part of the command
- Putting command parameters in the wrong order or place
- Missing punctuation marks in the command
- Entering the wrong type of value. For example, entering a library name when you should have entered an object name
- In RPG III, requesting a `SQRT` operation for a field that contains a negative value

The system cannot perform the statement until it is corrected.

**What you should do:** Use the information in the message you received to solve this problem. The first-level text tells you which statement had the error. The second-level text suggests how you might correct the problem.

If you need more information about how to enter statements (such as the correct spelling of commands and parameters, and where to put command parameters), see the description of the command or statement with the problem in the reference manual for the language used in the program.

Also look for problems in other parts of the statement. Perhaps a problem with one part of the statement is causing the system to send a message about another part of the statement.

Make necessary changes to the statement with the problem.

## COBOL Messages Only

**About the message:** COBOL messages with PDP code G tell you that your statement is not **logically possible**, that is, the system cannot perform the statement using the values you entered.

The following could have caused this problem:

- You did not follow the rules for naming variables, labels, constants, and literals.
- A value you entered was too large or too small.
- You told the system to use two items that cannot be used together, such as mixing phrases from two different formats of a READ statement.

The system cannot perform the statement until the problem is corrected.

**What you should do:** Use the information in the message you received to solve this problem. The first-level text tells you which statement had the error. The second-level text suggests how you might correct the problem.

If you need more information on using COBOL statements (such as which statements can be used together, and how to name variables) see the description of the command or statement with the problem in the *IBM System/38 COBOL Reference Manual*, as well as the rules for using the language.

Also look for problems in other parts of the statement. Perhaps a problem with one part of the statement is causing the system to send a message about another part of the statement.

Make necessary changes to the statement with the problem.



## PDP CODE H—WRONG PROCEDURE USED

**About the message:** Messages with PDP code H tell you that the system cannot do the operation you asked for because you forgot to tell the system to do a related operation first. For example, before the system can write information into a file, you must open that file.

**What you should do:** Use the information in this message to solve the problem. The first-level message text identifies the problem. The second-level text suggests how to solve that problem.

Also check the rules for the operation you are trying to do. Read the description of the operation in the reference manual for the language you used to write the operation.

Make the necessary changes to your programs, then run the procedure again.

## PDP CODES J—USING OBJECTS

**Note:** An object is information saved in the system. The following are examples of objects:

- Descriptions of devices, control units, communications lines, or jobs, that describe the characteristics of these items to the system
- User profiles that tell the system a user name, the password used to sign on to the system, and which objects on the system the user can use
- Files for saving data
- Programs

## PDP CODES J1—OBJECT NOT FOUND

**About the message:** Messages with PDP code J1 tell you that the system cannot find the object you asked for. You probably did not enter the object name properly, or the system storage has no object by that name.

**What you should do:** Use the information in the message you received to solve this problem. The first-level text should tell you which object the system cannot find. The second-level text suggests how you might correct the problem.

Also make sure that the following are correct:

- Your library list
- The spelling of the object name
- The library name
- The object type
- The command you entered

To find out if the library list is correct, display your library list, by entering:

```
DSPLIBL
```

Check the library names shown and the order in which they are listed. If the names are not correct, fix them (ADDLIBL, RMVLIBL, or RPLLIBL commands) and run the job again. If the library names are not listed in the order that the system should check them, change the list (ADDLIBL command), then run the job again.

To find out how to spell the object name and whether the object is saved in the library named in the command or statement, display the description of the object. For example, to display the description of the object `files` enter:

```
DSPOBJD OBJ(files) OBJTYPE(*ALL)
```

Replace `files` with the name of the object you want to use.

When the object description appears on your screen, find out which object you want to use and its type and library. Make necessary changes to the command or statement with the problem and enter the command again.

If you cannot display the object, it does not exist under that name. Display the contents of the libraries on your library list (DSPLIB command) to try to find the actual name of the object you want to use. Then enter the command again. See the *CPF Programmer's Guide* for information on how to create an object.



## PDP CODE J2—DAMAGED OBJECT

**About the message:** Messages with PDP code J2 tell you that the object you want to use is damaged, that is, part or all of the information saved is missing, or cannot be read from storage. You might be able to use the object again if you take some action to fix the damage.

The action you take depends on the amount of damage. **Partial damage** means that only part of the object is affected, such as one record in a file, and you can probably use other information saved in that object. **Full damage** means that the system cannot read any information in the object.

**What you should do:** If the message is on the work station message queue, find out if the damage to the object was full or partial by displaying the low-level messages. To display these messages, get the command entry display (press the CF3 key from the system operator menu or the programmer menu). Move the cursor to the first line on the display. Then press the CF7 key.

When you get the low level messages display, look for one of these messages.

Message	Type of damage
MCH 1668	The damage is partial.
MCH 1604	The damage is full.

If the message is on the QSYSOPR message queue, or in a job log, look in the history log or the job log for one of the messages listed above.

On the following pages, find the chart describing how to fix the damage to the object (partial or full).

If the damage is full: Look in the following chart. Find the type of object that was damaged, and take the action described under *What you should do*.

**Type of  
damaged object:**

**What you should do:**

System console,  
diskette drive

Perform an abbreviated installation of CPF. Go to the *Guide to Program Product Installation and Device Configuration* for instructions.

Then continue normal system work.

Work stations, work  
station printers

Vary off all of the devices attached to the controller or control unit that the device with the damaged description is attached to. To do this, do the following:

- To find out which devices are attached to that control unit, enter:

DSPCTLSTS

- When the control unit status display appears on your screen, find the name of the device with the damaged description. Then, find the name of its controller.
- Explain the problem to the users of any jobs using those devices (those devices showing a job name), and then cancel those jobs (option 9).
- Vary off the control unit and its attached devices (enter a 5 in the space beside the controller or control unit name).
- Delete the device description ( `DLTDEV` command).
- Create the device description again ( `CRTDEV` command).
- Vary on the control unit and its attached devices (enter a 4 in the space beside the controller or control unit name).
- Then continue normal system work.

Library

Follow the procedure given in the second-level text of the message describing the type of damage. Then continue normal system work.



**Full damage (continued)****Type of  
damaged object:**

User profile

**What you should do:**

See the system security officer.

**If the profile was supplied by IBM** (such as user profiles QSYS, QSECOFR, QPSR, QDBSHR, QCE, QUSER, QPGMR, QSYSOPR, QSPL, QSPLJOB, QRJE), install CPF again. Go to the *Guide to Program Product Installation and Device Configuration* for instructions. Then continue normal system work.

**If IBM did not supply the damaged profile**, and if a saved version of the user profile is available (SAVSYS media), the security officer should:

- 1** Delete the old profile (DLTUSRPRF command).
- 2** Restore the damaged profile (RSTUSRPRF command with USRPRF parameter), using the most recent version of the SAVSYS media.
- 3** Restore authorities to the profile (RSTAUT command with USRPRF parameter).
- 4** If authorities were added to the profile since the most recent SAVSYS, they will not be restored. These authorities will have to be granted (GRTOBJAUT command).
- 5** If the damaged profile owned objects, the ownership rights of the user profile were lost when the profile was deleted. These authorities are not restored by the RSTAUT command, but the authorities can be restored by the CHGOBJOWN command.

Full damage (continued)

Type of  
damaged object:

User profile  
(continued)

What you should do:

See the system security officer.

If IBM did not supply the damaged profile, and if a saved version of the user profile is **not** available, the security officer should:

- 1 Delete the old profile (`DLTUSRPRF` command).
- 2 Create the user profile again (`CRTUSRPRF` command).
- 3 Grant private authorities (`GRTOBJAUT` command) to previously authorized objects.
- 4 Return the objects to their original owner (`CHGOBJOWN` command).

You may want a list of unowned objects when you are assigning object ownership. When you are reclaiming storage you can find out which objects have no owner, and you can give them to the security officer or an appropriate IBM-supplied profile.

**Note:** Reclaiming storage may take a long time, and it does not indicate which of the unowned objects belong to the damaged profile. If you reclaim storage periodically, you may want to wait until then to get the list of objects.

To reclaim storage:

- 1 Power down the system (`PWRDWN SYS` command).
- 2 Do an IMPL. See the *System/38 Operator's Guide*.
- 3 Reclaim storage (`RCLSTG` command). See the *System/38 Programmer's Guide*.



**Full damage (continued)****Type of  
damaged object:****What you should do:**

Temporary objects

Sign off, sign on, and start the job again. If you are still having problems, do an IMPL. See the *System/38 Operator's Guide* for instructions.

Internal  
IBM-supplied  
objects

Perform a normal installation of CPF. Go to the *Guide to Program Product Installation and Device Configuration* for instructions.

Then continue normal system work.

Other objects

Remove the object using the appropriate delete command (commands beginning with `DLT`).

Then create the object again, using the appropriate create command (commands beginning with `CRT`), or restore the object, using the appropriate restore command (commands beginning with `RST`) if a saved version of the object is available.

Then continue normal system work.

**Note:** If you delete an object in order to create it again, you may also have to delete the description of any devices and control units associated with the object. If so, vary off the associated devices or control units (commands beginning with `VRY`) before deleting the description.

If the damage was partial, find the type of object that was damaged in the following chart. Take the action described under *What you should do*.

Type of damaged object:	What you should do:
Device, control unit, or line description	Vary off the device, control unit, or line named in the message ( VRYDEV , VRYCTLU , VRYLIN commands).  Vary on the device, control unit, or line.  Continue normal system work.
Job queue, output queue, or message queue	Go to the <i>System/38 Operator's Guide</i> for instructions on how to fix damage to these objects.
Library	Follow the procedure given in the second-level text of the message describing the type of damage. Then continue normal system work.



### PDP CODE J3—OBJECT SAVED USING STORAGE FREED OPTION

**About the message:** Messages with PDP code J3 tell you that there is no data saved with the object that you want to use. Probably, the data was removed when you saved the object on diskette or tape. You performed a **save/restore** operation, and saved the object with the storage freed option, which removes all information about the object except its definition.

**What you should do:** Find out if a copy of the missing object is saved on diskette or tape. To do this, display the object description (DSPOBJD) and find out when the object was last saved ( `SAVE DATE` ).

Then find the diskette or tape with the object and restore (put back in) the object to the system again ( `RSTOBJ` command).

If you cannot find the diskette or tape, you must create the object again, entering once more all of the information.

### PDP CODE J4—CANNOT USE OBJECT (AUTHORITY)

**About the message:** Messages with PDP code J4 tell you that the system cannot let you use the object you asked for because you do not have authority needed to use that object. (If the user creating an object wants to limit its use, he gives the system a list of users that are allowed (authorized) to use that object. If you are not listed as one of those users, the system sends you a message with this PDP code.)

**What you should do:** First, make sure you entered the correct object name and library when you asked to use the object. If not, correct the object or library name and ask to use the object again.

Then see the owner of the object or your system security officer. Find out why you cannot use that object. If possible, get authority to use it.

Possibly a change to the system, such as changing the owner of the object, caused this problem. A chart in the *CPF Programmer's Guide* tells you the authority you need to use each CPF object. A similar chart in the *CL Reference Manual* tells you the authority you need to use each CPF command.

## PDP CODE J5—ANOTHER JOB USING THE OBJECT

**About the message:** Messages with PDP Code J5 tell you that another job is using one or more of the objects you want to use, and that job has allocated (locked) the object so that no other users can work with it.

**If you received this message about an Advanced Program-to-Program Communications session,** this message tells you that the session with the other system cannot be started because the maximum number of sessions has been reached, or it tells you that the time period given in the `WAITFILE` parameter is not large enough to start the session with the other device.

**What you should do:** Try doing one of the following:

**If the first-level message text tells you which object is locked,** display the object locks for that object ( `DSPOBJLCK` command). For example, to display the locks for the file `finance`, enter:

```
DSPOBJLCK OBJ(finance) OBJTYPE(*FILE)
```

On the object locks display, find out which job is locking the object.

Either wait until the other job finishes using the object, or ask the user of that job to stop using the object so that you can use it.

Note that the display may not show enough information to help you solve the problem. You cannot display locks on certain system objects, or on records in data base files. If a device file is locked, you may have to display the file description before deciding which device is locking the object.

**If the message was about an Advanced Program-to-Program Communications session,** change the number of active sessions that are possible ( `CHGSSNMAX` command). Try to start the session again.

If you cannot change the number of possible sessions, try to start this session after another session has ended.

**If the information in the message, or these suggested actions do not help you solve the problem,** try the operation later when the user or job locking the object is finished using it.



### PDP CODE J6—ANOTHER OBJECT HAS THE SAME NAME

**About the message:** Messages with PDP code J6 tell you that you cannot use the name you chose for the new object because another object of the same type, in the same library, already uses that name. (Each object in a library of a given object type must have a unique name, though objects in different libraries, or objects of different types in the same library, can have the same name.)

**What you should do:** Choose another name for the new object.

### PDP CODE J7—CANNOT PERFORM REQUEST ON THIS OBJECT

**About the message:** Messages with PDP code J7 tell you that the system cannot do the operation you want with the object you are using. One of the following might have caused the problem:

- You used the wrong object name or type.
- Another user might have locked the object, or made it available for limited use (such as reading only).
- The system cannot do the operation you want on the type of object you are using (such as moving user profiles from one library to another).

**What you should do:** The first-level message text tells you which object name you entered. Make sure you entered the correct object name when you tried the operation. If you did not, try the operation again, using the correct name.

Find out if another user is locking (reserving for his own use) the object you want to use ( DSPOBJLCK command). For example, to display the locks for file *finance*, enter:

```
DSPOBJLCK OBJ(finance) OBJTYPE(*file)
```

If another user is locking the object, try the operation again when that user is finished with the object.

You may also want to review the operations you can do with this type of object to see why the system cannot do the operation. See the *CPF Programmer's Guide* for information on using objects. Correct the statements describing the operation and try that operation again (if possible).

## PDP CODE J9—CANNOT GET OBJECT

**About the message:** Messages with PDP code J9 tell you that the system cannot get you the object you want to use, and the system cannot tell you with certainty why the problem occurred.

One of the following probably caused the problem:

- Another job is **locking** (reserving for its own use) the object.
- The object is **damaged** (information missing or cannot be read).
- The object was removed from the system (possibly you saved the object on diskette or tape with the STORAGE FREED option, removing the copy of the object in system storage).

**What you should do:** Look for other messages that describe the problem in more detail. To display other messages, do one of the following:

**Type of message  
you received:**

**How to display other messages:**

Displayed

Get the command entry display. Then display **low-level messages** by pressing the CF7 key.

In the job log

Look for other messages (if any exist) in that job log.

Respond to those messages (if any). For information on how to respond to messages, see *Responding to Messages* earlier in this chapter.

If you cannot find other messages about the problem, take the actions described under *What you should do* for PDP Codes J5, J3, and J2, in that order, until the problem is solved.

**If that information does not help you solve the problem,** call your service representative and describe the problem.



## PDP CODES K: HARDWARE PROBLEM

### PDP CODE K1—DEVICE PROBLEM

**About the message:** Messages with PDP code K1 tell you about a problem with device hardware (machinery) or with the communications (sending data) between the device and the system.

**What you should do:** Use the information in the message you received to solve the problem. The first-level message text tells you the name of the device with the problem. The second-level text suggests how to solve the problem.

Also record the first eight characters of the **error log number** under item 6c of the *System/38 Problem Summary Form*. (The error log number is a 24-character code, such as: ERR-0019-3245-67D43AC4879AEF35, that identifies a device problem for your service representative.) You can find copies of the form and instructions for using it at the back of this guide.

If the failing device is a local work station or a local work station printer, also record the work station controller type (WSC or WSCE) on the *System/38 Problem Summary Form*. To find the work station controller type, do the following:

- 1 Display the status of the failing device (DSPDEVSTS command).
- 2 On the device status display, find its attached work station controller. Then display the description of that controller (enter a 2 in the space beside the controller name).
- 3 In the control unit description, note the controller TYPE. Record this under item 8 of the *Problem Summary Form*.

If the information in the second-level message text does not help you solve the problem, vary off the device or control unit with the problem (VRYDEV or VRYCTLU command). For example, to vary off printer qsysprt, enter:

```
VRYDEV DEV(qsysprt) STATUS(*OFF)
```

Replace qsysprt with the name of the device named in the first-level message text.

To vary on the printer, enter:

```
VRYDEV DEV(qsysprt) STATUS(*ON)
```

Replace qsysprt with the name of the device named in the first-level message text.

For control units and work station controllers, use the VRYCTLU command. For lines, use the VRYLIN command.

**If this does not solve the problem**, call your service representative. Describe the problem, and report the system reference code, if any (see item 6 of the *System/38 Problem Summary Form* for instructions on how to report this code).

## PDP CODE K2—HARDWARE ERROR

**About the message:** Messages with PDP Code K2 tell you about a problem in the **input/output hardware channel** (the device that controls the flow of information between the system and its attached devices, such as work stations and tape drives), or in **main storage** (the system work space).

**What you should do:** Use the information in the message you received to solve this problem.

**If this information does not help you solve the problem**, record the first eight characters of the **error log number** under item 6c of the *System/38 Problem Summary Form*. (The error log number is a 24-character code, such as: ERR-0019-3245-67D43AC4879AEF35, that describes a device problem to a service representative.) You can find copies of the form and instructions for using it at the back of this guide.

**If the failing device is a local work station or a local work station printer**, also record the work station controller type (WSC or WSCE) on the *System/38 Problem Summary Form*. To find the work station controller type, do the following:

- 1 Display the status of the failing device (DSPDEVSTS command).
- 2 On the device status display, find its attached work station controller. Then display the description of that controller (enter a 2 in the space beside the controller name).
- 3 In the control unit description, note the controller TYPE. Record this under item 8 of the *Problem Summary Form*.

Then call your service representative. Describe the problem, and report the system reference code, if any (see item 6 of the *System/38 Problem Summary Form* for instructions on how to report this code).



### PDP CODE K3—MACHINE PROBLEM

**About the message:** Messages with PDP Code K3 tell you about a problem with the machine or its programming.

**What you should do:** Record the first four characters of the code you received in the first-level message text under item 7b of the *System/38 Problem Summary Form*. You can find copies of the form and instructions for using it at the back of this guide.

Then find the first four characters of the code in the following chart. Take the action described under *What you should do*.

You received this code:	What the code means:	What you should do:
08C0	Hardware error	Continue normal system work.
08C1	Wait state machine check	<b>If the problem occurs again</b> , leave the system as it is. Call your service representative and report this code.
08D1	Attempt to extend hold record area beyond 64 K bytes	<b>a.</b> Call your service representative. Describe the problem and report this code.
08D3	Machine-wide storage group allocation exceeded	<b>b.</b> While you are waiting for your service representative, perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here. <b>c.</b> Make sure you properly labeled the dump diskettes. Save this information. <b>d.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions. <b>e.</b> Continue normal system work, but do not give the system as much work as before the problem occurred.
08D5	Segment header damaged	<b>a.</b> Leave the system as it is. <b>b.</b> Call your service representative. Describe the problem and report this code.
08E3	Source/sink error	<b>a.</b> Call your service representative. Describe the problem and report this code. <b>b.</b> While you are waiting for your service representative, perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here. <b>c.</b> Make sure you properly labeled the dump diskettes. <b>d.</b> Do an IMPL using the IMPL Abbr setting. See the <i>System/38 Operator's Guide</i> for instructions. <b>e.</b> Continue normal system work.



You received this code:	What the code means:	What you should do:
08EF	Machine context destroyed	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. Continue normal system work.</p> <p><b>If the problem occurs again</b>, call your service representative. Describe the problem and report this code.</p>
0960 0961	Failed request in invocation work area	Continue normal system work.
0A11	Invalid get machine-wide storage operation	<p><b>If the problem occurs again</b>, leave the system as it is. Call your service representative. Describe the problem and report this code.</p>
0A12	Invalid FREEMWS sent	
0A60	Bad return code from segment	
0A61	Bad return code from destroy segment	
0A62 0A63		
0860	Trunk page initialization failed	<p>a. Call your service representative. Describe the problem and report this code.</p> <p>b. While you are waiting for your service representative, perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>c. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>d. Leave the system as it is until your service representative arrives.</p>

You received this code:	What the code means:	What you should do:
OB61	Bad return code from EXCB	<p>a. Continue normal system work.</p>
OB62	Bad return code from add index pages	<p>b. <b>If the problem occurs again</b>, leave the system as it is. Call your service representative. Describe the problem and report this code.</p> <p>While you are waiting for your service representative, do the following:</p> <ol style="list-style-type: none"> <li>1) Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>2) Make sure you properly labeled the dump diskettes. Save this information.</li> <li>3) Leave the system as it is until your service representative arrives.</li> </ol>
OC00	Unexpected effective overflow or exception handler exception	<p>Leave the system as it is.</p> <p>Call your service representative. Describe the problem and report this code.</p>
OC81	Sector read error	<ol style="list-style-type: none"> <li>a. Record the pattern shown by the lights on your operator/service panel under item 5 of the <i>System/38 Problem Summary Form</i>. You can find copies of the form and instructions on using it at the back of this guide.</li> <li>b. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>c. <b>If the system cannot do the IMPL</b>, call your service representative. Describe the problem and report this code.</li> </ol> <p><b>Otherwise</b>, continue normal system work.</p>
OF81	System context partially damaged	<p>Continue normal system work.</p> <p><b>If the problem occurs again</b>, leave the system as it is. Call your service representative. Describe the problem and report this code.</p>



You received this code:	What the code means:	What you should do:	
1084	User profile lock cannot be removed	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> Continue normal system work.</p> <p><b>If the problem occurs again,</b> leave the system as it is. Call your service representative. Describe the problem and report this code.</p>	
1085	Attempt to destroy a task other than containing task		
1086	Error after user profile lock transfer		
1141	Repeating time-out value request too small		
1142	Invalid work area address for destroy object		
1151	Attempt to release something not currently seized		
1152	Processing is freeing a shared-no-wait seize on a PCS when it is not seized		
1171	Time-out value too large		
1172	Attempt to cancel an unknown type of timer request		
1181	More than one unmonitored CRE in the system		
1182	Instruction that caused exception is not supported by VMC		
1183	Invocation work area is exhausted		
1200	Unhandled IMP exception		
1202	Exception in translated code not handled by exception handler		
120F	Component-specific exception handler recursion		
1241	Attempt to set damage failed		
1271	Attempt to create segment with a segment ID that already exists		

You received this code:	What the code means:	What you should do:
1281	Component-specific exception handler block out of order	<p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>If the problem occurs again</b>, leave the system as it is. Call your service representative. Describe the problem and report this code.</p>
1282	Invocation associated with a component-specific exception handler cannot be found	
1283	Component-specific exception handler was left enabled by a module that is already invoked	<p>Continue normal system work.</p> <p><b>If the problem occurs again</b>, leave the system as it is. Call your service representative. Describe the problem and report this code.</p>
1342	Error in exception description block passed to exception handler	
1361	Bad return code from MI unlock function on set cursor operation	<p>Continue normal system work.</p> <p><b>If the problem occurs again</b>, call your service representative. Describe the problem and report this code.</p> <p>While you are waiting for your service representative, do the following:</p> <p>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p>b. Make sure you properly labeled the dump diskettes. Save this information.</p> <p>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p>d. Continue normal system work.</p>
1362	Bad return code from MI unlock function	
1371	Invalid request to extend a data space index	<p>Continue normal system work.</p> <p><b>If the problem occurs again</b>, leave the system as it is. Call your service representative. Describe the problem and report this code.</p>
1381	Lock not obtained for new data space index	
1383	Bad return code generated by machine index when referencing keys of a data space index	



You received this code:	What the code means:	What you should do:
1481	Page not allocated exception against nonextendable translator work segment	<p>Continue normal system work.</p> <p><b>If the problem occurs again</b>, call your service representative. Describe the problem and report this code.</p> <p>While you are waiting for your service representative, do the following:</p> <ol style="list-style-type: none"> <li>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>b. Make sure you properly labeled the dump diskettes. Save this information.</li> <li>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>d. Continue normal system work.</li> </ol>
1500	Unexpected exception during reclaim	<p>Continue normal system work.</p> <p><b>If the problem occurs again</b>, leave the system as it is. Call your service representative. Describe the problem and report this code.</p>
1651	Attempt to deallocate an unallocated page frame	<p>Continue normal system work.</p> <p><b>If the problem occurs again</b>, call your service representative. Describe the problem and report this code.</p> <p>While you are waiting for your service representative, do the following:</p> <ol style="list-style-type: none"> <li>a. Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</li> <li>b. Make sure you properly labeled the dump diskettes. Save this information.</li> <li>c. Do an IMPL. See the <i>System/38 Operator's Guide</i> for instructions.</li> <li>d. Continue normal system work.</li> </ol>

You received this code:	What the code means:	What you should do:
1711 1761	Source/sink error	<p><b>a.</b> Perform a main storage stand-alone dump. Go to <i>Procedure for Performing a Main Storage Stand-Alone Dump</i> in Chapter 4 for instructions. Then return here.</p> <p><b>b.</b> Make sure you properly labeled the dump diskettes. Save this information.</p> <p><b>c.</b> Do an IMPL with the IMPL Abbr setting. See the <i>System/38 Operator's Guide</i> for instructions.</p> <p><b>d.</b> Continue normal system work.</p> <p><b>If the problem occurs again,</b> leave the system as it is. Call your service representative. Describe the problem and report this code.</p>



## PDP CODE K4—DISKETTE OR TAPE PROBLEM

**About the message:** Messages with PDP Code K4 tell you about a problem with a diskette or tape. The first-level text of the message you received tells you detailed information about the problem.

**What you should do:** The second-level text of the message you received should suggest how to solve the problem. If it does not, do one of the following:

- **If you are reading (getting) information from a diskette,** place the diskette (or diskette magazine) in a different position in the diskette magazine drive. For example, if you are using slot \*S1, move the diskette to \*S2. Try again the operation that failed.

If moving the diskettes does not solve the problem, go to step **7** of Procedure K: *Diskette Problem* to continue solving this problem.

- **If you are reading (getting) information from a tape:** put the tape in a different tape drive. Try again the operation that failed. If moving the tape solves the problem, you probably have a problem with the tape drive. Clean the read/write heads of the tape drive. See the *System/38 Operator's Guide* for instructions. Use the tape drive again. If that does not solve the problem, call your service representative and describe the problem.

If moving the tape to another tape drive does not solve the problem, the tape is damaged and cannot be used again.

## PDP CODE K5—INSTALLATION PROBLEM

**About the message:** Messages with PDP Code K5 tell you about a problem that occurred while you were installing CPF (Control Program Facility). The system cannot identify the cause of the problem (whether the problem is with the machine or with the diskettes or tape you are using) because the procedures for checking these errors are not ready to work yet. An **error summary** code and **device dependent** code in the second-level text of the message you received describes the problem in more detail. The **error summary** code is in the format: X'YnYY' where n is a 4 or 5 and Y can be any number or letter. To find out what the error code means, look up the code you received on the following pages. Find its meaning under *What the code means*.

**What you should do:** Record the first four characters of the error summary code under item 7b of the *System/38 Problem Summary Form*. You can find copies of the form and instructions for using it at the back of this guide.

After recording the error summary code, start the installation process again. Use the AIPL (alternative initial program load) rotary switch setting. See the *System/38 Operator's Guide* for instructions.

If you still cannot install CPF, call your service representative and describe the problem.

<b>Error summary code you received:</b>	<b>Device dependent error code you received:</b>	<b>What the code means:</b>
Cn09	N/A	Request processed or partially processed and terminated due to reset session
Cn0A		Unprocessed request due to reset session IOM partial damage or unexpected exception
Cn0B		
Cn10		Device OU task failure
En41	1001	SSD destroyed
	1002	SSD truncated or suspended
	1003	SSD damaged
Cn42		Invalid data format
Cn43		Invalid buffer alignment
Cn44		SSD area too small
Cn84		Invalid pointer to SSD
Cn85		Invalid function field
Cn87		Invalid RD



<b>Error summary code you received:</b>	<b>Device dependent error code you received:</b>	<b>What the code means:</b>
Cn88		Invalid RD sequence
Cn89		REQIO continue rejected because a normal REQIO is processing
CnC0		Machine storage exceeded
CnC1		User profile allocated storage too small
CnC2		Invalid lock
CnC3		User profile or context full
CnC4		Duplicate object
CnC6		Object destroyed
CnC7		Invalid object
CnC8		Unexpected exception
CnC9		Object name wrong
CnCD		Object damaged
CnCE		Invalid version level
CnCF		REQIO was modified
CnD1		Reserved field not 0
CnD5		Load object fix-up error
DnCF		Halt RD encountered in RD sequence
DnFF		Invalid descriptor
En10	0001	Subsystem failure (tape) or one-sided media in diskette drive
	0002	Tape drive failure
	0003	Diskette cover open or possible tape media failure
	0004	Enable/Disable switch in disable position
	0005	Subsystem power off
	0007	Diskette defective or NZRI tape on PE drive
	0009	I/O error-media
	000A	Non-sequential sector sequence detected

**Error summary  
code you received:**

**Device dependent  
error code you received:**

**What the code means:**

	000B	Failed to pick a diskette
	000F	CTRL address mark with sequence sector relocation found or a deleted sector found
	0010	I/O error-hardware (diskette) or invalid RD command (tape)
	0011	CTRL address mark with non-sequence sector relocation found
	0012	Speed check (diskette) or equipment check (tape)
	0013	I/O error
	0014	Device cover open during error recovery (diskette)
	0018	Select-in error, disabled, or powered off (tape)
	0019	Possible tape media failure
	0020	Media format error detected during software decompression
En14	0004	No diskette loaded
	0008	Tape drive not ready but at BOT
	0012	Tape drive busy on previous command
	0013	Tape not mounted on drive or not ready and not a load point
En18	000B	Wrong length record (tape)
En41	1001	SSD destroyed
	1002	SSD truncated or suspended
	1003	SSD damaged
En87	0005	Seek address invalid
	0006	Diskette slot is invalid
	0008	Invalid command
	000B	Wrong length record (tape)
	000C	No sector specified or number of sectors specified is equal to RD bytes 3 and 4



<b>Error summary code you received:</b>	<b>Device dependent error code you received:</b>	<b>What the code means:</b>
	000D	Invalid block size specified (tape)
	000E	Block count invalid, missing (zero), or number of operations to perform is less than or equal to number of operations performed
	000F	Invalid number of blocks/file to space over (tape)
	0015	Reserved fields in RD not zero
FnDF		I/O subsystem error or channel error

## PDP CODE K6—SAVE/RESTORE PROBLEM

**About the message:** Messages with PDP Code K6 tell you about problems with the hardware (machinery) or software (programming) used for the save/restore operation (saving data on diskette or tape and storing that data in the system). An **error summary** code and **device dependent** code in the second-level text of the message you received describes the problem in more detail. The **error summary** code is in the format: X'Y<sub>n</sub>YY', where n is a 4 or 5 and Y can be any number or letter. To find out what the error summary code means, look up the code you received on the following pages. Find its meaning under *What the code means*.

**What you should do:** Record the first four characters of the error summary code under item 7b of the *System/38 Problem Summary Form*. You can find copies of the form and instructions for using it at the back of this guide.

Do one of the following:

- **If diskettes or the diskette drive are affected by the problem,** go to step **7** of Procedure K: *Diskette Problem* in Chapter 1.
- **If tapes or a tape drive are affected by the problem,** go to step **7** of Procedure L: *Tape Problem* in Chapter 1.
- **If these procedures do not help you solve the problem,** call your service representative. Describe the problem and report the error summary code from the message you received.



<b>Error summary code you received:</b>	<b>Device dependent error code you received:</b>	<b>What the code means:</b>
Cn10	N/A	REQIO rejected due to device OU task failure
Cn42		Data not valid
Cn43		Invalid buffer alignment
Cn44		SSD area too small
Cn84		Invalid pointer to SSD
Cn85		Invalid function field
Cn87		Invalid RD
Cn88		Invalid RD sequence
CnC3		User profile or context is full
CnC4		Duplicate object
CnC5		Data base network violation
CnC6		Object destroyed
CnC9		Object pointer conflict
CnCA		Data space or data space index in use
CnCD		Object was damaged
CnCF		Unmodified REQIO was not returned while L/D was in a recoverable error mode
CnD0		Object cannot be dumped
CnD1		Invalid use of reserved field
CnD2		Maximum objects exceeded through a journal port
CnD3		Journal ID not unique
CnD4		Journal space is attached
CnD5		Load object fix up error
DnCF		Halt RD encountered in RD sequence
DnEF		VTOC command has been executed
DnFF		Invalid descriptor

**Error summary  
code you received:****Device dependent  
error code you received:****What the code means:**

En10	0001	One sided media in drive
	0003	Device cover open
	0007	Diskette defective
	0010	Invalid RD command
	0012	Speed check - diskette may be in backwards
En14	0004	No diskette loaded
	0012	Tape busy; searching for load point
En18	000A	Tape moving backward at BOT
	000B	Wrong length record detected by device
	000C	Tape mounted and ready but not at load point
En41	1001	SSD destroyed
	1002	SSD truncated or suspended
	1003	SSD damaged
En87	0002	Read or write of VTOC was attempted with control bits not set
	0005	Seek address invalid
	0006	Diskette slot number invalid
	0008	Invalid command
	0015	(Tape) Reserved fields in RD not zero
	000C	No sectors specified or number of sectors specified is equal to RD bytes 3-4
	000D	(Diskette) Too many sectors or no sectors to write with VTOC command
	000D	(Tape) Invalid block size specified: block size < 18 or block size > 32768
	000E	(Diskette) VTOC write buffer did not start with VOL1 or VTOC data read did not contain a VOL1 in either EBCDIC or ASCII
En87	000E	(Tape) Block count to read/write not given (zero)
	000F	Invalid number of blocks/files to space over or number of tape marks to write



## PDP CODE L—OPERATOR ACTION NEEDED

**About the message:** Messages with PDP code L tell you about problems that occurred while you used a device. The device itself does not have a problem, but the device cannot continue working until you correct the situation noted in the message.

**What you should do:** The text of the message you received should help you solve this problem. The first-level text tells you which device has the problem, and what the problem is. The second-level text suggests how you might correct the problem.

If information in the message does not help you solve the problem, do the following:

- 1 Record the first eight characters of the error log number from the first-level text (an error log number is a 24 character code such as: ERR-0019-2345-67D43AC4879AEF35) under item 6c of the *System/38 Problem Summary Form*. You can find copies of the form and instructions for using it at the back of this guide. If you need to call for service, report the first eight characters of the error log number as the **system reference code**.

**If the failing device is a local work station or a local work station printer,** also record the work station controller type (WSC or WSCE) on the *System/38 Problem Summary Form*. To find the work station controller type, do the following:

- a. Display the status of the failing device ( DSPDEVSTS command).
- b. On the device status display, find its attached work station controller. Then display the description of that controller (enter a 2 in the space beside the controller name).
- c. In the control unit description, note the controller TYPE. Record this under item 8 of the *Problem Summary Form*.

- 2 Go to one of the following procedures:

**If you have a problem with a work station:** Go to Procedure H: *Work Station Problem* in Chapter 1.

**If you have a problem with a diskette:** Go to Procedure K: *Diskette Problem* in Chapter 1.

**If you have a problem with a tape:** Go to Procedure L: *Tape Problem* in Chapter 1.

**If you have a problem with a card unit, diskette drive, printer, or tape drive:** Go to Procedure J: *Device Problem* in Chapter 1.

## PDP CODES N—USING NONOBJECTS

**Note:** Nonobjects are items used on the system that are not saved as objects or members of objects. The following are examples of nonobjects:

- Records in files
- Work station entries
- Passwords
- Active subsystems (the subsystem description itself is an object)
- Active jobs (the job description itself is an object)
- Spooled files
- Devices used by programs

## PDP CODE N1—NONOBJECT NOT FOUND

**About the message:** Messages with PDP code N1 tell you that the system cannot find the nonobject you asked for. One of the following caused the problem:

- You entered the wrong name for the nonobject, or you misspelled the name.
- The nonobject was removed from the system.
- The nonobject never existed in the system.

**What you should do:** Use the information in the message you received to solve this problem. The first-level text should tell you which nonobject the system cannot find. The second-level text suggests how you might correct the problem.

If possible, correct the statement with the problem; otherwise, you cannot continue the procedure you were doing.



#### PDP CODE N4—CANNOT USE NONOBJECT (AUTHORITY)

**About the message:** Messages with PDP code N4 tell you that the system cannot let you use the nonobject you asked for because you do not have authority to use it. (Each nonobject in the system has a list of users that are authorized (allowed) to use that object. If you are not listed as one of those users, the system sends you a message with this PDP code.)

**What you should do:** First, make sure that you entered the correct nonobject name and library when you asked to use the nonobject. If you did not, correct the nonobject or library name and try again to use the nonobject.

If this does not solve the problem, see your system security officer. Find out why you cannot use this nonobject. If possible, get authority to use it.

A chart in the *CPF Programmer's Guide* tells you the authority you need to use each CPF object. A similar chart in the *CL Reference Manual* tells you the authority you need to use each CPF command.

#### PDP CODE N5—ANOTHER JOB USING THE NONOBJECT

**About the message:** Messages with PDP Code N5 tell you that another job is using one or more of the nonobjects that you want to use, and that job has locked the nonobject so that no other user can work with that nonobject.

**What you should do:** You cannot use the nonobject. Continue work that does not involve the nonobject.

Try to use the nonobject later.

#### PDP CODE N6—ANOTHER NONOBJECT HAS THE SAME NAME

**About the message:** Messages with PDP code N6 tell you that another nonobject has the same name of the nonobject you want to use or to create. Probably, you called the nonobject by its simple name, which many nonobjects may use, instead of using its full name, which is usually unique.

**What you should do:** The first-level text of the message you received tells you the name you entered for the nonobject.

Perhaps you can be more specific when using the nonobject name (for example, did you use the simple job name, such as `WS1`, instead of the full job name, `WS1.QUSER.009933`). If so, ask to use the nonobject again, using its full name.

If you cannot use a more specific name, you cannot use the nonobject. Continue doing work that does not involve the nonobject.

## PDP CODE N7—CANNOT PERFORM REQUEST ON THIS NONOBJECT

**About the message:** Messages with PDP code N7 tell you that the system cannot do the operation you want with the nonobject you are using. One of the following might have caused the problem:

- You used the wrong nonobject name or type.
- The system cannot perform this type of operation on the type of nonobject you are using.

**What you should do:** Make sure you entered the correct nonobject name when you tried the operation. If you did not, try the operation again, using the correct name.

You may also want to review the operations you can do with this type of nonobject to see why the system cannot perform this operation. Correct the statements describing the operation and try that operation again (if possible).

## PDP CODE N9—CANNOT GET NONOBJECT

**About the message:** Messages with PDP code N9 tell you that the system cannot get you the nonobject you want to use, and the system cannot tell you with certainty why the problem occurred.

One of the following probably caused the problem:

- Another job is locking (reserving for its own use) the nonobject.
- System information about the nonobject shows that it might be damaged (information missing or cannot be read).
- The nonobject was removed from the system.

**What you should do:** Look for other messages that describe the problem in more detail. To do this, get the command entry display, then press the CF7 key.

Look for other messages about the problem. Respond to those messages (if any). For more information on responding to messages, see *Responding to Messages* earlier in this chapter.

If you cannot find other messages about the problem, take the actions described under *What you should do* for other PDP codes beginning with N until the problem is solved.

**If that information does not help you solve the problem,** call your service representative and describe the problem.



## PDP CODE P—FLOW PROBLEM

**About the message:** Messages with PDP code P tell you that program statements or device operations do not follow in the order that they are supposed to.

**Messages about program problems:** The system cannot compile your program. One of the following could have caused the problem:

- You did not pair commands or statements.
- You did not use related statements properly, causing such problems as loops that are nested too many times.
- You used a command or statement more than once in your program, though you are allowed only to use that command or statement once.
- You put a command or statement in the wrong part of your program.
- *COBOL messages only:* The way you referred to other program statements caused a problem.
- *Messages other than COBOL:* You did not label your statements properly.

**Messages about device operations:** The system cannot do the operation.

**What you should do:** Use the information in the message you received to solve this problem. The first-level text tells you at least one of the statements in which the problem occurred. The second-level text suggests how you might correct the problem.

If you need more information about using statements (such as which statements to pair together or how often you can use a statement), see the description of the command or statement with the problem in the reference manual for the language used in the program.

Look for related problems. Try to get more detailed information about the problem by displaying low level messages (get the command entry display, and then press the CF7 key). Also check the program listing to find possible problems.

Make necessary changes to the statement or statements with the problem.

## PDP CODES R—RESOURCE PROBLEM

### PDP CODE R6—LIMIT REACHED

**About the message:** Messages with PDP code R6 tell you that the system cannot do the operation you asked for because you asked to use more of a resource (such as a subsystem) than is available.

**What you should do:** The first-level text of the message you received names the resource. If possible, try using less of the resource. For example, if you are adding 10 work stations to the system, try adding only five.

Or, ask the resource owner to make more resource available (if possible).

### PDP CODE R7—SUBSYSTEM LIMIT REACHED

**About the message:** Messages with PDP code R7 tell you that the subsystem controlling your job does not control enough system resources (programming) to perform the operation you want to do.

**What you should do:** If possible, try the operation later, when fewer jobs are running.

If that is not possible, change the subsystem description ( CHGSBSD command) so the subsystem controls more system resources and can do the operation you want. See *Performance Tuning* in the *CPF Programmer's Guide* for a description of which values to change in the subsystem description.

**If you do not change the subsystem description,** cancel other jobs in the subsystem that controls the job with the problem. To find out which jobs are in the subsystem, display the active jobs ( DSPACTJOB command). On the active jobs display, find the subsystem name. Jobs running in the subsystem are listed under the subsystem name. After explaining the problem to those job users, cancel those jobs by entering a 9 in the space beside the name of each job you want to cancel.



### **PDP CODE R8—RESOURCE NOT INSTALLED ON YOUR SYSTEM**

#### **CAUTION:**

This may be a serious condition. If so, this is noted in the message you received.

**About the message:** Messages with PDP code R8 tell you that the system resource you asked to use (such as more system storage space) is not installed on your system.

**What you should do:** If possible, use a similar resource that is already installed on your system, or cancel the job that wants to use the resource.

Call the data processing manager and describe the problem. Perhaps the resource is not properly described to the system (device, line or control unit description), or is not described at all.

### **PDP CODE R9—SYSTEM DESIGN LIMIT REACHED**

**About the message:** Messages with PDP code R9 tell you that the system cannot finish the operation you want to do, because that operation forces the system to go beyond its designed limits. For example, you are asking the system to create a fifteenth pool definition when the system is designed for only fourteen.

**What you should do:** Change the operation so that it works within the limits of the system. For more information about the limits of the system, see the description of the operation you are trying to do in the appropriate programming reference manual. If you do not change the operation, the system cannot perform it.

## PDP CODE T—TIME LIMIT REACHED

**About the message:** Messages with PDP code T tell you that the system stopped work on the operation because the time limit for doing that operation was reached.

**What you should do:** Find out if your job controlled the operation that the system did not finish. If it did not control the operation, examine the operations of the job that did control the operation to learn why that job did not finish its part of the operation. For example, a program in your job might have been waiting to receive a message from another program in the job within a certain time limit. But the message was not received when the time limit was reached.

Or, you can do one of the following:

- Change the time limit for the class of program used in the operation. To do this, delete the program class (DLTCLS command). Then create the class again (CRTCLS command), choosing a maximum time value that is long enough for your program to run. For more information on program class, see the *CPF Programmer's Guide*. Then try the job again.
- Change the routing entry for this job so that it is **routed** (grouped) with a class of programs that run longer (CHGRTGE command). For more information on routing entries, see the *CPF Programmer's Guide*. Then try the job again.
- Check the listings of the programs run in the job. Try writing those programs so that they run faster. See the *Tips and Techniques or Performance Tuning* section of the language or reference manual used in the program. Try the job again.



## PDP CODES V—CONFLICTS

### PDP CODE V1—MOVING TARGET

**About the message:** Messages with PDP code V1 tell you that a characteristic of the item you are trying to work with changed between the time you entered your request and the time the system tried to perform your request. That characteristic was an important part of the operation you want to do, so the system could not finish your request. For example, you tried to change the status of a job, but when the system performed your request, the job was already finished.

**What you should do:** You cannot correct this problem.

However, if you expect to do a similar operation, try to hold system work (commands beginning with HLD) on the item you are using, if possible, until the system can perform your request.

### PDP CODE V2—MATCHING PROBLEM

**About the message:** Messages with PDP code V2 tell you that the system could not finish the operation you asked for because information in part of your request did not match corresponding information in another part of your request. For example, you want to delete a physical file, but have done nothing about the logical files that refer to it.

**What you should do:** The first-level text of the message you received tells you which parts of the request did not match. Correct the problem and try the request again. The following list suggests how you can correct some of these problems.

- **If you had a problem using a work station,** go to Procedure H: *Work Station Problem* in Chapter 1 for instructions on how to solve that problem. After you solve the problem, try the operation again.
- **If you had a problem using a printer, card unit, diskette drive, or tape drive,** go to Procedure J: *Device Problem* in Chapter 1 for instructions on how to solve that problem. After you solve the problem, try the operation again.

- **If you forgot to change programs that use a command whose definition was changed**, list the usage of that command (LSTCMDUSG command) to find out which programs use it. For example, to find out which programs use the command STRPRTWTR, enter:

```
LSTCMDUSG CMD (strprtwttr)
```

Make necessary changes to the programs using the command. Then try the operation again.

- **If programs are sending data to each other in different formats**, check the listings of each program to see which formats are used. Change the programs so that they send data to each other in the same format. Then try the operation again.
- **If you entered the wrong type of data into a field (such as entering numbers where you should enter letters)**, enter the data again using the correct type. If you do not know which type of data to use, check the description of that field in the program listing or in the file description.



## PDP CODE V3—WRONG ENVIRONMENT

**About the message:** Messages with PDP code V3 tell you that the operation you are trying to do cannot be done in the system environment or mode of operation in which you are working. For example, you are trying to add CPF trace breakpoints in your program but you are not using debug mode.

**What you should do:** The message you received describes the problem and tells you what environment or mode your system (or job) needs to be in. If possible, change the environment you are in or mode of system operation you are using. The following list describes how to start certain modes of operation:

- **To start debug mode, enter:**

```
ENTDBG
```

at the work station where you want to use debug mode.

- **To start service mode, enter:**

```
SRVJOB JOB(ws1.quser.009933)
```

at a work station **other** than the one you want to put in service mode.

Replace ws1.quser.009933 with the name of job you want to put in service mode.

Try the operation again.

In some cases, you cannot change your environment or mode of operation. For example, certain jobs are designed to run only as batch jobs, and cannot be run as interactive jobs. In those cases, the system cannot do the operation you asked for.

## PDP CODES X—COMMUNICATIONS PROBLEMS

### PDP CODE X1—GENERAL COMMUNICATIONS PROBLEM

**About the message:** Messages with PDP code X1 tell you about a problem somewhere in your communications network.

**What you should do:** In the first-level text of the message you received, note the name of the line, control unit, or device with the problem.

Then go to Procedure C: *Communications Problem* in Chapter 1.

### PDP CODE X2—CANNOT START OR STOP COMMUNICATIONS

**About the message:** Messages with PDP code X2 tell you that the system cannot start or stop communications (cannot send data between the system and the remote equipment). A code in the second-level message text identifies the specific problem. The code is either a 2-, 4- or 8-character SNA (Systems Network Architecture) **negative response code**, or an **SNA unbind code**. To find out what the code you received means, find the chart titled with the type of code you received on the following pages. Then find the code you received in that chart.



## SNA NEGATIVE RESPONSE CODES

### You received this negative response code:

### What the code means:

08 01  
08 02  
08 03  
08 04  
08 05

The resource you want to use (such as a work station) is not available.  
You must do a certain action (this depends on the program you are using).  
You forgot to enter the password.  
Your password is not valid.  
Session limit exceeded.

If the code had 8 characters,  
the last 4 characters mean:

0000  
0001

No additional information specified.  
If accepted, the BIND request would keep the receiving logical unit (LU) from starting the number of contention winner sessions to the sending logical unit (LU) that were agreed to by both logical units.

08 06  
08 07  
08 09  
08 0A  
08 0B  
08 0C

Resource unknown.  
The resource you want to use (such as a work station) is not available.  
Mode inconsistency.  
Permission rejected.  
Bracket race error.  
The system does not support (have the programming needed to do) the procedure you want to do.

08 0D  
08 0E  
08 0F

NAU contention.  
NAU not authorized.  
The user at the remote location does not have the authority to do the operation he requested.

If the code had 8 characters,  
the last 4 characters mean:

0000  
6051

No additional information given.  
The access security field (ACC) of the FMH5 is not valid (FMH7).

08 10  
08 11  
08 12

You forgot to enter the ID of the requester.  
Break.  
The system does not have enough resources (such as power or storage) to do the operation you want.

08 13  
08 14  
08 15

Bracket bid reject—No RTR forthcoming.  
Bracket bid reject—RTR forthcoming.  
Someone is already using the function you tried to start.

**You received this  
negative response code:**

**What the code means:**

08 16

The system cannot do the function you tried to start because the resources (special programming, or devices) needed to do this function are not active.

08 19

RTR not required.

08 1A

Request sequence error.

08 1B

The device that is supposed to receive data is set to transmit (send) data.

08 1C

Request not executable.

08 1D

You used the wrong ID for the station (remote equipment) or SSCP (system unit) so the system does not know where to send data.

08 1E

Session reference error.

08 1F

Reserved.

08 20

Control vector error.

08 21

The values used to start the session with the remote equipment are not correct for the devices that will be communicating.

08 22

Link procedure failure.

08 23

Unknown control vector.

08 24

Unit of work aborted.

If the code had 8 characters,  
the last 4 characters mean:

0000

No additional information given (FMH7).

08 25

The component you want to use is not available.

08 26

FM function not supported.

08 27

Intermittent error-retry requested.

08 28

You cannot reply to this information.

08 29

Before you can send data to the other device, a change direction command must be sent.

08 2A

Presentation space alteration.

08 2B

Presentation space integrity lost.

08 2C

More than one user can share the resource you asked to use, but the limit for sharing that resource has been reached.

08 2D

The LU (remote work station) you are trying to send data to is busy.

08 2E

Intervention required at LU subsidiary device.

08 2F

Request not executable because of LU subsidiary device.

08 30

Reserved.

08 31

LU component disconnected.

08 32

Invalid counter field.



**You received this  
negative response code:**

**What the code means:**

08 33	Invalid parameter (with pointer and complemented byte).
08 34	RPO not initiated.
08 35	Invalid parameter (with pointer only).
08 36	PLU/SLU specification mismatch.
08 37	Queueing limit exceeded.
08 38	Reserved.
08 39	The session (either between two LUs (work stations) or an SSCP and an LU (system and a work station)) is being stopped.
08 3A	The LU (remote work station) you want to use has not been enabled (started).
08 3B	Invalid PCID.
08 3C	Domain takedown contention.
08 3D	Dequeue retry unsuccessful—removed from queue.
08 3E	Reserved.
08 3F	Terminate contention.
08 40	You cannot do this operation using the resource you requested.
08 41	This device has the same address as another device in the communications network, so the system does not know where to send data.
08 42	SSCP-SSCP session not active, that is, you tried to send data between two system units, but you have not started a communications session for them.
08 43	Required FMDS synchronization not supplied.
08 44	Initiation dequeue contention.
08 45	Permission rejected—SSCP will be notified.
08 46	You will receive another message that describes the problem in more detail.
08 47	Restart mismatch.
08 48	You tried to encode data sent across the communications line, but the encoding function is not active.
08 49	Reserved.
08 4A	Presentation space alteration.
08 4B	Requested resources not available.
If the code had 8 characters, the last 4 characters mean:	
0000	No additional information given.
6002	The resource identified by the destination program (DPN) is not supported.
6003	The resource identified by the primary resource name (PRN) is not supported.
6031	Transaction program not available, retry allowed (FMH7).

**You received this negative response code:**

08 4C

If the code had 8 characters,  
the last 4 characters mean:

0000

08 4D

08 4E

08 4F

08 50

08 51

08 52

08 53

08 56

08 57

08 58

08 59

08 60

08 61

08 62

08 63

08 64

If the code had 8 characters,  
the last 4 characters mean:

0000

0001

0002

08 65

08 66

08 67

08 68

08 69

**What the code means:**

Permanent insufficient resource.

Transaction program not available, retry not allowed (FMH7).

Invalid session parameters—BF.

Invalid session parameters—PRI.

Reserved.

The link-level part of your operation (the part involving the line) cannot be performed.

Session busy.

Session with larger activation request sequence identifier already active.

TERMINATE (cleanup) required.

SSCP-SSCP session (session between two system units) lost.

Someone tried to send data between the system unit and a work station (SSCP-LU session), but communications between them has not been started.

Reserved.

REQECHO data length error.

The system does not support (does not have the programming for) the operation you tried to do, but the system did not end the communications.

Invalid COS name.

Medium presentation space recovery.

You referred to a local character set identifier (LCID) in your program, but the system could not find that character set.

Function abort. No retry should be attempted.

A loop will occur upon reexecution (FMH7).

A system logic error has been detected (FMH7).

Excessive time has elapsed while waiting for a required action or event (FMH7).

Function abort.

Function abort.

Sync event response.

No panels loaded.

Panel not loaded.



**You received this  
negative response code:**

**What the code means:**

08 71  
08 72  
08 73  
08 74  
08 76  
08 78

Read partition state error.  
Orderly deactivation refused.  
Virtual route not defined.  
ER not in a valid state.  
Incorrect or undefined explicit route requested.  
There is not enough main storage space (system power) available to do the operation you requested.  
Storage medium.  
Format processing error.  
RTR not supported.  
Transaction program error. The data has been completely received.

If the code had 8 characters,  
the last 4 characters mean:

0000  
0001  
0100  
0101

Transaction program error. No data has been discarded as a result of the error (FMH7).  
Transaction program error. Data truncation has occurred. Part of the data has been discarded as a result of the error (FMH7).  
Service transaction program error. No data has been discarded as a result of the error.  
Service transaction program error. Data truncation has occurred. Part of the data has been discarded as a result of the error (FMH7).

08 8B  
10 01  
10 02  
10 03

BB not accepted.  
There was an error in the data sent (in the RU).  
The data sent was incomplete or incorrect (RU length error).  
The system does not support (have the programming to do) the function you tried.

If the code had 8 characters,  
the last 4 characters mean:

0000  
6002  
6003  
10 05  
10 07

Function requested is not supported.  
The resource identified by the destination program (DPN) is not supported.  
The resource identified by the primary resource name (PRN) is not supported.  
Parameter error.  
Category not supported.

**You received this  
negative response code:**

10 08

If the code had 8 characters,  
the last 4 characters mean:

200E  
201D  
4001  
6000  
6005  
6009  
600B  
6011  
6021  
6031  
6032  
6034  
6040  
6041  
6042  
6043  
6044

10 09  
20 01  
20 02  
20 03  
20 04  
20 05  
20 06  
20 07  
20 08  
20 09  
20 0A  
20 0B  
20 0C  
20 0D  
20 0E

**What the code means:**

Invalid FM header.

Invalid concatenation indicator.

FMH and associated data do not match.

Invalid FMH type.

FMH length not correct.

FMH security access field (ACC) length is not valid.

Invalid parameter length.

Unrecognized FMH command code (FMH7).

Invalid unit of work.

Transaction program name (TPN) not recognized.

Program initiation parameters (PIP) not allowed (FMH7).

Program initiation parameters (PIP) not specified correctly (FMH7).

Conversation types do not match (FMH7).

Invalid attach parameter.

Sync point level not supported (FMH7).

Reconnect level not supported (FMH7).

Unable to reconnect transaction program, no retry allowed (FMH7).

Unable to reconnect transaction program, retry allowed (FMH7).

Format group not selected.

Sequence number.

Chaining.

Bracket.

Direction.

Data traffic reset.

Data traffic quiesced.

Data traffic not reset.

No begin bracket.

Session control protocol violation.

Immediate request mode error.

Queued response error.

ERP sync event error.

The unit making a request must respond to an earlier request first.

Response correlation error.



**You received this  
negative response code:****What the code means:**

20 0F	Response protocol error.
20 10	DIS protocol error.
20 11	Pacing error.
40 01	Invalid SC or NC RH.
40 03	BB not allowed.
40 04	EB not allowed.
40 05	The RH (information about where to send data) was not complete.
40 06	Exception response not allowed.
40 07	Definite response not allowed.
40 08	Pacing not supported.
40 09	CD not allowed.
40 0A	No-response not allowed.
40 0B	Chaining not supported.
40 0C	Brackets not supported.
40 0D	CD not supported.
40 0E	Reserved.
40 0F	Incorrect use of format indicator.
40 10	Alternate code not supported.
40 11	Incorrect specification of RU.
40 12	Incorrect specification of request.
40 13	Incorrect specification of (SDI, RTI).
40 14	Incorrect use of (DR1I, DR2I, ERI).
40 15	Incorrect use of QRI.
40 16	Incorrect use of EDI.
40 17	Incorrect use of PDI.
40 18	Incorrect setting of QRI with bidders BB.
40 19	Incorrect indicator with last-in-chain request.
40 39	QRI setting in response different from that in request.
80 01	There is a problem with one of the nodes (places the data travels through).
80 02	There is a problem with the data link (communications line).
80 03	The device you are trying to send data to is not working (NAU inoperative).
80 04	The system does not recognize (have a record of) the destination address (the identifier of the device you are sending data to).
80 05	No session.
80 06	Invalid FID.

**You received this  
negative response code:**

**What the code means:**

80 07	Segmenting error.
80 08	PU not active.
80 09	LU not active.
80 0A	Too long PIU.
80 0B	The TH (information about where to send the data) is not complete.
80 0C	DCF error.
80 0D	Lost contact.
80 0E	Unrecognized origin.
80 0F	The address (identifier) of the device you want to send data to is not correct, so the system does not know where to send the data.
80 10	Segmented RU length error.
80 11	ER inoperative or undefined.
80 12	Subarea PU not active or invalid virtual route.
80 13	COS not available.

The last 4 characters are:

XXYY where:

XX=00 Single network environment error.

01 Interconnected network environment error.

YY=00 No specific data specified.

01 No mapping specified.

02 No explicit routes defined.

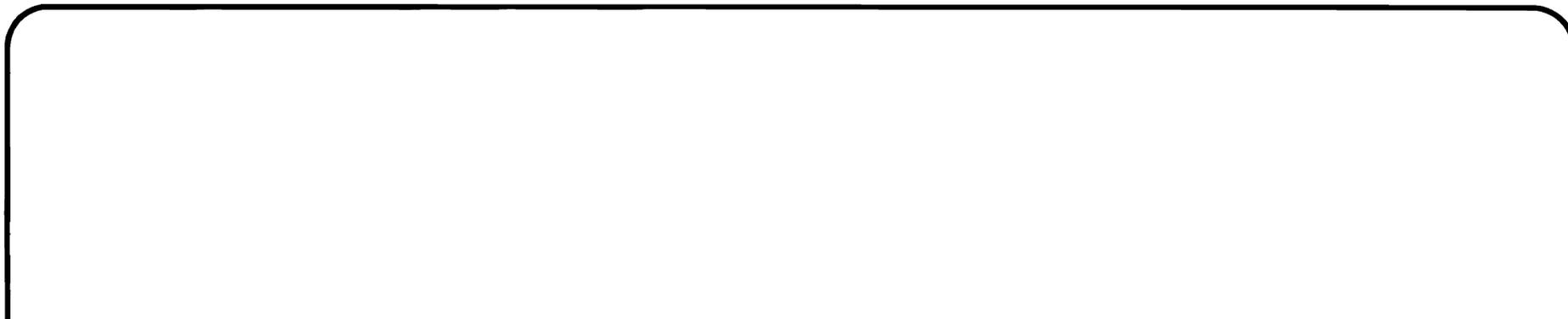
03 No VR resource available.

04 No explicit routes operative.

05 No explicit route can be activated.

06 No virtual route can be activated.





## SNA UNBIND CODES

If you received a 4-character code, and the first 2 characters of the code are 32:

**You received  
this code:**

**What the code means:**

3201	Normal end of session.
3202	BIND command forthcoming.
3203	Talk: this session will be resumed by the sender of the UNBIND command after alternate use of physical connection.
3204	Restart mismatch.
3205	LU not authorized.
3206	Invalid session parameters.
3207	Virtual route inoperative.
3208	Route extension inoperative.
3209	Hierarchical reset.
320A	SSCP gone.
320B	Virtual route deactivated.
320C	LU failure, unrecoverable.
320E	LU failure, recoverable.
320F	Cleanup.
3211	Gateway node cleanup.
32FE	Session failure.

**Note:** This UNBIND code also includes SNA sense data described in the negative response code table.

Otherwise, you received a 4-character code in the form:

XXYY where:

XX=00 Single network environment error.  
01 Interconnected network environment error.

YY=00 No specific data specified.  
01 No mapping specified.  
02 No explicit routes defined.  
03 No VR resource available.  
04 No explicit routes operative.  
05 No explicit route can be activated.  
06 No virtual route can be activated.



**What you should do:** Save any dump information you received with the message. Label this information with the date and time the problem occurred, and the identifier of the message you received.

**If you are trying to communicate with another system where that system is the host (main) system,** the host system might be using wrong data in the BIND command, which starts communications between systems. Check the host system to see if a problem exists there. Fix the problem (if any) and continue normal system work.

**If you were not trying to communicate to another host system,** make sure that all of the remote equipment (remote devices, control units, and lines) is properly described to the system. For example, make sure the characteristics described to the system match those of the equipment you are using. See the *CL Reference Manual* for information on device, control unit, and line descriptions.

If necessary, change the description of this equipment so that it matches the characteristics of the equipment that you are using (CHGDEVVD, CHGCUD, CHGLIND commands). Then continue normal system work.

If the descriptions are correct, or if changing the descriptions does not solve the problem, call your service representative. Describe the problem and report the SNA error code in the message you received. Also give the service representative the dump information you received with this message (if any).

### PDP CODE X3—SNA PROTOCOL PROBLEM

**About the message:** Messages with PDP code X3 tell you that protocol rules were not followed in the last message sent between your system and the remote equipment. (**Protocol** is the set of rules a system uses to send data to and from remote equipment, so each understands the data the other is sending. Your system uses the SNA (System Network Architecture) protocol to send data from the system to remote equipment.) For example, one rule says that certain commands are sent when you want to do certain operations, but one of those commands was not sent.

**What you should do:** Save any dump information you received with the message. Label this information with your account name, and the date and time the problem occurred. Save this information. Continue normal system work.

**If the problem occurs again,** call your service representative. Describe the problem, and give him the dump information you received (if any).

## PDP CODE X4—PROBLEM FOUND BY DEVICE

**About the message:** Messages with PDP code X4 tell you about problems found by a remote device as that device communicated with (sent data to) the system. One of the following is causing the problem:

- The remote device has a problem.
- The remote device received incorrect data from the system.
- The job at the remote device is being stopped.

**What you should do:** Save any dump information that the system printed when you received with this message. Label that information with the present date and time, and the identifier of the message you received. Save this information.

**If the information in the message does not help you solve the problem,** call the user at the remote location to find out more about the problem.

**If you still cannot solve the problem,** call your service representative and describe the problem.



## PDP CODE X5—PROBLEM WITH SWITCHED CONNECTION

**About the message:** Messages with PDP code X5 tell you about a problem starting a switched connection with the remote equipment. (You must make this connection every time you start communications with the remote equipment.) One of the following is causing the problem:

- **Device configuration problem.** The characteristics of the remote equipment being used do not match those saved in the description of that equipment. For example, the line description states that data travels at 2400 bps between the system and the remote equipment, but data actually travels at 9600 bps.
- **Device problem.** There might be a hardware (machine) problem with the remote equipment.
- **System/38 problem.** A problem in the system programming might keep you from making this connection.

The message you received tells you which of the above caused the problem.

**What you should do:** Record the first eight characters of the **error log number** under item 6c of the *System/38 Problem Summary Form*. (The error log number is a 24-character code, such as:

ERR-0019-3245-67D43AC4879AEF35

that identifies a device problem for your service representative.) You can find copies of the form and instructions for using it at the back of this guide.

Then make sure that all of the remote equipment (remote devices, control units, and lines) is properly described to the system. For example, make sure the characteristics described to the system match those of the equipment you are using. See the *CL Reference Manual* for information on device, line, and control unit descriptions.

If necessary, change the description of this equipment so that it matches the characteristics of the equipment that you are using (CHGDEV, CHGCUD, CHGLIND commands). Then continue normal system work.

**If the descriptions are correct, or if changing the descriptions does not solve the problem,** call your service representative. Describe the problem and report the error log number from the message you received.

## PDP CODE X6—SDLC OR BSC PROTOCOL PROBLEM

**About the message:** Messages with PDP code X6 tell you that protocol rules were not followed when the last message was sent between the system and the remote device. (Your system uses certain rules, called **protocol**, to send data to and from remote equipment, so that each of them understands the data the other is sending. Your system uses either the SDLC (synchronous data link control) or the BSC (binary synchronous communications) protocol for sending data over communications lines.) For example, one rule says that certain commands are sent to do certain operations, but one of those commands was not sent.

**What you should do:** Make sure that all of the remote equipment (remote devices, control units, and lines) is properly described to the system. For example, make sure that a line using BSC protocol is described as a \*BSC or \*BSCT line, not as a \*SDLC line. See the *CL Reference Manual* for information on device, control unit, and line descriptions.

If necessary, change the description of this equipment so that it matches the characteristics of the equipment that you are using (CHGDEV D, CHGCUD, CHGLIND commands). Then continue normal system work.

If the descriptions are correct, or if changing the descriptions does not solve the problem, go to Procedure C: *Communications Problem* to continue looking for the cause of the problem.



### PDP CODE X7—BSC LINE PROBLEM

**About the message:** Messages with PDP code X7 tell you that problems were found during the **circuit assurance of contention mode** (when your BSC line checks for problems). One of the following problems was found:

- **Device configuration problem.** The characteristics of the remote equipment being used do not match those saved in the description of that equipment. For example, the line description states that data travels at 2400 bps between the system and the remote equipment, but data actually travels at 9600 bps.
- **Device problem.** There might be a hardware (machine) problem with the remote equipment.
- **System/38 problem.** A problem in the system programming might keep you from making this connection.

The message you received tells you which of these caused your problem.

**What you should do:** Make sure that all of the remote equipment (remote devices, control units, and lines) is properly described to the system. For example, make sure that a line using BSC protocol is described as a \*BSC or \*BSCT line, not as a \*SDLC line. See the *CL Reference Manual* for information on device, control unit, and line descriptions.

If necessary, change the description of this equipment so that it matches the characteristics of the equipment that you are using ( CHGDEV D, CHGCUD, CHGLIND commands). Then continue normal system work.

If the descriptions are correct, or if changing the descriptions does not solve the problem, go to Procedure C: *Communications Problem* to continue looking for the cause of the problem.

### PDP CODE X25A—LOCAL X.25 PROBLEM

**About the message:** A problem was detected between the System/38 and the local DCE (the modem).

**What You Should Do:** Record the first eight characters of the error log number under item 6c of the *System/38 Problem Summary Form*. (The error log number is a 24-character code such as:

that identifies a device problem for your service representative.) You can find copies of the form and instructions for using it at the back of this guide.

Record the hardware error code and the cause/diagnostic code from the second-level text.

Perform the following recovery steps:

1. Vary off the devices (VRYDEV command) on the failing line.
2. Vary off the control unit (VRYCTLU command) on the failing line.
3. Vary off the failing line (VRYLIN command).
4. Vary on the failing line (VRYLIN command).
5. Vary on the control unit (VARYCTLU command) on the failing line.
6. Vary on the devices (VARYDEV command) on the failing line.

If the problem recurs, go to Procedure C.25: *X.25 Problem Determination Procedures*.



## PDP CODE X25B—REMOTE X.25 PROBLEM

**About the message:** A problem was detected between the System/38 and the remote location.

There are two X25B errors. A *connection* error code occurs while you are establishing communications on the X.25 network. A *virtual circuit* error code occurs when the X.25 circuit is established and the remote location is communicating with the System/38. These errors are caused by:

- A configuration on the System/38 different from the remote location or
- A problem within the X.25 network

**What You Should Do:** Record the first eight characters of the *error log number* under item 6c of the *System/38 Problem Summary Form*. (The error log number is a 24-character code such as:

ERR-0019-3245-67D43AC4879AEF35

that identifies a device problem for your service representative.) You can find copies of the form and instructions for using it at the back of this guide.

Record the hardware error code and the cause/diagnostic code from the second-level text.

Make sure that all of the remote equipment (remote devices, control units, and lines) is properly described to the system. For example, make sure the characteristics described to the system match those of the equipment you are using. See the *CL Reference Manual* for information on device, line, and control unit descriptions.

If necessary, change the description of this equipment so that it matches the characteristics of the equipment that you are using ( CHGDEV D, CHGCUD, CHGLIND commands). Then continue normal system work.

To recover from an X.25 network problem, correct the reported problem and try to establish communications with the remote location again.

If the problem recurs, go to *Procedure C.25: X.25 Problem Determination Procedures*.

## PDP CODE X25C—PROBLEM WITH THE X.25 SWITCHED VIRTUAL CIRCUIT

**About the message:** Messages with PDP code X25C tell you about a problem establishing a switched virtual circuit (SVC) between the local System/38 and the remote device. One of the following is causing your problem:

- **Network configuration problem.** The characteristics of the network do not match those saved in the line and control unit descriptions. For example, the System/38 may be trying to place a virtual call on a virtual circuit that it has not subscribed to, or the user facility in the NETUSRFLD field of the control unit descriptor is not supported by the network.
- **Device configuration problem.** The characteristics of the remote device do not match those saved in the control unit description. For example, the System/38 may be trying to place a virtual call with a password that is not correct.
- **Device problem.** There might be a hardware (machine) problem with the remote equipment.
- **System/38 problem.** A problem in the system programming might keep you from making this connection.

The message you received tells you which of the above caused the problem.

**What you should do:** Record the first eight characters of the **error log number** under item 6c of the *System/38 Problem Summary Form*. (The error log number is a 24-character code, such as:

ERR-0019-3245-67D43AC4879AEF35

that identifies a device problem for your service representative.) You can find copies of the form and instructions for using it at the back of this guide.

Then make sure that the network and the remote equipment are properly described to the system. For example, make sure the characteristics described to the system match those of the equipment you are using. See the *CL Reference Manual* for information on device, line, and control unit descriptions.

If necessary, change the description of the equipment so that it matches the characteristics of the equipment that you are using (CHGDEV D, CHGCUD, CHGLIND commands). Then continue normal system work.

**If the descriptions are correct, or if changing the descriptions does not solve the problem,** call your service representative. Describe the problem and report the error log number from the message you received.



## PDP CODE X25D—X.25 LINE PROBLEM

**About the message:** Messages with PDP code X25D tell you a problem was found at the link level between the System/38 and the local network node. One of the following is causing your problem.

- **Network configuration problem.** The characteristics of the network do not match those saved in the line description. For example, the System/38 may have an incorrect network type given in the line descriptor.
- **Device problem.** There might be a hardware (machine) problem with the remote equipment.
- **System/38 problem.** A problem in the system programming might keep you from making this connection.

The message you received tells you which of these caused your problem.

**What you should do:** Make sure that the network is properly described to the system. For example, make sure that a line using X.25 protocol is described as a \*X25 line, not as a \*SDLC line. See the *CL Reference Manual* for information on device, control unit, and line descriptions.

If necessary, change the description of this equipment so that it matches the characteristics of the equipment that you are using ( CHGDEV, CHGCUD, CHGLIND commands). Then continue normal system work.

If the descriptions are correct, or if changing the descriptions does not solve the problem, go to Procedure C.25: *X.25 Problem Determination Procedures* to continue looking for the cause of the problem.

## PDP CODE Y—MESSAGES BETWEEN PROGRAMS

**About the message:** This is a message sent from one program to another while both programs are running. This message is not meant for you.

## PDP CODES BEGINNING WITH Z—SYSTEM OR DEVICE PROBLEM

**About the message:** Messages with PDP code beginning with Z tell you about an unexpected problem in part of the system. The characters of the PDP code following the letter Z identify the part with the problem. These problems are usually caused by a system programming problem.

To find out which part of your system has the problem, look at the chart on the following page. Find the last two characters of the PDP code for the message you received. Listed beside those characters is the part of your system with the problem.

**What you should do:** Record the identifier of the message you received and its PDP code, under item 7b of the *System/38 Problem Summary Form*. You can find copies of the form and instructions for using it at the end of this guide.

Save any dump information that was printed when you received this message. Also, print the job log for the job affected by the problem, the job log with your account name, and the date and time the problem occurred. See *Using the Job Log* in Chapter 2 for instructions on how to print a job log.

Then call your service representative. Describe the problem, and report the identifier of the message you received and its PDP code.



For example, if you received PDP code ZCO, find CO in the chart. CO tells you about problems with the system console.

<b>Last two letters of PDP code:</b>	<b>The problem affects this:</b>	<b>Last two letters of PDP code:</b>	<b>The problem affects this:</b>
AR	5250 test request	LI	Librarian
BA	Basic	MH	Message handler
BG	Business graphics utility (BGU)	MN	Menu facilities
BS	Binary synchronous communication	MP	Machine product
CA	Command analyzer	MR	Multipoint remote job entry facility
CB	COBOL	NF	Network facilities
CC	Confidence checker	OS	Office systems
CD	Command definition	PA	Pass-through
CL	Control language compiler	PI	3270 pass-through
CN	DDM communications	PN	Printer
CO	Console	PR	Program resolution monitor (PRM)
CP	Copy	PT	Prompter
CR	COBOL	QU	Query utility
CS	Card device	RC	Recovery/damage assessment
CX	COBOL	RG	RPG compiler
DB	Date base or data base file definition	RS	RPG syntax
DC	Device configuration	RT	RPG auto report
DD	Data description	RU	Reformat utility
DE	Data file utility (DFU)	RX	RPG execution subroutines
DF	Device file definition	SC	Service
DK	Diskette support	SD	Screen design aid
DM	Data management or device support	SE	Source entry utility (SEU)
DR	Diskette recovery	SF	Subfile
DS	Dictionary services <sup>1</sup>	SI	Advanced program-to-program communications (APPC)
EM	3270 device emulation	SL	Secondary logical unit support (SNA)
FG	Advanced printer function	SM	Concurrent service monitor (CSM)
FN	Finance	SP	Spooling
FT	PC SUPPORT/38 file transfer	SR	Save/restore
GD	GDDM graphics	SU	Source entry utility (EDTSRC)
HR	Host router	SW	Switched line
ID	Interactive data base utilities (IDU)	SY	Security
IN	Installation	T3	Teleprocessing
JO	Journal	TA	Tape
LG	Data base logging		

<sup>1</sup>The DS PDP code may have a return code. Report the return code to your IBM service representative.

**Last  
two  
letters  
of PDP  
code:**

**The problem affects this:**

TE	Testing
TN	Commitment control
TS	DDM target source
VM	PC SUPPORT/38 virtual media
VP	PC virtual printer
WC	Work control
WD	Subsystem description
WH	File reference
WP	Work station printer
WS	Work station (5250)
WT	Work monitor
ZD	Systems network architecture distribution services





This section describes the **error log number** found in the first-level message.

**Note:** This procedure does NOT tell how to fix the problem described in the error log number; you can find that information in the second-level message text and the PDP code description. For more information, see *Responding to Messages* earlier in this chapter.



### What an error log number is.

An error log number is a 24-character code that identifies a hardware (machine) problem in the system or with one of its attached devices. The error log number has three parts:



### What you should do with the error log number.

When you receive an error log number, record the first 8 characters of that number under item 6c of the *System/38 Problem Summary Form*.

6. Record the following:
- a. Code shown on the system console screen (if any):  (See **Note**)
  - b. Indicator code: F 0 0  -  (See **Note**)
  - c. First 8 characters of the error log number (if any): 0 0  (See **Note**)

**Note:** When you call for service, report the first code you record in this section. Call this code the **system reference code**.

Record the code here.

You can find copies of the form and instructions for using it at the back of this guide.

You probably would not use the information in the error log number. Instead you should use the information in the second-level message text and the PDP code description to try to fix the problem yourself. If you cannot fix the problem, report the first 8 characters of the error log number to your service representative. He can use this information to find out which part of the device has the problem.

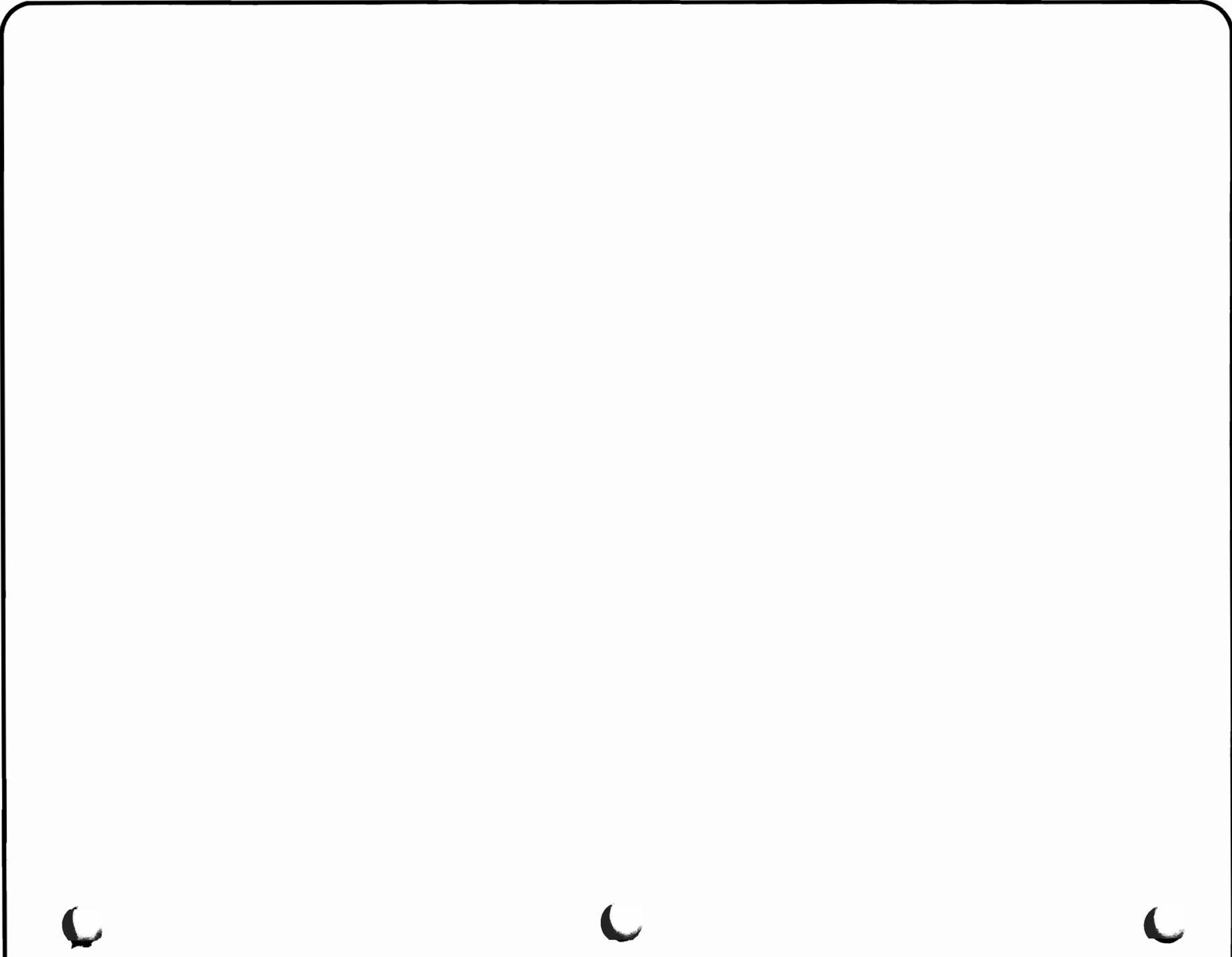
## What the error log number means.

The following charts describe the error log number. Each chart shows the device code and its associated hardware error codes. To use the charts:

- 1 Find the chart that is titled with the first 4 numbers of the error log number you received (the device code).
- 2 In that chart, find the second 4 numbers of the error log number you received (the hardware error code), and read the description of that code.

**Note:** These charts do NOT tell how to fix the problem described in the error log number; you can find that information in the second-level message text and the PDP code description. For instructions on how to get this information, see *Responding to Messages* earlier in this chapter.





**0001: System  
control adapter  
(SCA) errors**

<b>EEEE is:</b>	<b>What the code means:</b>
0101	Channel error
0102	Halt with channel error
0201	Command reject
0202	Illegal ID in execute command
0203	I/O error (LED interface)
0301	IOC1 A-reg parity error
0302	IOC1 internal parity error
0303	IOC1 external parity error
0304	Illegal RAM1 address
0305	Illegal RAM2 address
0306	RAM2 parity error
0307	Call/return queue full
0308	Illegal ABO
0309	Illegal OU number
030A	Disconnect on command fetch
030B	FOB time-out
0401	System power fault
0402	Power Warning feature activated
0403	Power Warning feature de-activated
0501	62PC test failed
0502	LED test failed
0503	Power controller test failed
0504	Console DS test failed
0505	72MD test failed
0506	Console adapter test failed
0507	IMPL/Alt IMPL soft error
0601	Operation program error



<b>EEEE is:</b>	<b>What the code means:</b>	<b>0002: System console errors</b>
0101	Channel error	
0104	Invalid screen format	
0105	Command reject	
0201	CRT cable unplugged	
0202	Keyboard cable unplugged	
0203	Screen buffer parity error	
0204	Screen buffer/DBI parity error	
0205	Keyboard overrun	
0206	Invalid scan code	
—	CPU request function complete	
0301	Post event (IOC1 DBI parity error)	
0301	Post event (internal IOC1 parity error)	
0301	Post event (IOC1-to-adapter transfer parity error)	
0302	Post event (not valid disconnect)	
0401	Invalid BSTAT/DSTAT data	
0402	FOB time-out	
0403	Operational program error	

**0010, 0011:  
Disk drive  
errors**

<b>EEEE is:</b>	<b>What the code means:</b>
0110	FOB time-out
0140	Command reject
0180	I/O exception
0200	File interrupt error (RPS)
0221	Missing or extra sector pulse or index
0224	No record found (reassigned sector)
0225	Extra index pulse
0228	No write current on write
0230	Buffer parity error in Read/Write controller
0236	File interrupt error (Read/Write)
0237	Missing/extra sector pulse or index with file interrupt
023C	Command decode error in Read/Write controller
023E	CRC error with file interrupt
0241	Invalid sector detected in RPS controller
0244	Invalid head detected in RPS controller
0250	Buffer parity error in RPS controller
0281	Control bus response time-out
0288	Control bus parity error
0290	Buffer parity error in access controller
0324	No record found (access error)
0328	CRC error on read data
0428	CRC error on verify
0500	Device detected fixed head
0501	Brake fail
0502	Device detected track unavailable
0503	Device detected command error
0504	Device detected unsafe
0505	Device detected seek incomplete
0507	Device detected not ready
0600	Invalid BSTAT/DSTAT data
0700	OP program error
9998	Channel busy



<b>EEEE is:</b>	<b>What the code means:</b>	<b>0012: Diskette drive errors</b>
0100	Operation program error	
0101	Channel error	
0103	Overrun	
0104	Disconnect	
0105	Parity error 1	
0106	Parity error 2	
0107	Command reject	
0108	Control address mark found <sup>1</sup>	
0201	Wrap error	
0202	Autoloader parity error	
0203	Invalid autoloader function code	
0204	FOB time-out of autoloader command	
0205	Erase current error <sup>2</sup>	
0206	Autoloader command reject modifier D (write/erase error)	
0207	Write gate error <sup>2</sup>	
0208	FOB time-out of nonautoloader command	
0301	Autoloader motion check modify 1 and 2	
0302	Autoloader motion check modify 3, 4, 5	
0303	Autoloader motion check modify 6 and 7	
0304	Autoloader motion check modify 8	
0305	Autoloader motion check modify 9	
0306	Autoloader command reject modify C	
0307	Autoloader command reject modify B	
0308	Speed check error <sup>3</sup>	
0309	CHN mismatch	
0403	Data CRC error on read data	
0404	Data CRC error on write data (write verify)	
0405	ID CRC error on read data	
0406	ID CRC error on write data (write verify)	
0407	Not oriented 1	
0408	Not oriented 2	
040A	No record found	

<sup>1</sup>When this error indicates a deleted record on a cylinder, no ELOG entry is made. When this error indicates a relocated record, it is logged as a temporary retryable error with program recovery determined by the control flag.

<sup>2</sup>This is a file unsafe error.

<sup>3</sup>The speed check error is ignored if the speed check occurred during an autoloader function command.

**0012:  
Diskette  
drive errors  
(continued)**

<b>EEEE is:</b>	<b>What the code means:</b>
0504	Read sense error on channel error recovery
0505	Invalid BSTAT or DSTAT data
0506	Unexpected BSTAT on read sense
0507	Autoloader parity error on read sense
0508	Retry stack limit exceeded
050A	Vary on start-up sequence failed
050C	Failed to read hex FF field on bad cylinder during a format operation
9998	Channel busy
EE00	Volume SDR reset (The 72MD volume SDR counters have been reset.)



**0015: 3410/  
3411 Tape  
drive errors**

<b>EEEE is:</b>	<b>What the code means:</b>
0000	Power control failure
1100	Channel error
1200	Channel error (disconnect)
1300	Operation program error
1400	Channel error (sequence)
1500	Channel error (overrun)
2100	IOC check
2300	Disconnect during command fetch
3100	Command reject (FOB error)
3200	Command reject (sense required)
3300	Command reject (operation count equals 0)
3400	Command reject (byte count or offset error)
4100	Command reject (sense required, ABI/ABO parity error, status update)
4200	ABI/ABO parity error (ABI parity error)
4300	ABI/ABO parity error (ABO parity error)
4400	ABI/ABO parity error (ABI parity error)
5100	IC error (3411 detected)
5200	ABO error (3411 detected)
5300	Control tag error (3411 detected)
5400	Instruction tag error (3411 detected)
5500	3411 ALU error (3411 detected)
5501	ALU error (3411 detected)
5600	ROS error (3411 detected)
5700	Transfer error (3411 detected)
6100	Command reject (sense required, status update, interface error)
62xx	3411 interface tag error xx=DSTAT byte 5 (tag line in error)
6300	Initial error
7100	Lamp check
7200	Right or left column check
7300	Ready reset
74xx	Reject tape unit xx=DSTAT byte 15 (status information)
7500	Tape unit positioning check
7600	Tachometer check
77xx	Read back data (LWR failed) xx=DSTAT byte 15 (track in error)
7800	Tape mark check
7900	Read back data (LWR passed)

EEEE is:	What the code means:
8100	Drive not ready (command reject)
8200	Drive busy (command reject)
8300	Tape subsystem power off (command reject)
8301	Tape subsystem power off
8400	3411 hardware error (command reject)
8500	3400 hardware error (command reject)
8501	Enable switch at disable
8600	Tape drive file protected
8700	Backward at load point
8800	Illegal command
8900	Tape unit status change
8A00	Word count equals zero
8B00	Not capable
8C00	Drive not attached
9998	Operation error (channel busy)
A100	Disconnect command (post event when ready, not at BOT)
A200	Disconnected command (drive not available)
B0xx	Data check during ERG (LWR failed) xx=DSTAT byte 15 (track in error)
B1xx	Write error (LWR failed) xx=DSTAT byte 15 (track in error)
B200	Attachment/3411 overrun
B300	Bus out check
B400	MTE (multitrack error)/LRC
B500	Start velocity check
B600	End velocity check
B700	VRC error
B800	CRC parity error
B900	NRZI write error
BA00	PE ID burst error
BB00	Envelope/phase error
BC00	False end marker
BD00	PE write error
BE00	Data timing error
BF00	Data check during ERG, LWR passed
C1xx	Read error (LWR failed) xx=DSTAT byte 15 (track in error)
C200	Attachment/3411 overrun



<b>EEEE is:</b>	<b>What the code means:</b>	<b>0015: 3410/ 3411 Tape drive errors (continued)</b>
C300	MTE (multitrack error)/LRC	
C400	End data/CRC error	
C500	VRC error	
C600	Noise (NRZI error)	
C700	NRZI read error	
C800	Envelope phase error	
C900	False end marker	
CA00	Data timing error	
CB00	PE read error	
CC00	ERG noise error	
E110	Read sense failure during error recovery	
E120	Retry stack overflow	
E130	IOM error	
E140	Clear command failed	
E150	Mode set command failed	
E160	Read sense command failed	
E170	Reset command failed	
E210	Invalid BSTAT/DSTAT data (I/O exception)	
E290	FOB time-out	
EE00	Volume SDR reset	

**0052:  
3422/3430  
Tape drive  
errors**

<b>EEEE is:</b>	<b>What the code means:</b>
0000	Power control failure
1000	IOC error
1200	An extended command failed
1300	Error post event, invalid disconnect
2000	Command reject (FOB error)
2300	Command reject, read sense needed
2500	Command reject, tape unit busy
3000	I/O error, select in error, power off or offline
3200	I/O error, disconnect in active
3300	I/O error, System/370 type interface check
3400	I/O error, adapter detected bus in check
3500	I/O error, adapter detected bus out check
3600	I/O error, subsystem status/CDADDR error/DDADDR error
3700	Decompression error
3800	Hardware compress card failed
3900	Interface hardware error
3A00	HDC error
3B00	Unexpected error
3C00	Data block length larger than 32768 bytes
3D00	Hardware error
3E00	Main storage buffer size too small
4000	I/O error, channel response register contents not expected
4100	I/O error, System/38 channel overrun
5000	I/O error, unit check, equipment check
5100	I/O error, unit check, 3430 detected bus out check
5120	Tape control unit error before this command
5130	Temporary load failure or tape unit failure
5200	I/O error, unit check, operator intervention needed
5300	I/O error, unit check, command reject (write or file protected)
5400	I/O error, unit check, tape unit subsystem detected overrun
5500	I/O error, unit check, backward at BOT
5700	I/O error, unit check, data check during read
5800	I/O error, unit check, data check during read with LWR
5900	I/O error, unit check, data check during write
5A00	I/O error, unit check, data check during write with LWR
5D00	I/O error, density not PE (1600 BPI) or GCR (6250 BPI)



<b>EEEE is:</b>	<b>What the code means:</b>
5E00	I/O error, unit check, ID burst check
5F00	I/O error, unit check, word count zero
6000	I/O error, unit check, DSE command
6100	I/O error, unit check, other
7000	Invalid BSTAT/DSTAT or startup failure
7100	Read sense failed
7200	Error retry stack over limit
7700	FOB time-out
7800	IOM error
9700	Channel detected error
9800	Operational program error
EE00	Volume SDRs deleted

**0052:**  
**3422/3430**  
**Tape drive**  
**error**  
**(continued)**

**0018, 0058:  
System printer  
errors (other  
than 3203 and  
4245 printers)**

<b>EEEE is:</b>	<b>What the code means:</b>
0000	Power on/off failure
3203	Channel error
3205	Command reject
3215	Wrong belt image
4008	Carriage advance overrun
4020	Adapter CSA parity error
4034	Invalid disconnect
4038	Invalid OU
4040	IOC internal parity error
4080	IOC DBI parity error
4101	FOB time-out
4102	Invalid BSTAT/DSTAT data
4105	Error recovery failed (other than time-out or channel error event) on read sense
4106	Error recovery failed due to channel error event on read sense
4107	Error recovery failed (other than time-out or channel error event) on read error log
4108	Error recovery failed due to channel error event on read error log
4447	Invalid interrupt
4450	Invalid SCS
4452	Invalid channel sequence
5420	Carriage check 1
5421	Manual carriage check
5422	Cable interlock
5423	Carriage check 2
5424	Carriage check 3
5425	Any hammer on check
5426	Hammer echo check
5427	Data parity check
5430	Belt sync check
5431	Belt speed check
5432	Pedestal check
5433	Belt up to speed check
5434	Thermal check 1



<b>EEEE is:</b>	<b>What the code means:</b>
5435	Thermal check 2
5436	Ribbon check
5437	Forms jam check
5440	Printer busy too long
5441	Printer busy too often
5442	Carriage check 4
5443	Fire tier sync check
5444	Power fault
5451	Contacting stuck closed
5500	Belt retries not zero after any read error log
9000	Operation program error
9998	Operation error (channel busy)

**0018, 0058:**  
**System printer**  
**errors (other**  
**than 3203 and**  
**4245 printers)**  
**(continued)**

**0019:  
Multi-function  
card unit  
errors**

<b>EEEE is:</b>	<b>What the code means:</b>
0000	Device power on/off failure
1901	Feed check 1
1902	Feed check 2
1903	Feed check 3
1904	Feed check 4
1905	Feed check 5
1906	Feed check 6
1907	Feed check 7
1908	Feed check 8
1909	Feed check 9
190A	Feed check 10
190B	Feed check 11
190C	Feed check 12
190D	Feed check 13
190E	Feed check 14
190F	Feed check 15
1910	Feed check 16
1911	Feed check 17
1912	Feed check 18
1913	Feed check 19
1914	Feed check 20
1915	Cells defective
1916	Read check
1917	Punch invalid
1918	Punch check
1919	Device address out of sequence
191A	Fire emitter check
191B	Print sync check
191C	Print home check
191D	Print clutch check
191E	Power fault
191F	Command reject
1920	IOC parity error from DBI
1921	IOC internal parity error
1922	CSA parity error
1923	Adapter detected invalid OU



<b>EEEE is:</b>	<b>What the code means:</b>
1924	Invalid disconnect
1925	Channel error
1926	FOB time-out
1928	Operation program error
1929	Invalid BSTAT/DSTAT data
192A	Read sense/read data store fail
192B	Startup failed
1980	Hopper check
9998	Channel busy

**0019:  
Multi-function  
card unit  
errors  
(continued)**

0020 to 0023;  
0060 to 0063;  
00A0 to 00A3:  
Communications  
line errors

EEEE is:	What the code means:
0003	Buffered error log request at vary off CD
0005	Buffered error log recorded because System/38 requested log
0007	Buffered error log recorded because System/38 requested log
0801	LU is not available
0806	Request is not supported
0809	SNA state does not permit processing the requested function
080C	Procedure is not supported
0815	Function is already active
1003	Function is not supported
2005	Data traffic reset
2107	Input buffer not available
2117	ND was varied off
2127	CD was varied off
4005	Transmission shorter than the full TH/RH
4008	Pacing not supported (pacing bit on in the RH)
8004	No path information for the DAF
8005	Requested session is not active
8006	Receive FID not valid
8007	Segmenting not supported
8008	PU is not active
8009	LU is not active
800A	Path information unit (PIU) received was too long
800B	Transmission received is shorter than a TH
8049	Operation program error
808B	Channel error
80AC	Command reject
80FF	SSPC-LU services were called in error
8103	Post event
8107	BSTAT not valid
8137	Read sense failure
81C3	IOC/CA parity error (modem line address)
81E3	IOC/CA parity error (ACU line address)
8204	DTR not active or dropped
8210	SDLC disconnect command received (secondary only)
8224	DSR time-out or dropped For RJE, wrong logon parameter (password)



0020 to 0023;  
 0060 to 0063;  
 00A0 to 00A3:  
**Communications  
 line errors  
 (continued)**

<b>EEEE is:</b>	<b>What the code means:</b>
8225	Paired read/write command time-out
8244	Not valid automatic answer request
8264	DSR time-out on automatic answer
8284	DSR/RI automatic sequence error or reset RI time-out
8360	Line not initialized
8380	Switched line disconnect time-out
8401	Channel disconnect
84E2	Adapter interrupt request time-out
9188	Disconnect abort
9207	SDLC command reject
9208	EOT abort
9217	SDLC disconnect mode
9227	SDLC out of range
9237	Wrong SDLC address
9308	OU task exception
9388	Forward EOT abort
93A0	Transmit format is not valid
93AB	Wrong format from host
93E0	Continuous SYN transmit time-out
93F0	BSC protocol time-out
9408	Forward disconnect abort
9508	Remote protocol violation
9578	Host aborted
9588	Remote conversational reply
9598	Remote limited conversational reply
96A5	Request to transmit time-out
9745	Continuous SYN character received
9765	Not expected SYN received
9998	Operation error (channel busy)
A200	SDLC SNRM was not expected (secondary only)
A210	SDLC disconnect was not expected (secondary only)
A220	SDLC command reject (secondary only)
A230	DACTPU not expected
A240	DACTLU not expected
A250	ACTPU not expected
A260	ACTLU not expected
A380	Switched line disconnect time-out (secondary only)
B020	Incomplete download to 5293 controller

0020 to 0023;  
0060 to 0063;  
00A0 to 00A3:  
Communications  
line errors  
(continued)

<b>EEEE is:</b>	<b>What the code means:</b>
B021	5293 control unit description not correct for download
E2C4	RTS not active or dropped
E2E4	CTS not valid at initialize or active before RTS
E324	CTS time-out or dropped
E444	DSR did not become active when attempting a switched connection
E506	Reset ACU time-out
E526	Data line occupied time-out
E546	Abandon call retry on ACU call request
E566	Abandon call retry (no present next digit)
E586	Digit present time-out
E5A6	Abandon call retry on digit present
E5C6	Present next digit time-out on first digit
E5E6	Present next digit time-out (one or more digits transferred)
E606	Distant station connected time-out
E626	Abandon call retry (no distant station connected)
F088	NAK received to text sent
F108	Wrong ACK to text sent
F109	Wrong block sequence count
F288	ENQ received to text sent
F308	Protocol violation
F441	Data overrun or channel disconnect
F481	Underrun or channel disconnect
F488	ENQ received to ACK sent
F4C2	Adapter over/underrun
F507	SDLC control field is not valid
F508	SIGNON/LOGON response is not valid
F517	SDLC transmit sequence error
F527	SDLC receive sequence error
F537	Loop error (no response)
F660	Main storage buffer overrun
F705	Idle state detected
F725	No sync time-out during data mode
F735	No sync time-out during contention mode
F765	Sync lost time-out
F7A5	Nonproductive receive time-out
F7C5	Frame abort
F7E5	Vertical redundancy check error
F805	Redundancy check error



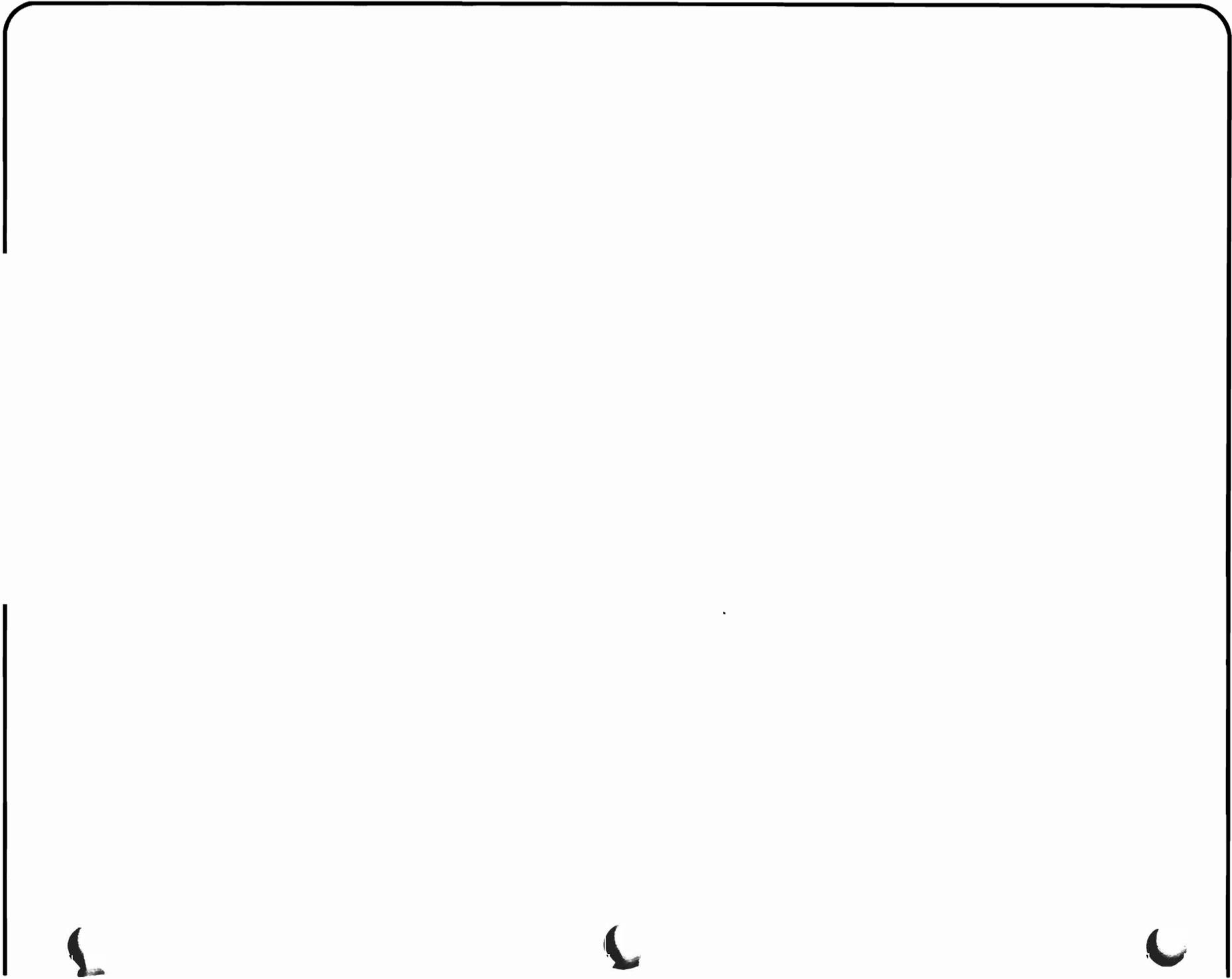
<b>EEEE is:</b>	<b>What the code means:</b>	<b>0030, 0032, 0070, 0072, 00B0, 00B2, 00F0, 00F2: Work station controller or work station controller — extended errors</b>
0003	WSC internal error log (vary off CD); buffered error log request at vary off	
0005	WSC internal error log (buffer overflow); buffered error log recorded because of log overflow	
0007	WSC internal error log (program requested)	
00FF	Undefined error	
0110	Reset by opposite OU (I/O error, WSC-E only)	
0120	Halt or channel parity error on opposite OU	
01xx	I/O error (invalid BSTAT byte 1)	
0201	Command invalid or invalid for startup mode	
0202	Command invalid or invalid for inbound queue	
0203	Command invalid or invalid for outbound queue	
0204	Address error in read or write data storage command	
0205	Read data command length error	
0206	Command invalid for post error mode	
0207	Error in load poll list command	
0208	Write data FOB error	
0209	Reset command rejected due to command pending	
020A	Invalid OU in FOB byte 8 (WSC-E only)	
02xx	Command reject (invalid BSTAT byte 1)	
0301	Start device time-out	
0302	Channel error	
0303	Read sense command failed during vary off	
0304	Read sense command failed while processing an error	
0305	Vary off data	
0306	FOB time-out	
0401	Selective reset failed during vary on CD	
0402	Insufficient WSC extended data storage (WSC only)	
0403	Machine configuration record indicates this OU number is not configured	
0404	The translate table specified has not been installed	
0405	LUD device specific area invalid	
0500	Operation program error	
0610	CSD parity error (WSC-E only)	
0612	IOC check reset attention (WSC only)	
0614	Adapter diagnostics failed on startup (WSC-F only)	
0618	Adapter transmit error	

**0030, 0032,  
0070, 0072,  
00B0, 00B2,  
00F0, 00F2:  
Work station  
controller or  
work station  
controller —  
extended errors  
(continued)**

**EEEE is:      What the code means:**

0620	Post event (control store address parity error WSC only)
0634	Invalid disconnect (WSC-E only)
063C	Link register overflow/underflow (WSC-E only)
0640	Post event (IOC internal parity error)
0680	Post event (IOC DBI parity)
0688	Post event (Cable address register parity error WSC only)
06xx	Post event (Invalid event data byte 3)
0801	SNA: resource not available
8004	SNA: unrecognized DAF
9998	Channel busy
D019	Ideographic extension character-RAM address not valid (WSC-E Japan only)
D020	Ideographic extension character—RAM contents list missing in request I/O save area (WSC-E Japan only)
D021	Ideographic request I/O save area not valid (WSC-E Japan only)





**0040, 0041:  
3203 printer  
and 4245  
printer errors**

<b>EEEE is:</b>	<b>What the code means:</b>
0000	Power on/off failure
3203	Channel errors
3205	Command reject (IOC)
4020	Adapter CSA parity error
4034	Invalid disconnect
4038	Adapter-detected invalid OU number
4040	IOC internal parity error
4080	IOC DBI parity error
4101	IOC DBI parity error
4102	Invalid BSTAT/DSTAT 0-7
4103	Failure on startup
4110	'Read sense' or 'adapter test' command failed
4111	Error on 'read IOC sense', 'read line total', or 'read error log' FOB commands
4450	Invalid SCS
4452	FOB busy (invalid channel sequence)
5436	Intervention required (ribbon check) (4245 only)
5437	Intervention required (forms jam)
7004	Interface check
7006	Incorrect length data
7010	1.6-msec timer failure
7014	Command reject from 3203 or 4245
7030	Intervention required (stacker full/jam)
7031	Near end of platten protection tape (4245 only)
7101	Equipment check (miscellaneous)
7102	Equipment check (hammer fire or coil protect)
7103	Equipment check (controller check)
7104	Data check (unprintable character)
7106	Data check (line position check)
7108	Buffer parity check (PLB)
7109	Buffer parity check (UCSB) (3203 only)
7110	End of platten protection tape (4245 only)
7111	Equipment check (printer channel adapter) (4245 only)
7112	Equipment check (failing print band) (4245 only)
7120	Load check (load FCB command)
7121	Load check (write UCSB command) (3203 only)
7122	Bus out check
9000	Operation program error
9998	Channel busy



<b>EEEE is:</b>	<b>What the code means:</b>	<b>00C0 to 00CF: 3370 Auxiliary storage device errors</b>
0011	FOB time-out (disconnect)	
0012	FOB time-out (OU mismatch)	
0013	FOB time-out (halt)	
0020	Command reject	
0030	Attachment parity error	
0040	RAM checkout error	
0050	OU mismatch	
0200	Preselection check error	
0210	Selection error (bus in not hex 07)	
0215	Selection error (check end)	
0220	Tag time-out	
0221	Tag time-out	
0230	I/O interface parity check	
0240	Attachment I/O interface parity check	
0250	3370 controller processor check	
0260	Error alert	
0270	Error alert	
0280	Error alert received	
0290	Register load error (difference or CAR)	
0300	Register load error (target)	
0310	Not busy on seek	
0320	Tag time-out	
0321	Sync in error	
0330	Not online	
0331	Not online	
0350	Unexpected drive status (first time checked)	
0353	Unexpected drive status (after interrupt)	
0356	Unexpected drive status (during an RPS sequence)	
0360	Sync out error	
0370	Check end error (read/write command)	
0375	Check end (not read/write command)	
0500	Seek check	
0510	ID miscompare (no block found)	
0520	ID miscompare (not 0500 or 0510)	
0601	Data check (not ECC corrected and alternative off cylinder)	
0603	Data check (not ECC corrected and primary block)	

**00C0 to 00CF:  
3370 Auxiliary  
storage  
device errors  
(continued)**

<b>EEEE is:</b>	<b>What the code means:</b>
0605	Data check (not ECC corrected and alternative on cylinder)
0607	Data check (ECC corrected and alternative off cylinder)
0609	Data check (ECC corrected and primary block)
0611	Data check (ECC corrected and alternative on cylinder)
0613	Data check (not ECC corrected and primary ID)
0615	Data check (not ECC corrected and primary ID)
0616	Data check (not ECC corrected and ID on cylinder)
0999	BSTAT not valid
9995	Data mismatch detected
9998	Channel busy
9999	Operation program error

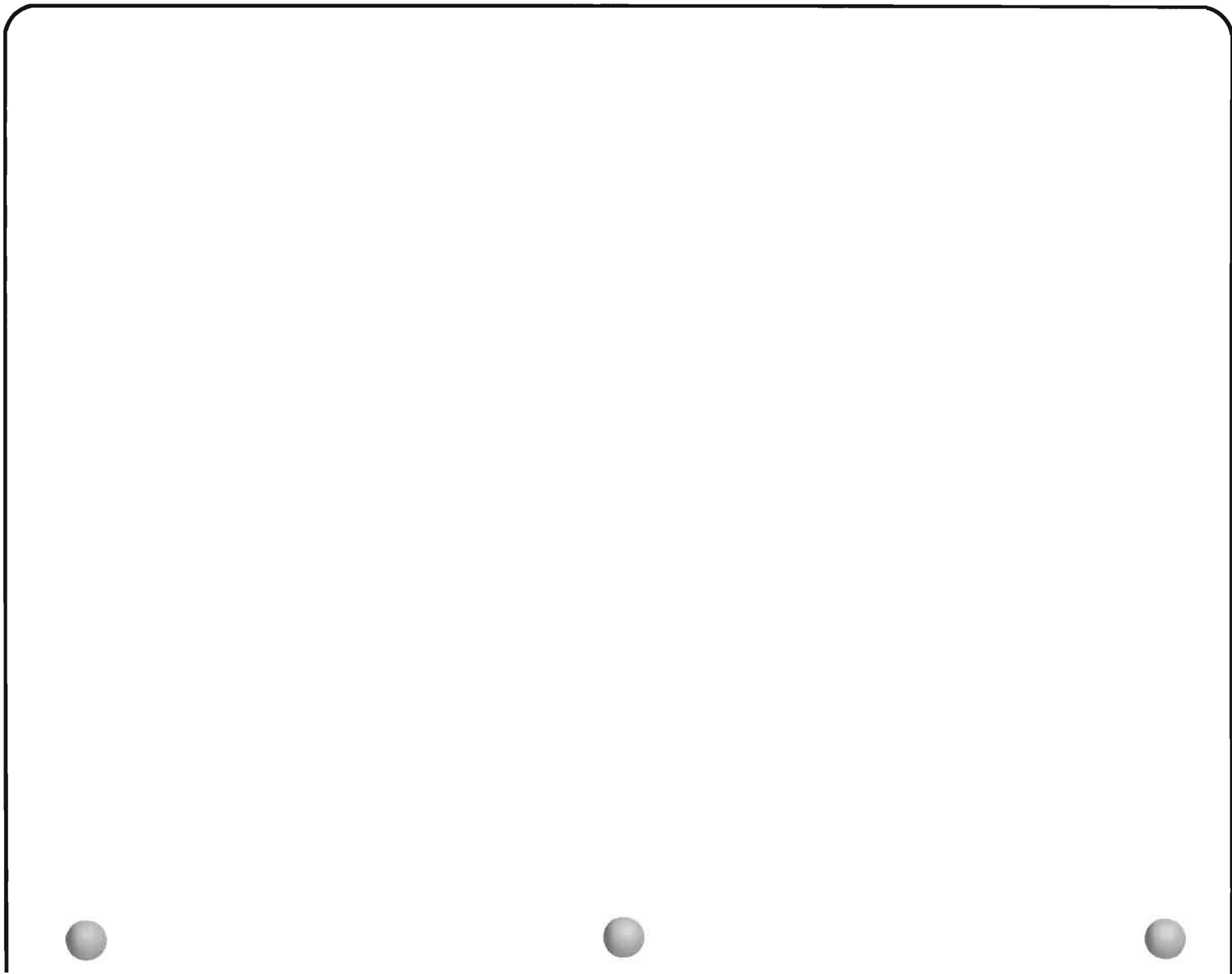




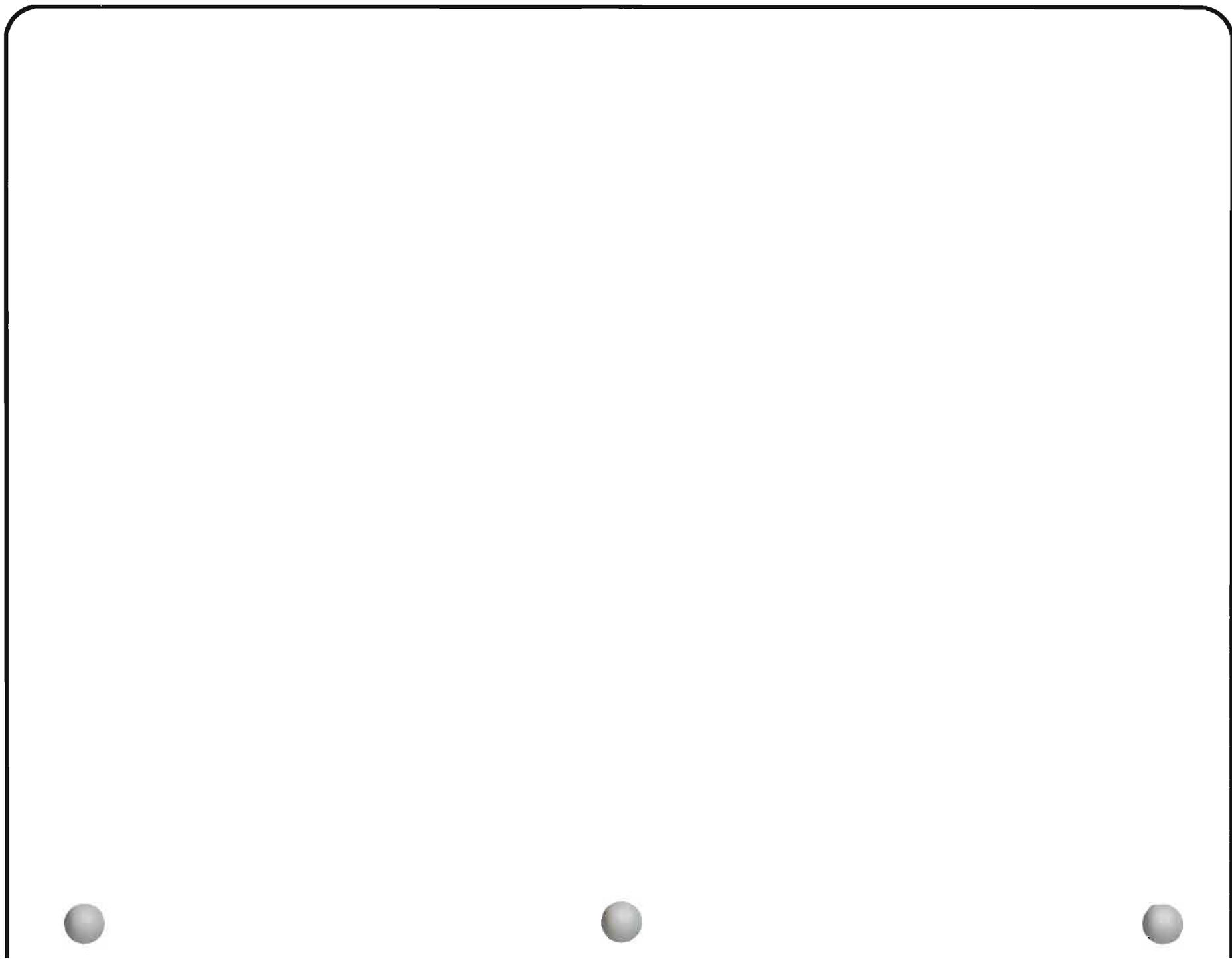
This manual does not tell you how to fix a problem described in a SNA Distribution Services (SNADS) status condition code.

For information about solving a problem described in the condition code or information about configuring a SNADS network, refer to the *Data Communications Programmer's Guide*. For information about a system distribution directory, document interchange, and document distribution, see the *CPF Programmer's Guide*.









CSNAP (Communications Statistical Network Analysis Procedure) is a System/38 service tool that collects statistics on the performance of your communications lines and their attached control units, and reports those statistics to you. You can use these reports to find the cause of problems that were not noted in error messages, whether those problems occur just once, or occur off and on (intermittent problems).

This section describes the following:

- How CSNAP works
- CSNAP commands
- How to read the CSNAP history reports
- How to use the CSNAP short-term function, and how to read the short term reports
- Example of using CSNAP
- How to check line and control unit descriptions



## HOW CSNAP WORKS

CSNAP collects statistics from the **statistical data record** (a disk file used for recording device and system errors) on the performance of each remote communications line and its attached units. CSNAP records the amount of data transmitted (sent) and received by these devices, records for each of them, the number of errors that occurred while transmitting and receiving, and computes an **error rate** for each type of error.

CSNAP collects these statistics **two ways**:

- **History (long term)** statistics are collected once daily by your system. This is done automatically by the System/38 whenever there are communications lines attached. When you request a report of these statistics, the system can give you the daily statistics if you request a report for the most recent 14 days. For periods beyond the most recent 14 days, the system provides a report of the combined statistics for each week. Check the history statistics to note changes in the performance of your lines and control units.
- **Short term statistics** are collected, when requested, at regular intervals for short periods of time:
  - For periods less than 3 hours, the intervals can be as short as .1 hour (6 minutes) or as long as 1 hour.
  - For periods from 3 to 120 hours, the interval must be at least 1 hour but can be as long as 24 hours.

The system starts the short term statistics function when you enter the CHGCNPA (Change CSNAP Attributes) command. The system stops the function at the time stated in that command when you enter the CHGCNPA command again for the line. Use the short term statistics function to follow the performance of lines and control units when:

- The line or control unit has a problem and you want to find its cause
- After you make a change to the remote equipment (such as fixing a problem, or adding a new work station) and you want to see how that change affects line and control unit performance

When requested, CSNAP prints a report of these statistics.

The system provides three types of CSNAP reports:

- A **graph** shows the overall performance of a line or control unit.
- A **summary report** (only available for the history statistics) compares the performance of a line or control unit during a certain time period to its past performance or another line. The report lists the total number of operations that occurred, and the number and type of errors that occurred.
- A **detailed report** gives you information on errors for each interval in a certain time period. In the history detailed report, the interval is either one day or one week. In the short term detailed report, you choose the interval when you enter the CHGCNPA (Change CSNAP Attributes) command to start collecting statistics.



## CSNAP COMMANDS

Use the following commands to do the different CSNAP functions:

- `CHGSYSVAL SYSVAL (QCSNAP) VALUE (HHMMSS)`, to select or change the time of day when statistical data for the history file is collected.
- `DSPSYSVAL QCSNAP` , to display the time-of-day values for the history data.
- `LSTCNPST` (list CSNAP history), to obtain a history report.
- `CHGCNPA` (change CSNAP attributes), to select the following short-term values:
  - one line or all lines
  - sample interval (0.1 hour to 24 hours)
  - sample period (3 hours to 120 hours)
  - set and reset sample interval
- `DSPCNPA` (display CSNAP attributes), to determine which lines are being sampled.
- `LSTCNPDTA` (list CSNAP data), to obtain a short-term report.

## USING THE CSNAP HISTORY STATISTICS

CSNAP history, or long-term, statistics are a record of the performance of your remote communications lines and their attached control units. You can check these statistics to find out:

- How the present performance of a line or control unit compares to its past performance or the performance of another line.
- If a line or control unit is having more problems than usual, and what types of errors the line or control unit is having

Interpreting the statistics can help you determine which service organization (such as the modem supplier, or the common carrier) can help you correct the errors

### How to Get the History Reports

You can request a report of these statistics at any time, using the `LSTCNPHST` (List CSNAP History) command.

### Different Types of Reports

CSNAP can report the history statistics to you in one of the following ways:

- History graph
- History summary report
- History detailed report



## USING THE HISTORY GRAPH

You can use the history graph to:

- Check overall line and control unit performance when a problem occurs.
- Make sure that a problem has been corrected.
- Follow line and control unit performance on a regular basis.

**If you use more than one line description for the same physical line** (for example, you use both line description names LIN22NYBSC and LIN22NYRJE to describe physical line 22), CSNAP collects separate statistics for each protocol used on a physical line; not for each line description. For example, if you use line 22 as SDLC line LIN22NYSDL during the day, and as BSC line LIN22NYBSC during the evening, you get separate reports on the performance of line 22 as an SDLC line and as a BSC line. On the other hand, if you use line 22 as BSC line LIN22NYBS1 during the day, and as BSC line LIN22NYBS2 during the evening, CSNAP keeps only one set of statistics for those line descriptions. If you ask for a report for any BSC line description, such as LIN22NYBS1, CSNAP provides a report describing the performance of all BSC line descriptions using that physical line.

### How to Print the Graph Report

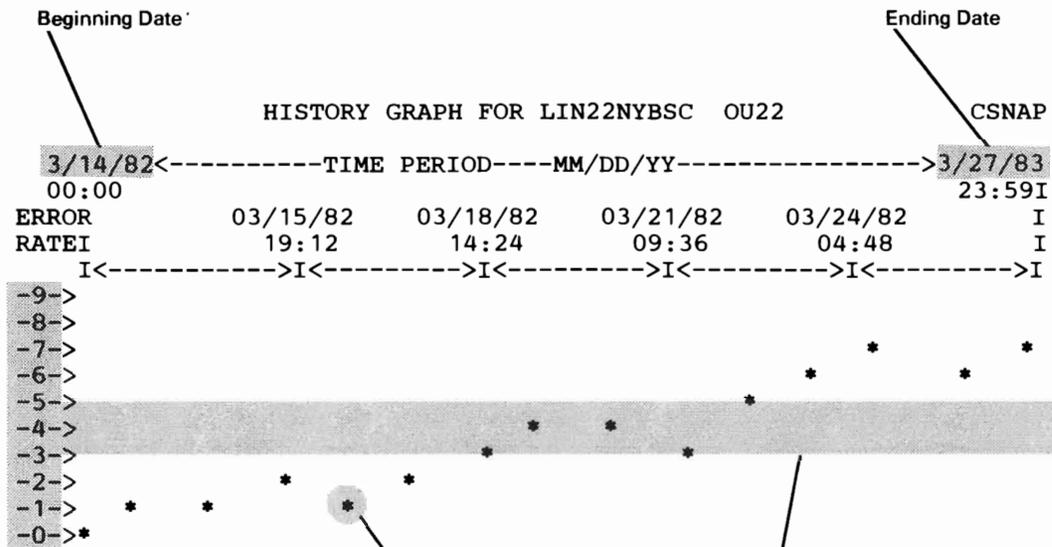
To print the CSNAP history error rate graph, choose the \*GRAPH option when you enter the LSTCNPST command. For example, to print the history graph for the line named LIN22NYBSC, for the last 14 days, enter:

```
LSTCNPST LINE(lin22nybsc) PERIOD(('3/14/82') ('3/27/82')) TYPE(*GRAPH)
```

The system plots different time values on the history graph, depending on what you enter for the PERIOD value on the command. If you enter only one date, the system plots only one point. If you enter a beginning date up to 14 days before the present date, and use today's date as an ending date, the system plots one point for each day. For periods beyond the most recent 14 days, the system plots one point for each week covered in the PERIOD parameter.

See the *CL Reference Manual* for a complete command description.

The system prints the following graph:



Error Rate (either 1-9 or 10-90)  
 See *How to Interpret the Graph* for an explanation of what you should do to solve the problem, based on the error rate of the failing line or control unit.

Plot  
 Each asterisk represents the error rate for one time period. In this example, each asterisk represents the error rate for one day.

See *How to Interpret the Graph* for an explanation of different ranges of errors:

- Less than 3%
- 3% through 5%
- Greater than 5%



## How to Interpret the Graph

Note the following items on the graph:

- **Percentages along the left side of the graph.** These percentages are either 0%-9%, or 0%-90%. If the percentages are 0%-90%, you have a serious problem you should look into further. You can check the summary or detailed CSNAP history reports to isolate the problem.
- **Increase or decrease in the error rate.** Communications equipment often has errors during normal operations. However, if the error rate rises too high, the performance will be degraded. The following explains the conditions you notice at different error rates:

- **Error rates less than 3%.** The past performance appears to be normal; however, at the present time, the performance of the line or control unit is getting worse. If the performance is still not acceptable to you, you can use the short term statistics function to examine the current performance or to check performance over the next few hours or days.

If the current error rate is still below 3%, go to Procedure B: *Subsystem Problem* to find out if system work management performance is causing the problem.

If the current error rate is above 5%, you can check the history detail report to find out what types of errors are occurring and how to fix them.

- **Error rate between 3% and 5%.** You may start to notice performance is getting worse. Also, the system may send you an error message about this equipment. You can use the history detailed report to find out what types of errors are occurring.
- **Error rate greater than 5%.** The affected remote equipment may stop working, which causes the system to issue an error message. You can use the history detailed reports to find out what types of errors are occurring, or you can use the short term statistics to determine if the problem is occurring at a certain time of day.

If the line has more than one attached control unit (you can use the DSPLIND command to check this), use the LSTCNPST command to get the history graph for each attached control unit.

- If the graphs for all of the control units show poor performance, you have a problem with the line or the system. You can use the history detailed reports to find out what types of errors are occurring.
- If you notice poor performance on the graph for only one control unit, the part of your communications network attached to that control unit, or the control unit itself needs service. You can use the history detailed reports for that control unit to find out what types of errors are occurring.

### Using the History Graph to Follow Line Performance on a Regular Basis

To follow line performance, print the CSNAP history graph on a regular basis. Because the system only keeps information on daily performance for the last 14 days, you should print the history graph each week. You might also want to keep these printed graphs for several weeks. If your communications equipment has a problem, these history graphs will help your service representative find the cause of that problem.



## USING THE HISTORY SUMMARY REPORT AND HISTORY DETAIL REPORT

The history reports for CSNAP can supply either a summary report or a detailed report of the data in the CSNAP history. The summary report is a single report for all the statistics collected during the selected time range. The detailed reports give you information on errors for each interval in a specific time period. This interval is one day if you selected a time range of 14 or fewer system days immediately before the current system date. If not, this interval is a week.

The history summary report and history detail report have the same format. These reports may compare a line or control unit to another line or control unit, to itself over a different time period, or to its history (the lifetime statistics for that line or control unit).

**If you use more than one line description for the same physical line** (for example, you use both line description names LIN22NYBSC and LIN22NYRJE to describe physical line 22), CSNAP collects separate statistics for each protocol used on a physical line; not for each line description. For example, if you use line 22 as SDLC line LIN22NYSDL during the day, and as BSC line LIN22NYBSC during the evening, you get separate reports on the performance of line 22 as an SDLC line and as a BSC line. On the other hand, if you use line 22 as BSC line LIN22NYBS1 during the day, and as BSC line LIN22NYBS2 during the evening, CSNAP keeps only one set of statistics for those line descriptions. If you ask for a report for any BSC line description, such as LIN22NYBS1, CSNAP provides a report describing the performance of all BSC line descriptions using that physical line.

### How to Print the Report

To print the history report, choose \*SUMMARY or \*DETAIL when you enter the LSTCNPST command. For example, to print the summary report for the line LIN22NYBSC for March 1982, enter:

```
LSTCNPST LINE(lin22nybsc) PERIOD(('3/1/82') ('3/31/82')) TYPE(*SUMMARY)
```

See the *CL Reference Manual* for a complete command description.

## How to Interpret the Report

The system prints the report, based on the line protocol or network type. An example of each type of report follows.

These examples also describe the different types of errors, and what you should do to fix the problem. To solve a problem using the report, do the following:

- 1** On the report the system just printed, find the type of error that has the highest **RATE**.
- 2** Read the description of that error following the example of the report.
- 3** Take the actions described, in the order they are listed, until you solve the problem. The actions are listed following the description of the report.





## BSC History Report Description

### TRANSMIT ERRORS

**DATA UNDERRUN/CHANNEL DISCONNECT:** One or more bytes of data were not transmitted.

Do action 8. These actions are listed following the discussion of this report.

**NAK RECEIVED TO TEXT SENT:** The remote control unit responded to the transmission with a NAK command (negative acknowledgement). The remote control unit cannot accept the data sent.

Do actions 3, 2, 5, 4, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**WRONG ACK TO TEXT SENT:** The alternating acknowledgement (ACK0 or ACK1) command sent by the remote control unit was not the command expected by the System/38.

Do actions 6, 7, 3, and 5, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**ENQ TO TEXT SENT:** The remote control unit is not receiving data.

Do actions 3, 5, 6, and 7, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**ENQ1 TO ACK SENT:** The remote control unit is not correctly receiving the acknowledgement sent by the System/38.

Do actions 3, 5, 6, and 7, in that order, until the problem is solved. These actions are listed following the discussion of this report.

### RECEIVE ERRORS

**DATA OVERRUN/CHANNEL DISCONNECT:** One or more bytes of data was lost before it was received.

Do action 8. These actions are listed following the discussion of this report.

**CRC/LRC/VRC ERROR:** A block check character sent by the remote control unit, used to make sure that data sent is correct, did not match the block check character expected by the System/38.

Do actions 2, 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**SYNC LOST:** Once a connection was established, it was not kept for 3 seconds.

Do actions 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**NO SYNC TIME-OUT DATA MODE:** A READ command was issued after a successful line bid, but no sync characters were received within the chosen time limit.

Do actions 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**NO SYNC TIME-OUT CONTENTION MODE:** A READ command was issued, but did not win a successful bid to use the line before a time-out occurred (time limit on winning the bid expired).

Do actions 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.



**BSC (continued)****RECEIVE ERRORS (continued)**

**PROTOCOL VIOLATION:** The protocol (rules for sending data between devices) at the sending station does not match the protocol used at the receiving station. For example, one device is using the BSC protocol, while the other is using the MTAM/MRJE protocol.

Do actions 7 and 8, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**FORWARD DISCONNECT ABORT:** First, the System/38 received a TEMPORARY TEXT DELAY command. The System/38 responded to the next transmission of data with a negative acknowledgement (NAK), refusing to accept data. The remote control unit then disconnected the line, or the last block of text did not have an ETX (End of Text) command.

Do action 6. These actions are listed following the discussion of this report.

**FORWARD EOT ABORT:** First, the System/38 received a TEMPORARY TEXT DELAY command. The System/38 responded to the next transmission of data with a negative acknowledgement (NAK), refusing to accept data. The remote control unit then sent an EOT (End of Transmission) command that did not have an ETX (End of Text) command.

Do action 6. This action is listed following the discussion of this report.

**DISCONNECT ABORT:** The remote control unit sent a disconnect command before the System/38 finished sending all of its data.

Do action 6. This action is listed following the discussion of this report.

**EOT ABORT:** The System/38 sent a block of data, but the remote control unit sent an EOT ABORT character, rather than expected acknowledgement (ACK) command.

Do action 6. This action is listed following the discussion of this report.

**TRANSMIT/RECEIVE ERRORS**

**ADAPTER UNDERRUN/OVERRUN:** The communications adapter card is not sending or receiving data at the proper rate.

Do action 4. This action is listed following the discussion of this report.

## BSC History Report Actions

1. **Network Descriptions and Values:** Check the values in the line, control unit, and device descriptions for all remote equipment affected by the problem. Make sure that the values for any timers are correct for your communications network. Also, make sure that the device addresses, protocols, and other such values are correct for your network.

**Note:** Intermittent problems (problems that occur off and on) can occur if any of the timers do not have a proper value.

2. **Line Noise:** *If you have a switched line*, call the operator at the remote location. When you talk to the operator, listen for noise, other conversations, music, and other sounds that should not be on the line. If you and the other operator do not hear these types of interference, change the line to data mode. If one or both of you can hear these types of interference on the line, or one party cannot hear well (low volume), hang up. Call the remote station again. If this new connection is better than the previous one, change the line to data mode.

*If you use a nonswitched line*, the main indications of line noise are the data checks (such as CRC/LRC/VRC errors). Call your common carrier. Ask the common carrier to check the quality of the line.

3. **Link Failing:** *If you use an external modem*, make sure the data link is working properly by using the modem end-to-end test procedures in the operating guide for the modem.

*If you use an integrated modem (one that is built into the control unit)*, go to Procedure C.3: *Link Test*.

**Note:** Before you run the link test, call the operator at the remote location. The two of you run this test together.

4. **Local System Hardware:** Make sure that the line is operating properly by going to Procedure C.2: *Line Test*.

If that test completes normally, go to Procedure C.3: *Link Test*.

5. **Modem:** *If you use an external modem*, run all modem tests, such as the self-test, and the end-to-end test, that are described in the operating guide for the modem.
6. **Remote Station:** Make sure that the remote station is working properly. Make sure all components, such as the modem, control unit and system, are powered on and in a ready condition. Also make sure that all cables are connected properly. Make sure that users signed on to the remote station properly, and that the correct application or procedure is being used.
7. **Software Problem:** Make sure that both stations are using the same protocol (for example, make sure that if one station is using BSC, the other station is also using BSC, not MRJE). Make sure both stations are using the correct application or procedure. Make sure that the user signed on with the correct password. Check for a possible programming problem.
8. **System Resources:** The storage pool for the subsystem controlling your remote equipment is not large enough. Change the size of that storage pool. See the *CPF Programmer's Guide* for instructions on changing a pool size.





## SDLC History Report Description

### TRANSMIT ERRORS

**SEQUENCE ERROR TOTAL RETRY:** Frames received at the remote control unit do not match the number of frames sent.

Do actions 2, 3, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**CHANNEL DATA UNDERRUN TOTAL RETRY:** Data from the channel in the system was not available within the correct time limit.

Do action 8. This action is listed following the discussion of this report.

### RECEIVE ERRORS

**SEQUENCE ERROR TOTAL RETRY:** The System/38 did not receive all of the frames sent by the remote control unit.

Do actions 2, 3, 5, 4, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**CRC ERRORS TOTAL RETRIES:** The frame check character in the message sent by the remote control unit, did not match the frame check character computed by the System/38.

Do actions 2, 3, and 5, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**IDLE STATE DETECTED TOTAL RETRY:** The remote control unit did not respond to the data sent by the System/38 within the pre-chosen time limit.

Do actions 3, 5, and 1, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**NON PRODUCTIVE RECEIVE TOTAL RETRY:** This is the number of receive time periods (periods when data is received) that ended before the system received a valid frame of data.

Do actions 3, 5, 1, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**CHANNEL DATA OVERRUN TOTAL RETRY:** Data being received was not read fast enough by the channel in the system.

Do action 8. This action is listed following the discussion of this report.

### TRANSMIT/RECEIVE ERRORS

**ADAPTER OVERRUN/UNDERRUN TOTAL RETRY:** The communications attachment on the System/38 is sending data too slowly, or receiving data faster than the attachment can process it.

Do action 4. This action is listed following the discussion of this report.



**SDLC (continued)****SDLC History Report Actions**

1. **Network Descriptions and Values:** Check the values in the line, control unit, and device descriptions for all remote equipment affected by the problem. Make sure that the values for any timers are correct for your communications network. Also, make sure that the device addresses, protocols, and other such values are correct for your network.

**Note:** Intermittent problems (problems that occur off and on) can occur if any of the timers do not have a proper value.

2. **Line Noise:** *If you have a switched line*, call the operator at the remote location. When you talk to the operator, listen for noise, other conversations, music, and other sounds that should not be on the line. If you and the other operator do not hear these types of interference, change the line to data mode. If one or both of you can hear these types of interference on the line, or one party cannot hear well (low volume), hang up. Call the remote station again. If this new connection is better than the previous one, change the line to data mode.

*If you use a nonswitched line*, the main indications of line noise are the data checks (such as CRC/LRC/VRC errors). Call your common carrier. Ask the common carrier to check the quality of the line.

3. **Link Failing:** *If you use an external modem*, make sure the data link is working properly by using the modem end-to-end test procedures in the operating guide for the modem.

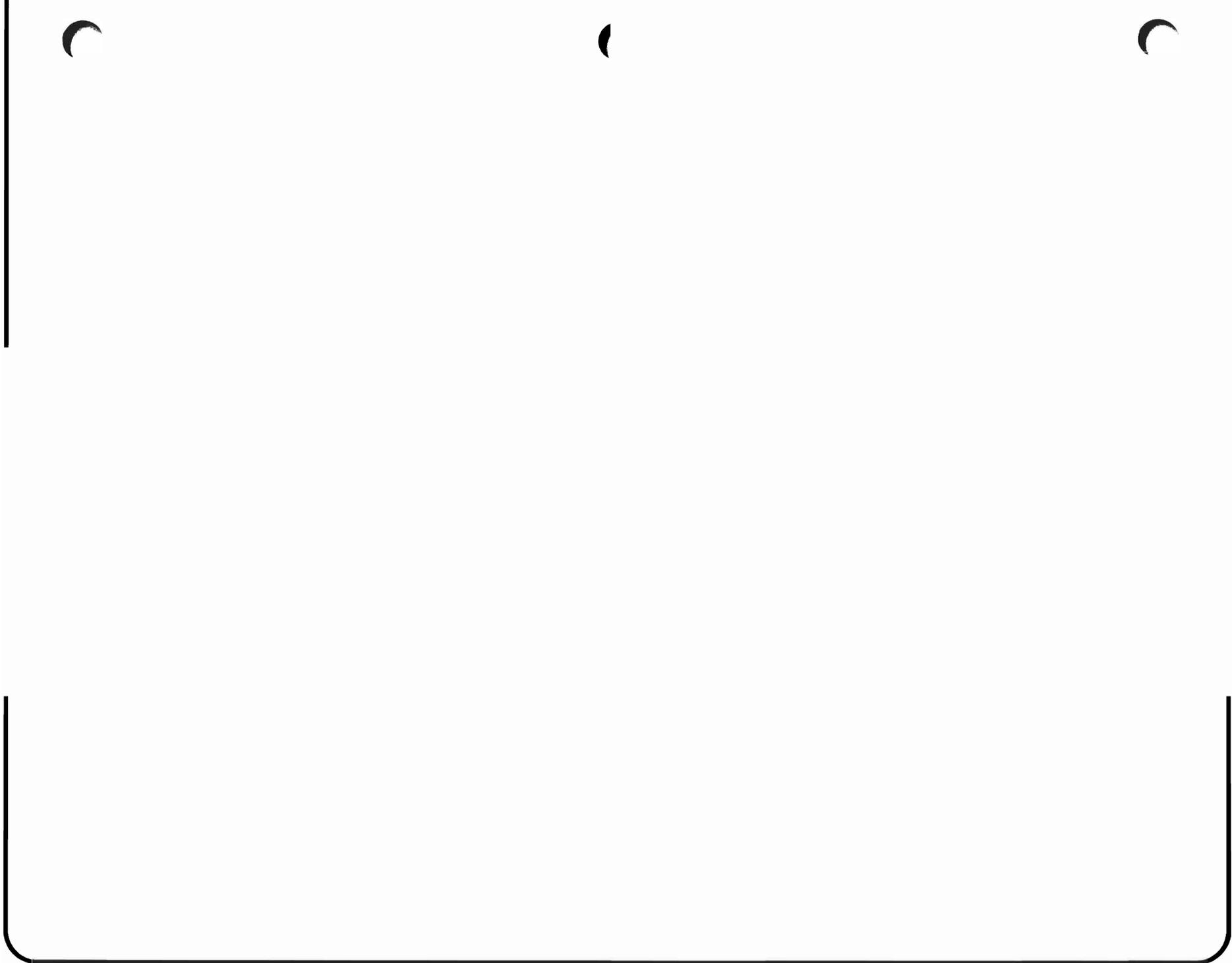
*If you use an integrated modem (one that is built into the control unit)*, go to Procedure C.3: *Link Test*.

**Note:** Before you run the link test, call the operator at the remote location. The two of you run this test together.

4. **Local System Hardware:** Make sure that the line is operating properly by going to Procedure C.2: *Line Test*.

If that test completes normally, go to Procedure C.3: *Link Test*.

5. **Modem:** *If you use an external modem*, run all modem tests, such as the self-test, and the end-to-end test, that are described in the operating guide for the modem.
6. **Remote Device (Station):** Make sure that the remote device (station) is working properly. Make sure all components, such as the modem, control unit and system, are powered on and in a ready condition. Also make sure that all cables are connected properly. Make sure that users signed on to the remote device (station) properly, and that the correct application or procedure is being used.
7. **Software Problem:** Make sure that both stations are using the same protocol (for example, make sure that if one station is using BSC, the other station is also using BSC, not MRJE). Make sure both stations are using the correct application or procedure. Make sure that the user signed on with the correct password. Check for a possible programming problem.
8. **System Resources:** The storage pool for the subsystem controlling your remote equipment is not large enough. Change the size of that storage pool. See the *CPF Programmer's Guide* for instructions on changing a pool size.



X.25

IF X25RWSPC is an X.25 control unit and you specified statistics by control unit, the system prints this report:

X.25 HISTORY SUMMARY REPORT FOR PCDX255C13 OU: 5C CSNAF

>---(DD/MM/YY)---> DATA FOR: PCDX255C13 COMPARED TO: -HISTORY  
TO DATE: 25/03/88 FROM DATE: 00/00/88

SUMMARY COUNTERS	NUMBER	RATE	NUMBER	RATE
NUMBER OF INCOMING CONN---	0		0	
NUMBER OF OUTGOING CONN---	0		0	
INCOMING TOTAL CONNECT TIME (HH:MM:SS)	00:00:00		00:00:00	
OUTGOING TOTAL CONNECT TIME (HH:MM:SS)	00:00:00		00:00:00	
SUCCESSFUL RECOVERIES---	0		0	
ATTEMPTED RECOVERIES---	0		0	
NUMBER NP-RESETS RECEIVED---	0		1	
NUMBER NP-DISCONNECT RCVD---	1		2	
XMIT LINE TRAFFIC INFO.				
PDU'S TRANSMITTED-----	262		433	
PDU'S RETRANSMITTED-----	0	0.0%	0	0.0%
NUMBER OF XID'S XMITTED---	1		5	
NUMBER OF TESTS XMITTED---	0		0	
NUMBER OF LREJ'S XMITTED---	0	0.0%	0	0.0%
TOTAL PACKETS TRANSMITTED---	510		856	
DATA PACKETS TRANSMITTED---	262		435	
RECEIVE LINE TRAFFIC INFO.				
PDU'S RECEIVED-----	288		451	
PDU'S RECEIVED IN ERROR---	0	0.0%	0	0.0%
PDU'S RECEIVED & DISCARD---	0	0.0%	4	0.0%
NUMBER OF XID'S RECEIVED---	1		4	
NUMBER OF TESTS RECEIVED---	0		0	
NUMBER OF LREJ'S RECEIVED---	0	0.0%	0	0.0%
TOTAL PACKETS RECEIVED---	523		869	
DATA PACKETS RECEIVED---	288		458	
RECEIVE ERROR COUNTERS				
NUMBER OF LRNR'S RECEIVED---	0	0.0%	0	0.0%
NUMBER OF TIMEOUTS-----	101	35.0%	177	39.2%
FCS ERRORS-----	0	0.0%	0	0.0%

Data for Comparison Period
Data for History

## X.25 Control Unit History Report Description

### SUMMARY COUNTERS

**NUMBER OF INCOMING CONN . :** Number of incoming calls successfully established between the network and the System/38 for this control unit.

**NUMBER OF OUTGOING CONN . :** Number of outgoing calls successfully established between the network and the System/38 for this control unit.

**INCOMING TOTAL CONNECT TIME:** Total connection time for all incoming calls between the network and the System/38 for this control unit.

**OUTGOING TOTAL CONNECT TIME:** Total connection time for all outgoing calls between the network and the System/38 for this control unit.

**SUCCESSFUL RECOVERIES:** Total number of times the microcode successfully reconnected the virtual circuit for this control unit.

**ATTEMPTED RECOVERIES:** Total number of times the microcode attempted to reconnect the virtual circuit for this control unit.

**NUMBER--RESETS RECEIVED:** Total number of reset indications received from a virtual circuit for this control unit. Resets are received from the network or remote DTE. The cause/diagnostic code provides more information about why the reset was sent.

**NUMBER--DISCONNECT RECVD:** Total number of disconnect indications received from a virtual circuit for this control unit. Disconnects are received from the network or remote DTE. The cause/diagnostic code provides more information about why the disconnect was sent.

### XMIT LINE TRAFFIC INFO.

**PDU'S TRANSMITTED:** Total physical data units (PDUs) successfully transmitted, including retries, for this control unit.

PDUs are blocks of data in the microcode used for end-to-end error recovery. PDUs are comparable to data processed by the transport layer of the International Standard Organization (ISO) model.



**X.25 (continued)**

**PDU'S RETRANSMITTED:** Total PDUs successfully retransmitted because of an error for this control unit. PDUs are retransmitted when PDU check sequences are invalid.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

**NUMBER OF XID'S XMITTED:** Total number of exchange IDs (XIDs) transmitted for this control unit.

**NUMBER OF TESTS XMITTED:** Total tests successfully transmitted, including retries, for this control unit.

**NUMBER OF LREJ'S TRANSMITTED:** Total line rejects (LREJs) successfully transmitted, including retries, for this control unit. Line rejects are used during end-to-end error recovery. They indicate that part of the data was not received and request retransmission of the data. Line rejects can occur if the network goes down or does not complete transmission of data.

**TOTAL PACKETS TRANSMITTED:** Total packets transmitted for this control unit.

**DATA PACKETS TRANSMITTED:** Total data packets transmitted for this control unit.

**RECEIVE LINE TRAFFIC INFO.**

**PDU'S RECEIVED:** Total physical data units (PDUs) successfully received for this control unit.

s are blocks of data in the microcode used for end-to-end error recovery. PDUs are comparable to data processed by the transport layer of the International Standard Organization (ISO) model.

**PDU'S RECEIVED IN ERROR:** Total PDUs received in error (PDU check sequence is invalid) for this control unit.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

**PDU'S RECEIVED & DISCARD:** Number of PDUs discarded because of a frame check sequence (FCS) error or unsolicited response for this control unit.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

**NUMBER OF XID'S RECEIVED:** Total number of XIDs successfully received for this control unit.

**NUMBER OF TESTS RECEIVED:** Total tests successfully received for this control unit.

**X.25 (continued)**

**NUMBER OF LREJ'S RECEIVED:** Total LREJs successfully received for this control unit. Line rejects are used during end-to-end error recovery. They indicate that part of the data was not received and request retransmission of the data. Line rejects can occur if the network goes down or does not complete transmission of data.

**TOTAL PACKETS RECEIVED:** Total packets received for this control unit.

**DATA PACKETS RECEIVED:** Total data packets received for this control unit.

**RECEIVE ERROR COUNTERS**

**NUMBER OF LRNR'S RECEIVED:** Total LRNRs successfully received for this control unit.

**NUMBER OF TIMEOUTS:** Total timer expirations, including retries, logged because of time-outs on contact, on XID, on discontact, on test, on LT2, or on LT1 for this control unit.

If this number is unusually high, do actions 1, 2, and 3, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**FCS ERRORS:** Total number of frame check sequence errors received for this control unit.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

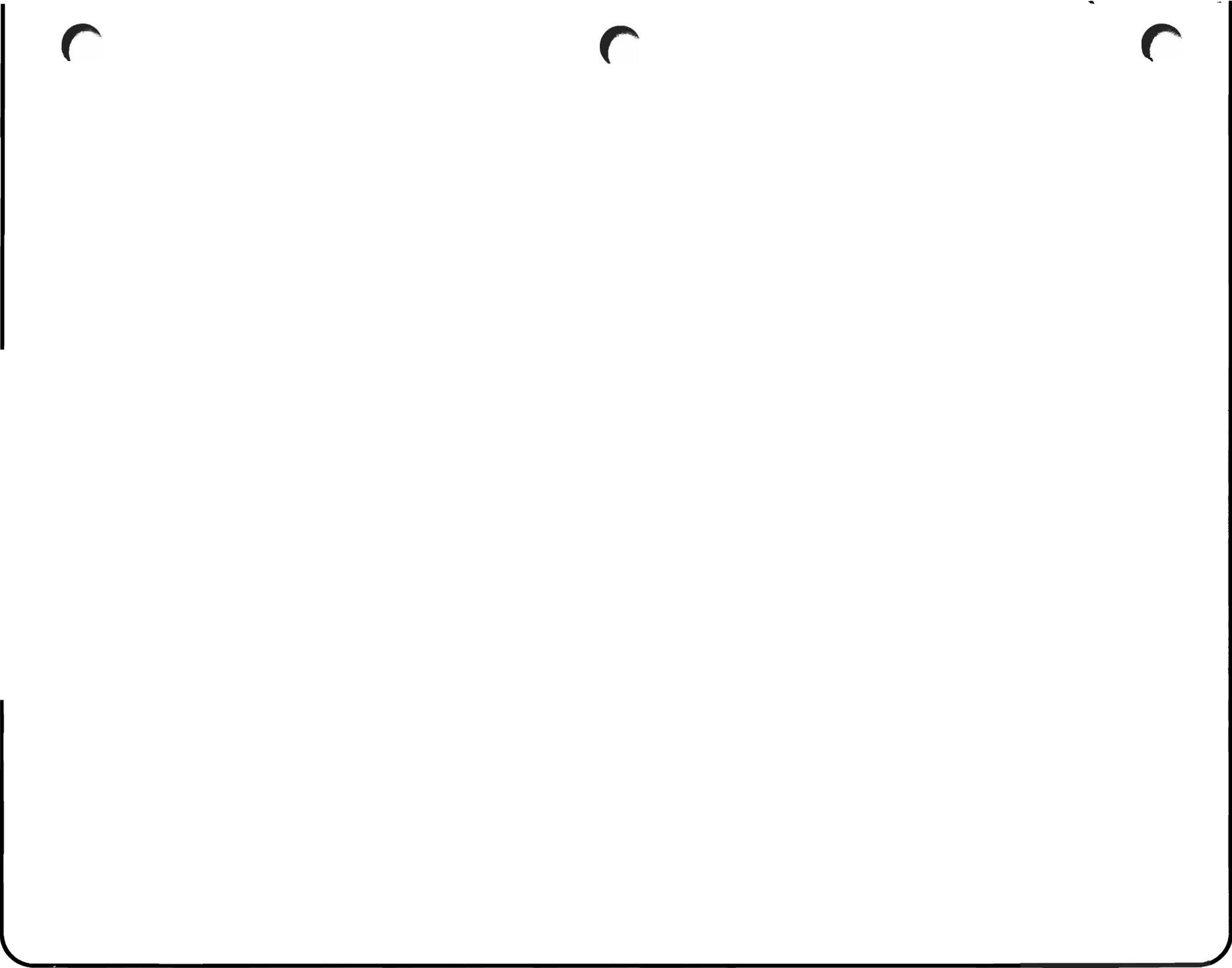


### X.25 History Report Actions

1. **Network Descriptions and Values:** Check the values in the line, control unit, and device descriptions for all remote equipment affected by the problem. Make sure that the values for any timers are correct for your communications network. Also, make sure that the device addresses, protocols, and other such values are correct for your network.

**Note:** Intermittent problems (problems that occur off and on) can occur if any timer does not have a proper value.

2. **Line Noise:** The main indications of line noise are the data checks (such as FCS errors). Call you common carrier. Ask the common carrier to check the quality of the line.
3. **Local System Hardware:** Make sure that the local hardware and cables are operating properly. Go to *How to Run X.25 PDPs* in Procedure C.25 *X.25 Problem Determination Procedures*.
4. **Modem:** Run all modem tests, such as the self-test and the end-to-end test, that are described in the operating guide for the modem.
5. **Remote Device (Station):** Make sure that the remote device (station) is working properly. Make sure that all components, such as the modem, control unit and system, are powered on and in a ready condition. Also make sure that all cables are connected properly. Make sure that the users signed on the remote device (station) properly, and that the correct application or procedure is being used.
6. **Software Problem:** Make sure that both stations are using the correct application or procedure. Make sure that the user signed on with the correct password. Check for a possible programming problem.
7. **System Resources:** The storage pool for the subsystem controlling your remote equipment is not large enough. Change the size of that storage pool. See the *CPF Programmer's Guide* for instructions on changing a pool size.
8. **Local Network Problem:** The local network node may not be operating properly. Call your network service representative.



IF LIN5C is an X.25 line and you specified statistics by line, the system prints this report:

X.25 HISTORY SUMMARY REPORT FOR LIN5C      DU: 5C    CSNAP

>---(DD/MN/YY)--->    DATA FOR: LIN5C    COMPARED TO: HISTORY

	NUMBER	RATE	NUMBER	RATE
<b>XMIT LINE TRAFFIC INFO.</b>				
TOTAL FRAMES TRANSMITTED---	11206		11206	
TOTAL FRAMES RE-XMITTED---	104	0.9%	104	0.9%
I FRAMES TRANSMITTED---	5410		5410	
I FRAMES RE-TRANSMITTED---	0		0	
RNR FRAMES TRANSMITTED---	0	0.0%	0	0.0%
REJ FRAMES TRANSMITTED---	0	0.0%	0	0.0%
<b>TRANSMIT ERROR COUNTERS</b>				
CLEAR TO SEND GLITCHED---	511		511	
<b>RECEIVE LINE TRAFFIC INFO.</b>				
TOTAL FRAMES RECEIVED---	10293		10293	
TOT FRAMES RCV-D IN ERROR---	0		0	
I FRAMES RECEIVED---	5570		5570	
RNR FRAMES RECEIVED---	46		46	
REJ FRAMES RECEIVED---	0		0	
<b>RECEIVE ERROR COUNTERS</b>				
<b>FRAME CHECK SEQUENCE ERRORS</b>				
INVALID FRAMES RECEIVED---	0		0	
ABORT RECEIVED---	0		0	
RLSD GLITCHED---	0		0	
IDLE DETECT ERRORS---	0		0	
T1 TIMEOUTS---	118		118	
FRAME TOO LONG---	0		0	
<b>XMIT/RCV. ERROR COUNTERS</b>				
DATA SET READY GLITCHED---	171		171	
HARDWARE OVERRUN---	0		0	
SOFTWARE OVERRUN---	0		0	
LINK RESETS---	0		0	

Data for Comparison Period                      Data for History

## X.25 Line History Report Description

### XMIT LINE TRAFFIC INFO:

**TOTAL FRAMES TRANSMITTED:** Total frames transmitted, not including retransmission for this line.

**TOTAL FRAMES REXMITTED:** Total number of frames retransmitted for this line.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

**I-FRAMES TRANSMITTED:** Total I-frames transmitted, not including retransmission for this line.

**I-FRAMES RETRANSMITTED:** Total number of I-frames retransmitted for this line.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

**RNR FRAMES TRANSMITTED:** Total receive not ready (RNR) frames transmitted, not including retransmission for this line.

**REJ FRAMES TRANSMITTED:** Total reject frames transmitted, not including retransmission for this line.

### TRANSMIT ERROR COUNTERS

**CLEAR TO SEND FAILURES:** Total number of times the clear to send indicator dropped for this line. Clear to send is an interface (wire) between the System/38 and the modem. Clear to send failures may indicate a modem or a cable connection problem or a System/38 hardware problem.

Do actions 3 and 4, in that order, until the problem is solved. These actions are listed following the discussion of this report.

### RECEIVE LINE TRAFFIC INFO.

**TOTAL FRAMES RECEIVED:** Total frames received error free for this line.

**FRAMES RCV-D IN ERROR:** Total frames received in error for this line (including number received, number sent, FCS errors, and frames aborted).

If this number is unusually high, do action 2. This action is listed following the discussion of this report.



**X.25 (continued)**

I-FRAMES RECEIVED: Total I-frames received error free for this line.

RNR FRAMES RECEIVED: Total RNR frames received error free for this line.

REJ FRAMES RECEIVED: Total REJ frames received error free for this line.

**RECEIVE ERROR COUNTERS**

FRAME CHECK SEQUENCE ERRORS: Total frames received with frame check sequence errors for this line.

INVALID FRAMES RECEIVED: Total invalid frames received for this line (including frames with fewer than 32 bits and frames not on a byte boundary).

Do actions 1 and 8, in that order, until the problem is solved. These actions are listed following the discussion of this report.

ABOUTS RECEIVED: Total frames received that were aborted for this line.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

RLSD FAILED: Total number of times the received line signal detected (RLSD) indicator dropped for this line.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

IDLE DETECT ERRORS: Total number of idle periods detected for this line.

T1 TIMEOUTS: Total number of time-outs while waiting for a response from the remote end for this line.

Do actions 1 and 8, in that order, until the problem is solved. These actions are listed following the discussion of this report.

FRAME TOO LONG: Total frames received that were too long for this line.

Do actions 1 and 5, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**X.25 (continued)**

**XMIT/RCV. ERROR COUNTERS**

**DATA SET READY FAILURES:** Total number of times the data set ready indicator dropped for this line. Data set ready is an interface (wire) between the System/38 and the modem. Data set ready failures may indicate a modem or cable connection problem or a System/38 hardware problem.

Do actions 4 and 8, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**HARDWARE OVERRUN:** Total hardware overruns for this line. A hardware overrun indicates that data from the line was received faster than the System/38 hardware could accept it. This may indicate a clocking problem in your local modem.

Do actions 4 and 8, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**SOFTWARE OVERRUN:** Total number of software overruns that occurred because there was not enough buffer space available to store incoming data. This could be caused if the modems are clocking data transmission at a rate faster than System/38 can operate, or if there is a buffer shortage caused by a System/38 microcode problem.

**LINK RESETS:** Total link resets received for this line.



### X.25 History Report Actions

1. **Network Descriptions and Values:** Check the values in the line, control unit, and device descriptions for all remote equipment affected by the problem. Make sure that the values for any timers are correct for your communications network. Also, make sure that the device addresses, protocols, and other such values are correct for your network.  
  
**Note:** Intermittent problems (problems that occur off and on) can occur if any of the timers do not have a proper value.
2. **Line Noise:** The main indications of line noise are the data checks (such as FCS errors). Call your common carrier. Ask the common carrier to check the quality of the line.
3. **Local System Hardware:** Make sure that the local hardware and cables are operating properly. Go to *How to Run X.25 PDPs in Procedure C.25 X.25 Problem Determination Procedures*.
4. **Modem:** Run all modem tests, such as the self-test and the end-to-end test, that are described in the operating guide for the modem.
5. **Remote Device (Station):** Make sure that the remote device (station) is working properly. Make sure that all components, such as the modem, control unit and system, are powered on and in a ready condition. Also, make sure that all cables are connected properly. Make sure that the users signed on the remote device (station) properly, and that the correct application or procedure is being used.
6. **Software Problem:** Make sure that both stations are using the correct application or procedure. Make sure that the user signed on with the correct password. Check for a possible programming problem.
7. **System Resources:** The storage pool for the subsystem controlling your remote equipment is not large enough. Change the size of that storage pool. See the *CPF Programmer's Guide* for instructions on changing a pool size.
8. **Local Network Problem:** The local network node may not be operating properly. Call your network service representative.





## MRJE History Report Description

### TRANSMIT ERRORS

**NAK RECEIVED TO TEXT SENT:** The host system responded to the transmission with a NAK command (negative acknowledgement). The remote control unit cannot accept the data sent.

Do actions 3, 2, 5, 4, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**DATA UNDERRUN/CHANNEL DISCONNECT:** One or more bytes of data were not transmitted.

Do action 8. This action is listed following the discussion of this report.

### RECEIVE ERRORS

**SIGNON/LOGON RESPONSE NOT VALID:** The signon password was not accepted by the remote host system.

Do action 7. This action is listed following the discussion of this report.

**REDUNDANCY CHECK ERROR:** A block check character sent by the System/38, used to make sure that data sent is correct, did not match the block check character expected by the remote device.

Do actions 2, 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**WRONG BCB SEQUENCE COUNT:** The host system sent the wrong count for the block sequence in the block control byte.

Do action 7. This action is listed following the discussion of this report.

**DATA FORMAT NOT VALID:** The data received by the host system does not follow the MTAM/MRJE protocol (rules for sending data between systems).

Do action 7. This action is listed following the discussion of this report.

**DATA OVERRUN/CHANNEL DISCONNECT:** One or more bytes of data was lost before it was received.

Do action 8. This action is listed following the discussion of this report.

**SYNC LOST:** Once a connection was established, it was not kept for 3 seconds.

Do actions 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**NO SYNC TIME-OUT DATA MODE:** A READ command was issued after a successful line bid, but no sync characters were received within the chosen time limit.

Do actions 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**DISCONNECT ABORT:** The host system sent a disconnect command before the System/38 finished sending all of its data.

Do action 6. This action is listed following the discussion of this report.



**MRJE (continued)****RECEIVE ERRORS (continued)**

**CONTROL RECORDS:** Number of control records (these records are positive responses from the host system, not user data records) that were transmitted.

This is not an error condition.

**PROTOCOL VIOLATION:** The protocol (rules for sending data between devices) do not match. For example, one device is using the BSC protocol, while the other is using the MTAM/MRJE protocol.

Do actions 7 and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**TRANSMIT/RECEIVE**

**ADAPTER OVERRUN/UNDERRUN** The communications attachment is not sending or receiving data at the proper rate.

Do action 4. This action is listed following the discussion of this report.

## MRJE History Report Actions

1. **Network Descriptions and Values:** Check the values in the line, control unit, and device descriptions for all remote equipment affected by the problem. Make sure that the values for any timers are correct for your communications network. Also, make sure that the device addresses, protocols, and other such values are correct for your network.

**Note:** Intermittent problems (problems that occur off and on) can occur if any of the timers do not have a proper value.

2. **Line Noise:** *If you have a switched line,* call the operator at the remote location. When you talk to the operator, listen for noise, other conversations, music, and other sounds that should not be on the line. If you and the other operator do not hear these types of interference, change the line to data mode. If one or both of you can hear these types of interference on the line, or one party cannot hear well (low volume), hang up. Call the remote station again. If this new connection is better than the previous one, change the line to data mode.

*If you use a nonswitched line,* the main indications of line noise are the data checks (such as CRC/LRC/VRC errors). Call your common carrier. Ask the common carrier to check the quality of the line.

3. **Link Failing:** *If you use an external modem,* make sure the data link is working properly by using the modem end-to-end test procedures in the operating guide for the modem.

*If you use an integrated modem (one that is built into the control unit),* go to Procedure C.3: *Link Test*.

**Note:** Before you run the link test, call the operator at the remote location. The two of you run this test together.

4. **Local System Hardware:** Make sure that the line is operating properly by going to Procedure C.2: *Line Test*.

If that test completes normally, go to Procedure C.3: *Link Test*.

5. **Modem:** *If you use an external modem,* run all modem tests, such as the self-test, and the end-to-end test, that are described in the operating guide for the modem.

6. **Remote Device (Station):** Make sure that the remote device (station) is working properly. Make sure all components, such as the modem, control unit and system, are powered on and in a ready condition. Also make sure that all cables are connected properly. Make sure that users signed on to the remote device (station) properly, and that the correct application or procedure is being used.

7. **Software Problem:** Make sure that both stations are using the same protocol (for example, make sure that if one station is using BSC, the other station is also using BSC, not MRJE). Make sure both stations are using the correct application or procedure. Make sure that the user signed on with the correct password. Check for a possible programming problem.

8. **System Resources:** The storage pool for the subsystem controlling your remote equipment is not large enough. Change the size of that storage pool. See the *CPF Programmer's Guide* for instructions on changing a pool size.



## USING THE SHORT TERM STATISTICS

You can use the short term statistics to do the following:

- Check the current performance of a line or control unit, or follow its performance over a certain time period.
- Identify the type of problem.
- Make sure that a certain problem has been corrected.

### How to Start the Short Term Statistics Function

Use the CHGCNPA (Change CSNAP Attributes) command to start the CSNAP short term statistics function.

When you enter the command, consider the following:

- **LINE** name. The system can collect the short term statistics on more than one line at the same time. However, if you are currently collecting statistics on a line, and you enter the CHGCNPA command, the system will stop collecting statistics on that line if it is not named in the CHGCNPA command entered most recently. You can use the DSPCNPA (Display CSNAP Attributes) command to find out if the short term statistics function is currently active, and if so, on which lines and control units.
- **PERIOD** during which you want to follow the performance of a line or control unit. The period you choose determines the value you can choose for the **INTERVAL** (how often statistics are collected).

Also note that you can enter the CHGCNPA command now, but actually start the collecting short term statistics at a later date. In fact, you can enter this command up to 5 days before you want the system to start this function.

- **INTERVAL** tells the system how often you want to sample (collect statistics on) the line or control unit. This value is given in hours, or tenths of hours. If you are collecting statistics for a **PERIOD** less than 3 hours, choose an **INTERVAL** that is between .1 hour (6 minutes) and 1 hour. If you are collecting statistics for a **PERIOD** that is longer than 3 hours, choose an **INTERVAL** between 1 hour and 24 hours.

**Note:** Collecting short term statistics requires more system resources (work) than normally used to send data between the system and remote equipment. This can affect overall system performance, especially if you sample many lines at small intervals.

For example, to sample line LIN22NYBSC once every hour between 10 AM and 1 PM, on June 18, 1982 enter:

```
CHGCNPA LINE (lin22nybsc) PERIOD (('10:00:00') ('06/18/82') ('12:59:00') ('06/18/82'))  
INTERVAL (1)
```

See the *CL Reference Manual* for a complete description of the command.

**If you use more than one line description for the same physical line** (for example, you use both line description names LIN22NYBSC and LIN22NYRJE to describe physical line 22), CSNAP collects separate statistics for each protocol used on a physical line; not for each line description. For example, if you use line 22 as SDLC line LIN22NYSDL during the day, and as BSC line LIN22NYBSC during the evening, you get separate reports on the performance of line 22 as an SDLC line and as a BSC line. On the other hand, if you use line 22 as BSC line LIN22NYBS1 during the day, and as BSC line LIN22NYBS2 during the evening, CSNAP keeps only one set of statistics for those line descriptions. If you ask for a report for any BSC line description, such as LIN22NYBS1, CSNAP provides a report describing the performance of all BSC line descriptions using that physical line.

#### How to End the Short Term Statistics Function

To end the short term statistics function, enter:

```
CHGCNPA LINE (*NONE)
```

This command ends the function for all lines currently being sampled.

To end the function for some lines, but continue the function for other lines, enter the CHGCNPA command again as you did to start the function, but enter only the names of those lines for which sampling is to continue.

#### How to Get the Short Term Reports

You can get a report of the statistics your system has collected so far (or after it has finished the function), using the LSTCNPDTA (List CSNAP Data) command.

The system prints two types of reports of the short term statistics: graph, and detailed.



### **How to Find Out If the Short Term Statistics Function Is Active**

To find out if the short term statistics function is active, enter:

DSPCNPA

The system displays on which lines the function is active, and when the system samples those lines.

If a physical line uses more than one line description name (for example, physical line 22 uses both names LIN22NYBSC and LIN22NYSDL), the system lists only the first line description name.

This may not be the same name used when you started the short term statistics function.

## USING THE SHORT TERM GRAPH

You can use the short term graph to do the following:

- Check the current performance of a line or control unit, or monitor performance over a certain time period.
- See how changes made to correct a problem affect the performance of an attached line or control unit.

**If you use more than one line description for the same physical line** (for example, you use both line description names LIN22NYBSC and LIN22NYRJE to describe physical line 22), CSNAP collects separate statistics for each protocol used on a physical line; not for each line description. For example, if you use line 22 and SDLC line LIN22NYSDL during the day, and as BSC line LIN22NYBSC during the evening, you get separate reports on the performance of line 22 as an SDLC line and as a BSC line. On the other hand, if you use line 22 as BSC line LIN22NYBS1 during the day, and as BSC line LIN22NYBS2 during the evening, CSNAP keeps only one set of statistics for those line descriptions. Request a separate report for each line protocol used during the sampling period. If you ask for a report for any BSC line description, such as LIN22NYBS1, CSNAP provides a report describing the performance of all BSC line descriptions using that physical line.

### How to Print the Graph Report

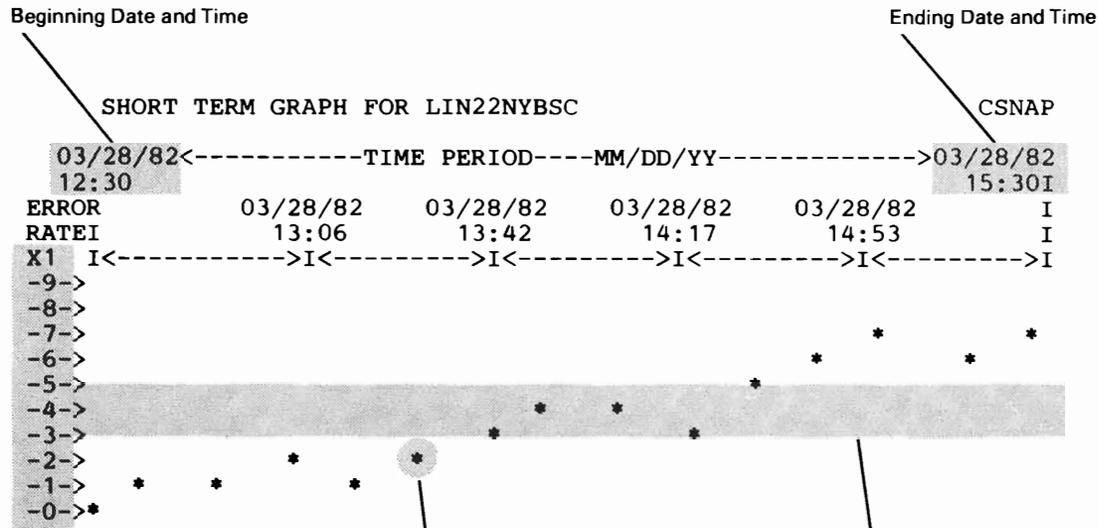
To print the CSNAP short term error graph, use the default value, \*GRAPH, when you enter the LSTCNPDTA command. For example, to print the short term graph for the line named LIN22NYBSC, showing all the information collected until now, enter:

```
LSTCNPDTA LINE(lin22nybsc)
```

See the *CL Reference Manual* for a complete command description.



The system prints the following graph:



Error Rate  
(either 1-9  
or 10-90)  
*See How to Interpret the Graph*  
for an explanation  
of what you should  
do to solve the  
problem, based on  
the error rate.

Plot  
Each asterisk  
represents the  
error rate for  
one time period.  
For example, each  
asterisk represents  
the error rate 6.

*See How to Interpret the Graph* for an  
explanation of different  
ranges of errors:

- Less than 3%
- 3% through 5%
- Greater than 5%

## How to Interpret the Graph

Note the following on the graph:

- **Percentages along the left side of the graph.** These percentages are either 0%-9%, or 0%-90%. If the percentages are 0%-90%, you have a serious problem you should look into further. You can check the detailed CSNAP short term report to find the cause of the problem. You can follow the problem as it happens using the short term statistics function.
- **Increase or decrease in the percentage of errors.** Communications equipment often has errors during normal operations. However, if the error rate rises too high, performance will be degraded.
  - **Error rate less than 3%.** There is no indication of a problem during the sampled period. If the response time is still poor, go to Procedure B: *Subsystem Problem* to find out if system work management performance is causing the problem.
  - **Error rate between 3% and 5%.** You may start to notice problems with the response time. Also, the system may send you an error message about the equipment. You can use the short term detailed reports to find out which errors are causing the problem.
  - **Error rate greater than 5%.** A serious problem is indicated by the graph report. You can use the short term detailed reports to find out which errors are causing the problem.

If the line has more than one attached control unit (use the `DSPLIND` command to check this), the problem might be caused by only one control unit. Use the `LSTCNPST` command to get the history graph for each control unit.

- If the graphs for all control units show poor performance, the line or system has a problem. You can use the short term detailed reports to find out what types of errors are occurring.
- If the graph for only one control unit shows poor performance, that part of your communications network attached to the control unit, or the control unit itself, needs service. You can use the history detailed reports to find out what types of error are occurring.

If you have a problem with a switched line (to find out if you have a switched line, see Procedure C: *Communications Problem*), look for periods when error rates are more than 5%. Check the short-term detailed reports for those periods and find out which error has the highest `RATE`. Also check the messages in the system history log (`DSPLLOG` command) for error messages about a certain control unit (remote device). If all of these control units show poor performance, the problem is most likely in your local common carrier facilities. In those cases, call your common carrier, and describe the problem and the information you have collected so far. Otherwise, go to Procedure C: *Communications Problem* to find out more about the problem.



## USING THE SHORT TERM DETAILED REPORT

Use the short term detailed report to find those errors that are causing line or control unit problems during the INTERVALs when the error rate on the graph report is highest.

**If you use more than one line description for the same physical line** (for example, you use line description names LIN22NYBSC and LIN22NYRJE both to describe physical line 22, CSNAP collects separate statistics for each protocol used on a physical line; not for each line description. For example, if you use line 22 as SDLC line LIN22NYSDL during the day, and as BSC line LIN22NYBSC during the evening, you get separate reports on the performance of line 22 as an SDLC line and as a BSC line. On the other hand, if you use line 22 as BSC line LIN22NYBS1 during the day, and as BSC line LIN22NYBS2 during the evening, CSNAP keeps only one set of statistics for those line descriptions. Request a separate report for each line protocol used during the sampling period. If you ask for a report for any BSC line description, such as LIN22NYBS1, CSNAP provides a report describing the performance of all BSC line descriptions using that physical line.

### How to Print the Short Term Detailed Report

To print the CSNAP short term detailed report, choose the \*DETAIL option when you enter the LSTCNPDTA command. The system prints separate reports for each INTERVAL. For example, to print the detailed short term report for the line named LIN22NYSDL, showing all the information collected between 9:04 AM and 12:04 PM on March 4, 1982, enter:

```
LSTCNPDTA LINE(lin22nysd1) PERIOD('03/04/82' '09:04:00') ('03/04/82' '12:04;82')  
TYPE(*DETAIL)
```

See the *CL Reference Manual* for a complete command description.

## How to Interpret the Short Term Detailed Report

The system prints one of three reports, depending on whether the line uses SDLC or BSC protocol, or the line is being used with the Remote Job Entry (MRJE) Facility. An example of each type of report follows.

These examples also describe the different types of errors, and what you should do to fix them. To solve a problem using the report, do the following:

- 1** On the report the system just printed, find the type of error that has the highest **RATE**.
- 2** Read the description of that error following the example of your type of report.
- 3** Take the actions described, in the order they are listed, until you solve the problem. The actions are listed following the description of the report.



## BSC

If LIN22NYBSC is a BSC line, the system prints this report:

```

BSC SHORT-TERM DETAILED REPORT                                CSNAP
>--(MM/DD/YY)-->      TYPE: LINE      OU: 22  NAME:  LIN22NYBSC
>--(HH:MM:SS)-->      DATE: 05/08/82  TIME: 13:15:00

                                NUMBER  RATE
TRANSMIT
TOTAL CHARACTERS TRANSMIT----- 726536
TOTAL CHARS RETRANSMITTED----- 0      0.0%
DATA CHARACTERS TRANSMIT ----- 710016
DATA CHARS RETRANSMITTED ----- 0      0.0%
DATA BLOCKS TRANSMITTED ----- 2752
DATA BLOCKS RETRANSMITTED ----- 0      0.0%
TOTAL ORE-S (WRITE ONLY)----- 2754
NAK RECEIVED TO TEXT SENT----- 140    5.0%
RETRY ENTRY ----- 0
WRONG ACK TO TEXT SENT ----- 0      0.0%
RETRY ENTRY ----- 0
ENQ TO TEXT SENT ----- 0      0.0%
RETRY ENTRY ----- 0
ENQ TO ACK SENT ----- 0      0.0%
RETRY ENTRY ----- 0
DATA UNDERRUN/CHNL. DISC ----- 0
RETRY ENTRY ----- 0

RECEIVE
TOTAL CHARACTERS RECEIVED----- 734777
TOTAL CHARS RECEIVED IN ERROR----- 0      0.0%
DATA CHARACTERS RECEIVED ----- 710016
DATA CHAR RECEIVED IN ERROR----- 0      0.0%
DATA BLOCKS RECEIVED ----- 2752
DATA BLOCKS RECEIVED IN ERROR----- 0      0.0%
TOTAL ORES (READ ONLY) ----- 5522
CRC/LRC/VRC ERROR ----- 0      0.0%
RETRY ENTRY ----- 0
SYNC LOST ----- 0      0.0%
RETRY ENTRY ----- 0
NO SYNC TIMEOUT DATA MODE----- 0      0.0%
RETRY ENTRY ----- 0
NO SYNC TIMEOUT CONTENTION
MODE ----- 42      0.0%
RETRY ENTRY ----- 42
FORWARD DISCONNECT ABORT ----- 0
FORWARD EOT ABORT ----- 0
DISCONNECT ABORT ----- 0
EOT ABORT ----- 0
PROTOCOL VIOLATION ----- 0      0.0%
RETRY ENTRY ----- 0
DATA UNDERRUN/CHNL. DISC ----- 0
RETRY ENTRY ----- 0

TRANSMIT/RECEIVE
ADPTER UNDERRUN/OVERRUN----- 1
RETRY ENTRY ----- 1
TOTAL ORE PAIRS, (RD/WRT)----- 11012

```

In this example, note that NAK RECEIVED TO TEXT SENT errors have the highest error rate in the most recent time period. Look up the explanation of this error on the following pages, and take the actions listed until the problem is solved.

## BSC Short Term Detailed Report Description

### TRANSMIT ERRORS

**DATA UNDERRUN/CHANNEL DISCONNECT:** One or more bytes of data were not transmitted.

Do action 8. These actions are listed following the discussion of this report.

**NAK RECEIVED TO TEXT SENT:** The remote control unit responded to the transmission with a NAK command (negative acknowledgement). The remote control unit cannot accept the data sent.

Do actions 3, 2, 5, 4, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**WRONG ACK TO TEXT SENT:** The alternating acknowledgement (ACK0 or ACK1) command sent by the remote control unit was not the command expected by the System/38.

Do actions 6, 7, 3, and 5, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**ENQ TO TEXT SENT:** The remote control unit is not receiving data.

Do actions 3, 5, 6, and 7, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**ENQ1 TO ACK SENT:** The remote control unit is not correctly receiving the acknowledgement sent by the System/38.

Do actions 3, 5, 6, and 7, in that order, until the problem is solved. These actions are listed following the discussion of this report.

### RECEIVE ERRORS

**DATA OVERRUN/CHANNEL DISCONNECT:** One or more bytes of data was lost before it was received.

Do action 8. These actions are listed following the discussion of this report.

**CRC/LRC/VRC ERROR:** A block check character sent by the remote control unit, used to make sure that data sent is correct, did not match the block check character expected by the System/38.

Do actions 2, 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**SYNC LOST:** Once a connection was established, it was not kept for 3 seconds.

Do actions 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**NO SYNC TIME-OUT DATA MODE:** A READ command was issued after a successful line bid, but no sync characters were received within the chosen time limit.

Do actions 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**NO SYNC TIME-OUT CONTENTION MODE:** A READ command was issued, but did not win a successful bid to use the line before a time-out occurred (time limit on winning the bid expired).

Do actions 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.



**BSC (continued)****RECEIVE ERRORS (continued)**

**PROTOCOL VIOLATION:** The protocol (rules for sending data between devices) at the sending station does not match the protocol used at the receiving station. For example, one device is using the BSC protocol, while the other is using the MTAM/MRJE protocol.

Do actions 7 and 8, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**FORWARD DISCONNECT ABORT:** First, the System/38 received a TEMPORARY TEXT DELAY command. The System/38 responded to the next transmission of data with a negative acknowledgement (NAK), refusing to accept data. The remote control unit then disconnected the line, or the last block of text did not have an ETX (End of Text) command.

Do action 6. These actions are listed following the discussion of this report.

**FORWARD EOT ABORT:** First, the System/38 received a TEMPORARY TEXT DELAY command. The System/38 responded to the next transmission of data with a negative acknowledgement (NAK), refusing to accept data. The remote control unit then sent an EOT (End of Transmission) command that did not have an ETX (End of Text) command.

Do action 6. This action is listed following the discussion of this report.

**DISCONNECT ABORT:** The remote control unit sent a disconnect command before the System/38 finished sending all of its data.

Do action 6. This action is listed following the discussion of this report.

**EOT ABORT:** The System/38 sent a block of data, but the remote control unit sent an EOT ABORT character, rather than expected acknowledgement (ACK) command.

Do action 6. This action is listed following the discussion of this report.

**TRANSMIT/RECEIVE ERRORS**

**ADAPTER UNDERRUN/OVERRUN:** The communications adapter card is not sending or receiving data at the proper rate.

Do action 4. This action is listed following the discussion of this report.

## BSC Short Term Detailed Report Actions

1. **Network Descriptions and Values:** Check the values in the line, control unit, and device descriptions for all remote equipment affected by the problem. Make sure that the values for any timers are correct for your communications network. Also, make sure that the device addresses, protocols, and other such values are correct for your network.

**Note:** Intermittent problems (problems that occur off and on) can occur if any of the timers do not have a proper value.

2. **Line Noise:** *If you have a switched line*, call the operator at the remote location. When you talk to the operator, listen for noise, other conversations, music, and other sounds that should not be on the line. If you and the other operator do not hear these types of interference, change the line to data mode. If one or both of you can hear these types of interference on the line, or one party cannot hear well (low volume), hang up. Call the remote station again. If this new connection is better than the previous one, change the line to data mode.

*If you use a nonswitched line*, the main indications of line noise are the data checks (such as CRC/LRC/VRC errors). Call your common carrier. Ask the common carrier to check the quality of the line.

3. **Link Failing:** *If you use an external modem*, make sure the data link is working properly by using the modem end-to-end test procedures in the operating guide for the modem.

*If you use an integrated modem (one that is built into the control unit)*, go to Procedure C.3: *Link Test*.

**Note:** Before you run the link test, call the operator at the remote location. The two of you run this test together.

4. **Local System Hardware:** Make sure that the line is operating properly by going to Procedure C.2: *Line Test*.

If that test completes normally, go to Procedure C.3: *Link Test*.

5. **Modem:** *If you use an external modem*, run all modem tests, such as the self-test, and the end-to-end test, that are described in the operating guide for the modem.

6. **Remote Device (Station):** Make sure that the remote device (station) is working properly. Make sure all components, such as the modem, control unit and system, are powered on and in a ready condition. Also make sure that all cables are connected properly. Make sure that users signed on to the remote device (station) properly, and that the correct application or procedure is being used.

7. **Software Problem:** Make sure that both stations are using the same protocol (for example, make sure that if one station is using BSC, the other station is also using BSC, not MRJE). Make sure both stations are using the correct application or procedure. Make sure that the user signed on with the correct password. Check for a possible programming problem.

8. **System Resources:** The storage pool for the subsystem controlling your remote equipment is not large enough. Change the size of that storage pool. See the *CPF Programmer's Guide* for instructions on changing a pool size.



## SDLC

If LIN22NYSDL is an SDLC line, the system prints this report:

```

SDLC SHORT-TERM DETAILED REPORT                                CSNAP
>--(MM/DD/YY)-->      TYPE: LINE   OU: 22 NAME:  LIN22NYSDL
>--(HH:MM:SS)-->      DATE: 05/08/82 TIME: 13:15:00

                                NUMBER  RATE
TRANSMIT
I FRAME CHARS TRANSMITTED----- 1895384
I FRAMES TRANSMITTED-----      9512
I FRAME CHARS RETRANSMITTED----- 12847  00.0%
I FRAMES RETRANSMITTED-----     123  01.0%
SEQUENCE ERROR TOTAL RETRY-----    62  00.0%
RETRY ENTRY-----                57
CHANNEL DATA UNDERRUN TOTAL RETRY----- 0  00.0%
RETRY ENTRY-----                0

RECEIVE
I FRAME CHARS RECEIVED ----- 126298
I FRAMES RECEIVED -----      4650
I FRAME CHARS RECEIVED IN ERROR----- 32773  25.0%
I FRAMES RECEIVED IN ERROR-----   1190  25.0%
S FRAMES RECEIVED IN ERROR-----    649
SEQUENCE ERROR TOTAL RETRY-----    0  00.0%
RETRY ENTRY-----                0
CRC ERRORS TOTAL RETRIES -----   1837  39.0%
RETRY ENTRY-----                297
IDLE STATE DETECTED TOTAL RETRY----- 2303  49.0%
RETRY ENTRY-----                2137
NON PRODUCTIVE RECEIVE TIMEOUT TOT RETRY - 0  00.0%
RETRY ENTRY-----                0
CHANNEL DATA OVERRUN TOTAL RETRY ----- 0  00.0%

TRANSMIT/RECEIVE
ADAPTER OVERRUN/UNDERRUN TOTAL RETRY ---- 0
RETRY ENTRY-----                0

```

In this example, note that IDLE STATE DETECTED TOTAL RETRY errors have the highest error rate in the most recent time period. Look up the explanation of this error on the following pages, and take the actions listed until the problem is solved.

## SDLC Short Term Detailed Report Description

### TRANSMIT ERRORS

**SEQUENCE ERROR TOTAL RETRY:** Frames received at the remote control unit do not match the number of frames sent.

Do actions 2, 3, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**CHANNEL DATA UNDERRUN TOTAL RETRY:** Data from the channel in the system was not available within the correct time limit.

Do action 8. This action is listed following the discussion of this report.

### RECEIVE ERRORS

**SEQUENCE ERROR TOTAL RETRY:** The System/38 did not receive all of the frames sent by the remote control unit.

Do actions 2, 3, 5, 4, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**CRC ERRORS TOTAL RETRIES:** The frame check character in the message sent by the remote control unit, did not match the frame check character computed by the System/38.

Do actions 2, 3, and 5, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**IDLE STATE DETECTED TOTAL RETRY:** The remote control unit did not respond to the data sent by the System/38 within the pre-chosen time limit.

Do actions 3, 5, and 1, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**NON PRODUCTIVE RECEIVE TOTAL RETRY:** This is the number of receive time periods (periods when data is received) that ended before the system received a valid frame of data.

Do actions 3, 5, 1, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**CHANNEL DATA OVERRUN TOTAL RETRY:** Data being received was not read fast enough by the channel in the system.

Do action 8. This action is listed following the discussion of this report.

### TRANSMIT/RECEIVE ERRORS

**ADAPTER OVERRUN/UNDERRUN TOTAL RETRY:** The communications attachment on the System/38 is sending data too slowly, or receiving data faster than the attachment can process it.

Do action 4. This action is listed following the discussion of this report.



**SDLC (continued)****SDLC Short Term Detailed Report Actions**

1. **Network Descriptions and Values:** Check the values in the line, control unit, and device descriptions for all remote equipment affected by the problem. Make sure that the values for any timers are correct for your communications network. Also, make sure that the device addresses, protocols, and other such values are correct for your network.

**Note:** Intermittent problems (problems that occur off and on) can occur if any of the timers do not have a proper value.

2. **Line Noise:** *If you have a switched line*, call the operator at the remote location. When you talk to the operator, listen for noise, other conversations, music, and other sounds that should not be on the line. If you and the other operator do not hear these types of interference, change the line to data mode. If one or both of you can hear these types of interference on the line, or one party cannot hear well (low volume), hang up. Call the remote station again. If this new connection is better than the previous one, change the line to data mode.

*If you use a nonswitched line*, the main indications of line noise are the data checks (such as CRC/LRC/VRC errors). Call your common carrier. Ask the common carrier to check the quality of the line.

3. **Link Failing:** *If you use an external modem*, make sure the data link is working properly by using the modem end-to-end test procedures in the operating guide for the modem.

*If you use an integrated modem (one that is built into the control unit)*, go to Procedure C.3: *Link Test*.

**Note:** Before you run the link test, call the operator at the remote location. The two of you run this test together.

4. **Local System Hardware:** Make sure that the line is operating properly by going to Procedure C.2: *Line Test*.

If that test completes normally, go to Procedure C.3: *Link Test*.

5. **Modem:** *If you use an external modem*, run all modem tests, such as the self-test, and the end-to-end test, that are described in the operating guide for the modem.
6. **Remote Device (Station):** Make sure that the remote device (station) is working properly. Make sure all components, such as the modem, control unit and system, are powered on and in a ready condition. Also make sure that all cables are connected properly. Make sure that users signed on to the remote device (station) properly, and that the correct application or procedure is being used.
7. **Software Problem:** Make sure that both stations are using the same protocol (for example, make sure that if one station is using BSC, the other station is also using BSC, not MRJE). Make sure both stations are using the correct application or procedure. Make sure that the user signed on with the correct password. Check for a possible programming problem.
8. **System Resources:** The storage pool for the subsystem controlling your remote equipment is not large enough. Change the size of that storage pool. See the *CPF Programmer's Guide* for instructions on changing a pool size.



## X.25

If X25RWSPC is an X.25 control unit and you specified statistics by control unit, the system prints this report:

```

X.25 SHORT TERM DETAILED REPORT          CSNAP
>--(DD/MM/YY)-->  TYPE: CONTROLLER  QU: 5C  NAME: X25RWSPC
>--(HH:MM:SS)-->  DATE: 23/01/85    TIME 00:55:59

SUMMARY COUNTERS                          NUMBER  RATE
NUMBER OF INCOMING CONNECTIONS----- 0
NUMBER OF OUTGOING CONNECTIONS----- 0
INCOMING TOT CONNECT TIME--  HH MM SS    23 32
OUTGOING TOT CONNECT TIME--  HH MM SS    00 00 00
SUCCESSIVE RECOVERIES----- 0
ATTEMPTED RECOVERIES----- 0
NUMBER NP-RESETS RECEIVED----- 24
NUMBER NP-DISCONNECT RECEIVED----- 5

TRANSMIT LINE TRAFFIC INFORMATION
PDU'S TRANSMITTED----- 1791
PDU'S RETRANSMITTED----- 14          0.7%
NUMBER OF XID'S TRANSMITTED----- 110
NUMBER OF TESTS TRANSMITTED----- 1
NUMBER OF LREJ'S TRANSMITTED----- 0          0.0%
DATA PACKETS TRANSMITTED----- 2787
TOTAL PACKETS TRANSMITTED----- 4291

RECEIVE LINE TRAFFIC INFORMATION
PDU'S RECEIVED----- 1049
PDU'S RECEIVED IN ERROR----- 0          0.0%
PDU'S RECEIVED BUT DISCARDED----- 0          0.0%
NUMBER OF XID'S RECEIVED----- 33
NUMBER OF TESTS RECEIVED----- 1
NUMBER OF LREJ'S RECEIVED----- 0          0.0%
TOTAL PACKETS RECEIVED----- 4415
DATA PACKETS RECEIVED----- 1357

RECEIVE ERROR COUNTERS
NUMBER OF LRNR'S RECEIVED----- 0          0.0%
NUMBER OF TIMEOUTS----- 14          1.3%
FCS ERRORS----- 0          0.0%

```

## X.25 Control Unit Short Term Detail Report Description

### SUMMARY COUNTERS

**NUMBER OF INCOMING CONNECTIONS:** Number of incoming calls successfully established between the network and the System/38 for this control unit.

**NUMBER OF OUTGOING CONNECTIONS:** Number of outgoing calls successfully established between the network and the System/38 for this control unit.

**INCOMING TOT CONNECT TIME:** Total connection time for all incoming calls between the network and the System/38 for this control unit.

**OUTGOING TOT CONNECT TIME:** Total connection time for all outgoing calls between the network and the System/38 for this control unit.

**SUCCESSFUL RECOVERIES:** Total number of times the microcode successfully reconnected the virtual circuit for this control unit.

**ATTEMPTED RECOVERIES:** Total number of times the microcode attempted to reconnect the virtual circuit for this control unit.

**NUMBER--RESETS RECEIVED:** Total number of reset indications received from a virtual circuit for this control unit. Resets are received from the network or remote DTE. The cause/diagnostic code provides more information about why the reset was sent.

**NUMBER--DISCONNECT RECEIVED:** Total number of disconnect indications received from a virtual circuit for this control unit. Disconnects are received from the network or remote DTE. The cause/diagnostic code provides more information about why the disconnect was sent.

### TRANSMIT LINE TRAFFIC INFORMATION

**PDU'S TRANSMITTED:** Total physical data units (PDUs) successfully transmitted, including retries, for this control unit.

PDUs are blocks of data in the microcode used for end-to-end error recovery. PDUs are comparable to data processed by the transport layer of the International Standard Organization (ISO) model.

**PDU'S RETRANSMITTED:** Total PDUs successfully retransmitted because of an error for this control unit. PDUs are retransmitted when PDU check sequences are invalid.

Do action 2. This action is listed following the discussion of this report.

**NUMBER OF XID'S TRANSMITTED:** Total number of exchange IDs (XIDs) transmitted for this control unit.

**NUMBER OF TESTS TRANSMITTED:** Total test successfully transmitted, including retries, for this control unit.

**NUMBER OF LREJ'S TRANSMITTED:** Total line rejects (LREJs) successfully transmitted, including retries, for this control unit. Line rejects are used during end-to-end error recovery. They indicate that part of the data was not received, and they request retransmission of the data. Line rejects can occur if the network goes down or does not complete the transmission of data.

**DATA PACKETS TRANSMITTED:** Total data packets transmitted for this control unit.

**TOTAL PACKETS TRANSMITTED:** Total packets transmitted for this control unit.



**X.25 (continued)****RECEIVE LINE TRAFFIC INFORMATION**

**PDU'S RECEIVED:** Total physical data units (PDUs) successfully received for this control unit.

PDUs are blocks of data in the microcode used for end-to-end error recovery. PDUs are comparable to data processed by the transport layer of the International Standard Organization (ISO) model.

**PDU'S RECEIVED IN ERROR:** Total PDUs received in error (PDU check sequence is invalid) for this control unit.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

**PDU'S RECEIVED BUT DISCARDED:** Number of PDUs discarded because of a frame check sequence (FCS) error or unsolicited response for this control unit.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

**NUMBER OF XID'S RECEIVED:** Total number of XIDs successfully received for this control unit.

**NUMBER OF TESTS RECEIVED:** Total tests successfully received for this control unit.

**NUMBER OF LREJ'S RECEIVED:** Total LREJs successfully received for this control unit. Line rejects are used during end-to-end error recovery. They indicate that part of the data was not received, and they request retransmission of the data. Line rejects can occur if the network goes down or does not complete transmission of data.

**TOTAL PACKETS RECEIVED:** Total packets received for this control unit.

**DATA PACKETS RECIEVED** Total data packets received for this control unit.

**RECV ERROR COUNTERS**

**NUMBER OF LRNR'S RECEIVED:** Total LRNRs successfully received for this control unit.

**NUMBER OF TIMEOUTS:** Total timer expirations, including retries, logged because of the time-outs on contact, on XID, on discontact, on test, on LT2, or on LT1 for this control unit.

Do actions 1, 2, and 3, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**FCS ERRORS:** Total number of frame check sequence errors received for this control unit.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

## X.25 Short Term Detailed Report Actions

- 1. Network Descriptions and Values:** Check the values in the line, control unit, and device descriptions for all remote equipment affected by the problem. Make sure that the values for any timers are correct for your communications network. Also, make sure that the device addresses, protocols, and other such values are correct for your network.  
**Note:** Intermittent problems (problems that occur off and on) can occur if any of the timers do not have a proper value.
- 2. Line Noise:** The main indications of line noise are the data checks (such as FCS errors). Call your common carrier. Ask the common carrier to check the quality of the line.
- 3. Local System Hardware:** Make sure that the local hardware and cables are operating properly. Go to *How to Run X.25 PDPs in Procedure C.25 X.25 Problem Determination Procedures*.
- 4. Modem:** Run all modem tests, such as the self-test and the end-to-end test, that are described in the operating guide for the modem.
- 5. Remote Device (Station):** Make sure that the remote device (station) is working properly. Make sure that all components, such as the modem, control unit and system, are powered on and in a ready condition. Also, make sure that all cables are connected properly. Make sure that the users signed on the remote device (station) properly, and that the correct application or procedure is being used.
- 6. Software Problem:** Make sure that both stations are using the correct application or procedure. Make sure that the user signed on with the correct password. Check for a possible programming problem.
- 7. System Resources:** The storage pool for the subsystem controlling your remote equipment is not large enough. Change the size of that storage pool. See the *CPF Programmer's Guide* for instructions on changing a pool size.
- 8. Local Network Problem:** The local network node may not be operating properly. Call your network service representative.



## X.25

If X25RWSP is an X.25 line and you specified statistics by line, the system prints this report:

```

X.25 SHORT TERM DETAILED REPORT          CSNAP
-- DD/MM/YY --   TYPE LINE   OU 5C  NAME X25LINE1B
-- HH MM SS --   DATE 21/03/85  TIME 01 01 01

TRANSMIT LINE TRAFFIC INFORMATION          NUMBER  RATE
TOTAL FRAMES TRANSMITTED -----          3642
TOTAL NUMBER OF FRAMES RETRANSMITTED-----          0
I FRAMES TRANSMITTED -----           1820
I FRAMES RETRANSMITTED -----           0
RNR FRAMES TRANSMITTED -----           0
REJ FRAMES TRANSMITTED -----           0

TRANSMIT ERROR COUNTERS
CLEAR TO SEND GLITCHED-----           0

RECEIVE LINE TRAFFIC INFORMATION
TOTAL FRAMES RECEIVED-----           3642
I FRAMES RECEIVED-----           1820
TOTAL NUMBER OF FRAMES RECEIVED WITH ERROR-----          0
RNR FRAMES RECEIVED-----           0
REJ FRAMES RECEIVED-----           0

RECEIVE ERROR COUNTERS
FRAME CHECK SEQUENCE ERRORS-----          0
INVALID FRAMES RECEIVED-----          0
ABORT RECEIVED-----                   0
RLSD GLITCHED-----                     0
IDLE DETECT ERRORS-----                 0
T1 TIMEOUTS-----                       0
FRAME TOO LONG-----                     0

XMIT/RECEIVE ERROR COUNTERS
DATA SET READY GLITCHED-----          0
HARDWARE OVERRUN-----                  0
SOFTWARE OVERRUN-----                  0
LINK RESETS-----                        0

```

## X.25 Line Short Term Detailed Report Description

### TRANSMIT LINE TRAFFIC INFORMATION

**TOTAL FRAMES TRANSMITTED:** Total frames transmitted, not including retransmission for this line.

**TOTAL NUMBER OF FRAMES RETRANSMITTED:** Total number of frames retransmitted for this line.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

**I-FRAMES TRANSMITTED:** Total I-frames transmitted, not including retransmission for this line.

**I-FRAMES RETRANSMITTED:** Total number of I-frames retransmitted for this line.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

**RNR FRAMES TRANSMITTED:** Total receive not ready (RNR) frames transmitted, not including retransmission for this line.

**REJ FRAMES TRANSMITTED:** Total reject frames transmitted, not including retransmission for this line.

### TRANSMIT ERROR COUNTERS

**CLEAR TO SEND FAILURES:** Total number of times the clear to send indicator dropped for this line. Clear to send is an interface (wire) between the System/38 and the modem. Clear to send failures may indicate a modem or a cable connection problem or a System/38 hardware problem.

Do actions 3 and 4, in that order, until the problem is solved. These actions are listed following the discussion of this report.

### RECEIVE LINE TRAFFIC INFORMATION

**TOTAL FRAMES RECEIVED:** Total frames received error free for this line.

**I-FRAMES RECEIVED:** Total I-frames received error free for this line.

**TOTAL NUMBER OF FRAMES RECEIVED WITH ERROR:** Total frames received in error for this line (including number received, number sent, FCS errors, and frames aborted)

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

**RNR FRAMES RECEIVED:** Total RNR frames received error free for this line.

**REJ FRAMES RECEIVED:** Total REJ frames received error free for this line.

### RECEIVE ERROR COUNTERS

**FRAME CHECK SEQUENCE ERRORS:** Total frames received with frame check sequence errors for this line.



**X.25 (continued)****INVALID FRAMES RECEIVED**

Total invalid frames received for this line (including frames with fewer than 32 bits and frames not on a byte boundary).

Do actions 1 and 8, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**ABORTS RECEIVED:** Total frames received that were aborted for this line.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

**RLSD FAILURES:** Total number of times the received line signal detected (RLSD) indicator dropped for this line.

If this number is unusually high, do action 2. This action is listed following the discussion of this report.

**IDLE DETECT ERRORS:** Total number of idle periods detected for this line.

**T1 TIMEOUTS:** Total number of time-outs while waiting for a response from the remote end for this line.

Do actions 1 and 8, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**FRAME TOO LONG:** Total frames received that were too long, for this line.

Do actions 1 and 8, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**XMIT/RECEIVE ERROR COUNTERS**

**DATA SET READY FAILURES:** Total number of times the data set ready indicator dropped for this line. Data set ready is an interface (wire) between the System/38 and the modem. Data set ready failures may indicate a modem or cable connection problem or a System/38 hardware problem.

Do actions 4 and 8, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**HARDWARE OVERRUN:** Total hardware overruns for this line. A hardware overrun indicates that data from the line was received faster than the System/38 hardware could accept it. This may indicate a clocking problem in your local modem.

Do actions 4 and 8, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**SOFTWARE OVERRUN:** Total number of software overruns that occurred because there was not enough buffer space available to store incoming data. This could be caused if the modems are clocking data transmission at a rate faster than System/38 can operate, or if there is a buffer shortage caused by a System/38 microcode problem.

**LINK RESETS:** Total link resets received for this line.

### X.25 History Report Actions

1. **Network Descriptions and Values:** Check the values in the line, control unit, and device descriptions for all remote equipment affected by the problem. Make sure that the values for any timers are correct for your communications network. Also, make sure that the device addresses, protocols, and other such values are correct for your network.  
  
**Note:** Intermittent problems (problems that occur off and on) can occur if any of the timers do not have a proper value.
2. **Line Noise:** The main indications of line noise are the data checks (such as FCS errors). Call your common carrier. Ask the common carrier to check the quality of the line.
3. **Local System Hardware:** Make sure that the local hardware and cables are operating properly. Go to *How to Run X.25 PDPs* in Procedure C.25 *X.25 Problem Determination Procedures*.
4. **Modem:** Run all modem tests, such as the self-test and the end-to-end test, that are described in the operating guide for the modem.
5. **Remote Device (Station):** Make sure that the remote device (station) is working properly. Make sure that all components, such as the modem, control unit and system, are powered on and in a ready condition. Also, make sure that all cables are connected properly. Make sure that the users signed on the remote device (station) properly, and that the correct application or procedure is being used.
6. **Software Problem:** Make sure that both stations are using the correct application or procedure. Make sure that the user signed on with the correct password. Check for a possible programming problem.
7. **System Resources:** The storage pool for the subsystem controlling your remote equipment is not large enough. Change the size of that storage pool. See the *CPF Programmer's Guide* for instructions on changing a pool size.
8. **Local Network Problem:** The local network node may not be operating properly. Call your network service representative.



## MRJE

If LIN22NYRJE is using the Remote Job Entry (RJE) Facility, the system prints the following report:

```

MRJE SHORT-TERM DETAILED REPORT                                CSNAP
>--(MM/DD/YY)-->      TYPE: LINE   OU:  22  NAME:  LIN22NYRJE
>--(HH:MM:SS)-->      DATE: 05/08/82  TIME: 13:15:00

                                NUMBER  RATE
TRANSMIT
TOTAL CHARACTERS TRANSMIT----- 369396
TOTAL CHARS RETRANSMITTED----- 6821   1.8%
DATA CHARACTERS TRANSMIT----- 343877
DATA CHARS RETRANSMITTED----- 6814   1.9%
DATA BLOCKS RETRANSMITTED----- 244
DATA BLOCKS RETRANSMITTED----- 5      2.0%
CONTROL RECORDS----- 246
NAK RECEIVED TO TEXT SENT----- 5      2.0%
RETRY ENTRY----- 4
DATA UNDERRUN/CHNL. DISC----- 1
RETRY ENTRY----- 1

RECEIVE
TOTAL CHARACTERS RECEIVED----- 421318
TOTAL CHARS RECEIVED IN ERROR----- 5647   1.3%
DATA CHARACTERS RECEIVED----- 413907
DATA CHAR RECEIVED IN ERROR----- 728
DATA BLOCKS RECEIVED----- 4      0.5%
DATA BLOCKS RECEIVED IN ERROR----- 5647   1.3%
CONTROL RECORDS (LESS ACKO OR NAK)----- 260
SIGNON/LOGON RESPONSE NOT VALID----- 0
RETRY ENTRY----- 0
REDUNDANCY CHECK ERROR----- 4      0.5%
RETRY ENTRY----- 4
WRONG BCB SEQUENCE COUNT----- 0
RETRY ENTRY----- 0
DATA FORMAT NOT VALID----- 0
DATA OVERRUN/CHANNEL DISC----- 0
RETRY ENTRY----- 0
DISCONNECT ABORT----- 0
SYNC LOST----- 0      0.0%
RETRY ENTRY----- 0
NO SYNC TIMEOUT, DATA MODE----- 2      0.2%
RETRY ENTRY----- 2
PROTOCOL VIOLATION----- 0      0.0%
RETRY ENTRY----- 0

TRANSMIT/RECEIVE
ADPTER UNDERRUN/OVERRUN----- 0
RETRY ENTRY----- 0
TOTAL ORE PAIRS, (RD/WRT)----- 2487

```

In this example, note that NAK RECEIVED TO TEXT SENT errors have the highest error rate in the most recent time period. Look up the explanation of this error on the following pages, and take the actions listed until the problem is solved.

## MRJE Short Term Detailed Report Description

### TRANSMIT ERRORS

**NAK RECEIVED TO TEXT SENT:** The host system responded to the transmission with a NAK command (negative acknowledgement). The remote control unit cannot accept the data sent.

Do actions 3, 2, 5, 4, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**DATA UNDERRUN/CHANNEL DISCONNECT:** One or more bytes of data were not transmitted.

Do action 8. This action is listed following the discussion of this report.

### RECEIVE ERRORS

**SIGNON/LOGON RESPONSE NOT VALID:** The signon password was not accepted by the remote host system.

Do action 7. This action is listed following the discussion of this report.

**REDUNDANCY CHECK ERROR:** A block check character sent by the System/38, used to make sure that data sent is correct, did not match the block check character expected by the remote device.

Do actions 2, 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**WRONG BCB SEQUENCE COUNT:** The host system sent the wrong count for the block sequence in the block control byte.

Do action 7. This action is listed following the discussion of this report.

**DATA FORMAT NOT VALID:** The data received by the host system does not follow the MTAM/MRJE protocol (rules for sending data between systems).

Do action 7. This action is listed following the discussion of this report.

**DATA OVERRUN/CHANNEL DISCONNECT:** One or more bytes of data was lost before it was received.

Do action 8. This action is listed following the discussion of this report.

**SYNC LOST:** Once a connection was established, it was not kept for 3 seconds.

Do actions 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**NO SYNC TIME-OUT DATA MODE:** A READ command was issued after a successful line bid, but no sync characters were received within the chosen time limit.

Do actions 3, 5, and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**DISCONNECT ABORT:** The host system sent a disconnect command before the System/38 finished sending all of its data.

Do action 6. This action is listed following the discussion of this report.



**MRJE (continued)****RECEIVE ERRORS (continued)**

**CONTROL RECORDS:** Number of control records (these records are positive responses from the host system, not user data records) that were transmitted.

This is not an error condition.

**PROTOCOL VIOLATION:** The protocol (rules for sending data between devices) do not match. For example, one device is using the BSC protocol, while the other is using the MTAM/MRJE protocol.

Do actions 7 and 6, in that order, until the problem is solved. These actions are listed following the discussion of this report.

**TRANSMIT/RECEIVE**

**ADAPTER OVERRUN/UNDERRUN:** The communications attachment is not sending or receiving data at the proper rate.

Do action 4. This action is listed following the discussion of this report.

### MRJE Short Term Detailed Report Actions

1. **Network Descriptions and Values:** Check the values in the line, control unit, and device descriptions for all remote equipment affected by the problem. Make sure that the values for any timers are correct for your communications network. Also, make sure that the device addresses, protocols, and other such values are correct for your network.

**Note:** Intermittent problems (problems that occur off and on) can occur if any of the timers do not have a proper value.

2. **Line Noise:** *If you have a switched line*, call the operator at the remote location. When you talk to the operator, listen for noise, other conversations, music, and other sounds that should not be on the line. If you and the other operator do not hear these types of interference, change the line to data mode. If one or both of you can hear these types of interference on the line, or one party cannot hear well (low volume), hang up. Call the remote station again. If this new connection is better than the previous one, change the line to data mode.

*If you use a nonswitched line*, the main indications of line noise are the data checks (such as CRC/LRC/VRC errors). Call your common carrier. Ask the common carrier to check the quality of the line.

3. **Link Failing:** *If you use an external modem*, make sure the data link is working properly by using the modem end-to-end test procedures in the operating guide for the modem.

*If you use an integrated modem (one that is built into the control unit)*, go to Procedure C.3: *Link Test*.

**Note:** Before you run the link test, call the operator at the remote location. The two of you run this test together.

4. **Local System Hardware:** Make sure that the line is operating properly by going to Procedure C.2: *Line Test*.

If that test completes normally, go to Procedure C.3: *Link Test*.

5. **Modem:** *If you use an external modem*, run all modem tests, such as the self-test, and the end-to-end test, that are described in the operating guide for the modem.

6. **Remote Device (Station):** Make sure that the remote device (station) is working properly. Make sure all components, such as the modem, control unit and system, are powered on and in a ready condition. Also make sure that all cables are connected properly. Make sure that users signed on to the remote device (station) properly, and that the correct application or procedure is being used.

7. **Software Problem:** Make sure that both stations are using the same protocol (for example, make sure that if one station is using BSC, the other station is also using BSC, not MRJE). Make sure both stations are using the correct application or procedure. Make sure that the user signed on with the correct password. Check for a possible programming problem.

8. **System Resources:** The storage pool for the subsystem controlling your remote equipment is not large enough. Change the size of that storage pool. See the *CPF Programmer's Guide* for instructions on changing a pool size.



## EXAMPLES OF USING CSNAP

This part shows you two ways to use CSNAP to find and solve problems with your remote equipment.

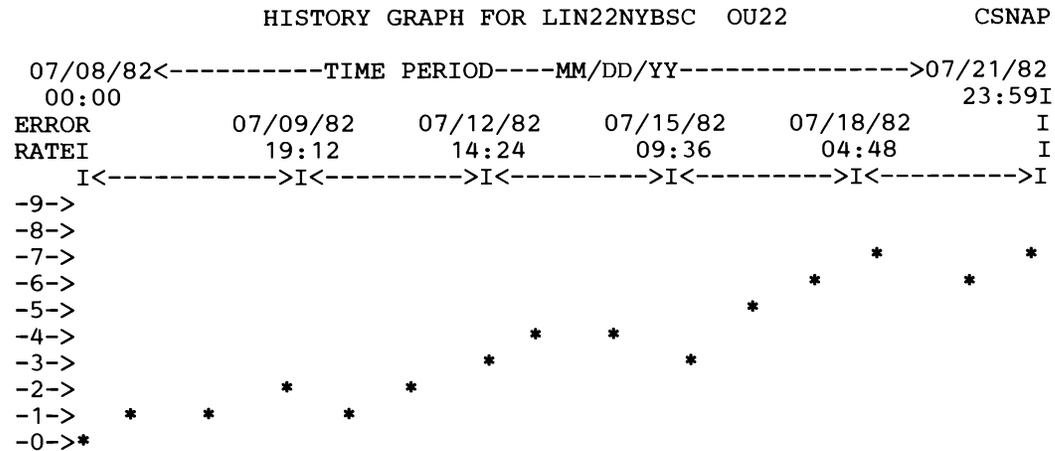
### Example One—One Time Problem

**PROBLEM**—At 3:00 today, the Input Inhibited indicator turned on at all work stations attached to line LIN22NYBSC.

**SOLUTION**—Do the following to solve the problem:

- 1 Have the operator at the system unit check the system operator message queue for error messages. In this case, no messages were received.
- 2 Have that operator check the line status display to see if any of the devices on LIN22NYBSC show an unusual status. In this case, none do (all are ACTIVE).
- 3 Have the operator use Procedure D: *Remote Equipment Problem, No Message Received* to see if the problem is related to communications.

During that procedure, the operator prints the following CSNAP history graph:



The operator notes an increase in the error rate during the last day of the 14-day period, and calls the programmer.

- 4 The programmer prints the CSNAP history detailed report for the last day of the 14-day period (when the error rate started to go up). In this case, he enters:

```
LSTCNPST LINE(linllnybsc) PERIOD(('1/22/83') ('1/22/83'))TYPE(*DETAIL)
```

The system prints the following report:

BSC HISTORY DETAILED REPORT FOR LIN22NYBSC OU22 CSNAP			
-----(MM/DD/YY)-----	DATA FOR: LIN22NYBSC	COMPARED TO: -HISTORY-	
COMPARE WITH -HISTORY-	FROM DATE: 05/08/82	FROM DATE: 00/00/00	
	TO DATE: 05/08/82	TO DATE: T / O / D	
Transmission Errors	NUMBER	RATE	NUMBER RATE
----- TRANSMIT			
TOTAL CHARACTERS TRANSMIT	726536		1539726
TOTAL CHARS RETRANSMITTED-	0	0.0%	0 0.0%
DATA CHARACTERS TRANSMIT -	710016		1016710
DATA CHARS RETRANSMITTED -	0	0.0%	0 0.0%
DATA BLOCKS TRANSMITTED --	2752		12572
DATA BLOCKS RETRANSMITTED	0	0.0%	21 1.6%
TOTAL ORE-S WRITE ONLY --	2754		12574
NAK RECEIVED TO TEXT SENT	140	5.0%	0 0.0%
RETRY ENTRY -----	0		0
WRONG ACK TO TEXT SENT ---	0	0.0%	0 0.0%
RETRY ENTRY -----	0		0
ENQ TO TEXT SENT -----	0	0.0%	0 0.0%
RETRY ENTRY -----	0		0
ENQ TO ACK SENT -----	0	0.0%	0 0.0%
RETRY ENTRY -----	0		0
DATA UNDERRUN/CHNL. DISC -	0		0
RETRY ENTRY -----	0		0

- 5 The programmer notes that the error rate for NAK RECEIVED TO TEXT SENT is highest. He looks up the description of that error counter, and takes actions 3, 2, 5, 4, and 6, in that order, until the problem is solved.
- 6 After the problem is fixed, the programmer can use the CSNAP short-term statistics function to make sure that the remote equipment is working properly.



**Example Two—Recurring Problem**

**PROBLEM:** Work stations attached to SDLC line LIN23NYSDL started slowing to a standstill between 12 and 3 PM ten days ago. However, you have not received any error messages about the problem.

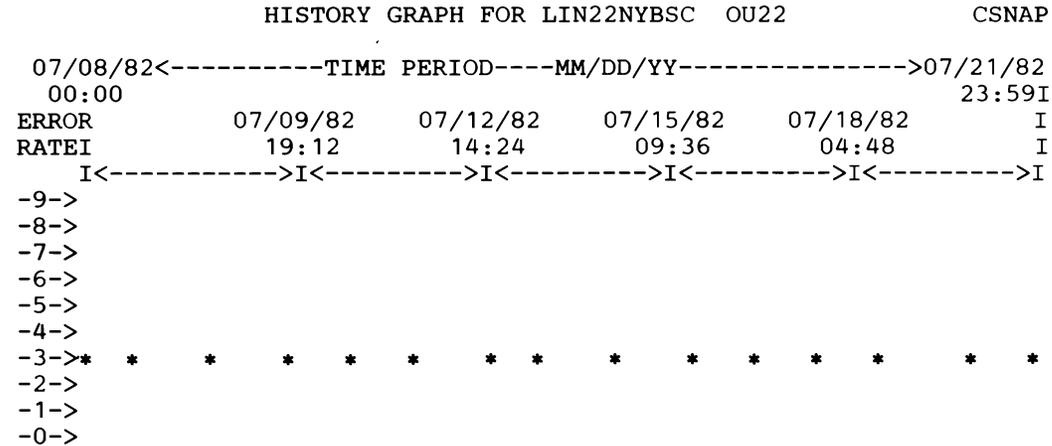
**SOLUTION:** You might use CSNAP as follows to solve this problem.

- 1 Check for changes that started 10 days ago, such as adding or moving devices attached to the affected line, or running a new application program. If a change was made, make sure that the installation is correct and programs are properly tested. If no change was made, continue looking for the cause of the problem.
- 2 Use the CSNAP history graph (use the \*GRAPH option when entering the LSTCNPST command) to check for an increase in errors on the line. For example, to print the CSNAP history graph for line LIN22NYBSC, enter:

```
LSTCNPST LINE(lin22nybsc) PERIOD(('7/8/82') ('7/21/83'))TYPE(*GRAPH)
```

Note that the graph is printed for a 14-day period. CSNAP saves daily performance statistics for the most recent 14 days. This is useful when solving this recurring problem because you can see the error rate on the line before and after the problem began.

You might get a graph like this:



In the example, the error rate did not increase. Though a performance problem exists, it is not affecting the overall performance of the line. Use the short term statistics function to isolate the problem.

- Using the short term statistics function, closely follow actions on the line during the time period when the problem is worst (choose a small interval when entering the CHGCNPA command). For example, to get statistics on the performance of line LIN22NYBSC every six minutes, enter:

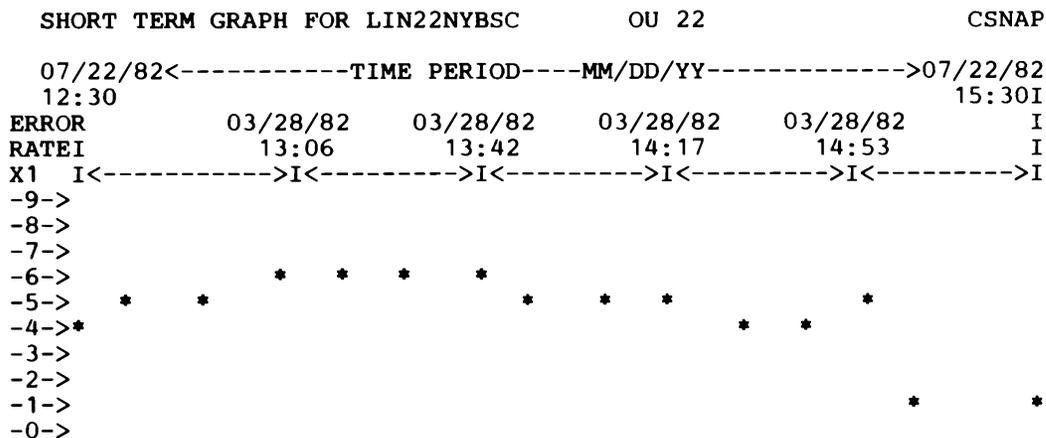
```
CHGCNPA LINE(lin22nybsc) PERIOD('12:30:00' '7/22/82') ('15:30:00' '7/22/82')
INTERVAL (.1)
```

Note that the PERIOD during which the system collects statistics on the performance of the line is three hours long, because the INTERVAL is less than one hour. Note also that the PERIOD includes time when the problem is not occurring. You can use this information for comparison.

- When the system is performing the short term statistics function, continue normal system work.
- At the end of the PERIOD, print the short term CSNAP graph. For example, to print the graph for the sample line, enter:

```
LSTCNPDTA LINE(lin22nybsc)
```

You might get a graph similar to this:



- 6** On the graph, check for an increase in errors, and note when the error rate was highest.

In this example, errors are highest between 12:30 and 3:00 PM.

- 7** Note the type of work done between 12:30 and 3. Is that work different from work done between 3 and 3:30 PM?

- **YES.** Perhaps the application used is causing the problem. Run the application at a different time of day. When running that application, use the short term statistics function.

Compare the error rates when running that application. If the rates are the same, check your program for problems. See the *System/38 Data Communications Programmer's Guide* for instructions on writing programs that run on communications lines. If the rates are not the same, then you have a problem with the communications equipment. In that case, follow the procedure for **NO** (next bulleted item).

- **NO.** You probably have a problem with the communications equipment.

Print the short term detailed reports for the period when errors are highest. For example:

```
LSTCNPDTA LINE(LIN23CHSDL) PERIOD('12:30:00' '15:00:00')
TYPE(*DETAIL)
```

The system prints a separate report for each sampling interval. You might get a report like this:

```

BSC SHORT-TERM DETAILED REPORT                                CSNAP
>--(MM/DD/YY)-->      TYPE: LINE      OU: 22 NAME: LIN22NYBSC
>--(HH:MM:SS)-->      DATE: 05/08/82  TIME: 13:15:00

                                NUMBER  RATE
TRANSMIT
TOTAL CHARACTERS TRANSMIT----- 726536
TOTAL CHARS RETRANSMITTED----- 0      0.0%
DATA CHARACTERS TRANSMIT ----- 710016
DATA CHARS RETRANSMITTED ----- 0      0.0%
DATA BLOCKS TRANSMITTED ----- 2752
DATA BLOCKS RETRANSMITTED ----- 0      0.0%
TOTAL ORE-S (WRITE ONLY) ----- 2754
NAK RECEIVED TO TEXT SENT ----- 140    5.0%
RETRY ENTRY ----- 0
WRONG ACK TO TEXT SENT ----- 0      0.0%
RETRY ENTRY ----- 0
ENQ TO TEXT SENT ----- 0      0.0%
RETRY ENTRY ----- 0
ENQ TO ACK SENT ----- 0      0.0%
RETRY ENTRY ----- 0
DATA UNDERRUN/CHNL. DISC ----- 0
RETRY ENTRY ----- 0

RECEIVE
TOTAL CHARACTERS RECEIVED----- 734777
TOTAL CHARS RECEIVED IN ERROR----- 0      0.0%
DATA CHARACTERS RECEIVED ----- 710016
DATA CHAR RECEIVED IN ERROR----- 0      0.0%
DATA BLOCKS RECEIVED ----- 2752
DATA BLOCKS RECEIVED IN ERROR----- 0      0.0%
TOTAL ORES (READ ONLY) ----- 5522
CRC/LRC/VRC ERROR ----- 0      0.0%
RETRY ENTRY ----- 0
SYNC LOST ----- 0      0.0%
RETRY ENTRY ----- 0
NO SYNC TIMEOUT DATA MODE----- 0      0.0%
RETRY ENTRY ----- 0
NO SYNC TIMEOUT CONTENTION
MODE ----- 42      0.0%
RETRY ENTRY ----- 42
FORWARD DISCONNECT ABORT ----- 0
FORWARD EOT ABORT ----- 0
DISCONNECT ABORT ----- 0
EOT ABORT ----- 0
PROTOCOL VIOLATION ----- 0      0.0%
RETRY ENTRY ----- 0
DATA UNDERRUN/CHNL. DISC ----- 0
RETRY ENTRY ----- 0

TRANSMIT/RECEIVE
ADPTER UNDERRUN/OVERRUN----- 1
RETRY ENTRY ----- 1
TOTAL ORE PAIRS, (RD/WRT)----- 11012

```

See which error counter has the highest error rate. In this case, it is NAK RECEIVED TO TEXT SENT errors.

Look up the description of this error counter in the error counter descriptions, and take the actions in the order listed until the problem is solved. In this case, you do actions 3, 5, and 1.



- 8 After the problem is fixed, use the short term statistics to make sure the problem is truly solved. For example, sample the line (CHGCNPA command) between 12:30 and 1:30 PM, a time when problems are expected. Print the short term graph (LSTCNPDTA command). If the graph shows that the percentage of errors has decreased, the problem is solved.

In order to use a remote line and control unit, you must describe the features of your system in an object called a line description and an object called a control unit description. Each parameter value in the line or control unit description describes a different feature of the line or control unit, or its attached equipment.

In many of the steps in Procedure C.4, *Completion Qualifiers*, you are asked to check the values of parameters in the line description and the control unit description. This section describes these parameter values and possible problems with these values. If you need information about parameters that are not described here; or if you need more information about any of these parameters, see the *CL Reference Manual*.



## CHECKING THE LINE DESCRIPTION

### About the Line Description

The line description is an object that describes to the system a line used for remote communications. This information includes:

- Characteristics and features of the line and equipment attached to that line, such as remote control units and special calling devices
- The protocol used to send and receive data on the line, such as BSC (binary synchronous communications) or SDLC (synchronous data line control)

When you use a line, the system uses the information in the line description to send data to and from a remote control unit. If the characteristics in the line description do not match the characteristics of the equipment you are using, the system cannot send or receive data from the remote control unit. The system also cannot send or receive data if the line is not compatible with the remote control unit.

### How to Display the Line Description

To check a parameter value in a line description, use the Display Line Description (DSPLIND) command to display the line description as follows:

```
DSPLIND LIND(lin22nybsc)
```

where `lin22nybsc` is the name of the line description you want to display.

## How to Change the Line Description

To change the line description you can use either the Change Line Description (CHGLIND) command or the Delete Line Description (DLTLIND) command and the Create Line Description (CRTLIND) command. The command to use depends on the value you are changing. See the *Data Communications Programmer's Guide* and the *CL Reference Manual* for information about these commands.

## Parameters to check in the Line Description

### ANSMODE (*Answer Mode*)

**About this parameter:** This parameter states whether incoming calls on a switched line are to be answered automatically by the system or manually by the system operator.

**Possible problems with this parameter:** If the value entered for the AUTOANS parameter is \*YES, the value for ANSMODE can be \*AUTO or \*MANUAL. If the value for the AUTOANS parameter is \*NO, the value for ANSMODE must be \*MANUAL.

\*AUTO indicates that the system automatically answers the incoming call. The system must have the hardware required for this function.

\*MANUAL means that the system operator must manually answer incoming calls from the remote controller.

If these values are not correct, ask the person who configured the communications network to make the necessary changes.



**ANSTONE (Answer Tone)**

**About this Parameter:** This parameter states whether the System/38 provides an answer tone if it is performing the autoanswer function.

**Possible problems with this parameter:** Many modems provide the answer tone immediately after receiving a call from the remote control unit. In this case, the value for ANSTONE must be \*NO.

If the modem does not provide the answer tone, the System/38 can. If the value for ANSTONE is \*YES and the value for SWTCNN is \*ANS or \*BOTH, see the user's guide for the modem you are using to find out if the modem provides the answer tone.

If the operator at the remote location tells you that the System/38 has not responded to a call, find out if the correct telephone number was dialed. If the number was not correct, have the operator at the remote location try to make the call again. If the telephone number used is correct, make sure that the telephone is connected to the local modem.

If the system is not providing the correct answer tone, call your IBM service representative. Describe the problem and report the information you recorded on the *System/38 Communications Problem Summary Form*.

### CLOCK (*Data Transmission Control*)

**About this parameter:** This parameter states whether the System/38 does the clocking for data transmission. If the value for CLOCK is \*YES, the System/38 supplies the clocking to the modem for data transmission.

The following chart provides the data transmission rate based on parameters in the line description.

Parameter in Line Description			Transmission Rate
CLOCK	SELECT	RATETYPE	
*YES	*YES	*FULL	1200 bps, regardless of the modem speed. <sup>1</sup>
*YES	*YES	*HALF	600 bps, regardless of the modem speed. <sup>1</sup>
*YES	*NO	N/A (Default is *FULL)	1200 bps, regardless of the modem speed. <sup>1</sup>
*NO	*YES	*FULL	Maximum speed of the modem.
*NO	*YES	*HALF	Half the maximum speed of the modem.
*NO	*NO	N/A	Speed/select mode switch setting on the modem if no speed/select option is provided by the modem.
<sup>1</sup> If the modem does the clocking, the CLOCK parameter must be *NO.			



**CLOCK (Data Transmission Control) (continued)**

**Possible problems with this parameter:** Find out if the modem or the modem eliminator does the clocking for data transmission. If so, the value for this CLOCK parameter must be \*NO. If not, the value for the CLOCK parameter must be \*YES.

**Notes:**

1. If a 38LS integrated (built-in) modem is attached to the System/38, the value for CLOCK must be \*YES.
2. If the System/38 does the clocking, the data transmission rate is either 600 or 1200 bits per second, depending on the value in the RATEYPE parameter.
3. If the remote control unit does the clocking, see the Data Transmission Chart earlier in this section. The remote control unit must use the same data transmission rate as that used by the line on the System/38. Ask the operator at the remote location to find out if these rates are the same. If the same transmission rate is not being used, ask the person who configured the communications network to make the necessary changes.

## CNN (*Connection Type*)

**About this parameter:** This parameter tells the system what type of connection is used for the line, such as:

- **\*SWT** —means the connection is a switched connection. You can use a telephone or an auto control unit to make a switched connection with the remote control unit. This line description name must be included in the line list (LINLST) in the control unit description.
- **\*PP** —means the connection is a nonswitched connection. You can also use this line description for a switched line if the switched network backup feature is available (if the value for SWNBKU in the line description is **\*YES**). For more information on the switched network backup, see SWNBKU later in this section.
- **\*MP** —means the connection is a multipoint line. A multipoint line is a type of nonswitched line that lets you attach more than one control unit to a line.

**Possible problems with this parameter:** Make sure that the parameter is set to match the connection that is provided for the line (either switched or nonswitched). The person who configured this communications network should know the type of connection provided for the line.



**DCEGRP (*Data Communication Equipment Group*)**

**About this parameter:** This parameter tells when the DATA TERMINAL READY signal should be started. The value you enter depends on the type of equipment used on the network, and where the equipment is located. The line service you receive depends on the country where the equipment is located. The values you can use for this parameter are described in the *CL Reference Manual*.

**Possible problems with this parameter:** If you cannot make a connection with the remote control unit, ask the person who configured the communications network to make sure that the DCEGRP value is correct.

**DIALMODE (*Dial Mode*)**

**About this parameter:** This parameter states whether outgoing calls on a switched line are placed automatically by the system or manually by the system operator.

**Possible problems with this parameter:** If the value entered for the AUTOCALL parameter is \*YES, the value for DIALMODE can be \*AUTO or \*MANUAL. If the value for the AUTOCALL parameter is \*NO, the value for DIALMODE must be \*MANUAL.

\*AUTO indicates that the system automatically dials the telephone number for the remote controller. The system must have the hardware required for this function.

\*MANUAL means that the system operator must manually dial the telephone number of the remote controller.

If these values are not correct, ask the person who configured the communications network to make the necessary changes.

#### DTRDLY (*Data Terminal Ready Delay*)

**About this parameter:** This parameter gives the maximum amount of time that the DATA TERMINAL READY condition should remain before a switched connection should be disconnected. The value used for this parameter depends on the characteristics of the common carrier service you are using. This value cannot be greater than 15 (this indicates 2700 milliseconds).

**Possible problems with this parameter:** If the value for this parameter is not correct, any switched connections you make will cause error messages. Ask the person who configured the communications network to make the necessary changes.

#### IDLETIME (*Idle Time*)

**About this parameter:** This parameter gives the maximum amount of time that the System/38 waits for the beginning of the response from the secondary control unit.

**Possible problems with this parameter:** If a value is entered, ask the person who configured the communications network to make any necessary changes. Have this person check the IDLETIME value.



## LINNBR

**About this parameter:** The System/38 has three hardware communications adapters, each of which can have up to four communications lines. Each line on the adapter has its own position number indicating which adapter the line is attached to. The line number is determined the first time the communications line is described to the system.

The following table shows which lines are attached to the same adapter.

Adapter	Line Number
1	20 21 22 23
2	60 61 62 63
3	A0 A1 A2 A3

You can create as many as ten line descriptions for each line on the adapter; however, you can use only one line description for a line at any given time.

LINNBR *(continued)*

**Possible problems with this parameter:** Use the chart shown earlier to find out which adapter a line is attached to. Check the following:

- The value of the RATE parameter. Find out if one of the lines attached to the adapter is a high-speed line. (If the value for RATE is greater than 9600 bits per second, the line is a high-speed line.) If a high-speed line is attached to the adapter, you cannot use any other line on the adapter as long as the high-speed line is varied on. Also, if another line is varied on, you cannot use the high-speed line.
- The value for the AUTOCALL parameter. If the value is \*YES, the line has the autocal feature. You cannot use the line number that follows the AUTOCALL line description. For example, if an autocal line uses a value of 22 for the LINNBR parameter, you cannot use a value of 23 in the LINNBR parameter for another line.



**NONPRDRCV (Nonproductive Receive)**

**About this parameter:** This parameter applies only to SDLC. For primary SDLC, it gives the amount of time the system tolerates an unintelligible signal from the secondary source. For secondary SDLC, this value gives the amount of time the system tolerates inactivity from the primary source.

**Possible problems with this parameter:** Ask the person who configured the communications network to make sure that the value for this parameter is correct. The value for this parameter depends on the data rate (line speed) of the modem. See the *CL Reference Manual* for information on how to determine the correct value for this parameter.

Follow Procedure C, *Communications Problem* in Chapter 1 to find out if line noise caused an error. If the tests in that procedure end normally, use CSNAP to collect data about line noise.

**NONRTNZ (Nonreturn to Zero Inverted)**

**About this parameter:** This parameter applies only to SDLC. It identifies how data is to be sent over a line. For some modems, this value provides better synchronization when using SDLC protocol. This reduces the chance of data transmission errors.

**Possible problems with this parameter:** Call and have the operator at the remote location check the remote equipment and see if it also uses the nonreturn to zero inverted method to transmit data. If the remote control unit is another System/38, have the operator check the NONRTNZ parameter in the line description of the remote System/38.

If one location uses NONRTNZ but the other location does not, ask the person who configured the communications network to make the necessary changes.

**Note:** Some modem manufacturers use the term NRZI rather than NONRTNZ for this feature.

## RATE (*Line Speed*)

**About this parameter:** This parameter specifies the rate at which data is expected to be sent over the communications line. This rate is given in bits per second (bps). The RATE parameter does not control the actual data rate; the actual data rate is controlled by the equipment attached to the line. See the CLOCK parameter to determine the data transmission rate for your communications network.

**Possible problems with this parameter:** If the local modem has a modem speed/mode select, make sure that the switch is set to the same line speed and connection type as the remote modem (for example, switched line, 9600 bits per second). These switches must have the same setting before data can be sent over the line. See the modem user's guide for information on the modem switches.

Check other parameters in the line description, such as SELECT, CLOCK, and RATETYPE. Read the descriptions of these parameters in this section to find out if the values in your line description are compatible with the setting of the System/38 modem switches. If they are not compatible, ask the person who configured your communications network to make the necessary changes.

If the RATE value is greater than 9600 bps, the line has been configured to be used as a high-speed line. In this case, no other line attached to the same adapter can be varied on when the high-speed line is varied on. Read the description of the LINNBR parameter for more information.



## RATETYPE

**About this parameter:** This parameter gives the data transmission rate that the modem uses. See the description of the `CLOCK` parameter in this section for a description of how the `CLOCK`, `SELECT`, and `RATETYPE` parameters affect the data transmission speed of the line.

**Possible problems with this parameter:** Call the operator at the remote location to find out if line speeds for the System/38 and the remote equipment are compatible. If the remote equipment is not configured at the same line speed, ask the person who configured the communications network to make the necessary changes.

## RCVTMR (*Receive Timer*)

**About this parameter:** This parameter states the amount of time that the System/38 waits for data from the remote control unit before a `TIME OUT` error occurs. The timer allows a maximum time out period of 25.4 seconds (a value of 127). For most systems, the default value of 15 (3 seconds) is adequate.

The receive timer parameter is valid for BSC or BSCT lines only.

The receive timer waits for the first synchronization character following a data line transmission. If the receive character is not received within the time interval specified in the `RCVTMR` parameter, a BSC receiver time out occurs. This causes the data to be transmitted again. The transmission is repeated until the control station responds or until the retry count for the line is exhausted. This causes degraded line performance or a permanent receiver time out error.

RCVTMR (*Receive Timer*) (*continued*)

**Possible problems with this parameter:** You can enter a value for this parameter only if your line type is \*BSC , or \*BSCT . If your line type is not one of these, ask the person who configured the communications network to make the necessary changes.

Make sure that the System/38 and the remote control unit values for handling line contention are compatible. The value for CONTN in the description of the devices attached to the remote control unit tells how the System/38 responds to contention.

If the System/38 is a primary control unit ( \*PRIM ) , the remote control unit should be secondary ( \*SEC ) . This means that, when contention occurs, the remote control unit gives control to the primary System/38. If the System/38 is a secondary control unit, the remote control unit should be primary.

If these values are not compatible, call and ask the person who configured the communications network to change the contention values so that they are compatible.

**Note:** The contention value for the remote control unit might be set differently.

If the contention values are correct, check the following:

- If the line is a primary line during contention, the value for RCVTMR should be about 600 milliseconds less than the value for the remote control unit.
- If the line is a secondary line during contention, the value for RCVTMR should be 600 milliseconds higher than the value for the remote control unit.

If the values are incorrect, ask the person who configured the communications network to make the necessary changes.



**SELECT** (*Programmable Speed Select*)

**About this parameter:** This parameter states whether the local modem has the Programmable Speed Select feature. This feature lets a program select the speed at which data is to be sent over the line. If the SELECT value is \*YES, the modem can send data at different rates as determined by the RATETYPE parameter in the line description. See the user's guide for the modem you are using for information on the programmable speed select feature.

**Possible problems with this parameter:** System/38 cannot use the Programmable Speed Select feature unless the modem switches are correctly set. Do the following to make sure that the switches are set correctly:

- Check to see if the modem has the Programmable Speed Select feature. If not, the SELECT value should be \*NO. See the user's guide for the modem you are using to find out if the modem has this feature.
- Check to see if the speed select mode switches on both the local the remote modems are the same. If not, change the switch setting of one modem so that it matches the switch setting on the other.

### STNADR (*Station Address*)

**About this parameter:** This parameter is used by a host system to communicate with your System/38. The station address (a two-digit hexadecimal number between 01 and FE ) is the SDLC link address or BSCT polling address assigned to the System/38 by the host system.

**Possible problems with this parameter:** If the line type (TYPE) is either \*SDLCS or \*BSCT, you must enter a station address. If there is no station address, ask the person who configured the communications network to supply the correct value.

If the station address has been entered, ask the person who configured the communications network to make sure that the address is the one expected by the remote control unit. If this address is not correct, the System/38 cannot send and receive data from the host system. This causes a NO RESPONSE TIME OUT error. Ask the person who configured the communications network to make the necessary changes.

If a remote operator asks you to verify your control unit address, give the value that is specified on the STNADR parameter.

### SWNBKU (*Switched Network Backup*)

**About this parameter:** This parameter states whether you have the Switched Network Backup feature on this line. This parameter is used only on nonswitched lines (lines with a line type of \*PP ). You can switch a nonswitched line to a switched point-to-point line when the value for this parameter is \*YES. To change the connection type, use the CHGLIND command to change the value for ACTSWNBKU in the line description to \*YES.

**Possible problems with this parameter:** If the value for ACTSWNBKU in the line description is \*YES, the modem must be set to switched mode. See the user's guide for the modem you are using to find out how to set the modem to switched mode. If the modem does not have a switched mode, the SWNBKU value should be \*NO. Ask the person who configured the communications network to make the necessary changes.



**SWTCNN (Switched Connection)**

**About this parameter:** This parameter states whether the line is to be used for incoming calls, outgoing calls, or both.

**Possible problems with this parameter:** Make sure that the SWTCNN value is compatible with the INLCNN (initial connection) value in the description of the attached control unit. Check the following:

- If the System/38 receives incoming calls, the value for SWTCNN should be \*ANS or \*BOTH. The value for INLCNN in the attached control unit description must be \*ANS.
- If the System/38 places the outgoing call, the value for SWTCNN should be \*CALL or \*BOTH. The value for INLCNN in the attached control unit description must be \*CALL.

If the SWTCNN parameter in the line description is not compatible with the INLCNN in the control unit description, ask the person who configured the communications network to make the necessary changes.

Ask the operator at the remote location to make sure that the remote equipment handles the call in the way described in the INLCNN parameter in the control unit description for your System/38. For example, if your System/38 is supposed to receive the incoming calls ( SWTCNN is \*ANS or \*BOTH ), the remote equipment should place the call ( INLCNN should be \*ANS ). If the remote equipment is not compatible with the connection configured for the line description, ask the person who configured the communications network to make the necessary changes.

## TYPE (*Line Type*)

**About this parameter:** The TYPE parameter identifies the type of protocol used on the line and, in some cases, what the System/38 does in respect to the communications network.

**Possible problems with this parameter:** A line cannot be connected to a remote control unit if the TYPE parameter in the line description is not compatible with the TYPE parameter in the attached control unit description. The possible values for the line type are:

- \*SDLC line uses the synchronous data link control (SDLC) protocol. The System/38 is a primary control unit on this line. Attached control units must be secondary SDLC control units. These are 3274, 5251, or \*PEER control units (specified in the TYPE parameter in the control unit description).

If the value for the TYPE parameter in the control unit description is not 3274, 5251, or \*PEER, ask the person who configured the communications network to make the necessary changes.

If value is 3274 or 5251, have the operator of the remote control unit verify that the remote control unit is a 3274 or 5251. If the remote control unit is not a 3274 or a 5251, or is not configured as a 3274 or a 5251, ask the person who configured the communications network to make the necessary changes.

If the value is \*PEER, ask the operator of the remote control unit to verify that the remote control unit is configured as an SDLC secondary system. If the remote control unit is another System/38, the operator should check the line description parameter of the remote System/38 to make sure that the value for TYPE is \*SDLC.

If the remote control unit is not configured as an SDLC secondary station, ask the person who configured the communications network to make the necessary changes.



**TYPE (Line Type) (continued)**

- \*SDLCS line uses the synchronous data link control (SDLC) protocol. The System/38 is a secondary control unit on this line. The attached control unit must be an SDLC primary control unit. These are control units whose TYPE parameter in the control unit description is \*PU2 (Physical Unit (2)) or \*PEER.

Check the TYPE parameter in the control unit description. If the value for TYPE is not \*PU2 or \*PEER, ask the person who configured the communications network to make the necessary changes.

Ask the operator at the remote location to make sure that the remote control unit is configured as a SDLC primary control unit. If the remote control unit is another System/38, the operator should check the line description parameter of the remote System/38 to make sure that the value for TYPE is \*SDLCP.

If the remote line is not configured as a SDLC primary station, ask the person who configured the communications network to make the necessary changes.

If you are using a \*SDLCS line, you must also include a value in the station address (STNADR) parameter of the line description.

- \*BSC line uses the binary synchronous communications (BSC) protocol. You can connect a line with this type to a control unit for which the type (specified in the control unit description) is \*BSC.

Ask the operator at the remote location to make sure that the remote control unit is configured as a BSC control unit. If the remote control unit is another System/38, the operator should check the line description parameter on the remote System/38 to make sure that the type is \*BSC. If the remote control unit is not configured as a BSC control unit, ask the person who configured the communications network to make the necessary changes.

- \*BSCT line uses the binary synchronous communications (BSC) protocol. If you are using a line of type \*BSCT, you must also include a value in the station address (STNADR) parameter of the line description. You can connect a line of this type to a control unit description of type \*BSCT. The System/38 is a tributary station in the network.

Ask the operator at the remote control unit to find out if the remote control unit is configured as a BSC control station or one that can poll multiple control units. If the remote control unit is not configured to be a BSC control station, ask the person who configured the communications network to make the necessary changes.

## WIRE

**About this parameter:** This parameter states whether data is sent over a 2-wire or a 4-wire communications line. When using a 4-wire communications line, the REQUEST-TO-SEND and CLEAR-TO-SEND signals on the modem stay active. When using a 2-wire communications line, the REQUEST-TO-SEND and CLEAR-TO-SEND signals on the modem are started each time data is sent across the line.

**Possible problems with this parameter:** Ask the person who configured the communications network to make sure that the WIRE parameter is correct. Your common carrier can provide information about the communications line you are using.

If the remote control unit is a 3274, 5250, or 5294, ask the operator at the remote location to make sure that the CLEAR-TO-SEND and REQUEST-TO-SEND switch settings are compatible with the value specified for WIRE on the System/38. The user's guide for the remote control unit should explain how these switches should be set.

For the remote control unit, if the value for the WIRE parameter or the switches are not compatible, ask the person who configured the communications network to make the changes necessary for the equipment at both locations to handle the signals.

Find out if the modem attached to the System/38 keeps the CARRIER DETECT INTERFACE signal active at all times. For more information on this signal, see the user's guide for the modem you are using. If the modem does keep this signal active at all times, the value for WIRE must be 4. If the value for WIRE is not set correctly, ask the person who configured the communications network to make the necessary changes.



## CHECKING THE CONTROL UNIT DESCRIPTION

### About the Control Unit Description

The control unit description is an object stored in the System/38 that describes the following information:

- Characteristics and features of the remote control unit, such as the station address and special calling instructions
- The protocol used to send and receive data on the line, such as BSC (binary synchronous communications) or SDLC (synchronous data link control)

The system uses the information about the characteristics in the description to send data to and from the system unit. If the parameters in the control unit do not match the characteristics of the remote control unit, the system cannot send data. The characteristics of the remote control unit must also be compatible with those of the attached line.

### How to Display the Control Unit Description

To display the control unit description, enter the display control unit description (DSPCUD) command as follows:

```
DSPCUD CUD(ct122nybsc)
```

where `ct122nybsc` is the name of the control unit description you want to display. You can check the values specified for certain parameters by displaying the control unit description.

## How to Change the Control Unit Description

To change the control unit description, you can use either the change control unit description (CHGCUD) command or the create control unit description (CRTAUD) command. The type of change you want to make determines which command you should use. See the *Data Communications Programmer's Guide* for more information about these commands.

## Parameters to check in the Control Unit Description

### CTLADR (*Control Unit Address*)

**About this parameter:** This parameter gives the four-digit hexadecimal address of the control unit.

**Possible problems with this parameter:** You need to include a value for CTLADR in the following cases:

- When the control unit type is 3274, 5251, or 5294
- When the control unit type is \*PU2
- The control unit type is \*PEER and the line type is \*SDLCP
- When the line type (in the line description) is \*BSCT

See the *CL Reference Manual* about finding the control unit address.



### CTLADR (*Control Unit Address*) (*continued*)

For SDLC, the line that is configured as a primary line sends out a poll to the secondary line for information. If the controller does not respond in a certain amount of time, an *IDLE State Time Out* error (error code F705) occurs. In this case, you should ask the operator at the remote control station to verify that the control station address is the same as that specified in the CTLADR parameter in the control unit description.

To verify the remote control unit address when the remote control unit is attached to a primary SDLC line (type \*SDLCP ) on the System/38, do the following:

- Check the TYPE and the EXCHID parameters. Note that the last two digits of the EXCHID parameter are the same value as in the controller station address switches on the control unit.

The following chart shows what the EXCHID parameter should be:

TYPE	EXCHID
3274	017XXXXX
5251	020000XX
5294	045XXXXX

Make sure that the controller station address switches on the control unit are set correctly.

- If the TYPE parameter is \*PEER and the EXCHID parameter in the control unit description is 022XXXXX the remote control unit is another System/38. Make sure that the line description on the remote System/38 has a station address (STNADR) that is the same as the first two digits of the control unit address (CTLADR) in the control unit description on your primary system. If the parameters are not the same, ask the person who configured the communications network to make the necessary changes.

If the line description on the System/38 is a secondary SDLC line (\*SDLCS) , the TYPE parameter for the control unit description should be either TYPE(\*PU2) or TYPE(\*PEER) . If the remote operator asks you to check the station address or the control unit address on the System/38, give the value of the STNADR parameter in the line description attached to the remote control unit.

If the control unit address is not entered correctly, or if you are not sure what the control unit address should be, ask the person who configured the communications network for the correct address.

## INLCNN (*Initial Connection*)

**About this parameter:** This parameter states the method used to make the initial switched connection between the System/38 and the remote control unit. If the INLCNN value of the attached unit is \*ANS, the remote control unit should call the System/38 to make the initial connection. If the INLCNN value of the attached unit is \*CALL, the System/38 calls the remote control unit to make the initial connection.

**Note:** The INLCNN parameter applies only when the system is making the connection.

**Possible problems with this parameter:** You must enter a value for INLCNN if the System/38 and the remote control unit are connected by a switched line. The control unit is connected to a switched line if one of the following is true:

- The CNN value in the line description is \*SWT and the line is listed in the line list parameter of a control unit description.
- The CNN value in the line description is \*PP, the ACTSWNBKU value in the line description is \*YES, and the line is listed in the line list parameter of a control unit description.

You should also make sure that the INLCNN value is compatible with the SWTCNN value in the line description. See the description of SWTCNN in the line description to find out which INLCNN values are compatible. If the values are not compatible, ask the person who configured the communications network to make the necessary changes.



### LCLID (*Local Identifier*)

**About this parameter:** This parameter gives the local identifier of the System/38 as it is to be known to the remote control unit. This parameter is used only for BSC switched lines.

When the connection is made, the calling control unit sends its local identifier (LCLID). The other control unit responds by sending its own local identifier. If the identifier sent by the remote control unit matches one of those listed in the remote identifier (RMTID) parameter in the control unit description, the two control units can exchange data. If the remote identifier does not match any of those listed, the connection between the two control units ends.

**Possible problems with this parameter:** You can enter a value for LCLID if this control unit is attached to a \*BSC line. If the line type is \*BSC and no identifier is entered, the identifiers will not be checked. Ask the person who configured the communications network to make the necessary changes.

Make sure that the local identifier entered is correct for the local control unit, and make sure it is correctly entered (using the correct number of characters, for example). See the *CL Reference Manual* for details on entering the local identifier. If the identifier is not entered correctly, ask the person who configured the communications network to make the necessary changes.

Make sure the identifier sent by the remote control unit in response to this local identifier is included in the list of RMTID values in the control unit description.

Make sure the remote control unit has a remote identifier that matches the local identifier (LCLID parameter) specified in the control unit description for the System/38. If the remote control unit is another System/38, the local identifier in this control unit description must be listed as one of the RMTID values in the control unit description of the remote system. If these identifiers do not match, ask the person who configured the communications network to make the necessary changes.

## LINE (*Nonswitched line name*)

**About this parameter:** This parameter names the nonswitched line, if any, that the control unit is attached to. If the value for the LINE parameter is \*NONE, the control unit is attached to a switched line.

**Possible problems with this parameter:** You can attach a control unit to a nonswitched line only if the control unit TYPE is PU2, \*BSC, 5251, \*PU2, \*BSCT, or \*PEER.

## LINLIST (*Line list*)

**About this parameter:** This parameter names the line description for the switched line that can make a connection with the remote control unit. When the System/38 is to make a switched connection with the remote control unit, the system checks the LINLIST parameter in the control unit description to make sure that the line description name is included. If so, the system finishes the connection and varies this control unit on. If the line name is not included, the system cannot finish the connection and cannot vary on the control unit.

**Possible problems with this parameter:** The LINLIST parameter must contain a valid line description name. Check the value for the CNN parameter in the line description. The value for CNN must be one of the following:

- \*SWT
- \*PP if the value for the SWNBKU parameter in the line description is \*YES

If the name of the line description is not correct, ask the person who configured the communications network to make the necessary changes.



**SELECT (Data Rate Selection)**

**About this parameter:** This parameter states whether the modem attached to the remote control unit has a data rate select function. This function lets you choose the speed at which data is to be sent across the line. If the modem does not have this function, the data is sent at full speed. If the modem attached to the remote control unit has this function, the value for this parameter should be \*YES.

**Possible problems with this parameter:** You can attach a modem with the data rate select function to a control unit of type 3274, 5251, 5294, \*PU2, \*BSC, or \*PEER. If the control unit type is not one of these, ask the person who configured the communications network to make the necessary changes.

Make sure that the remote control unit has the data rate select function and that the remote control unit is transmitting data at a rate compatible with the line of the System/38. See the CLOCK parameter earlier in this section for more information on how to determine the System/38 data rate transmission speed.

If the line on the System/38 and the remote control unit are not transmitting data at the same rate, ask the person who configured the communications network to make the necessary changes.

## SWITCHED (*Connection Mechanism*)

**About this parameter:** This parameter states whether the control unit is attached to a switched line. If the control unit is attached to a switched line, the value for this parameter must be \*YES. If the control unit is a nonswitched line with the SWNBKU feature, the value should be \*NO.

**Possible problems with this parameter:** You can enter \*YES for SWITCHED only if the control unit TYPE is 5251, \*PU2, or \*BSC. If the control unit TYPE is not one of these, ask the person who configured the communications network to make the necessary changes.

Make sure that the values for the CNN parameter and/or the ACTSWNBKU parameter in the line description are compatible with the value for the SWITCHED or ACTSWNBKU parameter in the control unit description. If these values are not compatible, ask the person who configured the communications network to make the necessary changes.

Ask the operator at the remote location to make sure that the modem attached to the remote control unit is compatible with the value for the SWITCHED or ACTSWNBKU parameter in the control unit description. For example, if the value for SWITCHED is \*YES or the value for ACTSWNBKU is \*YES, make sure that the modem is set for a switched connection. If the modem is not compatible with this value, ask the person who configured the communications network to make the necessary changes.



**SWNBKU (Switched Network Backup)**

**About this parameter:** This parameter states whether the modem attached to this control unit has the Switched Network Backup feature. (See the user's guide for the modem you are using to find out if the modem has this feature.) If the modem does not have this feature, the value for SWNBKU should be \*NO.

This parameter is used only for control units attached to nonswitched lines (line type \*PP ).

**Possible problems with this parameter:** If the line being used is not a nonswitched line (the line type is not \*PP ), the value for SWNBKU should be \*NO. Ask the person who configured the communications network to make the necessary changes.

If the value for ACTSWNBKU in the line description is \*YES, the modem must be set to switched mode. (See the user's guide for the modem you are using.)

## TELNBR (*Telephone Number*)

**About this parameter:** This parameter gives the telephone number of the remote control unit if it is attached to a switched line (the value for CNN in the line description is \*SWT ) or to a nonswitched line that has the Switched Network Backup feature ( CNN is \*PP and SWNBKU is \*YES in the line description).

When the system is configured to call the remote control unit, the telephone number must be dialed. If the System/38 has the Autocall feature, the system dials this number automatically. If not, the system displays this telephone number when the call is to be placed.

**Possible problems with this parameter:** You must enter a value for TELNBR if this control unit is attached to a switched line or a line with the Switched Network Backup feature (the value for SWNBKU is \*YES ). In the line description, the value for CNN must be \*SWT and the value for SWNBKU must be \*YES .

Make sure that the telephone number is entered correctly. Check the following:

- The telephone number in the control unit description must match the telephone number used by the remote control unit.
- The telephone number must be correctly entered (for example, the correct number of characters must be entered).

If the telephone number is not correct, the System/38 cannot make a switched connection with the remote control unit. Ask the person who configured the communications network to make the necessary changes.



**TYPE (Control Unit Type)**

**About this parameter:** This parameter gives the type of control unit being described. Enter the value that applies to your control unit. The values you can enter for this parameter are given in the column labeled TYPE in the following charts.

CONTROL UNIT	TYPE	LINE DESCRIPTION TYPES	CONTROL UNIT MODEL
Tape Control Unit	3411	N/A	1 (Model 1 3410 tape units) 2 (Model 2 3410 tape units) 3 (Model 3 3410 tape units)
Work Station Controller	5251	*SDLCP	2 (960 characters) 12 (1920 characters)
3430 Tape Control Unit	3430	N/A	A01
Work Station Controller Type E	*WSCE	N/A	*NONE
Physical Unit (Type 2) (Also for SRJE and 3270 emulation)	*PU2	*SDLCS	0
BSC Device (also for MRJE )	*BSC	*BSC	
BSC Multipoint Tributary (also for 3270 emulation)	*BSCT	*BSCT	0 (Model 0 for tributary) 1 (Model 1 for emulation)
PEER Control Unit	*PEER	*SDLCP *SDLCS	0
Work Station Controller	*WSC	N/A	*NONE
5294 Controller	5294	*SDLCP	1
3270 Remote Controller	3274	*SDLCP	*NONE
Pass Through Controller	*PASS	N/A	*NONE

**TYPE (Control Unit Type) (continued)**

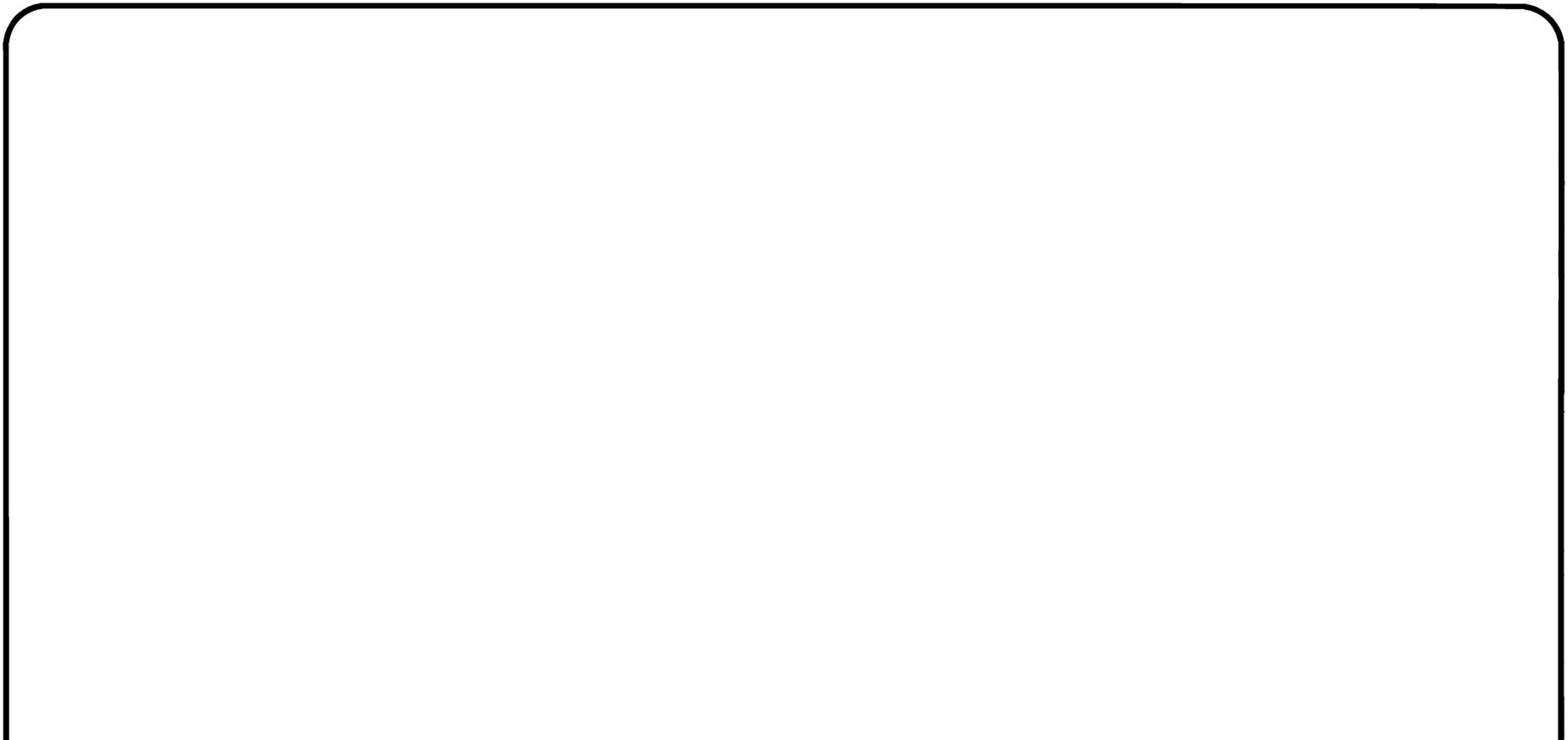
**Possible problems with this parameter:** A control unit cannot be connected to a line if the value for **TYPE** in the control unit description is not compatible with the value for **TYPE** in the description of the attached line. See the description of the **TYPE** parameter under *Checking the Line Description* earlier in this section to find out which control unit types are compatible with which line types.

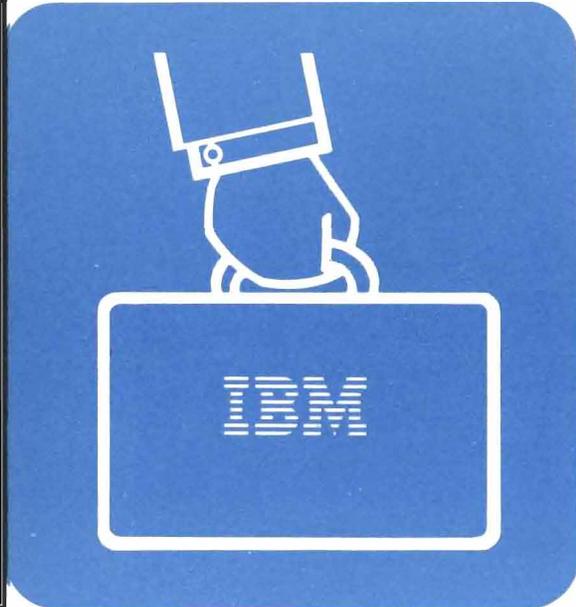
Check the **TYPE** parameter of the attached line description to make sure that it is compatible with this type of control unit. If one of the following is true, determine if the line list (**LINLIST** parameter) in the control unit description contains the names of the lines that are configured as switched lines.

- The value of the **SWITCHED** parameter in the control unit description is **\*YES**
- The value for the **SWITCHED** parameter is **\*NO** and the value for the **ACTSWNBKU** parameter is **\*YES**

If the line and control unit are not compatible, ask the person who configured the communications network to make the necessary changes.





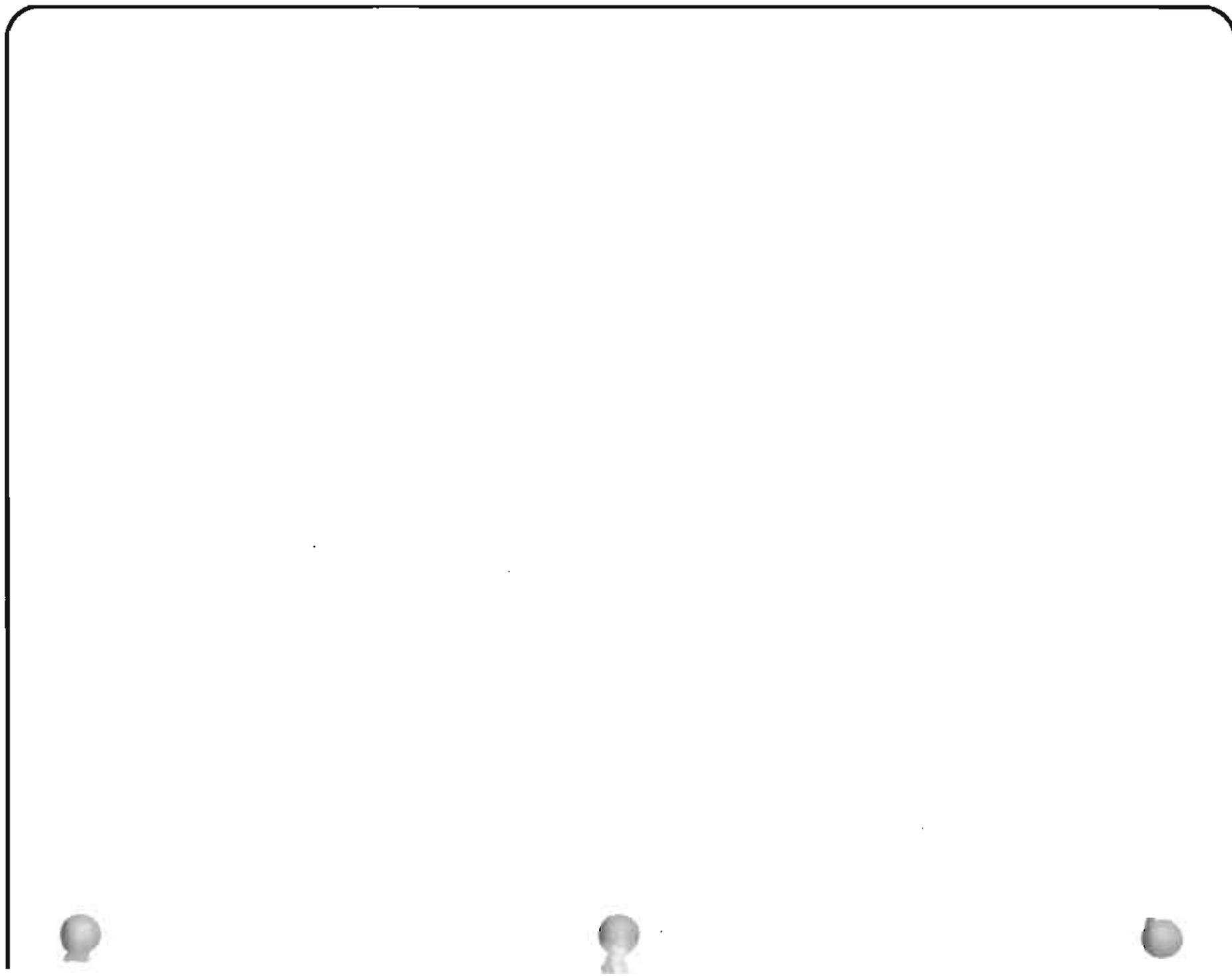


Your service representative might ask you to print or display certain system reports. These reports describe, usually in machine format or through codes, specific details of the problem. Your service representative can use this information to create the problem again and in doing so, find its solution.

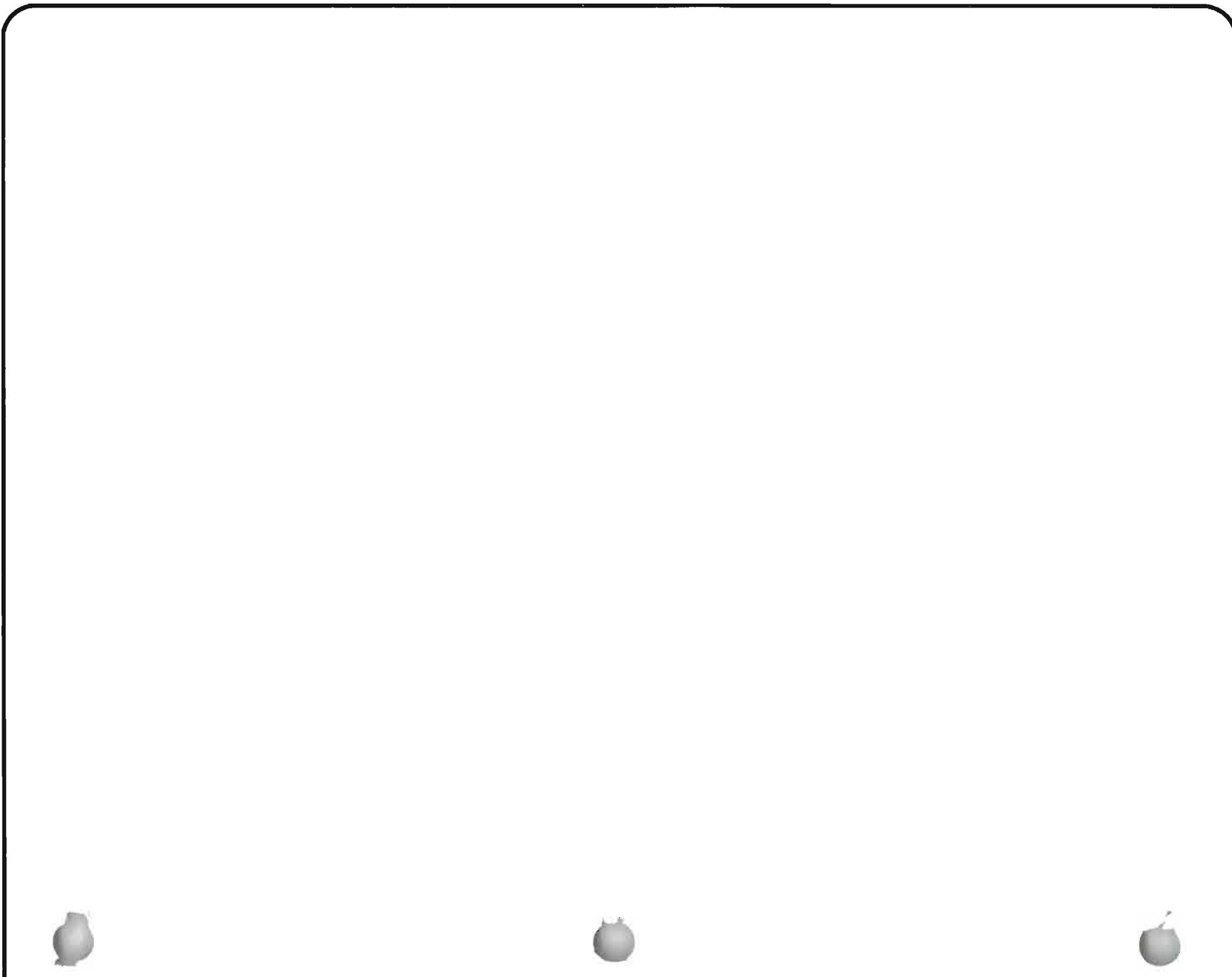
This chapter describes how to get these reports:

- Main storage stand-alone dump
- Virtual storage stand-alone dump
- Printed stand-alone dump (either main storage or virtual storage)
- Job dump
- Job trace
- Communications service test
- APAR (authorized program analysis report)
- Program changes
- Engineering changes
- Machine error log









You need certain types of diskettes, sometimes specially prepared, to do stand-alone dumps. This section tells you first, the types of diskettes needed to perform a main storage stand-alone dump, and second, the types of diskettes needed to perform a virtual storage stand-alone dump.

### Diskettes Needed for a Main Storage Stand-Alone Dump

To perform a main storage stand-alone dump, you need:

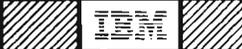
- **Service Library Vol 1** diskette magazine (a container of diskettes). You receive a new copy of this diskette magazine each time you receive a new version of the system programming. The cover of this diskette magazine looks like this:

1	2	3	4	5	6	7	8	9	10
IBM									
SERVICE LIBRARY VOL 1									
SYSTEM	SYS/38								
MODEL	MOD5								
SERIAL	20177								
1	SLV1A								
2	SLV1B								
3	SLV1C								
4	SLV1D								
5	SLV1E								
6	SLV1F								
7	SLV1G								
8	SLV1H								
9	SLV1J(DS8)								
10	SLV1R								
Per Lvl	009								
EC NO	837986D								
Date	02DEC81								

If you have more than one copy of this diskette magazine, use the copy with the highest **Per Lvl** (periodic level—that magazine is the most recent version).



- **CE Tools** magazine. You receive a copy of this diskette magazine when you receive your system. The cover of this diskette magazine looks like this:

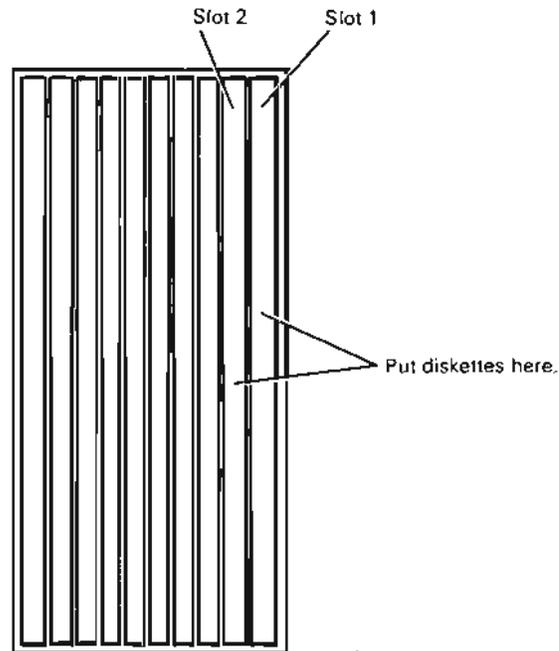
1	2	3	4	5	6	7	8	9	10			
												
CE TOOLS MAGAZINE												
1	STORAGE DUMP											
2	STORAGE DUMP											
3	_____											
4	_____											
5	_____											
6	_____											
7	_____											
8	_____											
9	_____											
10	72MD Test											
SYSTEM MODEL SERIAL	<table border="1"> <tr> <td>38</td> </tr> <tr> <td>MOD5</td> </tr> <tr> <td>20177</td> </tr> </table>									38	MOD5	20177
38												
MOD5												
20177												

- **For 5381 processing units**, you need one main storage dump diskette for each megabyte, or part of a megabyte, of main storage on your system. For example, if you have 1.5 megabytes of storage in your system, you need two main storage dump diskettes in the *CE Tools* magazine.
- **For 5382 processing units**, you need at least two main storage dump diskettes. The system attempts to dump main storage to auxiliary storage (62PC). If your system does not have a reserved area in auxiliary storage available, main storage is dumped to diskette (72MD). If main storage is dumped to diskette, you need one initialized diskette for each megabyte of main storage on your system. For example, if you have 12 megabytes of storage in your system, you need 12 main storage dump diskettes, the first 8 in the *CE Tools* magazine, and the second 4 in another magazine.

For both processing units, the diskettes must be labeled DMS (dump main storage). If you do not already have the correct number of prepared main storage dump diskettes, you cannot continue this procedure. In that case, call your service representative and explain that you do not have the diskettes needed for this procedure.

See *How to Prepare Main Storage Dump Diskettes* later in this section for instructions on preparing main storage dump diskettes.

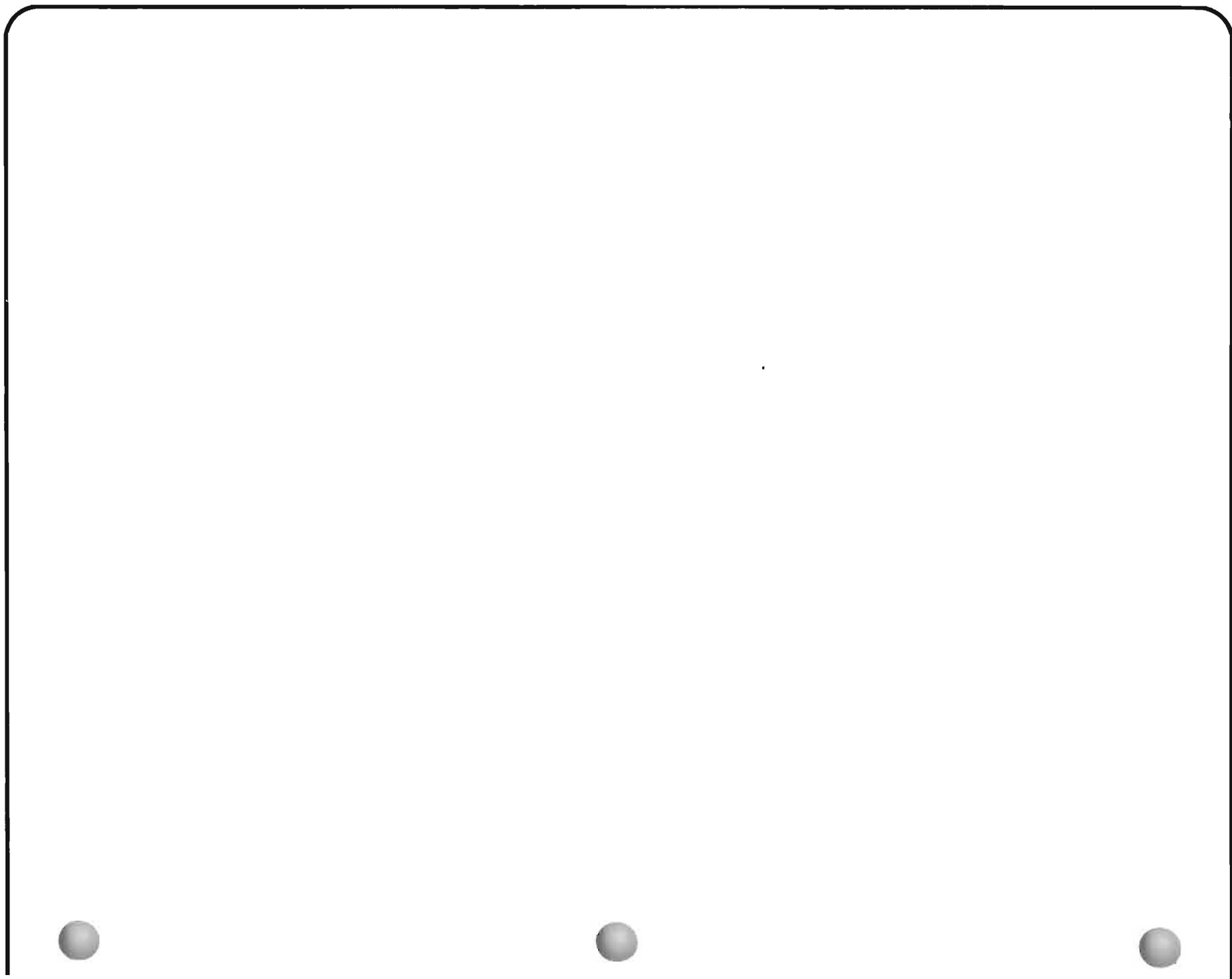
After they are prepared, put the main storage dump diskettes in the *CE Tools* magazine starting in the first (left) position and continuing with the next position, until all of the main storage dump diskettes are in the magazine. For example, you would put the main storage dump diskettes for the system with 1.5 megabyte main storage in the *CE Tools* magazine as follows:



The open end of the magazine is shown.

If your system has more than 8 megabytes of main storage, and main storage is dumped to diskette, you will need a second diskette magazine.





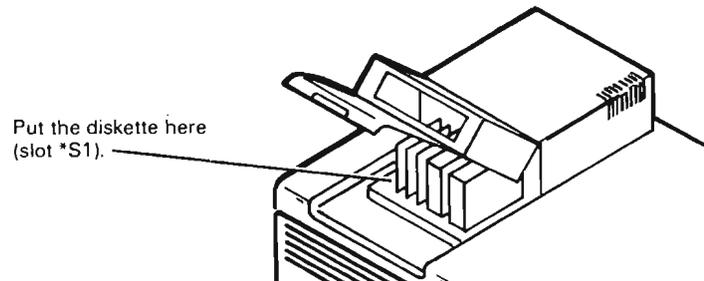
## How to Prepare Main Storage Dump Diskettes

You can prepare one main storage dump diskette at a time for a few diskettes, or you can prepare diskettes in a diskette magazine for many diskettes.

Get at least two 2D type diskettes for the main storage dump procedure. If main storage is dumped to diskette, you will need 1 diskette for each megabyte or part of a megabyte of main storage on your system.

For a few diskettes:

- 1 Put one diskette in slot \*S1 (single diskette slot) of the diskette magazine drive.



- 2 Prepare the diskette by entering:

```
INZDKT LOC(*S1) NEWVOL(DMS) FMT(2D) SCTSIZ(1024) CHECK(*NO)
```

- 3 When the system completes the diskette preparation, label the diskette DMS (dump main storage).
- 4 Put the DMS diskette in slot 1 of the *CE Tools* diskette magazine. Put any additional diskettes in slots 2 through 8.
- 5 Do one of the following:
  - Repeat steps 1 through 5 to prepare each dump diskette.
  - Continue normal system work.

For many diskettes:

- 1 Put up to eight 2D diskettes into diskettes positions 1 through 8 of the *CE Tools* magazine.

2 Put the magazine in diskette magazine slot 1.

3 Prepare the diskettes by entering:

```
INZDKT LOC(*M1 1 x) NEWVOL(DMS) FMT(2D) SCTSIZ(1024) CHECK(*NO)
```

x = 1 to 8 (the number of diskettes you want to initialize)

### Diskettes Needed for a Virtual Storage Stand-Alone Dump

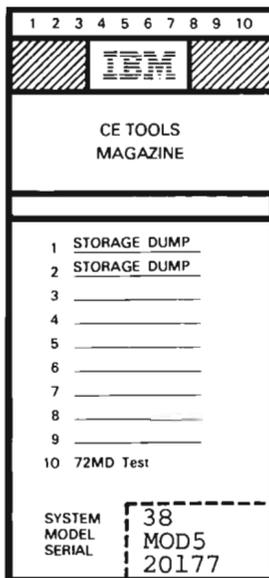
To perform a virtual storage stand-alone dump, you need:

- **Service Library Vol 1** diskette magazine. You receive a new copy of this diskette magazine (a diskette magazine is a container of diskettes, usually all alike) each time you receive a new version of the system programming. The cover of this diskette magazine looks like this:

1	2	3	4	5	6	7	8	9	10
									
SERVICE LIBRARY VOL 1									
SYSTEM	SYS/38								
MODEL	MOD5								
SERIAL	20177								
1 SLV1A 2 SLV1B 3 SLV1C 4 SLV1D 5 SLV1E 6 SLV1F 7 SLV1G 8 SLV1H 9 SLV1JDS8 10 SLV1R									
Per Lvl	009								
EC NO	837986D								
Date	02DEC81								

If you have more than one copy of this diskette magazine, use the copy with the highest Per Lvl (periodic level—that magazine is the most recent version).

- **CE Tools** magazine. You receive a copy of this diskette magazine when you receive your system. The cover of this diskette magazine looks like this:

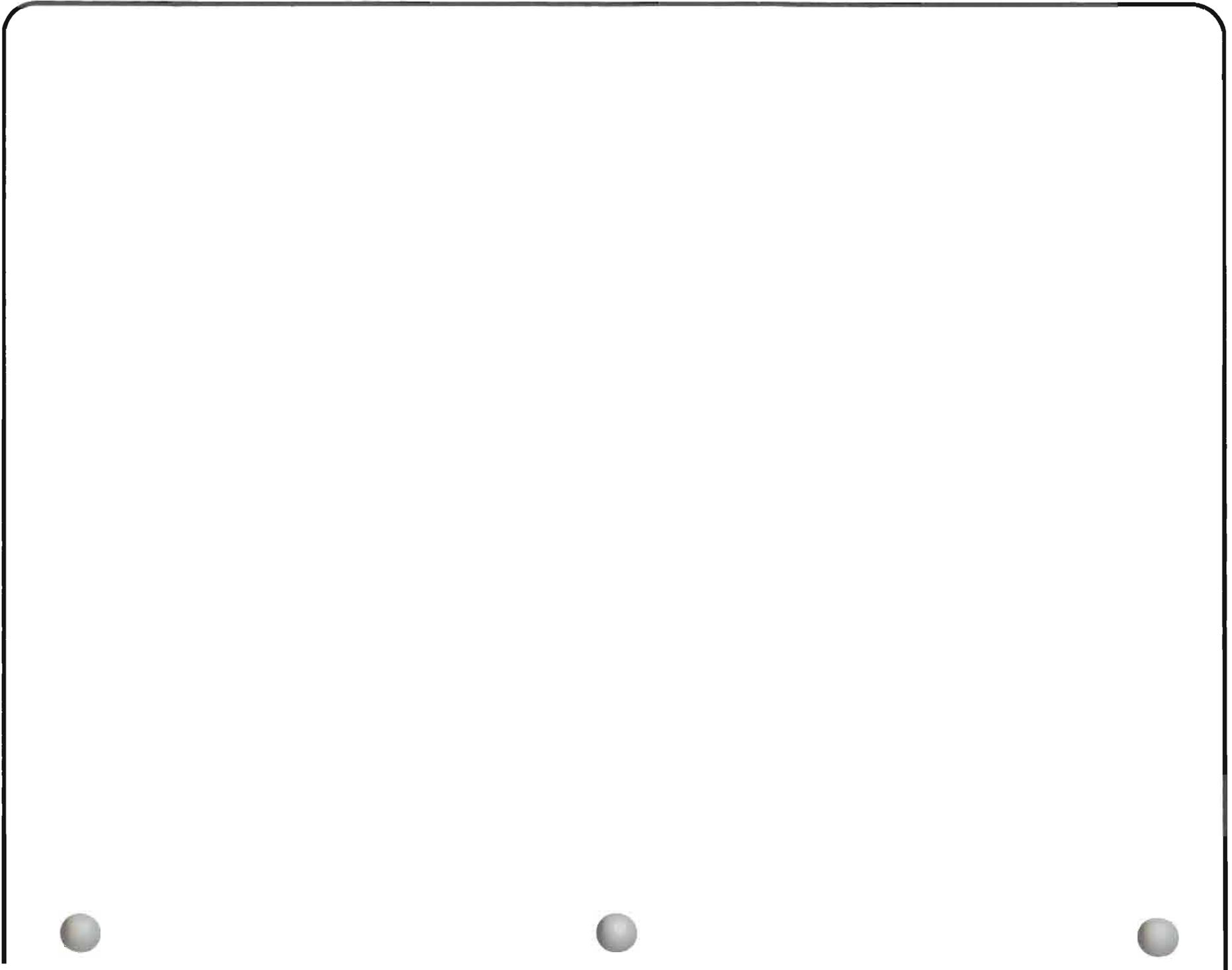


In the *CE Tools* magazine, you need all of the diskettes containing the information copied during the main storage stand-alone dump. If you copied more than 8 megabytes of main storage, you will have more than one diskette magazine.

- **A diskette magazine containing ten customer-supplied diskettes** onto which the system can copy the virtual storage stand-alone dump information. These diskettes can have any format (such as double density or two-sided). Do not use diskettes that have valuable information written on them.

If you do not have all of these diskettes, you cannot continue the stand-alone dump procedure. In that case, call your service representative and explain that you do not have the diskettes needed for this procedure.





### When to Use This Procedure

Use this procedure when another procedure in this guide, or your service representative, asks you to perform a main storage stand-alone dump.

To do this procedure, you need dump main storage (DMS) diskettes you prepared at an earlier time. If you do not know whether you have these dump diskettes, see *Diskettes Needed for Stand-Alone Dumps* at the beginning of this chapter. If you do not have these diskettes, you cannot do this procedure.

Your service representative can use the dump diskettes you prepare in this procedure to see exactly what the system was doing when the problem occurred.



The procedure starts here.

### Getting diskettes for the procedure.

1 Check the following before starting the procedure:



You have the *Service Library Vol 1* diskette magazine.



**For information about the *Service Library Vol 1* diskette magazine:**

See *Diskettes Needed for Stand-Alone Dumps* at the beginning of this chapter.



You have the *CE Tools* diskette magazine.



**For more information about the *CE Tools* diskette magazine:**

See *Diskettes Needed for Stand-Alone Dumps* at the beginning of this chapter.



You have the correct number of specially prepared dump diskettes in the *CE Tools* diskette magazine.



**For information about how to prepare these diskettes, and how many diskettes you need:**

See *Diskettes Needed for Stand-Alone Dumps* at the beginning of this chapter.

**Note:** If you do not have all of these diskettes, you cannot do this procedure. Return to the procedure that sent you here. If you need to call your service representative, explain that you could not get the dump information.



The Power On light is on.



All user jobs have ended.



### Which light to check:



Power Light

### How to check user jobs:

If another procedure in this guide told you to do this procedure, all user jobs have already ended.

If you were not sent here by another procedure in this guide, display all active jobs by entering:

DSPACTJOB

Press the CF9 key to include suspended group jobs.

Look for user jobs.

```

6/25/82  9:28:43      ACTIVE JOBS DISPLAY      CPU: 12.1%
Elapsed: 00:01:48      -----ELAPSED-----      Active jobs: 19
SBS/JOB      TYP PL PTY      CPU INT  RSP AUXIO  %CPU  FUNCTION  STS
- QBATCH      SBS 2 0          6.9          0 .0%      DEQW
- PAYROLL     BCH 1 50         2.9          0 .0%      DEQW
- QCTL        SBS 2 0          26.7         0 .0%      DEQW
- QCONSOLE    INT 2 10         1.5          0 .0%      C-INLPGM  EXC
- QINTER      SBS 2 0          243.4        0 .0%      DEQW
- WS1         INT 2 20         144.3        15 1.3 424 7.6%  C-DSPACTJOB  EXC
- WS2         INT 2 20         56.4         0 .0%      *CMDENT   LCKW
- WS3         INT 2 20         148.3        0 .0%      *CMDENT   DEQW
- QSL        SBS 2 0          13.0         0 .0%      DEQW
- QSYSPRT     WTR 2 40         11.2         0 .0%      EVTW

PARMS, OPTIONS 1, 3, 4, 9:
1-DSPJOB  2-SPL files  3-CHGJOB  4-HLDJOB  5-Inv stack  6-RLSJOB
7-LOCKS  8-Exclude   9-CNLJOB  CF4-Prompt  CF5-Redisplay  CF6-Restart
CF7-Reset  CF8-DSPSYSST  CF9-Include GRP  C11-Resequence  HELP-Help

```

User Jobs

After contacting the job users, cancel those jobs by entering a 9 in the space beside each job name. Enter OPTION (\*IMMED) in the Parms options input field and press the Enter key.

After you have checked the above items, continue this procedure.



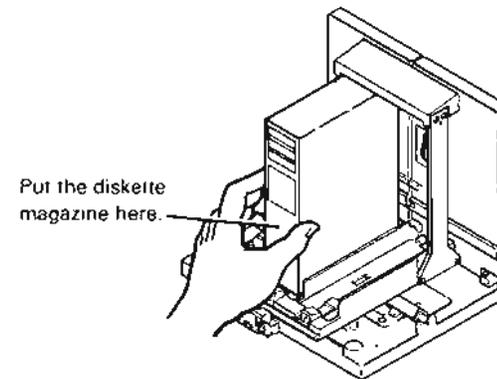
### Starting the dump procedure.

2 You perform this procedure at the system unit.  
Displays described in this procedure appear on the system console screen.

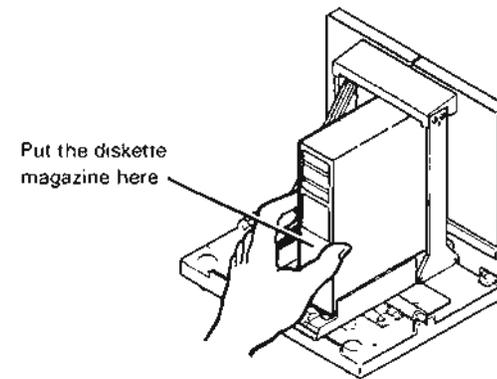
3 Place the *Service Library Vol 1* diskette magazine in magazine position 1 of the diskette magazine drive. →

Put the *CE Tools* diskette magazine in position 2.

Where to put *Service Library Vol 1*:



Where to put *CE Tools*:

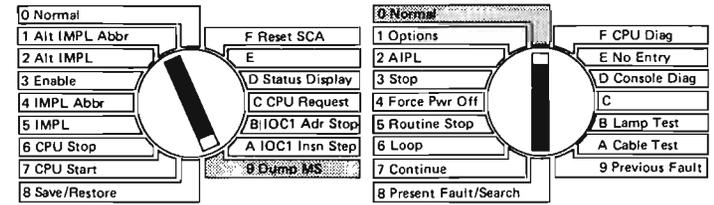


4

Set the left rotary switch on the operator/service panel to 9 (Dump MS).

Set the right rotary switch to 0 (Normal).

Set the rotary switches like this:



5

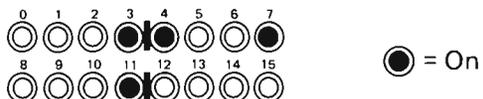
Press the Load switch.



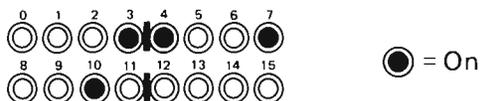
- 6 The system performs the dump procedure. This could take several minutes.

### Finishing the dump procedure.

- 7 If the system dumps to diskette, when the procedure is finished the following pattern is shown on the amber numbered lights on the operator/service panel.



If the system dumps to auxiliary storage, when the procedure is finished the following pattern is shown on the amber numbered lights on the operator/service panel.



Record the pattern shown on the operator/service panel under item 5 of the *System/38 Problem Summary Form*. You, or your service representative, may need to know if main storage was dumped to auxiliary storage or diskette.

Copies of the *System/38 Problem Summary Form* are provided at the back of this manual.

- 8 Does the pattern shown by the lights on your operator/service panel match one of the patterns shown in step 7?

No

Yes

Go to step 10.

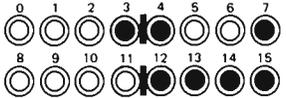
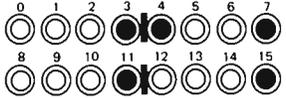
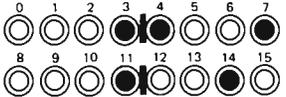
### What the system is doing:

The system is recording on the dump diskettes all of the jobs actually working on when the system was stopped. Because this information is saved in main storage, the process the system is doing is called **dumping the contents of main storage**. Because the system does no other work while it performs the dump procedure, this procedure **stands alone**.

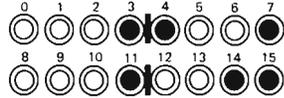
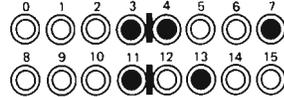
9

Find the pattern shown by your numbered lights in the following chart.

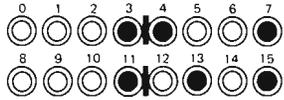
Take the action described under *What you should do*.

<p>These numbered lights are on: ● = on ○ = off</p>	<p>What the problem is:</p>	<p>What you should do:</p>				
	<p>The system has completed dumping 8 megabytes of main storage to the <i>CE Tools</i> magazine.</p>	<ol style="list-style-type: none"> <li>Replace the <i>CE Tools</i> diskette magazine in position 2 with another magazine containing initialized diskettes.</li> <li>Press the Load switch to continue the dump procedure.</li> <li>Go back to step <b>6</b> of this procedure.</li> </ol>				
	<p>One of the following is causing a problem with the diskette in slot 1 of the <i>CE Tools</i> magazine (the magazine in the right magazine position of the diskette drive):</p> <ul style="list-style-type: none"> <li>The volume identifier on the diskette is not correct for a dump diskette.</li> <li>You did not put the diskette properly in the magazine.</li> <li>The diskette is missing.</li> </ul>	<ol style="list-style-type: none"> <li>Do you have a dump diskette correctly placed in slot 1 of the <i>CE Tools</i> magazine?  <table border="0" style="margin-left: 20px;"> <tr> <td style="padding-right: 10px;">Yes</td> <td>No</td> </tr> <tr> <td style="border-left: 1px solid black; height: 40px; width: 10px;"></td> <td style="border-left: 1px solid black; height: 40px; width: 10px;"></td> </tr> </table> <p style="margin-left: 20px;">Place a prepared diskette correctly in slot 1 of the <i>CE Tools</i> magazine.</p> <p style="margin-left: 20px;">Press the Load switch.</p> </li> <li>Exchange the diskette in slot 1 with another prepared dump diskette.</li> <li>Press the Load switch to restart the dump procedure.</li> <li>If the lights continue to show this code, call your service representative and explain that the main storage stand-alone dump procedure does not work.</li> </ol>	Yes	No		
Yes	No					
	<p>One of the following is causing a problem with the diskette in slot 2 of the <i>CE Tools</i> magazine (the magazine in the right magazine position of the diskette drive):</p> <ul style="list-style-type: none"> <li>The volume identifier on the diskette is not correct for a dump diskette.</li> <li>You did not put the diskette properly in the magazine.</li> <li>The diskette is missing.</li> </ul>	<ol style="list-style-type: none"> <li>Do you have a dump diskette correctly placed in slot 2 of the <i>CE Tools</i> magazine?  <table border="0" style="margin-left: 20px;"> <tr> <td style="padding-right: 10px;">Yes</td> <td>No</td> </tr> <tr> <td style="border-left: 1px solid black; height: 40px; width: 10px;"></td> <td style="border-left: 1px solid black; height: 40px; width: 10px;"></td> </tr> </table> <p style="margin-left: 20px;">Place a prepared diskette correctly in slot 2 of the <i>CE Tools</i> magazine.</p> <p style="margin-left: 20px;">Press the Load switch.</p> </li> <li>Exchange the diskette in slot 2 with another prepared dump diskette.</li> <li>Press the Load switch to restart the dump procedure.</li> <li>If the lights continue to show this code, call your service representative and explain that the main storage stand-alone dump procedure does not work.</li> </ol>	Yes	No		
Yes	No					



<p>These numbered lights are on: ● = on ○ = off</p>	<p>What the problem is:</p>	<p>What you should do:</p>
	<p>One of the following is causing a problem with the diskette in slot 3 of the <i>CE Tools</i> magazine (the magazine in the right magazine position of the diskette drive):</p> <ul style="list-style-type: none"> <li>• The volume identifier on the diskette is not correct for a dump diskette.</li> <li>• You did not put the diskette properly in the magazine.</li> <li>• The diskette is missing.</li> </ul>	<p>a. Do you have a dump diskette correctly placed in slot 3 of the <i>CE Tools</i> magazine?</p> <p>Yes No</p> <p>Place a prepared diskette correctly in slot 3 of the <i>CE Tools</i> magazine.</p> <p>Press the Load switch.</p> <p>b. Exchange the diskette in slot 3 with another prepared dump diskette.</p> <p>c. Press the Load switch to restart the dump procedure.</p> <p>d. If the lights continue to show this code, call your service representative and explain that the main storage stand-alone dump procedure does not work.</p>
	<p>One of the following is causing a problem with the diskette in slot 4 of the <i>CE Tools</i> magazine (the magazine in the right magazine position of the diskette drive):</p> <ul style="list-style-type: none"> <li>• The volume identifier on the diskette is not correct for a dump diskette.</li> <li>• You did not put the diskette properly in the magazine.</li> <li>• The diskette is missing.</li> </ul>	<p>a. Do you have a dump diskette correctly placed in slot 4 of the <i>CE Tools</i> magazine?</p> <p>Yes No</p> <p>Place a prepared diskette correctly in slot 4 of the <i>CE Tools</i> magazine.</p> <p>Press the Load switch.</p> <p>b. Exchange the diskette in slot 4 with another prepared dump diskette.</p> <p>c. Press the Load switch to restart the dump procedure.</p> <p>d. If the lights continue to show this code, call your service representative and explain that the main storage stand-alone dump procedure does not work.</p>

These numbered lights are on:  
 ● = on ○ = off



**What the problem is:**

One of the following is causing a problem with the diskette in slot 5 of the *CE Tools* magazine (the magazine in the right magazine position of the diskette drive):

- The volume identifier on the diskette is not correct for a dump diskette.
- You did not put the diskette properly in the magazine.
- The diskette is missing.

**What you should do:**

a. Do you have a dump diskette correctly placed in slot 5 of the *CE Tools* magazine?

Yes No

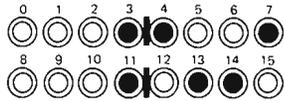
Place a prepared diskette correctly in slot 5 of the *CE Tools* magazine.

Press the Load switch.

b. Exchange the diskette in slot 5 with another prepared dump diskette.

c. Press the Load switch to restart the dump procedure.

d. If the lights continue to show this code, call your service representative and explain that the main storage stand-alone dump procedure does not work.



One of the following is causing a problem with the diskette in slot 6 of the *CE Tools* magazine (the magazine in the right magazine position of the diskette drive):

- The volume identifier on the diskette is not correct for a dump diskette.
- You did not put the diskette properly in the magazine.
- The diskette is missing.

a. Do you have a dump diskette correctly placed in slot 6 of the *CE Tools* magazine?

Yes No

Place a prepared diskette correctly in slot 6 of the *CE Tools* magazine.

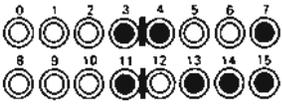
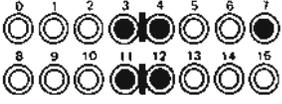
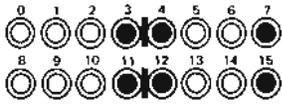
Press the Load switch.

b. Exchange the diskette in slot 6 with another prepared dump diskette.

c. Press the Load switch to restart the dump procedure.

d. If the lights continue to show this code, call your service representative and explain that the main storage stand-alone dump procedure does not work.



<p>These numbered lights are on: ● = on ○ = off</p> 	<p><b>What the problem is:</b></p> <p>One of the following is causing a problem with the diskette in slot 7 of the <i>CE Tools</i> magazine (the magazine in the right magazine position of the diskette drive)</p> <ul style="list-style-type: none"> <li>• The volume identifier on the diskette is not correct for a dump diskette.</li> <li>• You did not put the diskette properly in the magazine.</li> <li>• The diskette is missing.</li> </ul>	<p><b>What you should do:</b></p> <p>a. Do you have a dump diskette correctly placed in slot 7 of the <i>CE Tools</i> magazine?</p> <p>Yes No     Place a prepared diskette correctly in slot 7 of the <i>CE Tools</i> magazine. Press the Load switch.</p> <p>b. Exchange the diskette in slot 7 with another prepared dump diskette.</p> <p>c. Press the Load switch to restart the dump procedure.</p> <p>d. If the lights continue to show this code, call your service representative and explain that the main storage stand-alone dump procedure does not work.</p>
	<p>One of the following is causing a problem with the diskette in slot 8 of the <i>CE Tools</i> magazine (the magazine in the right magazine position of the diskette drive)</p> <ul style="list-style-type: none"> <li>• The volume identifier on the diskette is not correct for a dump diskette</li> <li>• You did not put the diskette properly in the magazine.</li> <li>• The diskette is missing.</li> </ul>	<p>a. Do you have a dump diskette correctly placed in slot 8 of the <i>CE Tools</i> magazine?</p> <p>Yes No     Place a prepared diskette correctly in slot 8 of the <i>CE Tools</i> magazine. Press the Load switch.</p> <p>b. Exchange the diskette in slot 8 with another prepared dump diskette.</p> <p>c. Press the Load switch to restart the dump procedure.</p> <p>d. If the lights continue to show this code, call your service representative and explain that the main storage stand-alone dump procedure does not work.</p>
	<p>An error occurred while you were performing the main storage stand-alone dump.</p>	<p>Record the pattern shown by the system lights under item 5 of the <i>System/38 Problem Summary Form</i>.</p> <p>Call your service representative and describe the problem.</p>
<p>Your numbered lights do not match any of the patterns shown.</p> 		<p>Go to Procedure A: <i>System Problem</i>.</p>  

10 Remove the diskettes from the diskette magazine drive.

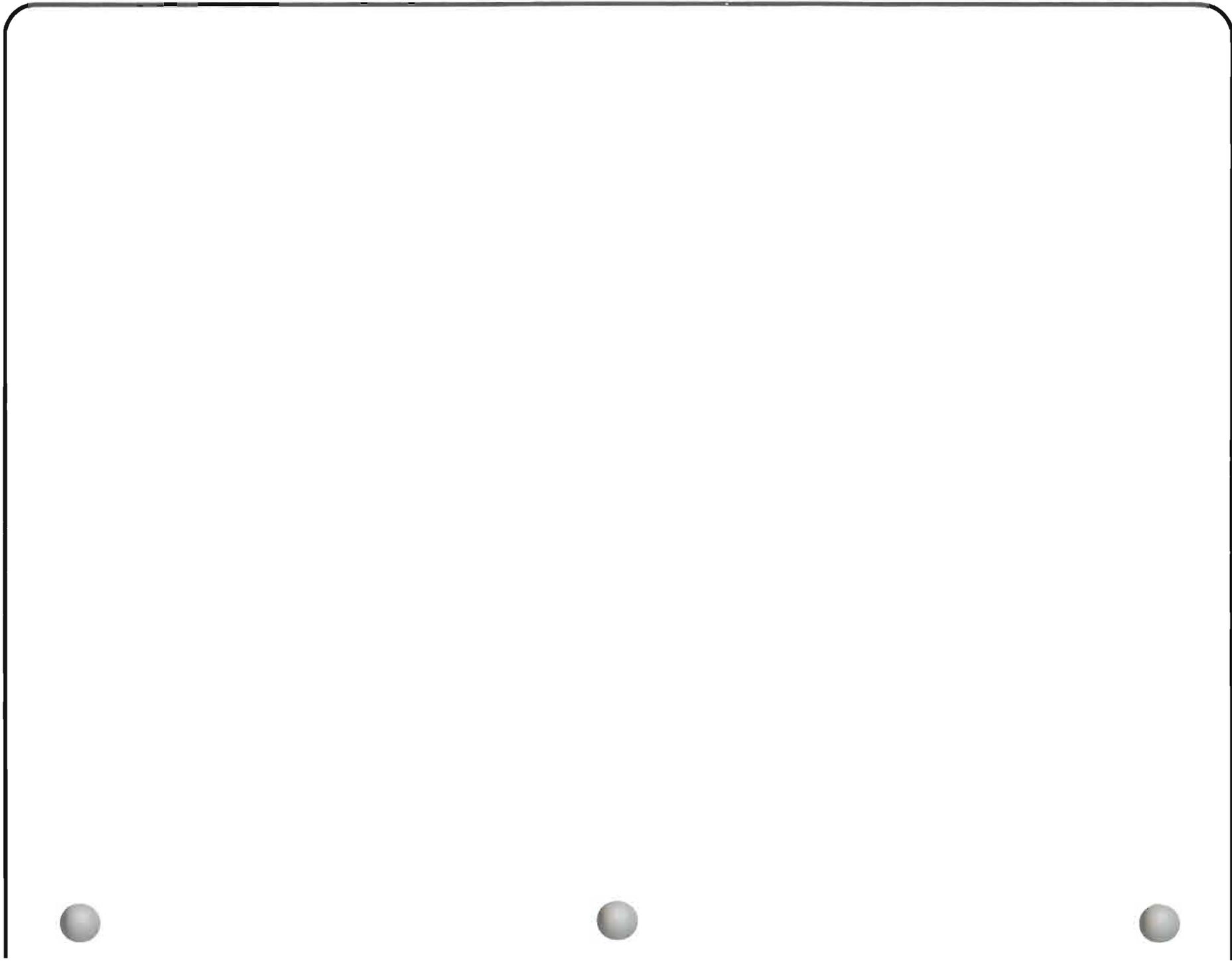
11 Label the following on the dump diskettes in the *CE Tools* magazine.

- Your account name
- The diskette position in the magazine (such as position 1)
- Date and time you performed the dump

12 Do one of the following:

- **If you are performing a virtual storage stand-alone dump:** go immediately to *Procedure for Performing a Virtual Storage Stand-Alone Dump* in this chapter.
- **If a service representative asked you to print the main storage stand-alone dump:** go to *Procedure for Printing Stand-Alone Dumps* in this chapter.
- **If another procedure in this guide sent you to this procedure:** return to the other procedure.
- **Otherwise:** do an IMPL. See the *System/38 Operator's Guide* for instructions.  
This process may take longer than usual.  
Continue normal system work, if possible.

*Note:* Additional diskettes should be initialized and put in the *CE Tools* magazine. You may need them for a main storage dump sometime in the future. See *How to Prepare Main Storage Dump Diskettes* earlier in this chapter.



## When to Use This Procedure

Use this procedure when another procedure in this guide, or your service representative, asks you to perform a virtual storage stand-alone dump.

You cannot do this procedure until you have finished the *Procedure for Performing a Main Storage Stand-Alone Dump* earlier in this chapter.

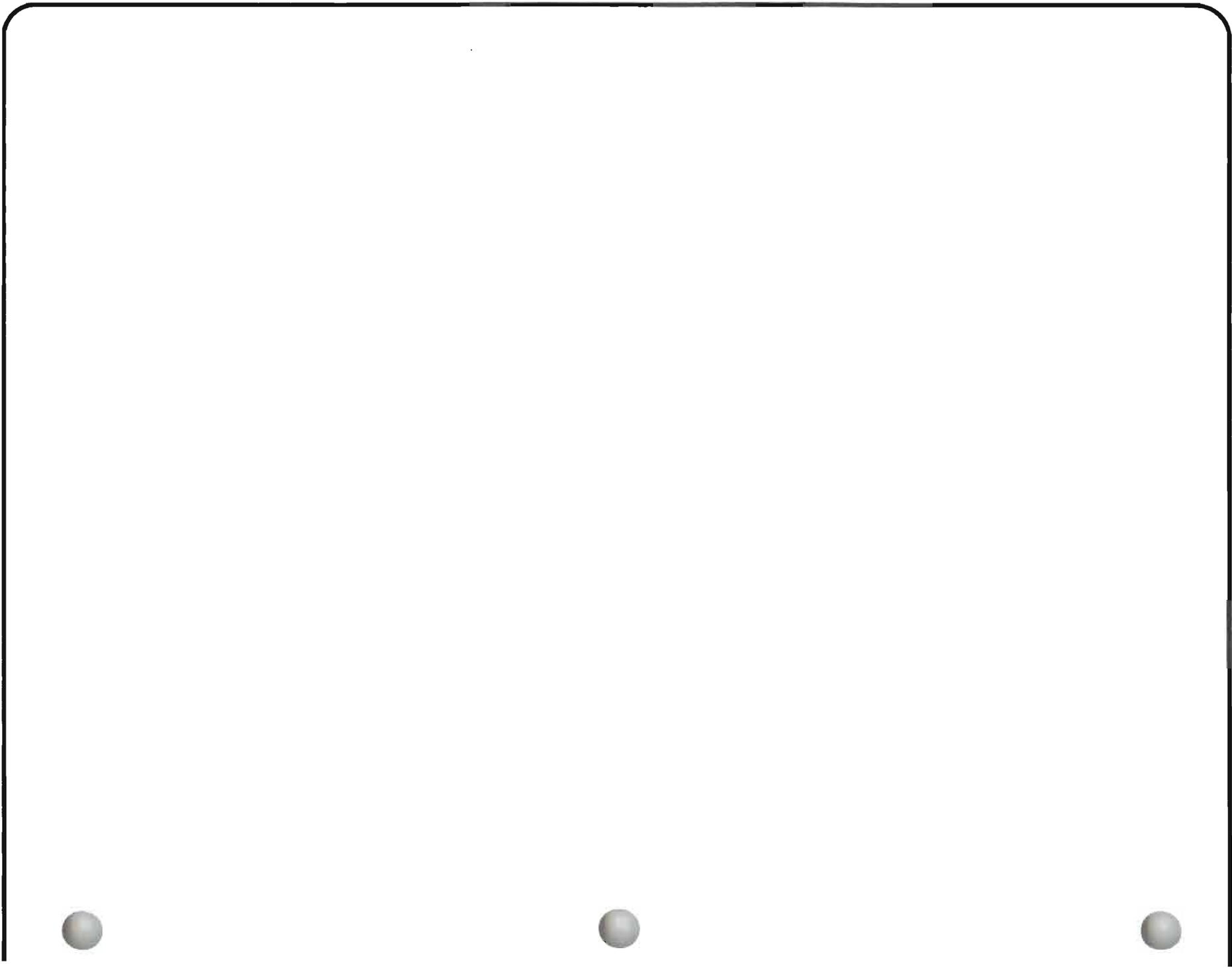
To do this procedure, the main storage stand-alone dump must be on diskette. If your main storage stand-alone dump is on auxiliary storage, copy the main storage stand-alone dump to diskette using the *Procedure for Printing a Stand-Alone Dump* later in this chapter.

You need the *CE Tools* diskette magazine (and another diskette magazine, if you have more than 8 megabytes of storage) containing the main storage stand-alone dump diskettes. You also need the *Service Library Vol 1* diskette magazine. For more information about these diskette magazines, see *Diskettes Needed for Stand-Alone Dumps* at the beginning of this chapter.

You also need a separate magazine of ten diskettes onto which the system will copy the virtual storage dump information. These diskettes can have any format and do not have to have the same format. Make sure that these diskettes do not have valuable information written on them already.

If you do not have these diskettes, you cannot continue this procedure.

Your service representative can use the dump diskettes you prepare in this procedure to see exactly what the system was doing when the problem occurred.



The procedure starts here.

### Getting materials to do the procedure.

1 Do the following before starting the procedure.

Put the *Service Library Vol 1* diskette magazine in the left magazine slot in the diskette drive. →

**For information on which version of *Service Library Vol 1* to use:**

See *Diskettes Needed for Stand-Alone Dumps* at the beginning of this chapter.

Put the *CE Tools* diskette magazine, with the main storage stand-alone dump diskettes, in the right magazine position. →

**About the *CE Tools* magazine:**

You prepared the main storage stand-alone dump diskettes in *Procedure for Performing a Main Storage Stand-Alone Dump*, earlier in the chapter. For more information about the *CE Tools* magazine, see *Diskettes Needed for Stand-Alone Dumps* at the beginning of this chapter.

You will have another diskette magazine, with main storage dump diskettes, if your system has more than 8 megabytes of storage.

Get a separate magazine of ten diskettes onto which the system can write the dump information onto. Call these diskettes virtual storage dump diskettes. →

**About these diskettes:**

These diskettes can have any format, and do not have to be in the same format.

**Note:** If you do not have all of these items, you cannot continue this procedure. Return to the procedure that sent you here. If you need to call your service representative, explain that you could not get the dump information.

After you have checked the above items, continue this procedure.



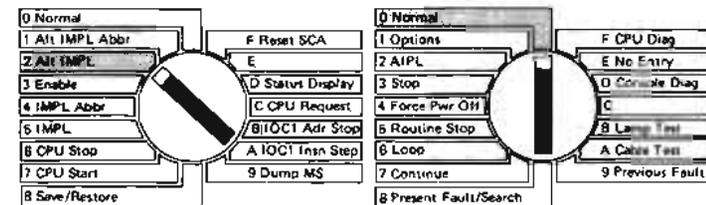
## Starting the dump procedure.

- 2 You perform this procedure at the system unit. Displays described in this procedure appear on the system console screen.

Set the left Rotary switch on the operator/service panel on the system unit to 2 (Alt IMPL).

Set the right Rotary switch to 0 (Normal).

### How to set the switches:



- 3 Press the Load switch.

- 4 Wait a few minutes.

5

Did the code 1 0101 appear on your console screen?

No

Yes

Go to step 7

6

Find the code you received in the following chart.

Take the action described under *What you should do*.

Your console screen looks like this:



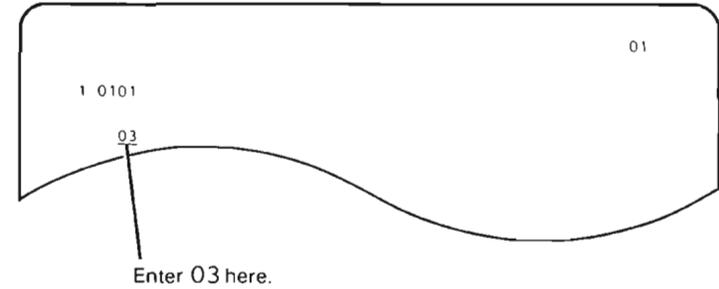
You received this code:	What you should do:
1 0103	<p>a. The system cannot continue the dump procedure. Record this code under item 7b of the <i>System/38 Problem Summary Form</i>. You can find copies of the form and instructions for using it at the back of this guide.</p> <p>b. Enter 01 in the space under the code.</p> <p>Call your service representative. Explain that the system could not finish the virtual storage stand-alone dump, and report the code shown on the console screen.</p>
1 0120	<p>a. You ended the service monitor, and the system cannot continue the dump procedure.</p> <p>Enter 01 in the space under the code.</p> <p>b. Continue normal system work.</p> <p><b>Note:</b> If you want to try the dump process again, go back to step 1.</p>
1 0121	<p>Go back to step 1 before this chart.</p> <p><b>Note:</b> If you receive this code again, call your service representative. Report that you received this code more than once when you tried to perform a virtual storage stand-alone dump.</p>
1 0130	<p>a. The system can continue the dump procedure, but it will be slower than usual because there is less main storage space available than expected.</p> <p>Enter 02 in the space under the code.</p> <p>b. Go to step 7 following this chart.</p>

You received this code:	What you should do:
2 xxxx (xxxx can be any number)	<ul style="list-style-type: none"> <li>a. Press the Enter key.</li> <li>b. Go back to step <b>4</b> of this procedure.</li> </ul>
3 xxxx (xxxx can be any number)	<ul style="list-style-type: none"> <li>a. Record this code under item 7b on the <i>System/38 Problem Summary Form</i>. You can find copies of the form and instructions for using it at the back of this guide.</li> <li>b. Leave the system as it is until you are asked to do otherwise.</li> <li>c. Call your service representative. Explain that the system could not finish the virtual storage stand-alone dump and report the code shown on the console screen.</li> </ul>
Other	<ul style="list-style-type: none"> <li>a. Record this code under item 7b on the <i>System/38 Problem Summary Form</i>. You can find copies of the form and instructions for using it at the back of this guide.</li> <li>b. Leave the system as it is until you are asked to do otherwise.</li> <li>c. Call your service representative. Explain that the system could not finish the virtual storage stand-alone dump and report the code shown on the console screen.</li> </ul>



7 Enter 03 in the space under the code.

Where to enter the response:



8 Wait a few minutes.

9 Did the code 3 0301 appear on your console screen?

Yes

No

Leave the system as it is until you are asked to do otherwise.

Record the code shown on the console screen under item 7b on the *System/38 Problem Summary Form*.

Call your service representative. Explain that your virtual storage stand-alone dump failed, and report the code that appeared.

What the problem is:

The system cannot continue the virtual storage dump process.

Where to record the code:

7. Record the following:

a. Completion code (if any):

b. Other codes, (if any):

You can find copies of the form and instructions for using it at the back of this guide.

10 Wait 5 to 10 minutes.

11 Does your system have more than 8 megabytes of main storage?

Yes

No

Go to step 18.

12 Code 2 0305 0002 appears on your console screen.  
Replace the magazine in magazine slot 2 with the second *CE Tools* magazine.  
Press the Enter key.

13 Wait a few minutes.



**14** Code 2 0305 0001 appears on your console screen.

Replace the magazine in magazine slot 2 with the first *CE Tools* magazine.

Press the Enter key.

**15** Wait a few minutes.

**16** Continue exchanging the two *CE Tools* magazines as codes 2 0305 0002 and 2 0305 0001 appear.

**17** Wait a few minutes until a code other than 2 0305 0001 and 2 0305 0002 appears.

18

Did the code 2 0302 appear on your console screen?

Yes

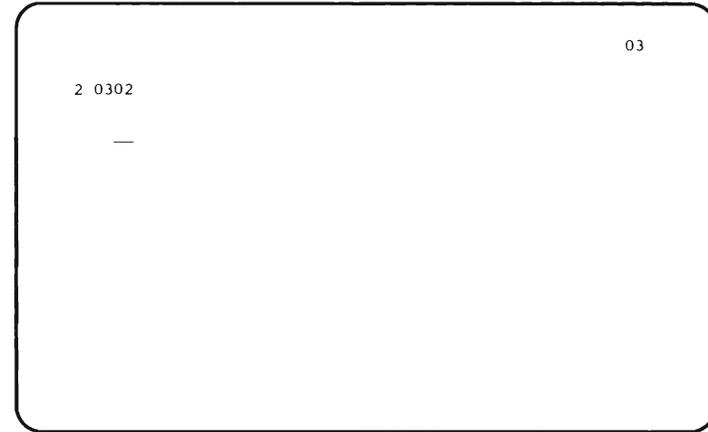
No

Leave the system as it is until you are asked to do otherwise.

Record the code shown on the console screen under item 7b on the *System/38 Problem Summary Form*.

Call your service representative. Explain that your virtual storage stand-alone dump failed, and report the code that appeared.

Your console screen looks like this:



**What the problem is:**

The system cannot continue the virtual storage dump process.

**Where to record the code:**

7. Record the following:

a. Completion code (if any):

b. Other codes (if any):

You can find copies of the form and instructions for using it at the back of this guide.



### Performing the virtual storage stand-alone dump.

- 19 Replace *Service Library Vol 1* diskette magazine with the magazine containing the virtual storage dump diskettes. 

**CAUTION**

If you do not replace *Service Library Vol 1*, the dump information is written onto *Service Library Vol 1* diskettes, and you lose the information that was on those diskettes.

- 20 Press the Enter key.

- 21 Wait for the code on the console screen to change.

### Where to put the virtual storage dump diskettes:

Put the virtual storage dump diskettes in the left magazine position in the diskette magazine drive

22

Did the code 1 0303 0000 appear on your console screen?

Yes

No

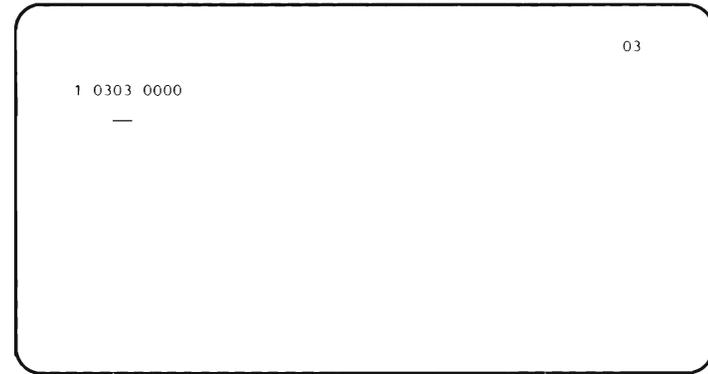
Make sure you put the virtual storage dump diskettes in the left magazine slot.

Go back to step 20.

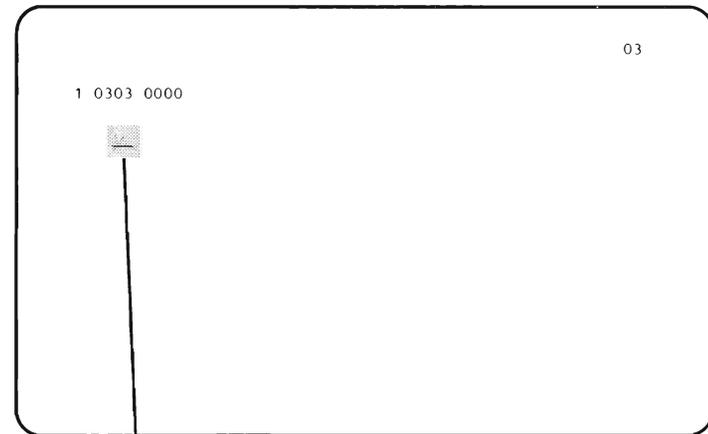
23

Enter 02 in the space under the code.

Your console screen looks like this:



Where to enter the response:



Enter the response here.



24 Wait for the code on the console screen to change.

25 Did the code 1 0303 00xx appear on your console screen (where xx is the code you last entered)?

No Yes

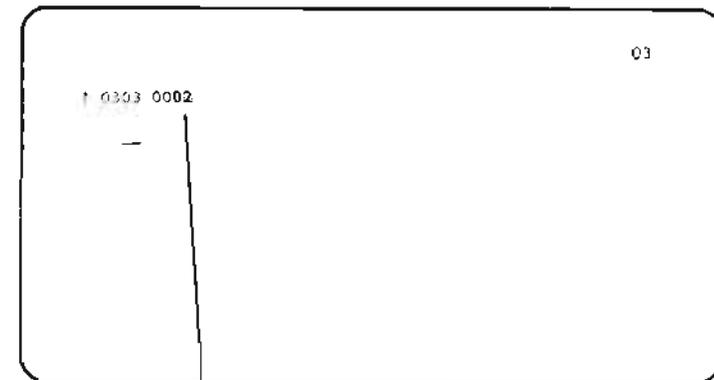
Enter one of the following:

- 01 to stop the virtual storage stand-alone dump.
- 02 to continue the virtual storage stand-alone dump.

Go to step 26.

26 Wait for the code on the console screen to change.

Your console screen looks like this:



This is XX.

27

Did the code 3 0305 appear on your console screen?

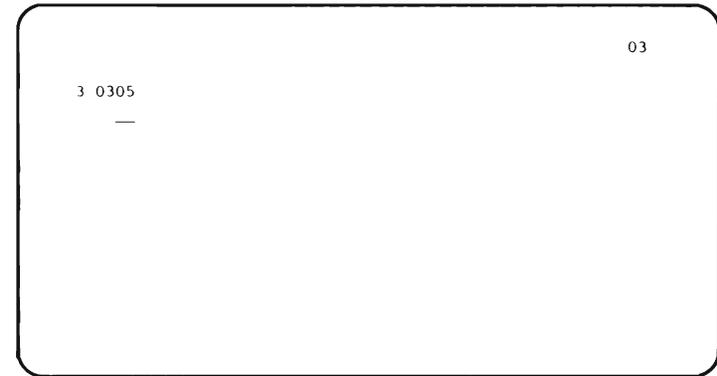
No

Yes

The system is performing the dump procedure.

Go to step 30.

Your console screen looks like this:



**What the system is doing:**

The system is copying the contents of **virtual storage**, that is, everything that is saved in the storage space of your system. Your service representative can examine this information to find out if the system was getting the information it needed from virtual storage.



**28** Did the code 1 0303 00xx appear on your console screen (where xx is the code you last entered)?

No

Yes

Leave the system as it is until you are asked to do otherwise.

Record the code shown on the console screen under item 7b on the *System/38 Problem Summary Form*.

Call your service representative. Explain that your virtual storage stand-alone dump failed, and report the code that appeared.

**29** Go back to step **25**.

If you receive this code more than twice, call your service representative and explain that you cannot finish this virtual storage stand-alone dump procedure.

**What the problem is:**

The system cannot continue the virtual storage dump process.

**Record the code here:**

7 Record the following.

a. Completion code (if any)

b. Other codes (if any)

You can find copies of the form and instructions for using it at the back of this guide.

**Finishing the dump procedure.**

**30** Wait for the code on the console screen to change.  
This could take several hours.

**31** Did the code 2 0304 0000 appear on your console screen?

No

Yes

Go to step **33**.

**32** One of these codes:  
  
2 0304 00xx  
2 0304 02xx  
  
appeared on your console screen (where xx is 01 - 06).

Record the last two digits of the code. When you label the dump diskettes in step **34**, record this code on the diskettes.

**What the problem is:**

The system did part, but not all, of the virtual storage dump procedure. The last two characters of the code on your console screen tell your service representative how much of the process the system finished.



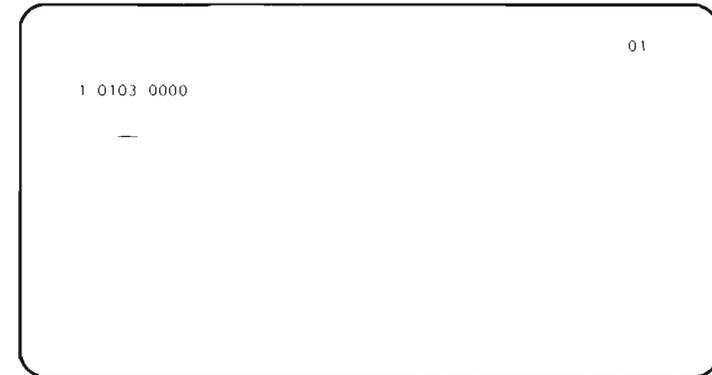
33

Press the Enter key.

The code 1 0103 0000 appears on your console screen.



Your console screen looks like this:



Do not enter anything on the screen.

**34** Remove the diskette magazines from the diskette magazine drive.

**35** Label the following on the virtual storage dump diskettes:

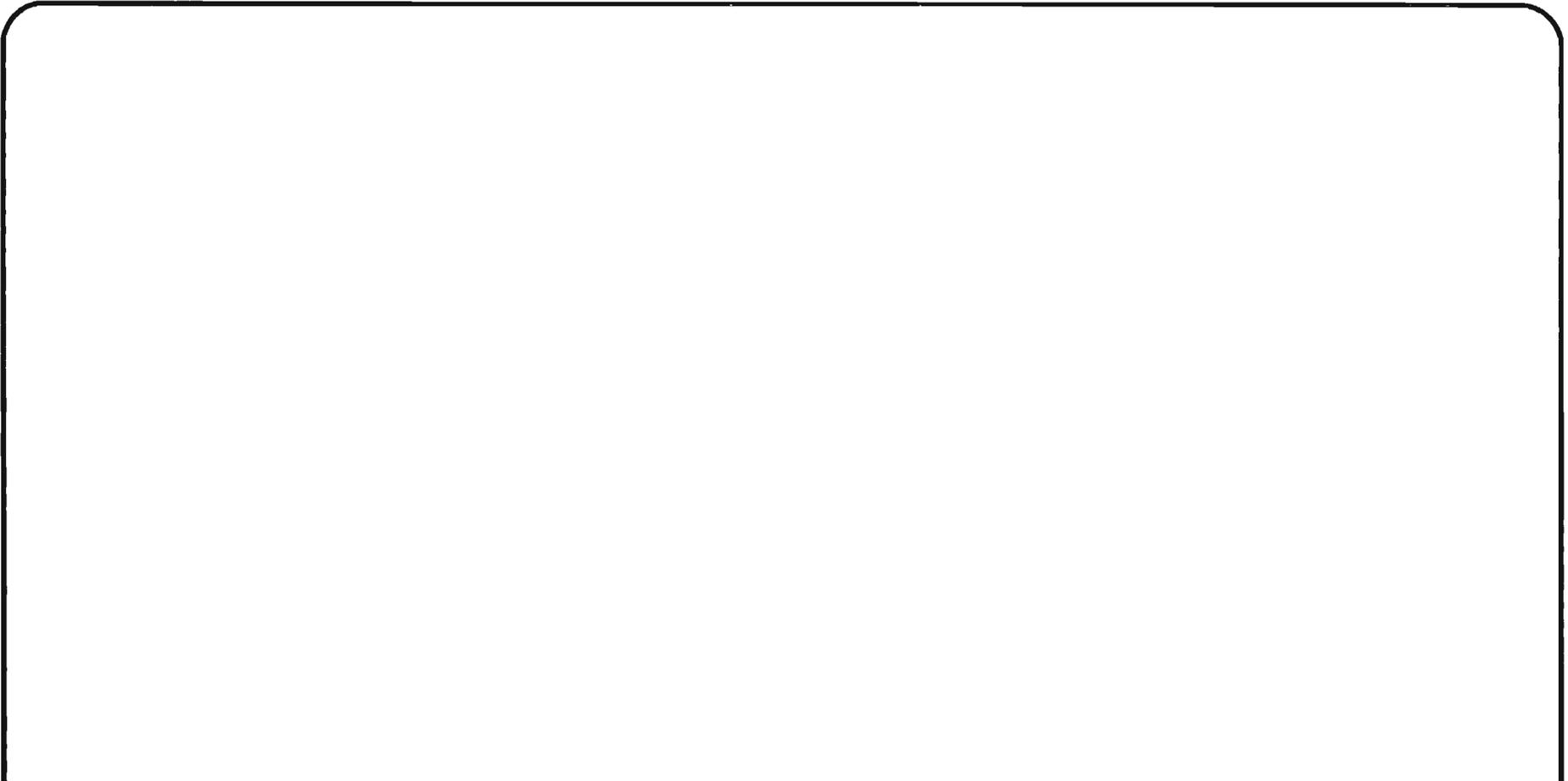
- Your account name
- The position of each diskette in the magazine (such as position 1)
- Date and time you performed the dump

**36** Do one of the following:

- **If a service representative asked you to print the virtual storage stand-alone dump, go to *Procedure for Printing Stand-Alone Dumps* in this chapter.**
- **If another procedure in this guide sent you to this procedure, return to the other procedure.**
- **Otherwise:** do an IMPL. See the *System/38 Operator's Guide* for instructions.

This process may take longer than usual.  
Continue normal system work, if possible.





## When to Use This Procedure

Use this procedure **ONLY** when your service representative asks you to copy a main storage stand-alone dump from auxiliary storage to diskette, print a main storage stand-alone dump, or print a virtual storage stand-alone dump.

To do this procedure, you need the following:

- **To copy a main storage stand-alone dump from auxiliary storage to diskette**, you need an initialized diskette for each megabyte of main storage on your system. For example, if you have 12 megabytes of storage in your system, you need 12 main storage dump diskettes in the *CE Tools* magazine.

See *How to Prepare Main Storage Dump Diskettes* earlier in this section for instructions on preparing main storage dump diskettes.

- **To print a main storage stand-alone dump**, you need the main storage dump diskettes in the *CE Tools* diskette magazine that you prepared in the *Procedure for Performing a Main Storage Stand-Alone Dump*.
- **To print a virtual storage stand-alone dump**, you need the diskette magazine containing the virtual storage dump diskettes you prepared in the *Procedure for Performing a Virtual Storage Stand-Alone Dump*.

The procedure starts here.

Getting diskettes to perform the procedure.

**CAUTION**

While you are doing this procedure, you cannot do any other system work. Also, this procedure takes several hours. Do not do this procedure unless your service representative asks you to.

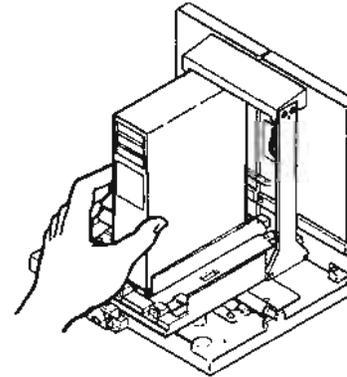
1 Check the following before continuing this procedure.



The *Service Library Vol 1* diskette magazine is in the magazine slot 1 of the diskette drive.



Where to put the magazine:



Put the magazine in the left magazine position of the diskette drive on the system unit.



If you are copying a main storage stand-alone dump from auxiliary storage to diskette, the *CE Tools* diskette magazine containing initialized diskettes you prepared in *How to Prepare Main Storage Dump Diskettes* is in magazine slot 2 of the diskette drive.

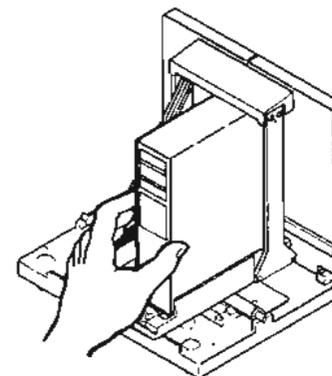
If you are printing a main storage stand-alone dump, the *CE Tools* diskette magazine containing the main storage stand-alone dump diskettes you prepared in *Procedure for Performing a Main Storage Stand-Alone Dump* is in magazine slot 2 of the diskette drive.

If you are printing a virtual storage stand-alone dump, the magazine containing the virtual storage dump diskettes you prepared in *Procedure for Performing a Virtual Storage Stand-Alone Dump* is in magazine slot 2 of the diskette drive.

**Note:** You can print only one type of stand-alone dump at a time.

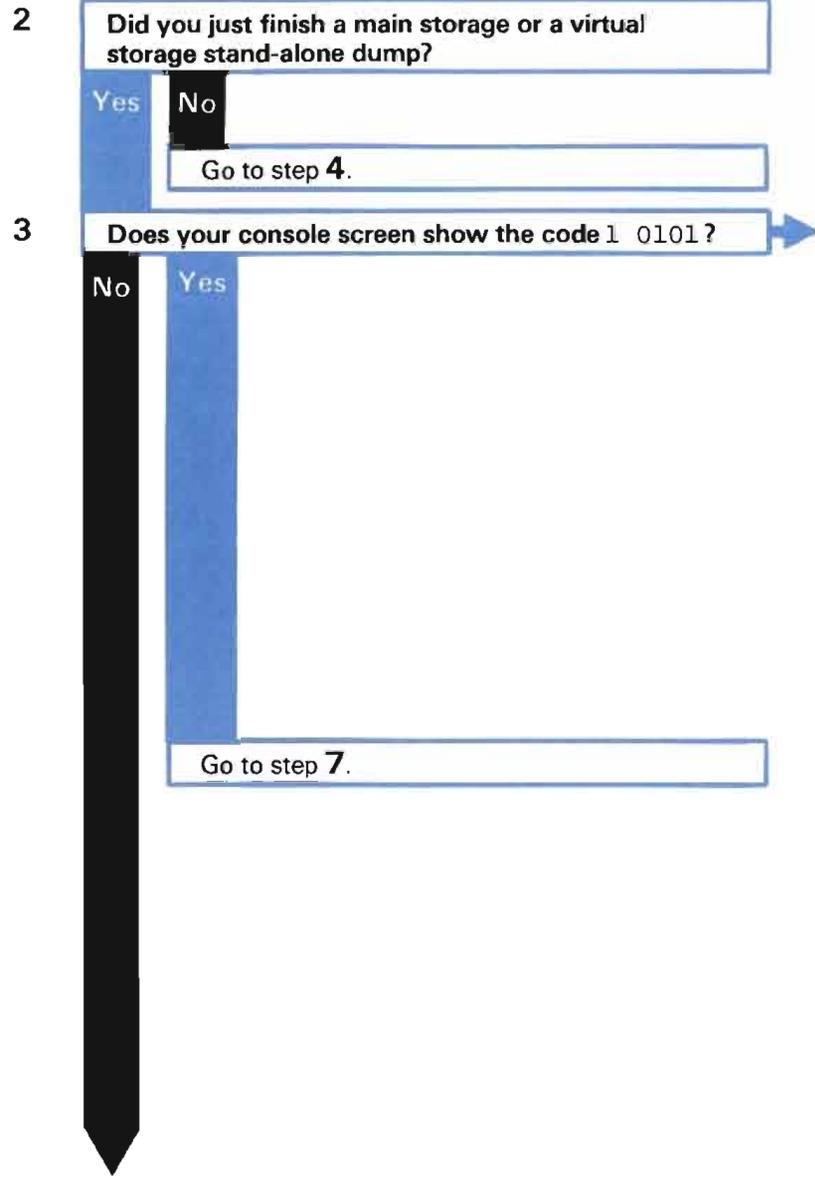
After you have checked the above items, continue this procedure.

Where to put the magazine:

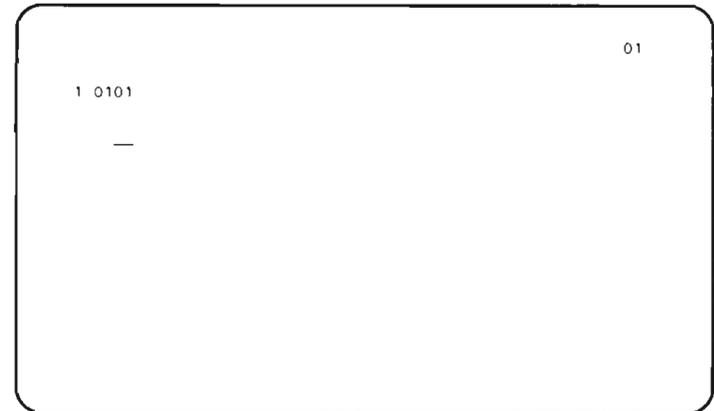


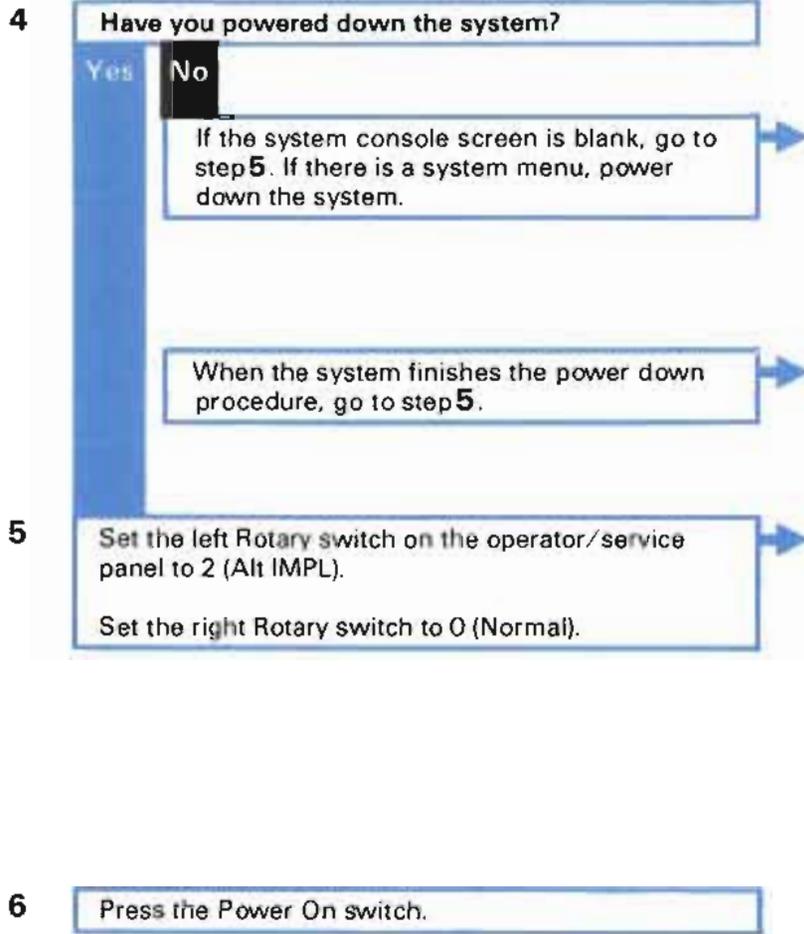
Put the magazine in the right magazine position of diskette drive on the system unit.

Preparing for the procedure.



Your screen looks like this:





**How to power down the system:**

Enter:

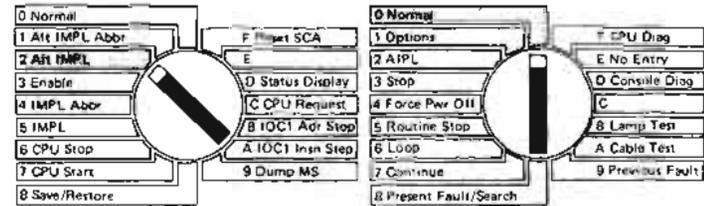
```
PWRDWN SYS OPTION (*immed)
```

Only use the \*immed option after making sure there are no jobs running in the system.

**How to know when the system is powered off:**

The Power On light on the operator/service panel turns off when the system has finished the power down procedure

**Set the switches like this:**



7

A code appears on your console screen. Enter 04 in the space under the code.

Where to enter the response:

01

1 0101

Enter a 4 here.

8

Did the code 1 0401 appear on your screen?

Yes No

Leave the system as it is until you are asked to do otherwise.

Record the code shown under item 7b of the *System/38 Problem Summary Form*.

Call your service representative. Explain that this code appeared while you were printing a stand-alone dump, and you cannot continue this procedure.

What the problem is:

There is a problem with the service monitor.

Where to record the code:

7 Record the following:

a. Completion code (if any):

b. Other codes (if any):

You can find copies of the form and instructions for using it, at the back of this guide.

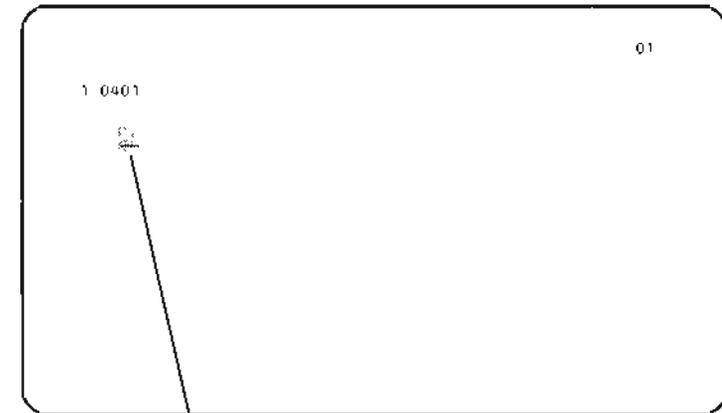
**Describing the print procedure to the system.**

**9**

Do one of the following:

- If you are printing a main storage stand-alone dump, enter 02 in the space under the code.
- If you are printing a virtual storage stand-alone dump, enter 03 in the space under the code.
- If you are copying a main storage stand-alone dump from auxiliary storage to diskette, enter 04 in the space under the code. Go to step **27**.

**Where to enter the response.**



Enter the code here.

**10**

**Did code 1 0405 appear on your screen?**

No

Yes

- If you are printing a main storage stand-alone dump from diskette, enter 01 in the space under the code.
- If you are printing a main storage stand-alone dump from auxiliary storage, enter 02 in the space under the code.

**11**

After a few minutes, the code 3 0403 appears on your console screen.

**What the system is doing:**

The system is getting ready to start printing

**12** Are you performing a print stand-alone dump for main storage?

Yes

No

Go to step **21**.

**13** Are you performing a main storage stand-alone dump from diskette?

Yes

No

Go to step **21**.

**14** Does your system have more than 8 megabytes of main storage?

Yes

No

Go to step **21**.

**15** Code 2 0404 0002 appears on your console screen.

Replace the magazine in magazine slot 2 with the second *CE Tools* magazine.

Press the Enter key.

16 Wait a few minutes.

17 Code 2 0404 0001 appears on your console screen.  
Replace the magazine in magazine slot 1 with the first *CE Tools* magazine.  
Press the enter key.

18 Wait a few minutes.

19 Continue exchanging the two *CE Tools* magazines as the codes 2 0404 0002 and 2 0404 0001 appear.

20 Wait a few minutes until a code other than 2 0404 0001 and 2 0404 0002 appears.

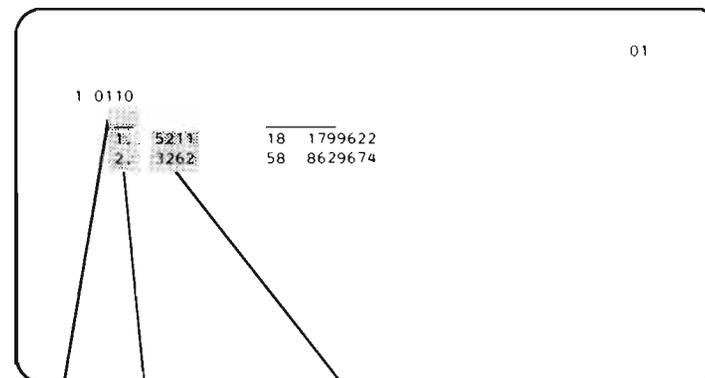
21 In a few more minutes, the following display describing your system printers, is shown on your console screen:

```
01  
  
1 0110  
1. 5211      18 1799622  
2. 3262      58 8629674
```



- 22 Enter the code for the printer you want the dump information printed on.

#### How to find the code for your printer:



Enter a 0 followed by the number shown on the display. In the example, to use the 3262 printer, enter: 02

23

Did the code: 1 0112 00000000000000000000  
appear on your console screen?

No

Yes

Press the Ready switch on your printer.

Enter 02 in the space under the code on the screen.

Go to step 25.

24

In the following chart, find the code shown on your screen.

Take the action described under *What you should do*.

Where to enter the response:



Enter a 02 here.



Code shown on the console screen:	What you should do:
1 0113 (followed by many 0's)	<p><b>a.</b> A problem occurred when the system tried to use the printer.</p> <p>Enter 02 in the space under the code shown on the console screen.</p> <p><b>b.</b> Go to step <b>25</b> following this chart.</p>
1 0114 (followed by many 0's)	
1 0115 (followed by many 0's)	<p><b>a.</b> There is a problem with your printer that you must fix before the system can print the dump information. For example, there might be a forms jam on the printer.</p> <p>Go to your printer and fix the problem.</p> <p><b>b.</b> Enter 02 in the space under the code shown on the console screen.</p> <p><b>c.</b> Go to step <b>25</b> following this chart.</p>
<p><b>Note:</b> If the code appears more than once, leave the system as it is. Call your service representative, and explain that you cannot finish this procedure.</p>	

25

When the code:

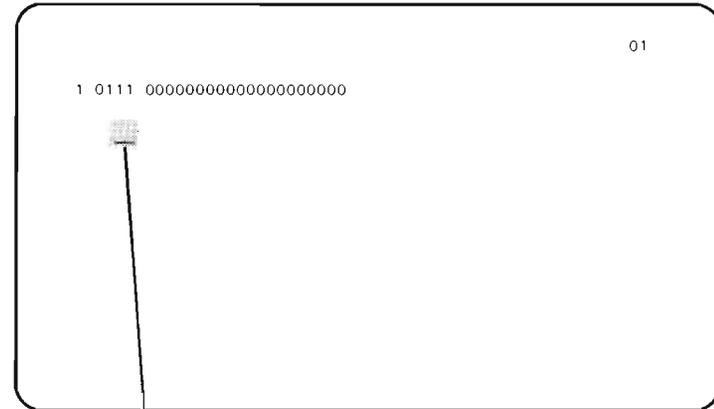
```
1 0111 00000000000000000000
```

appears on your console screen, do the following:

- a. In the chart below, find the code that describes the forms used by your printer.
- b. Enter that code in the space shown on the screen.

If your forms are this width:	If your printer prints this many lines per inch:	Enter this code:
216 mm (8.0 in)	8	01
216 mm (8.0 in)	6	02
279.4 mm (11.0 in)	8	03
279.4 mm (11.0 in)	6	04
355.6 mm (14.0 in)	8	05
355.6 mm (14.0 in)	6	06

Where to enter the code:



Enter the code here.



## Printing the dump information.

**26**

The code:

```
3 0116 00000000000000000000
```

appears on your console screen as the system prints the dump information.

This code might appear on your screen for many hours if you are printing a virtual storage stand-alone dump.

Go to step **31**.

Copying the dump information.

27 Did the code 2 0407 000x appear on your console screen?

No

Yes

Put the correct number of initialized diskettes in the *CE Tools* magazine.

Press the Enter Key.

Go to step 28.

28 Did the code 1 0406 00xx appear on your console screen (where xx is the code you last entered)?

No

Yes

Enter one of the following:

- 01 to stop the copy to diskette.
- 02 to rename the volumes and continue the copy to diskette.

Go to step 29.

29 Wait for the code on the console screen to change.

**What the problem is:**

You do not have the correct number of initialized diskettes in the *CE Tools* magazine. The x shows the number of diskettes required.

**What the problem is:**

One or more of the diskettes in the *CE Tools* magazine is not initialized DMS.



30

Did the code 2 0407 0000 appear on your console screen?

No

Yes

Mount the next magazine containing initialized DMS (dump main storage) diskettes. →

Press the Enter key.

Go back to step **27**.

**What the system is doing:**

The system has completed copying the dump information to this diskette magazine.

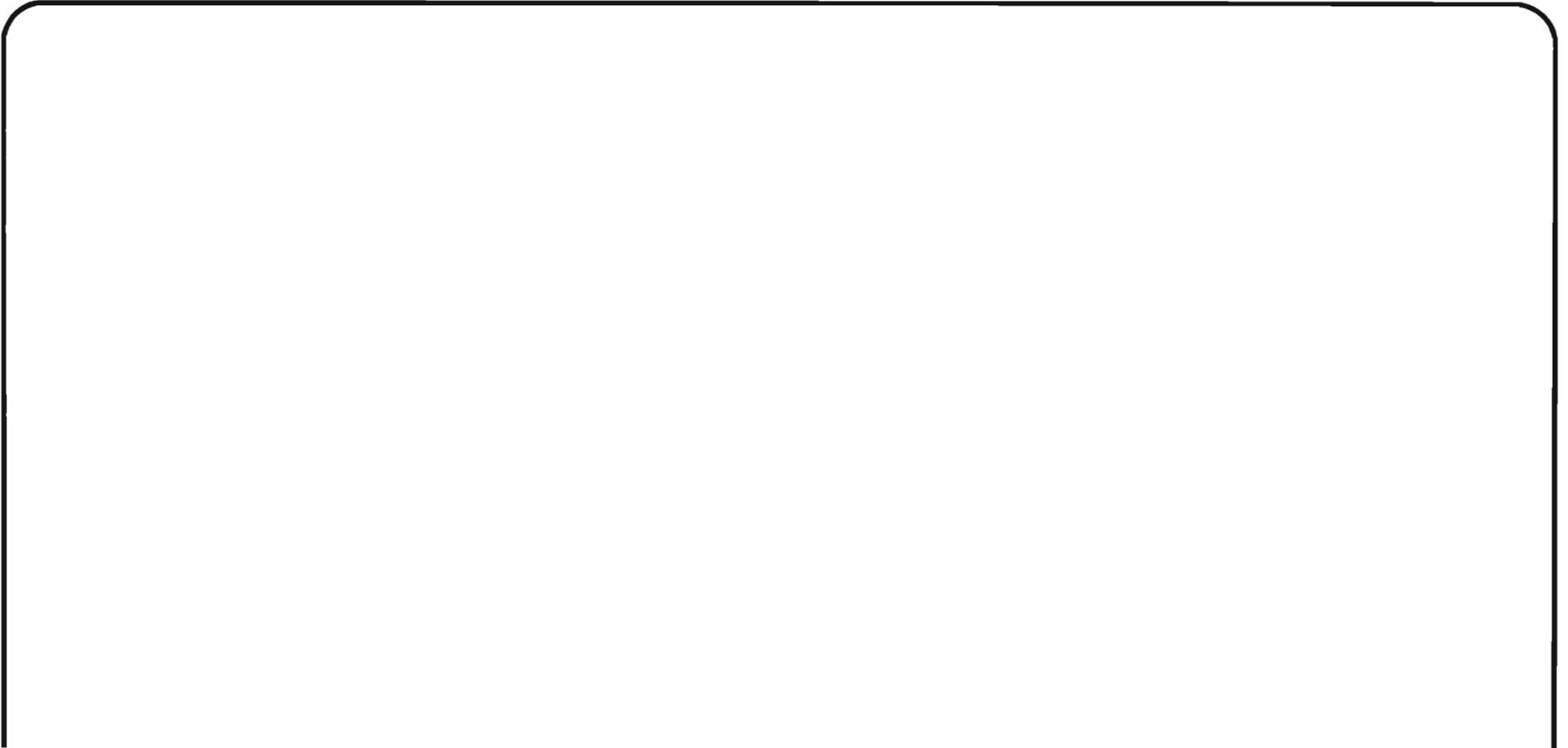
**Finishing the dump print or dump copy procedure.**

**31** When the system finishes printing or copying the dump information, the code 2 0402 00xx, where xx can be any number, appears on your console screen.

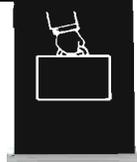
Find the last two characters of the code (the value of xx) in the following chart.

Take the action described under *What you should do*.





xx is:	What you should do:
00	<p>a. The system printed or copied the dump information successfully.</p> <p>b. Go to step <b>32</b> following this chart.</p>
01	<p>a. The system could not print the dump information.</p> <p>Leave the system as it is until you are asked to do otherwise.</p> <p>b. Record this code under item 7b on the <i>System/38 Problem Summary Form</i>. You can find copies of the form and instructions for using it at the back of this guide.</p> <p>c. Call your service representative. Explain that the system could not print the dump information.</p> <p>d. Go to step <b>32</b> following this chart.</p>
02	<p>a. The system could not print part or all of the main storage dump information.</p> <p>Record the code now shown on your console, at the beginning of the printout.</p> <p>b. Go to step <b>32</b> following this chart.</p>
03	<p>a. The system could not print part or all of the virtual storage dump information.</p> <p>Record the code shown on your console at the beginning of the printout.</p> <p>b. Go to step <b>32</b> following this chart.</p>
04	<p>a. The system could not print part or all of the main storage or virtual storage dump information.</p> <p>Record the code shown on your console at the beginning of the printout.</p> <p>b. Go to step <b>32</b> following this chart.</p>
05	<p>a. The system could not copy part or all of the main storage dump information.</p> <p>Record the code shown on your console at the beginning of the printout.</p> <p>b. Go to step <b>32</b> following this chart.</p>



32 Press the Enter key.

33 The code 1 0103 appears on your console screen. 

Your screen looks like this:

```
01  
1 0103  
—
```

34

Do one of the following:

- **If you want to print another stand-alone dump, do the following:**

- Enter 01 in the space under the code shown on your console screen.
- The code 1 0120 appears on your console screen.
- Enter 01 in the space under the code on the screen.
- The code 1 0101 appears on your console screen.
- Go back to step 1.

- **If you want to power down the system:**

- Set the left Rotary switch on the operator/service panel to 3 (Enable).

Set the right Rotary switch to 4 (Force Pwr Off).

- Press the Load Switch.

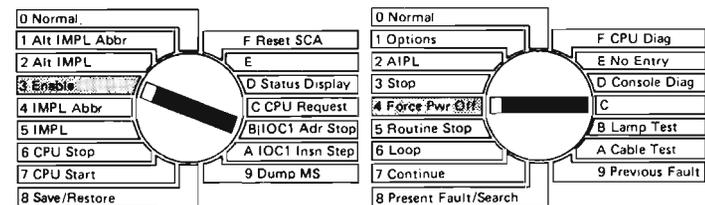
- **If you want to perform a virtual storage stand-alone dump, go to *Procedure for Performing a Virtual Storage Stand-Alone Dump* on page 4-25.**

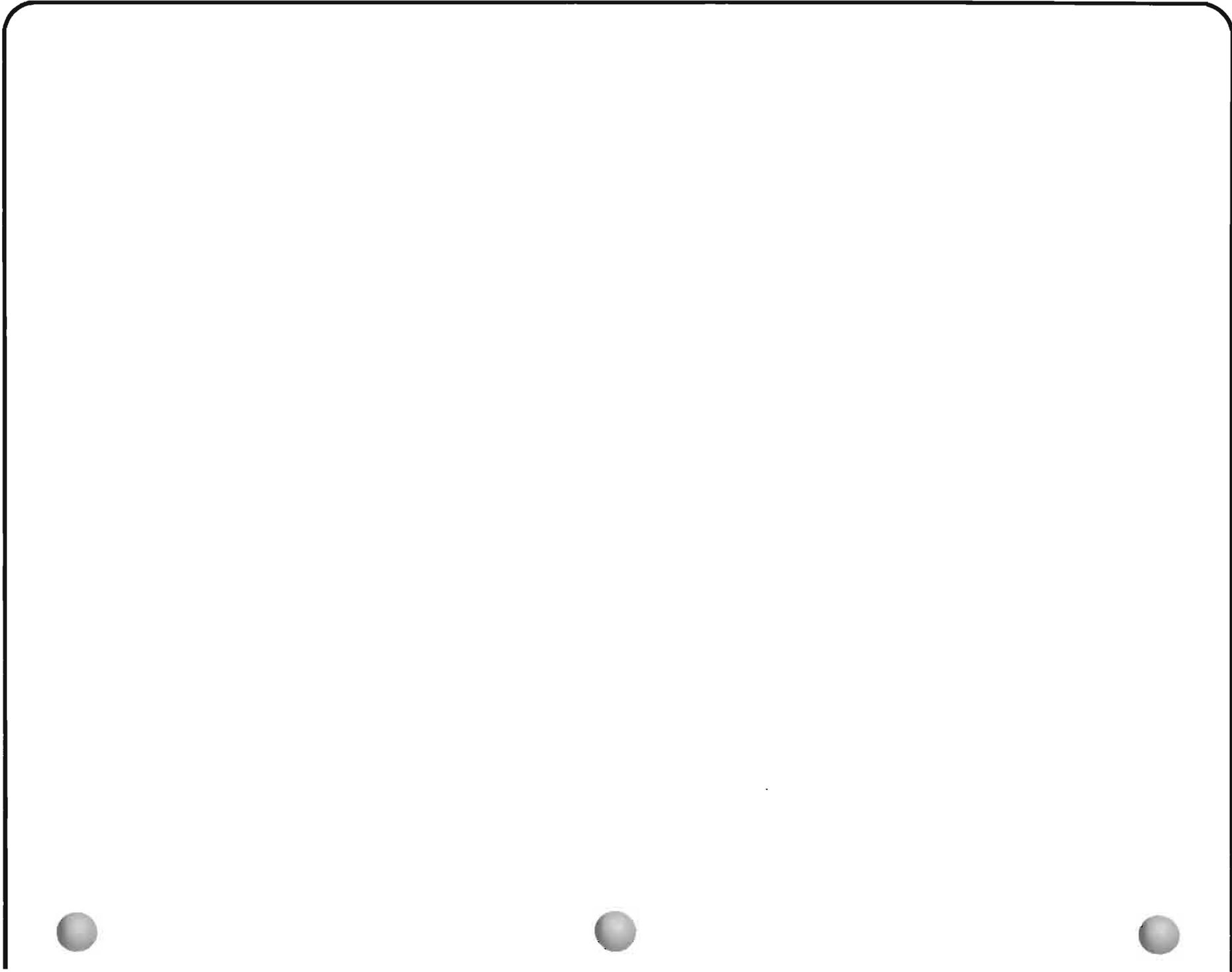
- **Otherwise:** do an IMPL. See the *System/38 Operator's Guide* for instructions.

This process may take longer than usual.

Continue normal system work.

How to set the switches:





### When You Receive a VMC Error Log Identifier

Entries are written into the VMC error log (VLOG) during normal system operation. If there is a machine check or object damage, a VMC error log identifier is returned so that the VLOG entry can be identified later.

If you receive a message with a VMC error log identifier, continue normal system operations. If the message or other messages continue to occur, contact your IBM service representative and report the VMC error log identifier.

### When to Use This Procedure

Use this procedure when one of the following happens:

- Your service representative asks you to **dump** (get machine information about) a job with a problem.
- You have a problem with a job and want more detailed information about that problem.

**Dump information** is job information copied directly from the system in machine format and also in an English format. Your programmer, or service representative, can read the dump information to see how a program ran, and what information was used when the program ran.



The procedure starts here.

Getting information to do the procedure.

- 1 Get the following information before continuing this procedure.



The name of the job you want to get information about. →

**How to get the job name:**

If the job is a work station job, enter:

DSPJOB

at the work station where the job is active.

When the display job menu appears on your screen, get the job name from the top of the screen:

```

Job: WSL      User: QUSER      Nbr: 009933
DISPLAY JOB MENU
Select one of the following:
 1. All of 2 through 11
 2. Status attributes
 3. Definition attributes
 4. Execution attributes, if active
 5. Program invocation stack, if active
 6. Spooled files
 7. Locks, if active
 8. Commitment control status, if active
 9. Library list, if active
10. Open files, if active
11. File overrides, if active

Option: 1

CF3-CHGJOB
  
```

This is the job name. WSL, QUSER, 009933

If the job is a batch job, ask the user who started the job.



The job you are getting information about, is running.

If the job is not running, you cannot do this procedure.

After you get this information, continue this procedure.



### How to find out if a job is running:

Display all active jobs by entering:

```
DSPACTJOB
```

On the display, find the name and status of the job you are interested in.

If you can find the job name, the job is active.

If the job has the status, `DEQW`, `EVTW`, or `EXC`, the job is running.



### Preparing for the dump procedure.

**2** Go to a work station other than the one where the job is running (work station jobs), or was started (batch jobs).

Do steps **3**, **4**, **5**, and **6** from that work station, as work continues at the work station where the job is running.

**3** Put the job you are dumping in service mode.

**4** In the following chart, find the type of dump information you want to print.

Take the action described under *How to perform the dump*.

#### Why you go to another work station:

You command the dump function from another work station, as you continue working at the work station whose job you are getting information about.

#### How to start service mode:

Enter:

```
SRVJOB JOB(wsl.quser.009933)
```

Replace `wsl.quser.009933` with the name of the job you are getting dump information about.

**Service mode** is a method of system operation that lets you see machine information about a job.

Type of dump information you want to print:	How to perform the dump:
All programs, user-created objects, and system objects used in the job (also called the basic data structures of the job).	<p>a. Enter:</p> <pre>DMPJOB</pre> <p>b. Go to step <b>5</b> following this chart.</p>
Definition of a user-created object, such as a file used in the job.	<p>a. Enter:</p> <pre>DMPOBJ OBJ (orderin.ordent) OBJTYPE(*file)</pre> <p>Replace <code>orderin</code> with the name of the object you want information on.</p> <p>Replace <code>ordent</code> with the name of the library that object is in.</p> <p>Replace <code>file</code> with the type of object you are getting information about.</p> <p>b. Go to step <b>5</b> following this chart.</p>
Definition of a system object (an object that was supplied with the system), such as a user profile, used in the job.	<p>a. Enter:</p> <pre>DMPYSOBY OBJ(qconsole) CONTEXT(*MCHCTX) OBJTYPE(*devd)</pre> <p>Replace <code>qconsole</code> with the name of the object you want information on.</p> <p>Replace <code>devd</code> with the type of object you are getting information about.</p> <p><b>Note:</b> If you want information on an object other than a device, line or control unit description, user profile, or library, see the <i>CL Reference Manual</i> for instructions on entering this command.</p> <p>b. Go to step <b>5</b> following this chart.</p>
Information about a machine process performed by the system as the system did the job.	<p>a. Enter:</p> <pre>DMPJOBINT</pre> <p>b. When the system finishes the dump process, you receive a message.</p> <p>c. In the message, note the <b>dump identifier</b>.</p> <p>d. Then enter:</p> <pre>LSTINTDTA TYPE(*DMP) DMPID(0102FA3C)</pre> <p>Replace <code>0102FA3C</code> with the dump identifier you received when the system finished the <code>DMPJOBINT</code> command.</p> <p>e. Go to step <b>5</b> following this chart.</p>



### Finishing the dump procedure.

**5**

The system prints this information.

If you used the `LSTINTDTA` command to perform the dump, the system puts the dump information in a spooled output file named `QPCSMPT`.

If you did not use the `LSTINTDTA` command to perform the dump, the system puts the dump information in a spooled output file named `QPSRVDMP`.

**6**

End service mode.

**7**

Continue normal system work.

### How to start printing:

The system starts printing when the spooling subsystem is active, a printer writer is started to the output queue where the system sent the dump information, and a printer is ready.

### How to end service mode:

Enter:

`ENDSRV`

at the work station where you started service mode.

### When to Use This Procedure

Use this procedure when one of the following happens:

- Your service representative asks you to **trace** a job with a problem.
- You have a problem with a job, and want more detailed information about the problem.

**Trace information** is a record of what happened at certain job steps. Some trace information recorded major job steps only; other trace information records every job step. A programmer can look at a trace to see if the system performed job steps in the correct order.



The procedure starts here.

Getting information to do the procedure.

- 1 Get the following information before continuing this procedure.



The name of the job you want to trace.



#### How to get the job name:

If the job is a work station job, enter:

DSPJOB

at the work station where the job is active.

When the display job menu appears on your screen, get the job name from the top of the screen:

```

Job: WST1 User: QUSER Nbr: 009933
DISPLAY JOB MENU
Select one of the following:
 1. All of 2 through 11
 2. Status attributes
 3. Definition attributes
 4. Execution attributes, if active
 5. Program invocation stack, if active
 6. Spooled files
 7. Locks, if active
 8. Commitment control status, if active
 9. Library list, if active
10. Open files, if active
11. File overrides, if active

Option: 1

CF3-CHGJOB
  
```

This is the job name: WST1.QUSER.009933.

If the job is a batch job, ask the user who started the job.



Whether the job you are tracing is running.

If the job is not running, you cannot do this procedure.



After you get the information, continue this procedure.

### How to find out if a job is running:

Display all active jobs by entering:

```
DSPACTJOB
```

On the display, find the name and status of the job you are interested in.

If you can find the job name, the job is active.

If the job does not have the status, SRQ, HLD, CNL, or INEL, the job is running.



### Preparing for the trace procedure.

**2** Go to a work station other than the one where the job is running (work station jobs), or was started (batch jobs).

Do steps **3**, **4**, **5**, and **6** from that work station, as work continues on the job you are tracing.

**3** Put the job you are tracing in service mode.

**4** In the following chart, find the type of program action you want to trace. Take the action described under *How to perform the trace*.

### Why you go to another work station:

You command the tracing function from another work station, as you continue work at the work station whose job you are tracing.

### How to start service mode:

Enter:

```
SRVJOB JOB(wsl.quser.009933)
```

Replace `wsl.quser.009933` with the name of the job you are tracing.

**Service mode** is a method of system operation that lets you display machine information about a job.

Type of program action you want to trace:	How to perform the trace:
<p>Program calls and returns (each program used in the job in the order those programs were used).</p>	<p>a. Enter:</p> <pre>TRCJOB</pre> <p>b. Go to step <b>5</b> following the chart.</p>
<p>Each job step, shown as the system performs that step below the <b>machine interface</b>.</p>	<p>a. Find the code for the type of trace you want to perform (such as a task switch trace), on the following page.</p> <p>b. Enter:</p> <pre>TRCINT SET (*CNL) TRCINT SET (*ON)TRCTYPE (010600 050700)</pre> <p>Replace 010600 050700 with the codes of the traces you want the system to do. If you want the system to do only one type of trace, enter only the one code. If you want the system to do more than one type of trace, leave a space between each code you enter.</p> <p>c. Go to step <b>5</b> following the chart.</p>



Type of trace information you want:	Code to use:
System/38 instruction supervisor linkage (SVL) trace	030000
Multiprogramming level (MPL) trace	040000
Task switch trace	060000
Component Data trace	
Resource management	010100
Exception management	010200
Program management	010300
Data base management (events for all data base files will be traced)	010400
Process management	010500
Event management	010600
Queue management	010700
Load/dump (save/restore)	010801
Machine services control point	010802
Source/sink device (device support)	010803
5250 pass-through support	010804
Authority management	010900
Context management	011000
Auxiliary storage management	011101
Main storage management (invocations)	011102
Main storage management (details)	011103
Storage management (ERP)	011104
All storage management	011105
Common functions	011200
Machine observation	011300
Independent index management	011400
Space object management	011500
Journal management	011600
Commitment	011700
Component call trace	
Common functions	050100
Authority management	050200
Context management	050400
Data base management	050500
Exception management	050600
Event management	050700
Independent index management	050800

**Type of trace information you want:**

Journal management  
Process management  
Program management  
Resource management  
Source/sink (device support) management  
Space object management  
Machine services control point  
Machine observation  
Recovery management  
Queue management

**Code to use:**

050900  
051000  
051100  
051200  
051300  
051400  
051500  
051600  
051700  
051800



### Finishing the trace procedure.

5 When you are ready to stop tracing the job, stop the trace function. 

6 The system puts the trace information in a spooled output file. 

The system prints this information. 

7 End service mode. 

8 Continue normal system work.

#### How to stop the trace:

If you started tracing with the TRCJOB command, enter:

```
TRCJOB SET (*OFF)
```

If you started tracing using the TRCINT command, enter:

```
TRCINT SET (*OFF)
```

#### Which spooled output file:

If you started tracing with the TRCJOB command, the system writes the information into the file QPSRVTRC.

If you started tracing with the TRCINT command, the system writes the information into the file QPCSMPT.

#### How to start printing:

The system starts printing when the spooling subsystem is active, a printer writer is started to the output queue where the system sent QPSRVTRC or QPCSMPT and a printer is ready.

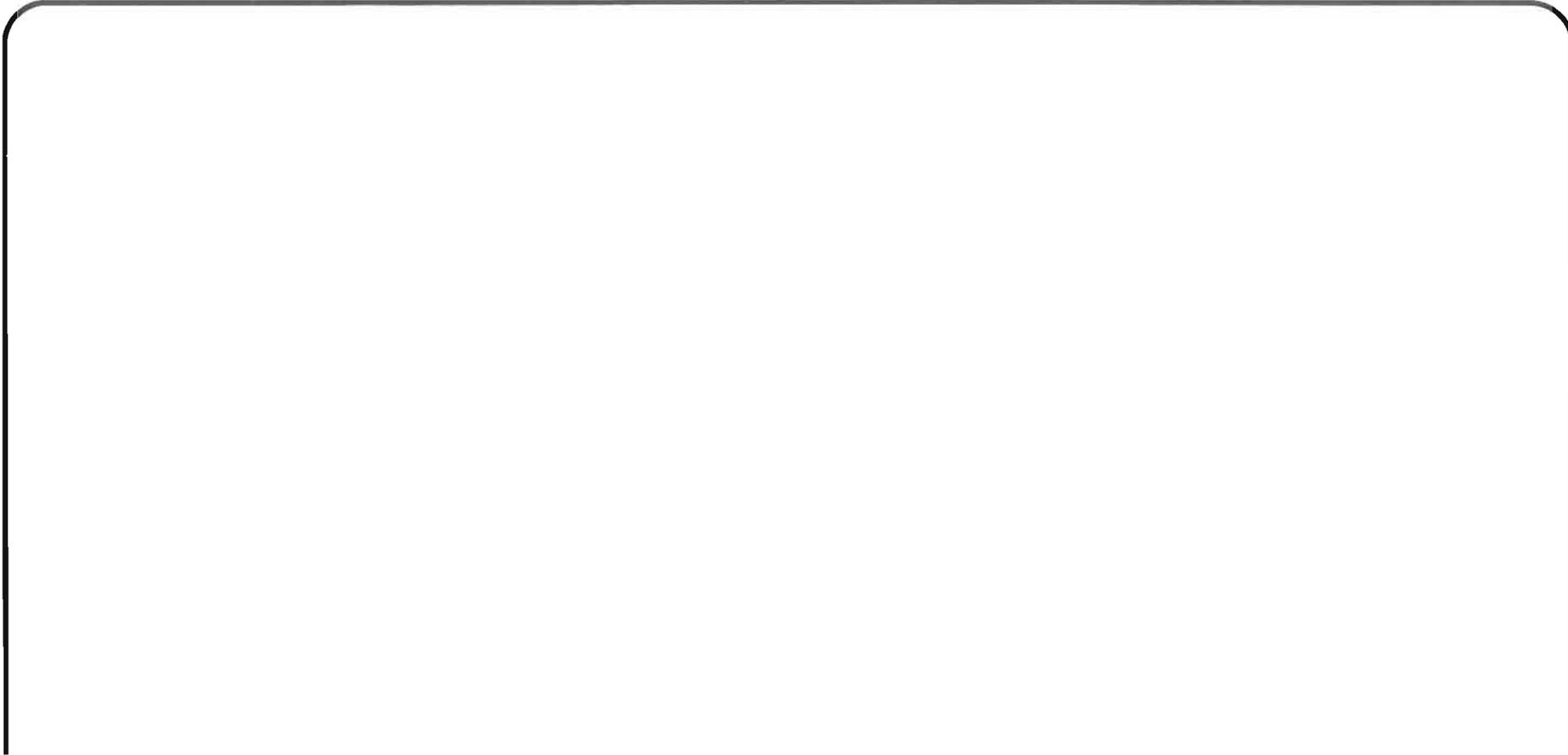
#### How to end service mode:

Enter:

```
ENDSRV
```

at the work station where you started service mode.





**When to Use This Procedure**

Use this procedure when your service representative asks you to.

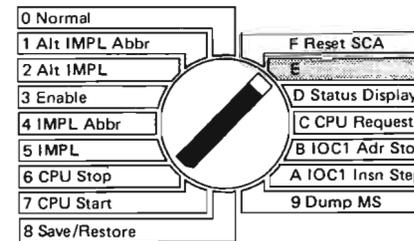


**The procedure starts here.**

**Note:** This procedure does not work for communications lines A0, A1, A2, and A3.

**1** Set the left rotary switch to E.

**How to set the left rotary switch:**



**2** Get the number of the line to be tested.

**How to get the line number:**

Display the description of the line to be tested by entering:

```
DSPLIND LIND (lin22nybsc)
```

Replace `lin22nybsc` with the name of the line to be tested.

When the line description appears on your screen, check its `LINNBR` (line number).

Look at the chart to the right to decide how to set the right rotary switch:

Line number:	Set the right rotary switch to:
20	0 (Normal)
21	1 (Options)
22	2 (AIPL)
23	3 (Stop)
60	8 (Present Fault/Search)
61	9 (Previous Fault)
62	A (Cable Test)
63	B (Lamp Test)

**3** Press the Load switch.

4

Some of the lights numbered 0 through 15 may turn on or blink.

The Machine Check light might also turn on. However, this test shows only problems on a line, not in the system.

5

Record which lights are on or blinking, under item 5 of the *System/38 Problem Summary Form*.

When you speak to your service representative, report the pattern that you recorded.

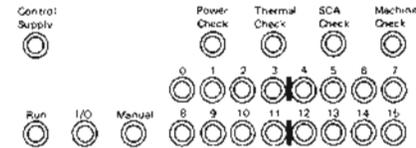
**What these lights tell you:**

The following table shows the meaning of lights 8 through 15.

Light Number	Associated Interface Line	Active Line	Inactive Line
8	Data Terminal Ready (DTR)	On	Off
9	Data Set Ready (DSR)	On	Off
10	Receive Line Signal Detect (RLSD)	On	Off
11	Request to Send (RTS)	On	Off
12	Clear to Send (CTS)	On	Off
13	Receive Data (RD)	Blinking	On or off
14	Send Data (SD)	Blinking	On or off
15	Valid Data	On	Off

**Where to record the code:**

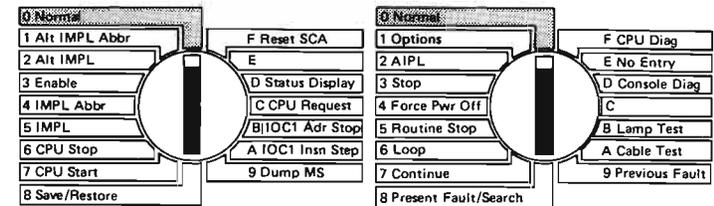
5 Lights (mark with an X any indicators that are on)



You can find copies of the form, and instructions for using it at the back of this guide

- 6 To end this procedure and turn off the lights set both rotary switches to 0 (Normal).

#### How to set your switches:



- 7 Press the Load switch.

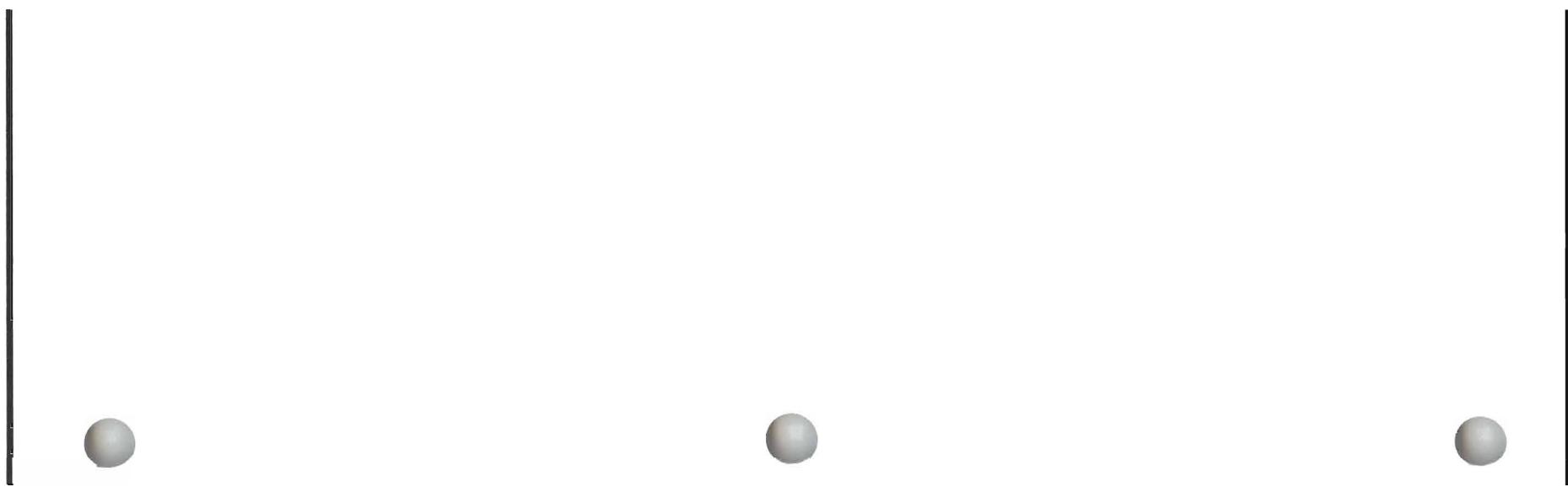
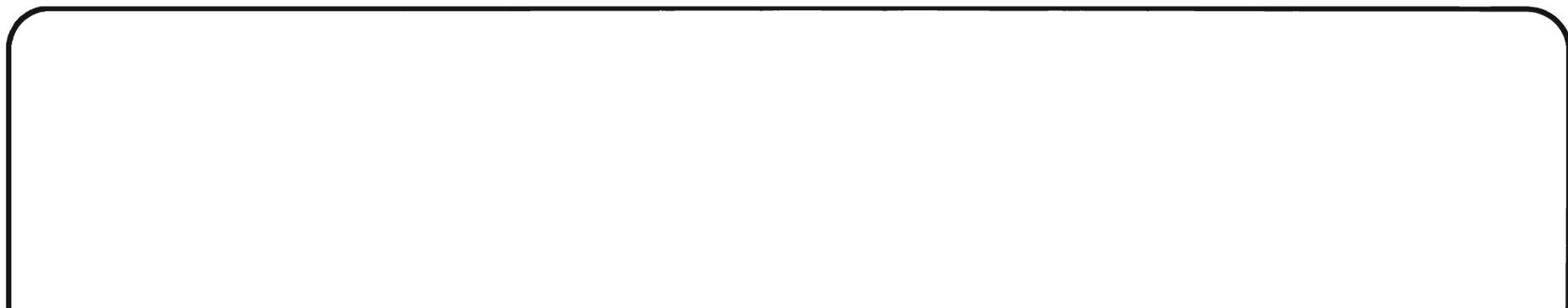
- 8 Continue normal system work.

### **When to Use This Procedure**

Use this procedure only when a service representative asks you to prepare an APAR (Authorized Program Analysis Report).

IBM personnel can examine this information to see what caused the program problem.





The procedure starts here.

1 **Is the problem limited to a BASIC source program that is run interactively (not compiled)?** →

No

Yes

Enter BGNBAS to begin the BASIC session.

Enter LOAD member-name (Replace member-name with the name of your BASIC source file number.)

Enter CALL QBADTREE to get a printed listing of the internal tree structure of your program.

Enter LISTP to get a printed list of your program.

Label the printed information with your account name and the date and time the problem occurred.

Go to step 5.

If you do not know if the BASIC source program is interactive or compiled, ask your programmer



2 Is the problem limited to a COBOL, RPG III, PL1, or compiled BASIC program?

Yes

No

Go to step 5.

3 Do you already have this information about the program:

- Cross-reference source program listing (all program types except BASIC).
- IRP listing (all program types).
- Compile time dump if there was a compiler exception (RPG III programs only).
- I-text listing (COBOL programs only).
- Dictionary dump (COBOL programs only).

No

Yes

Collect this printed information, and label it with your account name, and the date and time the problem occurred.

Go to step 5.

4 Compile the program again. Get the information requested in step 2 when you compile the program. 

Label the printed information with your account name, and the date and time the problem occurred.

#### How to compile the program:

See the description of the CRTCLPDM, CRTRPGDM, or CRTBSPGM in the *CL Reference Manual*.

5 Load a save/restore diskette in the diskette drive. →

6 Enter the PRPAPAR command. Make sure you get the following information: →

- Source program, if any ( INCPGM parameter)
- DDS files affected by the problem, if any ( INCFILE parameter)
- Applied program changes ( INCSPLF parameter)
- System history log (QHST) ( INCSPLF parameter)
- System service log (QSRV) ( INCSPLF parameter)
- Programming change log (QCHG) ( INCSPLF parameter)
- Dumps that have been taken (such as with the DMPJOB or DMPOBJ commands) ( INCSPLF parameter)

7 When the system finishes writing the APAR diskette, label the diskette with your account name, and the present date and time.

8 Continue normal system work.

**How to put a diskette in the save/restore format:**

See the *System/38 Operator's Guide* for instructions.

**How to enter the PRPAPAR command:**

Your service representative should have told you what values to enter with the command.

Otherwise, see the *CL Reference Manual* for information on how to enter the command.





### When to Use This Procedure

Use this procedure when your service representative asks you which programming changes were installed on your system.

Programming changes are changes to a program product, such as CPF or RPG III, that IBM sends you sometimes after you install a version of that product. By checking the programming changes installed on your system, your service representative can see if a change that you have not yet installed includes the solution to the problem.



The procedure starts here.

1

Find the type of report you want to print in the following chart.  
Take the action described under *How to print the report*.

Type of report you want:	How to print the report:
All programming changes installed on your system.	<p>a. Enter:</p> <p style="text-align: center;">DSPPGMCHG OUTPUT (*LIST)</p> <p>b. Go to step <b>2</b> following this chart.</p>
One programming change, such as programming change 5614-1 to CPF (program product 5714-SS1).	<p>a. Enter:</p> <p style="text-align: center;">DSPPGMCHG PGMID (5714ss1) SELECT (561401) OUTPUT (*LIST)</p> <p>Replace 5714ss1 with the ID number of the program product of interest.</p> <p>Replace 561401 with the ID number of the programming change of interest.</p> <p>Remove the hyphen (-) in the number of the program product.</p> <p>b. Go to step <b>2</b> following this chart.</p>

2

When the programming changes are printed, label the printed information with your account name, and today's date.

3

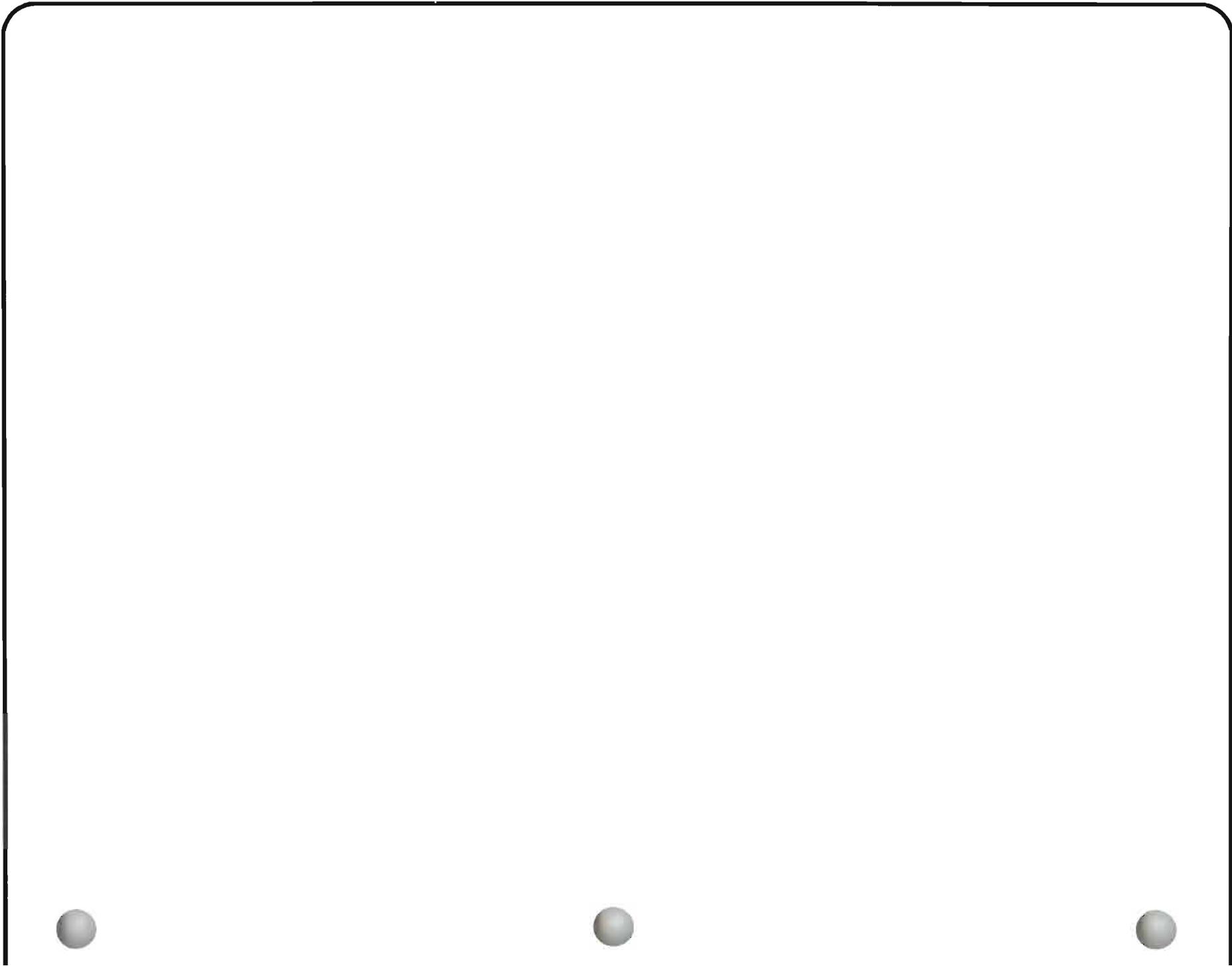
Continue normal system work.

#### How to print the programming changes:

After you request the printout, the system puts the information in a spooled output file named QPDSPPC.

The system prints the information when the spooling subsystem is active, a printer writer is started to the output queue where the system sends QPDSPPC, and a printer is ready.





### When to Use This Procedure

Use this procedure when your service representative asks you to print the engineering change log.

The engineering change log is a record of all engineering (microcode) changes installed on your system. By checking the engineering changes installed on your system, your service representative can see if a change you have not yet installed includes the solution to your problem.



The procedure starts here.

1

Enter:

```
LSTINTDTA TYPE(*ECLOG)
```

2

When the system prints the engineering change log, label the log with your account name, and today's date.



#### How to print the change log:

After you enter the command to print the engineering change log, the system puts the log in a spooled output file named QPC SMPRT.

The system prints the log when the spooling subsystem is active, a printer writer is started to the output queue where the system sends QPC SMPRT, and a printer is ready.

3

Continue normal system work.

### When to Use This Procedure

Use this procedure when your service representative asks you to print the machine error log.

The machine error log is a detailed list of all errors that occurred on the system, including codes that describe those errors in more detail. Your service representative can use this information to find out why a problem occurred, or which part of a device has the problem.



**The procedure starts here.**

**1**

Look at the following chart.

Find the type of report you want to print, and take the action described under *How to print the report*.

Type of report you want to print:	How to print the report:
Summary report of all system errors (shows error codes only)	<p>a. Enter:</p> <p style="text-align: center;">LSTERRLOG</p> <p>b. Go to step <b>2</b> following this chart.</p>
Detailed report of all system errors (includes description of errors)	<p>a. Enter:</p> <p style="text-align: center;">LSTERRLOG TYPE (*DEV)</p> <p>b. Go to step <b>2</b> following this chart.</p>
Report of errors for the processing unit only	<p>a. Enter:</p> <p style="text-align: center;">LSTERRLOG TYPE (*MCH)</p> <p>b. Go to step <b>2</b> following this chart.</p>
Report of errors for a certain device (other than the processing unit)	<p>a. Enter:</p> <p style="text-align: center;">LSTERRLOG TYPE (*DEV) DEV (wsc1)</p> <p>Replace wsc1 with the name of the device you are printing the error log for.</p> <p><b>Names of certain devices:</b> Use the hardware name (OU number) for the device. If you do not know the hardware name for the device, ask your programmer.</p> <p>The hardware names for 3370 auxiliary storage devices are 3370x or 3370yy, where x is a sequence number from 1 to 9 (for example, 33701, 33702) and yy is a number from 10 to 16 (for example, 337016).</p> <p>The hardware names for 62PC disk drives are 62PCx. x is a sequence number from 1 to 6; for example, 62PC1, 62PC2.</p> <p>b. Go to step <b>2</b> following this chart.</p>

2

When the error log is printed, label the log with the name of the affected device (if any), and your account name.

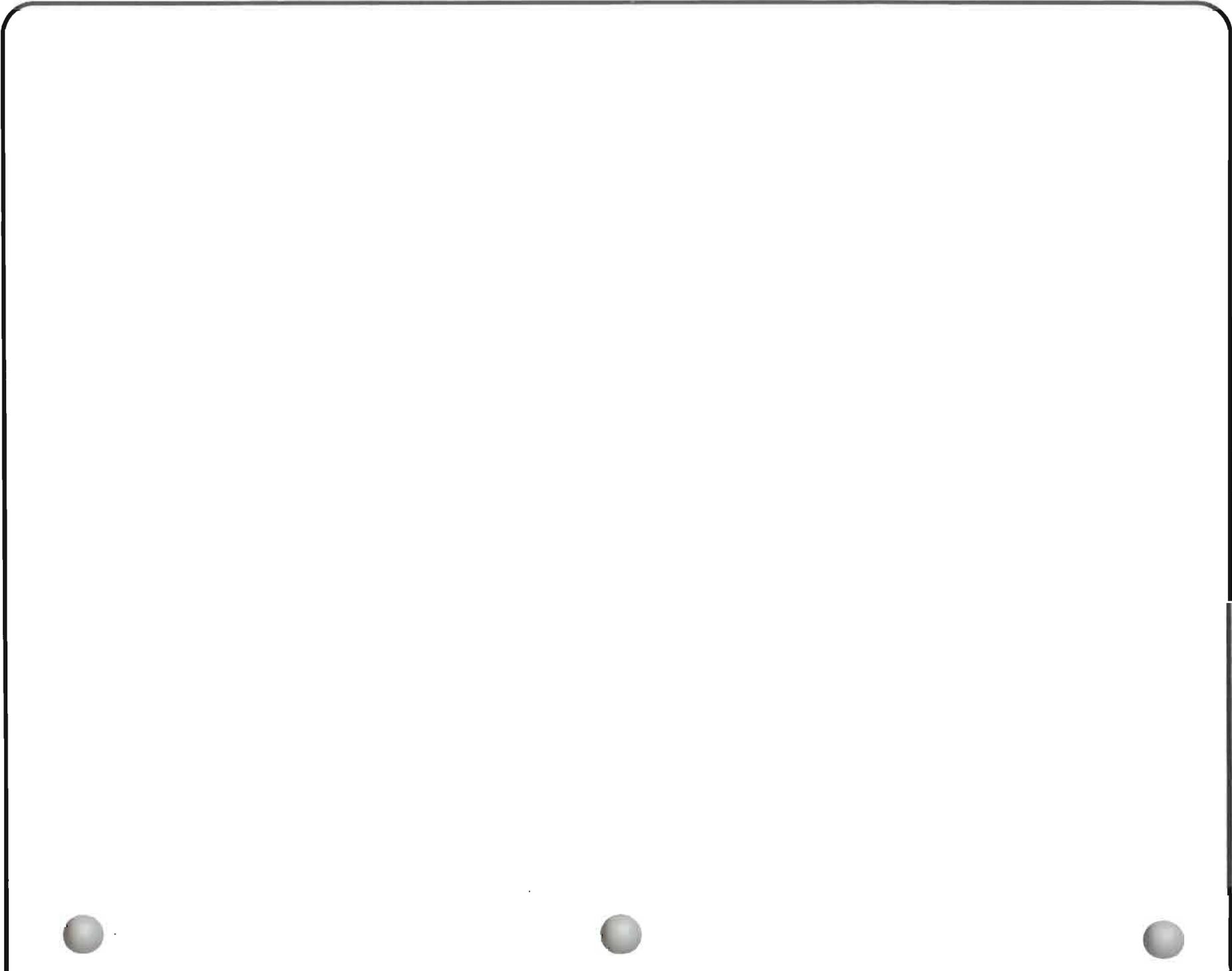
3

Continue normal system work.

#### How to print the error log:

After you enter the command to print the error log, the system puts the information in a spooled output file named `QPC.SMPRT`

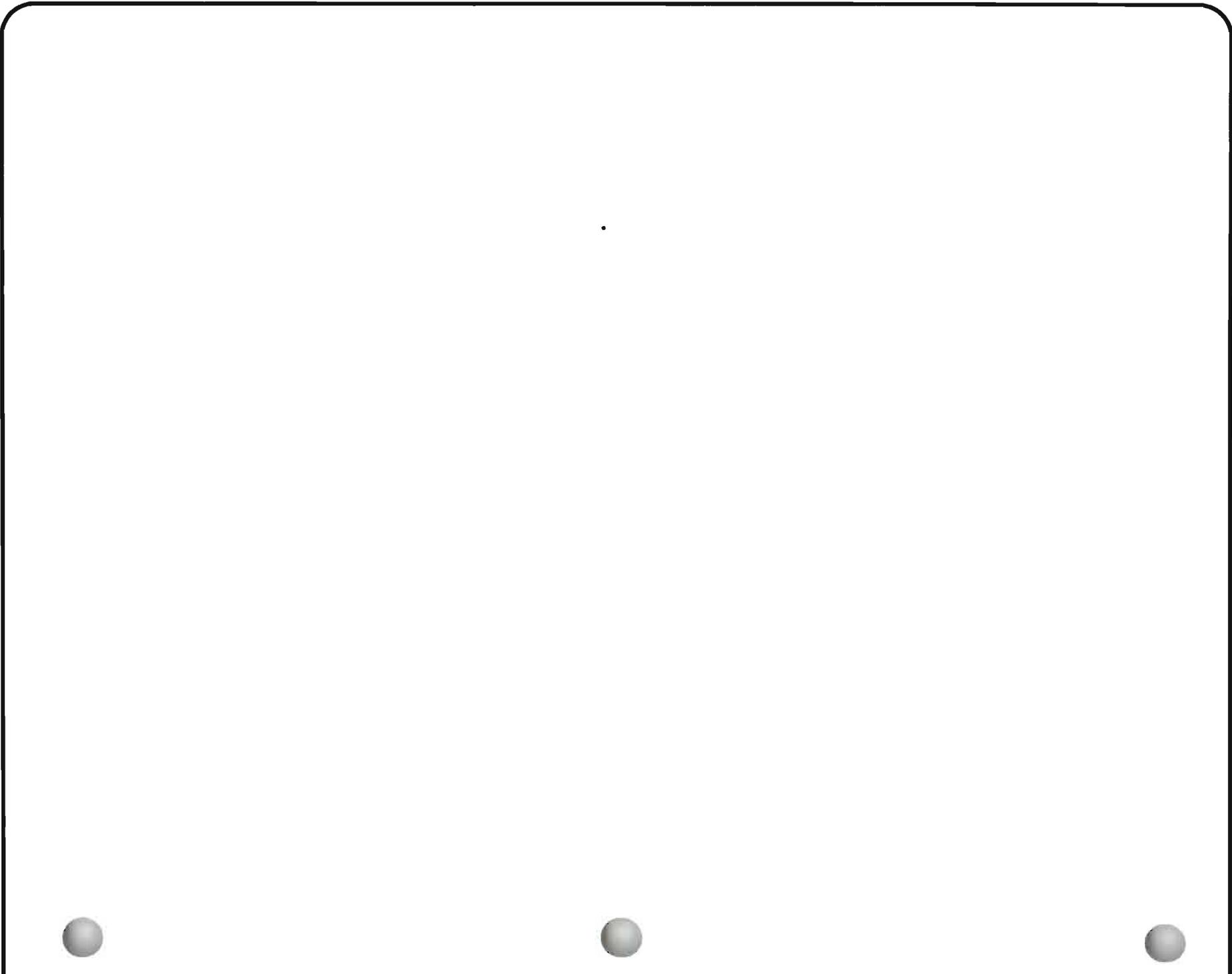
The system prints the error log when the spooling subsystem is active, a printer writer is started to the output queue where the system sends a `QPC.SMPRT`, and a printer is ready.



This section describes how to complete each of these forms:

- *System/38 Problem Summary Form*
- *System/38 Communications Problem Summary Form*

This section also contains several copies of each form.



## How to Complete the System/38 Problem Summary Form

Use this form to record information about all system problems, except those with communications lines and remote equipment.

### Information to Record

The following describes the information needed by your service representative, and if possible, the procedure in this guide where you can find that information. You can find copies of the *System/38 Form* following this discussion. Feel free to remove these forms from the guide.

- 1 Account name:** The name of your company.
- 2 System operator:** The name of the person reporting the problem.
- 3 Date:** Date the problem occurred.
- 4 Time:** Time the problem occurred.
- 5 Lights:** Mark with an X any light on the operator/service panel that is on.
- 6** Record the following codes. When you call for service, report the **first code** that you record in this section as the **system reference code**.
  - a. Code shown on the system console screen:** See step 1 in Procedure A: *System Problem* in Chapter 1, for more information.
  - b. Indicator code:** See step 2 in Procedure A: *System Problem*, in Chapter 1 for more information.
  - c. First eight characters of the error log number:** See *Error Log Numbers*, in Chapter 2 for a description of error log numbers.
- 7** Record the following codes. Do **not** report the codes recorded in this section as system reference codes.
  - a. Completion codes:** Codes from any completed test (such as the dump procedures in Chapter 4).
  - b. Other codes:** List other codes you have not recorded already.

- 8 Device(s) affected by the problem (name and machine type):** The names of each device affected by the problem. Use the name usually used when referring to the device.

Give the manufacturer's name and model number for the device (such as IBM 5251 Display Station, Model 11).
- 9 Latest release of CPF:** The most recent version of the System/38 Control Program Facility (CPF) (Program Product 5714-SS1), installed on your system. If you do not know this information, ask your programmer.
- 10 Describe the problem** and record any other information you think your service representative might find useful to fix the problem. Also, gather any information you collected as you did the procedures (such as dump diskettes and error logs).

### **How to Complete the Form**

You fill in the information asked for, in the appropriate spaces.

For example, if your system stopped working, and the following occurred:

- The console showed the code 106AF365.
- The system lights showed the code F001-085A.

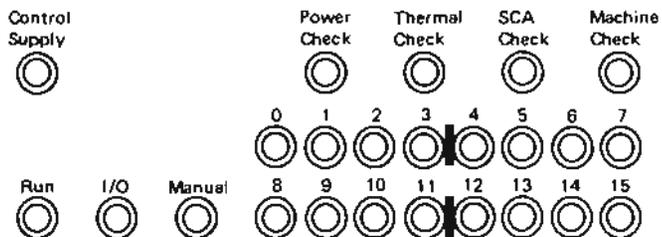
You would complete the form as follows. You would report 106AF365 as your system reference code.



### IBM SYSTEM/38 PROBLEM SUMMARY FORM

1. Account Name:  3. Date:  /  /   
 2. System Operator:  4. Time:  :  :

5. Lights (mark with an X any lights that are on):



6. Record the following:

- a. Code shown on the system console screen (if any):         (See Note)  
 b. Indicator code: F 0 0  -    (See Note)  
 c. First 8 characters of the error log number (if any): 0 0       (See Note)

**Note:** When you call for service, report the first code you record in this section. Call this code the **system reference code**.

7. Record the following:

- a. Completion code (if any):  b. Other codes (if any):

8. Devices affected by the problem (if any):

Name(s)	Machine type	Attached control unit	Attached line (if any)

9. Latest release of CPF:  .

10. Describe the problem: \_\_\_\_\_

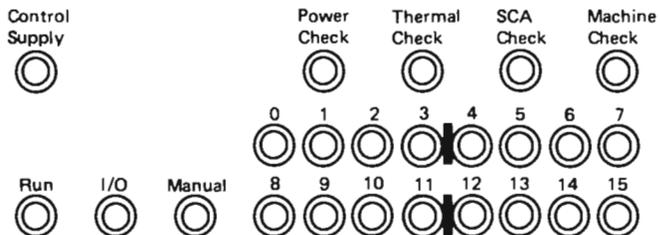
Also, gather information you collected.



### IBM SYSTEM/38 PROBLEM SUMMARY FORM

1. Account Name:  3. Date:  /  /   
 2. System Operator:  4. Time:  :  :

5. Lights (mark with an X any lights that are on):



6. Record the following:

- a. Code shown on the system console screen (if any):  (See Note)
- b. Indicator code: F 0 0  -  (See Note)
- c. First 8 characters of the error log number (if any): 0 0  (See Note)

**Note:** When you call for service, report the first code you record in this section. Call this code the **system reference code**.

7. Record the following:

- a. Completion code (if any):
- b. Other codes (if any):

8. Devices affected by the problem (if any):

Name(s)	Machine type	Attached control unit	Attached line (if any)

9. Latest release of CPF:  .

10. Describe the problem: \_\_\_\_\_

Also, gather information you collected.



### IBM SYSTEM/38 PROBLEM SUMMARY FORM

1. Account Name:       3. Date:  /  /
2. System Operator:       4. Time:  :  :

5. Lights (mark with an X any lights that are on):

Control Supply		Power Check	Thermal Check	SCA Check	Machine Check					
<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
		0	1	2	3	4	5	6	7	
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Run	I/O	Manual	8	9	10	11	12	13	14	15
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					

6. Record the following:
- a. Code shown on the system console screen (if any):  (See Note)
- b. Indicator code: F 0 0  -  (See Note)
- c. First 8 characters of the error log number (if any): 0 0  (See Note)

**Note:** When you call for service, report the first code you record in this section.  
Call this code the **system reference code**.

7. Record the following:
- a. Completion code (if any):       b. Other codes (if any):

8. Devices affected by the problem (if any):

Name(s)	Machine type	Attached control unit	Attached line (if any)

9. Latest release of CPF:  .

10. Describe the problem: \_\_\_\_\_

Also, gather information you collected.



### IBM SYSTEM/38 PROBLEM SUMMARY FORM

1. Account Name:
2. System Operator:
3. Date:  /  /
4. Time:  :  :

5. Lights (mark with an X any lights that are on):

Control Supply		Power Check	Thermal Check	SCA Check	Machine Check					
<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
		0	1	2	3	4	5	6	7	
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Run	I/O	Manual	8	9	10	11	12	13	14	15
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					

6. Record the following:

- a. Code shown on the system console screen (if any):  (See Note)
- b. Indicator code: F 0 0  -  (See Note)
- c. First 8 characters of the error log number (if any): 0 0  (See Note)

**Note:** When you call for service, report the first code you record in this section.  
Call this code the **system reference code**.

7. Record the following:

- a. Completion code (if any):
- b. Other codes (if any):

8. Devices affected by the problem (if any):

Name(s)	Machine type	Attached control unit	Attached line (if any)

9. Latest release of CPF:  .

10. Describe the problem: \_\_\_\_\_

Also, gather information you collected.

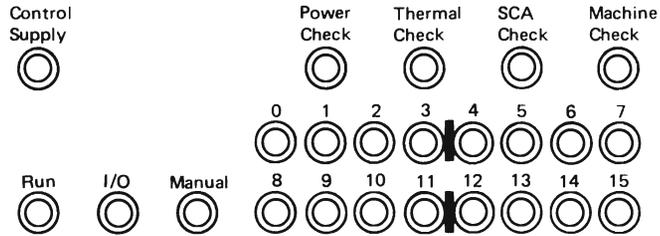


### IBM SYSTEM/38 PROBLEM SUMMARY FORM

1. Account Name:  3. Date:

2. System Operator:  4. Time:

5. Lights (mark with an X any lights that are on):



6. Record the following:

- a. Code shown on the system console screen (if any):  (See Note)
- b. Indicator code: F 0 0  -  (See Note)
- c. First 8 characters of the error log number (if any): 0 0  (See Note)

**Note:** When you call for service, report the first code you record in this section.  
Call this code the **system reference code**.

7. Record the following:

- a. Completion code (if any):
- b. Other codes (if any):

8. Devices affected by the problem (if any):

Name(s)	Machine type	Attached control unit	Attached line (if any)

9. Latest release of CPF: .

10. Describe the problem: \_\_\_\_\_

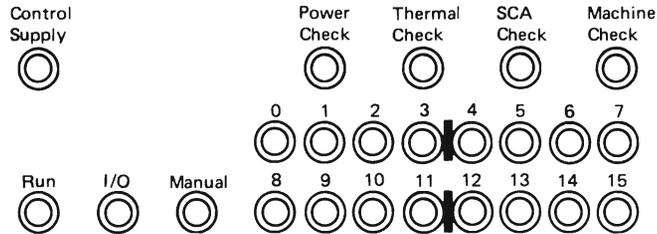
Also, gather information you collected.



### IBM SYSTEM/38 PROBLEM SUMMARY FORM

1. Account Name:
2. System Operator:
3. Date:  /  /
4. Time:  :  :

5. Lights (mark with an X any lights that are on):



6. Record the following:
- a. Code shown on the system console screen (if any):  (See Note)
- b. Indicator code: F 0 0  -  (See Note)
- c. First 8 characters of the error log number (if any): 0 0  (See Note)

**Note:** When you call for service, report the first code you record in this section. Call this code the **system reference code**.

7. Record the following:
- a. Completion code (if any):
- b. Other codes (if any):

8. Devices affected by the problem (if any):

Name(s)	Machine type	Attached control unit	Attached line (if any)

9. Latest release of CPF:  .

10. Describe the problem: \_\_\_\_\_

Also, gather information you collected.



### IBM SYSTEM/38 PROBLEM SUMMARY FORM

1. Account Name:
2. System Operator:
3. Date:  /  /
4. Time:  :  :

5. Lights (mark with an X any lights that are on):

Control Supply	Power Check	Thermal Check	SCA Check	Machine Check											
<input type="radio"/>															
					0	1	2	3	4	5	6	7			
					<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Run	I/O	Manual	8	9	10	11	12	13	14	15					
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>									

6. Record the following:

- a. Code shown on the system console screen (if any):  (See Note)
- b. Indicator code: F 0 0  -  (See Note)
- c. First 8 characters of the error log number (if any): 0 0  (See Note)

**Note:** When you call for service, report the first code you record in this section.  
Call this code the **system reference code**.

7. Record the following:

- a. Completion code (if any):
- b. Other codes (if any):

8. Devices affected by the problem (if any):

Name(s)	Machine type	Attached control unit	Attached line (if any)

9. Latest release of CPF:  .

10. Describe the problem: \_\_\_\_\_

Also, gather information you collected.



### IBM SYSTEM/38 PROBLEM SUMMARY FORM

1. Account Name:
2. System Operator:
3. Date:  /  /
4. Time:  :  :

5. Lights (mark with an X any lights that are on):

Control Supply		Power Check	Thermal Check	SCA Check	Machine Check					
<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
		0	1	2	3	4	5	6	7	
		<input type="radio"/>								
Run	I/O	Manual	8	9	10	11	12	13	14	15
<input type="radio"/>										

6. Record the following:

- a. Code shown on the system console screen (if any):  (See Note)
- b. Indicator code: F 0 0  -  (See Note)
- c. First 8 characters of the error log number (if any): 0 0  (See Note)

**Note:** When you call for service, report the first code you record in this section.  
Call this code the **system reference code**.

7. Record the following:

- a. Completion code (if any):
- b. Other codes (if any):

8. Devices affected by the problem (if any):

Name(s)	Machine type	Attached control unit	Attached line (if any)

9. Latest release of CPF:  .

10. Describe the problem: \_\_\_\_\_

Also, gather information you collected.



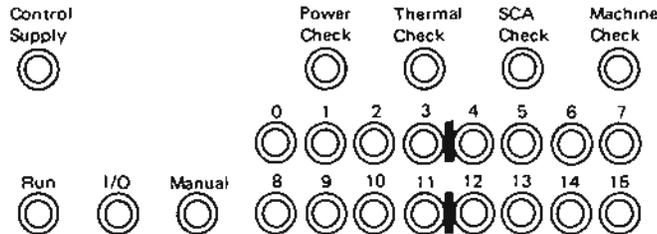




### IBM SYSTEM/38 PROBLEM SUMMARY FORM

1. Account Name:       3. Date:  /  /
2. System Operator:       4. Time:  :  :

5. Lights (mark with an X any lights that are on):



6. Record the following:
- a. Code shown on the system console screen (if any):  (See Note)
- b. Indicator code: F 0 0  -  (See Note)
- c. First 8 characters of the error log number (if any): 0 0  (See Note)

**Note:** When you call for service, report the first code you record in this section.  
Call this code the **system reference code**.

7. Record the following:
- a. Completion code (if any):       b. Other codes (if any):

8. Devices affected by the problem (if any):

Name(s)	Machine type	Attached control unit	Attached line (if any)

9. Latest release of CPF:  .

10. Describe the problem: \_\_\_\_\_

Also, gather information you collected.



Only use this form to record information about problems with remote equipment and communications lines.

The following describes the information needed by your service representative and if possible, the procedure in this guide where you can find that information. You can find copies of the *System/38 Communications Problem Summary Form* following this discussion.

- 1 Account Name:** The name of your company.  
**System Operator:** The name of the person reporting the problem.  
**Date:** Date the problem occurred.  
**Time:** Time the problem occurred.
- 2 Describe the problem** and record any other information you think your service representative might find useful to fix the problem.
- 3 Record the following:** Line, control unit, or device named in the message about the problem, and its type. You received this information in an error message, such as `control unit cttl failed`.
- 4** Record the following:
  - a. Identifier of the message you received:** such as `cp£5908`.
  - b. First eight characters of the error log number in the first-level message:** See *Error Log Numbers* in Chapter 2 for more information on these codes.
  - c. Values to check in the description of the line, control unit, or device named in the message:** For example, the message told you to check the `CLOCK` value in the line description.
  - d. Other codes from the first-or second-level text:** Record these only if there are any.

- 5 Record the following information about the tests you ran:
  - a. **PDPID used on the STRPDP command:** The value this guide told you to use when you entered the STRPDP command. You use different values in each test. The tests are the Japan Line Test (Procedure C.1), the Line Test (Procedure C.2), and the Link Test (Procedure C.3).
  - b. **Completion qualifier received:** The completion qualifier you received after finishing the Japan Line Test (Procedure C.1), Line Test (Procedure C.2), or Link Test (Procedure C.3).
- 6 **Record information about the equipment affected by the problem:** Complete this section as asked in Procedure C: *Communications Problem*., or Procedure C.3: *Link Test*.

### IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM

1. Account Name:  Date:
2. System Operator:  Time:

3. Record the following:

Line, control unit, or device named in the message about the problem and its type (such as a line or control unit)

Name	Type
_____	_____
_____	_____
_____	_____

4. Record the following:

- a. Identifier of the message you received:
- b. First eight characters of the error log number in the first-level message (if any):
- c. Values to check in the description of the line, control unit or device named in the message:
- d. Other codes from the first- or second-level text (if any):

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
_____	_____
_____	_____
_____	_____

**IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM (continued)**

**6.** Record the following information about the equipment affected by the problem:

LINE (line number)   
CNN (connection)   
SWNBKU (switched network backup)   
SWTCNN (switched connection)   
DIALMODE   
TYPE (line type)   
RATE   
ANSMODE   
EML3270

**b.** Get the following information from the description of the affected control unit:

TYPE (line number)   
LINE (line name)   
SWNBKU (switched network backup)   
INLCNN (initial connection)   
TELNBR (telephone number)   
LINE (line list)   
EML3270

**c.** Get the following information from the description of each affected device (if needed):

DEVADR   
(device address)  
DEVTYPE   
(device type)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Telephone number of the System/38: (  -  ) (  )  
\_\_\_\_\_  
\_\_\_\_\_  
Telephone number of the remote control unit: (  -  ) (  )

### IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM

1. Account Name:  Date:  /  /
2. System Operator:  Time:  :  :

3. Record the following:

Line, control unit, or device named in the message about the problem and its type (such as a line or control unit)

Name	Type
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

4. Record the following:

- a. Identifier of the message you received:
- b. First eight characters of the error log number in the first-level message (if any):
- c. Values to check in the description of the line, control unit or device named in the message:
- d. Other codes from the first- or second-level text (if any):

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

**IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM (continued)**

**6.** Record the following information about the equipment affected by the problem:  
Get the following information from the description of the affected line:

LINE (line number)	<input type="text"/>
CNN (connection)	<input type="text"/>
SWBKU (switched network backup)	<input type="text"/>
SWTCNN (switched connection)	<input type="text"/>
DIALMODE	<input type="text"/>
TYPE (line type)	<input type="text"/>
RATE	<input type="text"/>
ANSMODE	<input type="text"/>
EML3270	<input type="text"/>

**b.** Get the following information from the description of the affected control unit:

TYPE (line number)	<input type="text"/>
LINE (line name)	<input type="text"/>
INLCNN (initial connection)	<input type="text"/>
TELNBR (telephone number)	<input type="text"/>
SWBKU (switched network backup)	<input type="text"/>
SWTCHED (switched line connection)	<input type="text"/>
EML3270	<input type="text"/>
INITLIST (line list)	<input type="text"/>

**c.** Get the following information from the description of each affected device (if needed):

DEVADR	<input type="text"/>
DEVTYPE	<input type="text"/>
(device address)	<input type="text"/>
(device type)	<input type="text"/>

**d.** Telephone number of the System/38: ( -  ) ( -  )

Telephone number of the remote control unit: ( -  ) ( -  )

### IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM

1. Account Name:  Date:
2. System Operator:  Time:

3. Record the following:

Line, control unit, or device named in the message about the problem and its type (such as a line or control unit)

Name	Type
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

4. Record the following:

- a. Identifier of the message you received:
- b. First eight characters of the error log number in the first-level message (if any):
- c. Values to check in the description of the line, control unit or device named in the message:
- d. Other codes from the first- or second-level text (if any):

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>



### IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM

1. Account Name:  Date:

2. System Operator:  Time:

3. Record the following:

Line, control unit, or device named in the message about the problem and its type (such as a line or control unit)

Name	Type
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

4. Record the following:

a. Identifier of the message you received:

b. First eight characters of the error log number in the first-level message (if any):

c. Values to check in the description of the line, control unit or device named in the message:

d. Other codes from the first- or second-level text (if any):

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>



### IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM

1. Account Name:  Date:

2. System Operator:  Time:

3. Record the following:

Line, control unit, or device named in the message about the problem and its type (such as a line or control unit)

Name	Type
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

4. Record the following:

a. Identifier of the message you received:

b. First eight characters of the error log number in the first-level message (if any):

c. Values to check in the description of the line, control unit or device named in the message:

d. Other codes from the first- or second-level text (if any):

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

**IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM (continued)**

**6.** Record the following information about the equipment affected by the problem:

LINNBR (line number)   
 CNN (connection)   
 SWNBKU (switched network backup)   
 SWTCNN (switched connection)   
 DIALMODE   
 RATE   
 ANSMODE   
 EML3270

**b.** Get the following information from the description of the affected control unit:

TYPE (line number)   
 LINE (line name)   
 SWNBKU (switched network backup)   
 INLCNN (initial connection)   
 TELNBR (telephone number)   
 LINELIST (line list)   
 EML3270

**c.** Get the following information from the description of each affected device (if needed):

DEVADR \_\_\_\_\_  
 (device address)  
 DEVTYP \_\_\_\_\_  
 (device type)  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Telephone number of the System/38: (  -  ) (  -  )  
 Telephone number of the remote control unit: (  -  ) (  -  )

### IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM

1. Account Name:

Date:

2. System Operator:

Time:

3. Record the following:

Line, control unit, or device named in the message about the problem and its type (such as a line or control unit)

Name	Type
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

4. Record the following:

a. Identifier of the message you received:

b. First eight characters of the error log number in the first-level message (if any):

c. Values to check in the description of the line, control unit or device named in the message:

d. Other codes from the first- or second-level text (if any):

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

**IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM (continued)**

6. Record the following information about the equipment affected by the problem:

LINE (line number)   
TYPE (line type)   
LNN (connection)   
RATE   
SWBKU (switched network backup)   
ANSMODE   
SWTCNN (switched connection)  EML3270   
DIAMODE

b. Get the following information from the description of the affected control unit:

TYPE (line number)   
SWTCNN (switched line connection)   
LINE (line name)   
SWBKU (switched network backup)   
INLCNN (initial connection)   
TELNBR (telephone number)   
LINLIST (line list)   
EML3270

c. Get the following information from the description of each affected device (if needed):

DEVADR (device address) \_\_\_\_\_  
DEVTYP (device type) \_\_\_\_\_  
Telephone number of the System/38: (  -  ) (  -  )  
Telephone number of the remote control unit: (  -  ) (  -  )

### IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM

1. Account Name:  Date:
2. System Operator:  Time:

3. Record the following:

Line, control unit, or device named in the message about the problem and its type (such as a line or control unit)

Name	Type
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

4. Record the following:

- a. Identifier of the message you received:
- b. First eight characters of the error log number in the first-level message (if any):
- c. Values to check in the description of the line, control unit or device named in the message:
- d. Other codes from the first- or second-level text (if any):

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

**IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM (continued)**

6. Record the following information about the equipment affected by the problem:

LINNBR (line number)   
 CNN (connection)   
 SWNBKU (switched network backup)   
 SWTCNN (switched connection)   
 DIALMODE   
 RATE   
 ANSMODE   
 EML3270

b. Get the following information from the description of the affected control unit:

TYPE (line number)   
 LINE (line name)   
 SWNBKU (switched network backup)   
 INLCNN (initial connection)   
 TELNBR (telephone number)   
 LINE (line list)   
 EML3270

c. Get the following information from the description of each affected device (if needed):

DEVADR  
 (device address)  
 DEVTYPE  
 (device type)

Telephone number of the System/38: (  -  )   
 Telephone number of the remote control unit: (  -  )

### IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM

1. Account Name:  Date:
2. System Operator:  Time:

3. Record the following:

Line, control unit, or device named in the message about the problem and its type (such as a line or control unit)

Name	Type
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

4. Record the following:

- a. Identifier of the message you received:
- b. First eight characters of the error log number in the first-level message (if any):
- c. Values to check in the description of the line, control unit or device named in the message:
- d. Other codes from the first- or second-level text (if any):

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

**IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM (continued)**

**6. Record the following information about the equipment affected by the problem:**

**a. Get the following information from the description of the affected line:**

LINNBR (line number) <input type="text"/>	TYPE (line type) <input type="text"/>
CNN (connection) <input type="text"/>	RATE <input type="text"/>
SWNBKU (switched network backup) <input type="text"/>	ANSMODE <input type="text"/>
SWTCNN (switched connection) <input type="text"/>	EML3270 <input type="text"/>
DIALMODE <input type="text"/>	

**b. Get the following information from the description of the affected control unit:**

TYPE (line number) <input type="text"/>	SWITCHED (switched line connection) <input type="text"/>
LINE (line name) <input type="text"/>	SWNBKU (switched network backup) <input type="text"/>
INLCNN (initial connection) <input type="text"/>	TELNBR (telephone number) <input type="text"/>
LINLIST (line list) <input type="text"/>	
EML3270 <input type="text"/>	

**c. Get the following information from the description of each affected device (if needed):**

DEVADR (device address)	DEVTYPE (device type)
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

**d. Telephone number of the System/38:** ()  -

Telephone number of the remote control unit: ()  -

### IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM

1. Account Name:  Date:

2. System Operator:  Time:

3. Record the following:

Line, control unit, or device named in the message about the problem and its type (such as a line or control unit)

Name	Type
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

4. Record the following:

- a. Identifier of the message you received:
- b. First eight characters of the error log number in the first-level message (if any):
- c. Values to check in the description of the line, control unit or device named in the message:
- d. Other codes from the first- or second-level text (if any):

5. Record the following information about the test(s) you ran:

PDPID used on STRPDP command	Completion qualifier received:
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

**IBM SYSTEM/38 COMMUNICATIONS PROBLEM SUMMARY FORM (continued)**

**6.** Record the following information about the equipment affected by the problem:

LINE (line number)	<input type="text"/>	TYPE (line type)	<input type="text"/>
CNN (connection)	<input type="text"/>	RATE	<input type="text"/>
SWNBKU (switched network backup)	<input type="text"/>	ANSMODE	<input type="text"/>
SWTCNN (switched connection)	<input type="text"/>	EML3270	<input type="text"/>
DIALMODE	<input type="text"/>		

**b.** Get the following information from the description of the affected control unit:

TYPE (line number)	<input type="text"/>	SWITCHED (switched line connection)	<input type="text"/>
LINE (line name)	<input type="text"/>	SWNBKU (switched network backup)	<input type="text"/>
INLCNN (initial connection)	<input type="text"/>	TELNBR (telephone number)	<input type="text"/>
LINELIST (line list)	<input type="text"/>		
EML3270	<input type="text"/>		

**c.** Get the following information from the description of each affected device (if needed):  
DEVADDR (device address) \_\_\_\_\_  
DEVTYPE (device type) \_\_\_\_\_

Telephone number of the System/38: ( <input type="text"/> - <input type="text"/> ) ( <input type="text"/> )	_____
Telephone number of the remote control unit: ( <input type="text"/> - <input type="text"/> ) ( <input type="text"/> )	_____

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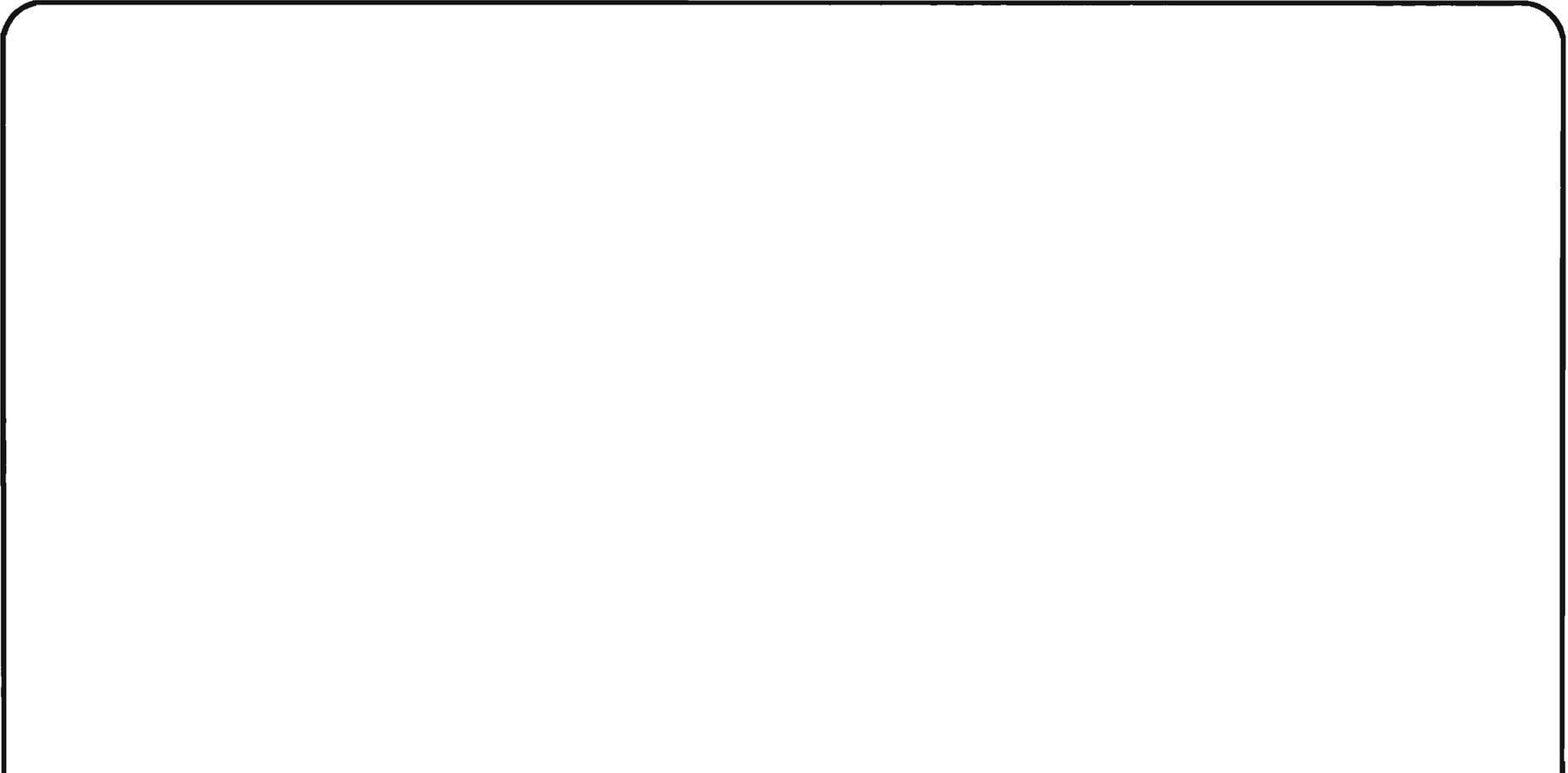
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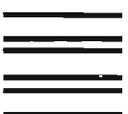
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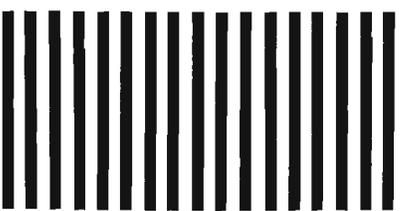
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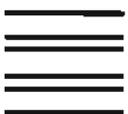
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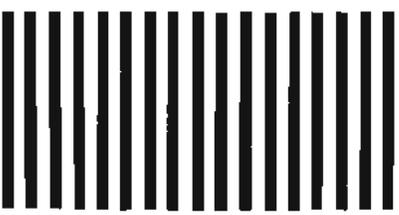
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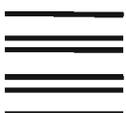
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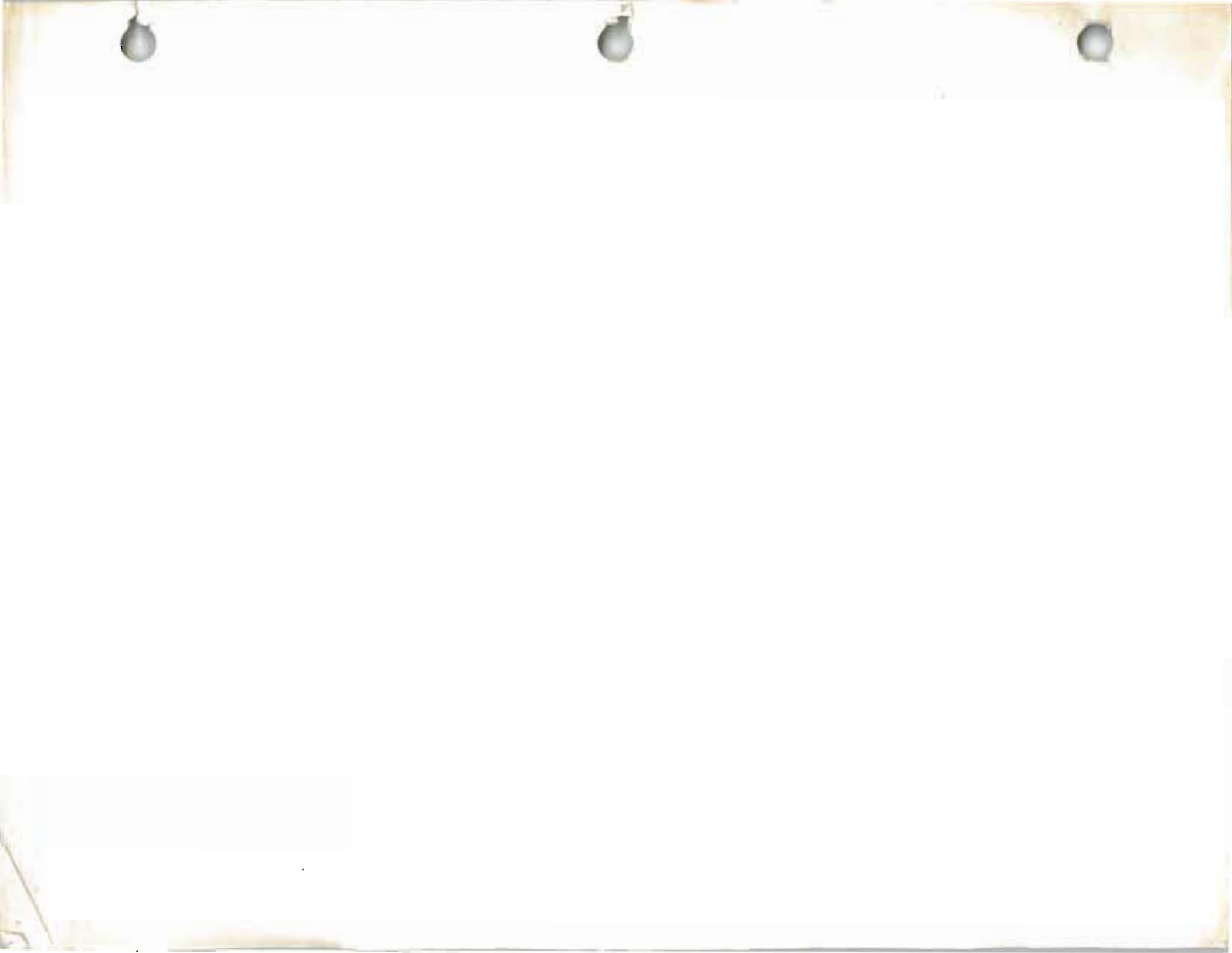


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