SYCOR INC

Model 340/340 D

Intelligent Communications Terminal

OPERATOR'S MANUAL

S Y C O R , I N C.

Model 340/340D

Communications Terminal

OPERATOR'S MANUAL

October, 1974

INTRODUCTION

The Sycor Communications Terminal is designed for source data collection and communications with other Sycor terminals, or any central processor such as an IBM computer.

Using this terminal, source document information can be entered under format control with simultaneous video display of data, data editing and status information. Recording data on cassette tape or magnetic tape and output to a printer requires minimal operator intervention.

The Sycor Communications Terminal design is optimized for high throughput and low error operation by operators with normal typing skills and no previous data processing experience.

There are two basic models of the Sycor Communications Terminal, the 340 and the 340D. The 340D offers the same features and operational functions as the 340; and in addition, offers the Flexible Disk Option. Since both terminals operate basicly the same, the information in this manual will refer to both terminals unless specified otherwise.

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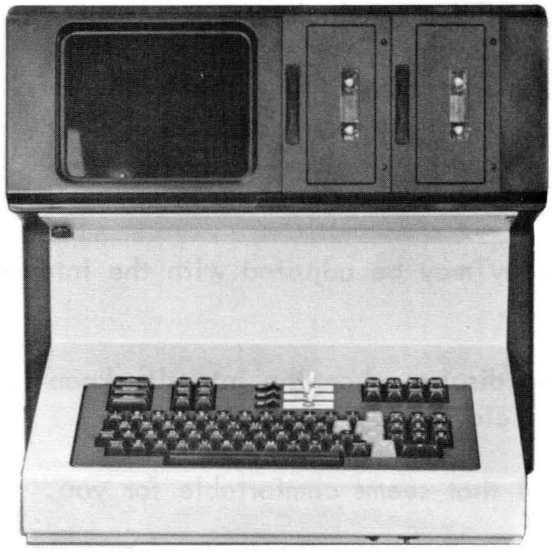
PERIPHERALS

GENERAL DESCRIPTION

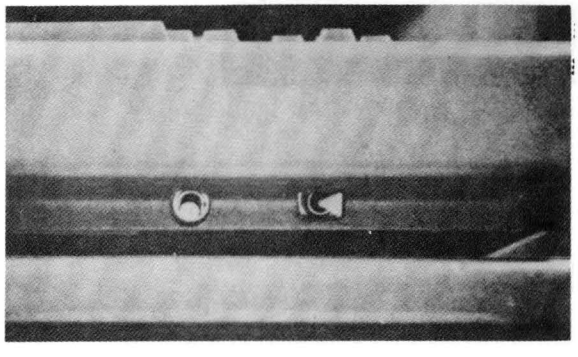
INTRODUCTION

Pictured below is the Sycor Communications Terminal. The function of its basic components, the CRT display and the keyboard, will be discussed in this manual, as will the operation of the available peripheral devices.



TURNING THE MACHINE ON AND OFF

To turn the machine on, push the ON/OFF switch (under the right front corner of the keyboard) to the far right.



In approximately 2Ø seconds, the cursor will appear on the status line of the display.

The cursor is a position indicator which appears as an "underscore" on the display. At this point, the operator must decide which mode to operate in. Details for operating in a chosen mode are detailed in the Basic Operations Selection for both the 34Ø and 34ØD terminals.

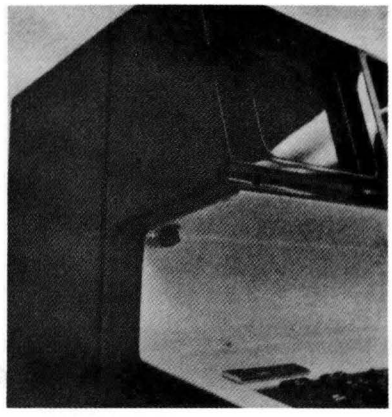
To turn the machine OFF, push the ON/OFF switch to the left.

DISPLAY INTENSITY CONTROL

The intensity of the CRT display may be adjusted with the intensity control knob located under the display.

The raster that appears on the display when the intensity knob is turned to the extreme right is used by field service personnel.

Adjust the intensity to a level that seems comfortable for you.

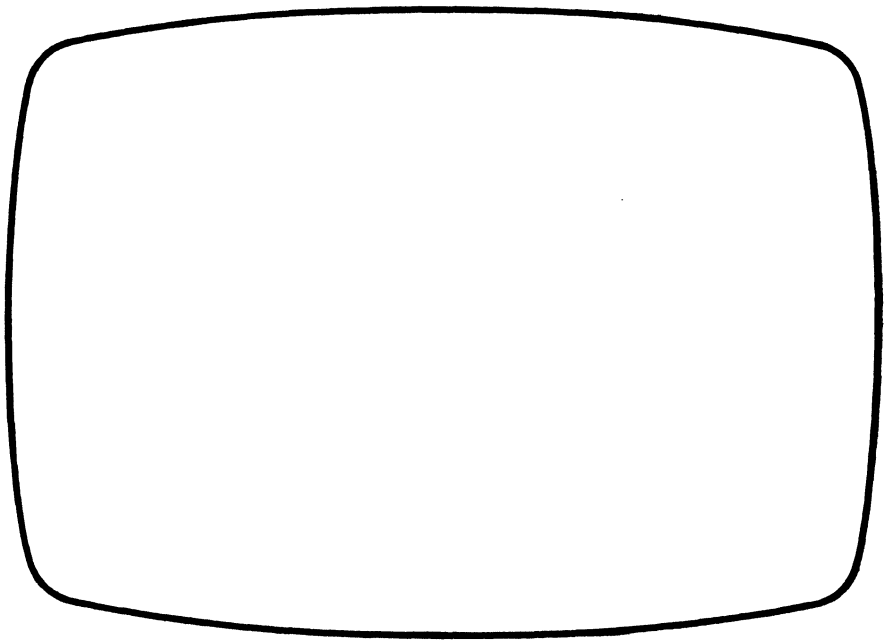


CRT DISPLAY

The CRT display contains nine lines consisting of 64 character positions. The first line, status line, is reserved for the display of the operating mode, status messages and error messages. The only time the operator enters data into the status line is during the job selection sequence (refer to the Operations Section).

The other eight lines are available for formats and data.

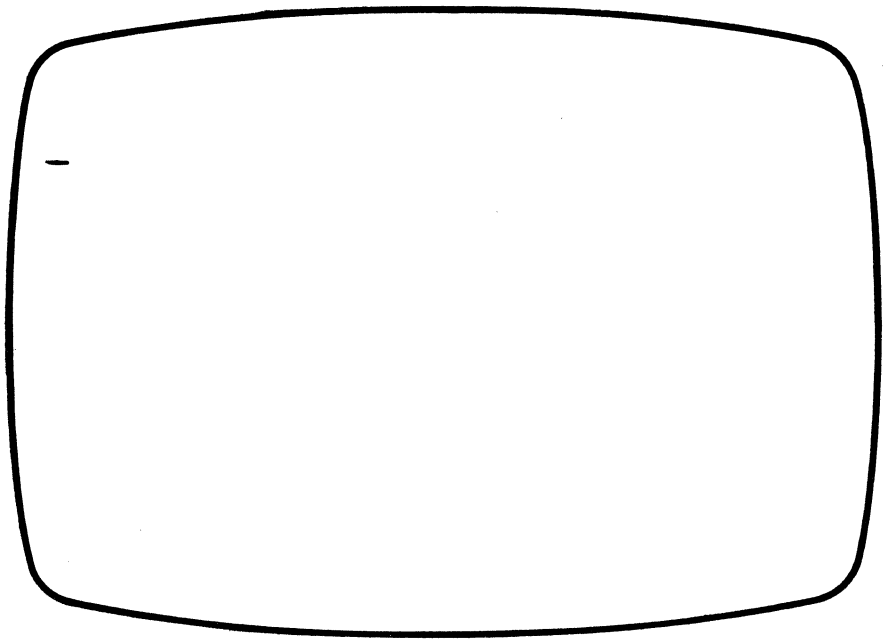
STATUS LINE:
LINE 1:
LINE 2:
LINE 3:
LINE 4:
LINE 5:
LINE 6:
LINE 7:
LINE 8:



The current position on the screen is marked by a blinking underscore called the cursor. Data can be entered onto the screen as long as the cursor is present.

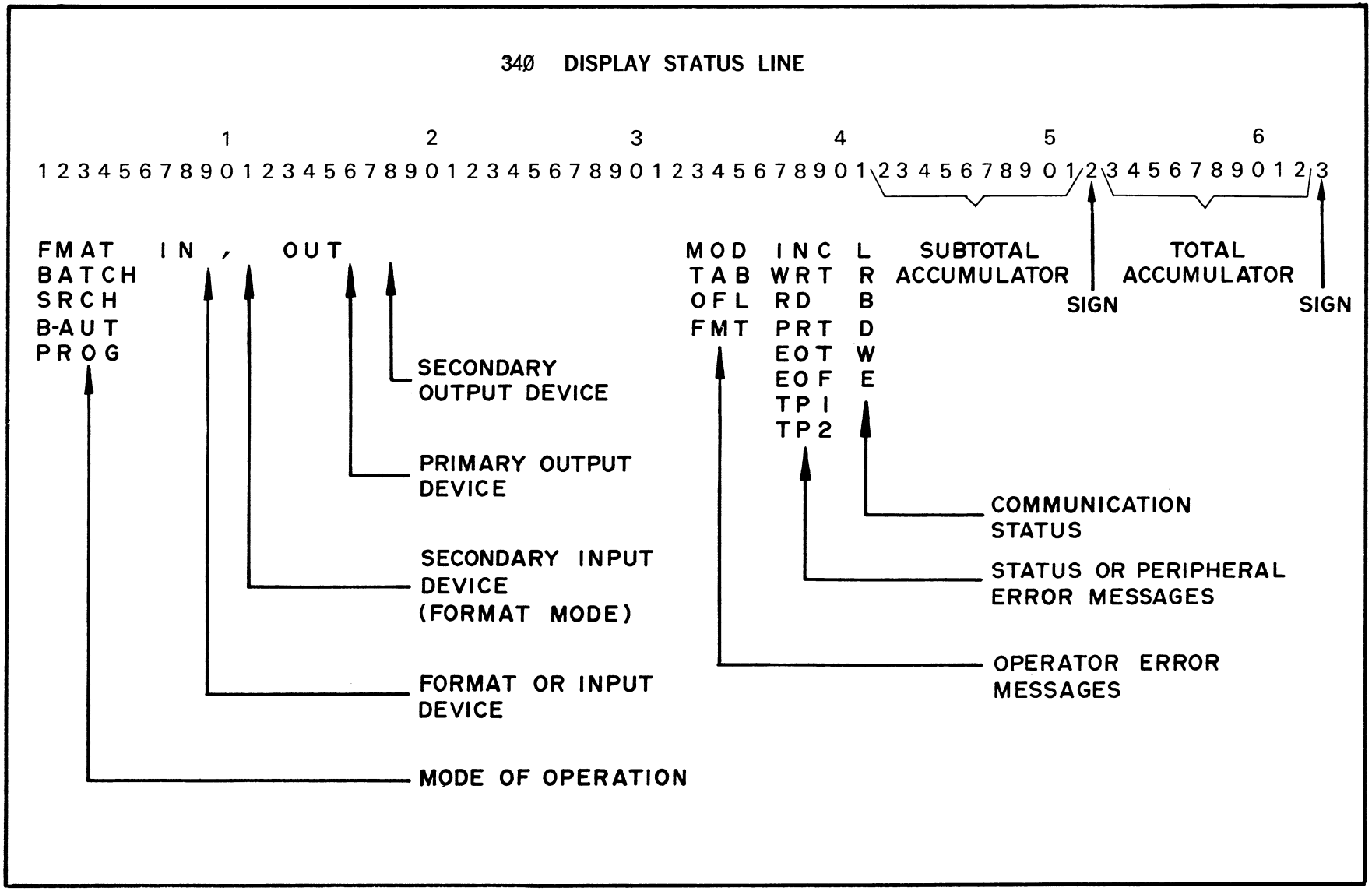
Model 340

When the Sycor 340 is turned on, the CRT will appear as shown below.



The terminal is inoperable until a job selection sequence has been executed. The General Operations Section of this Manual contains step-by-step instructions for all jobs.

The status line of the 340, on the next page, details the position of each message and entry.

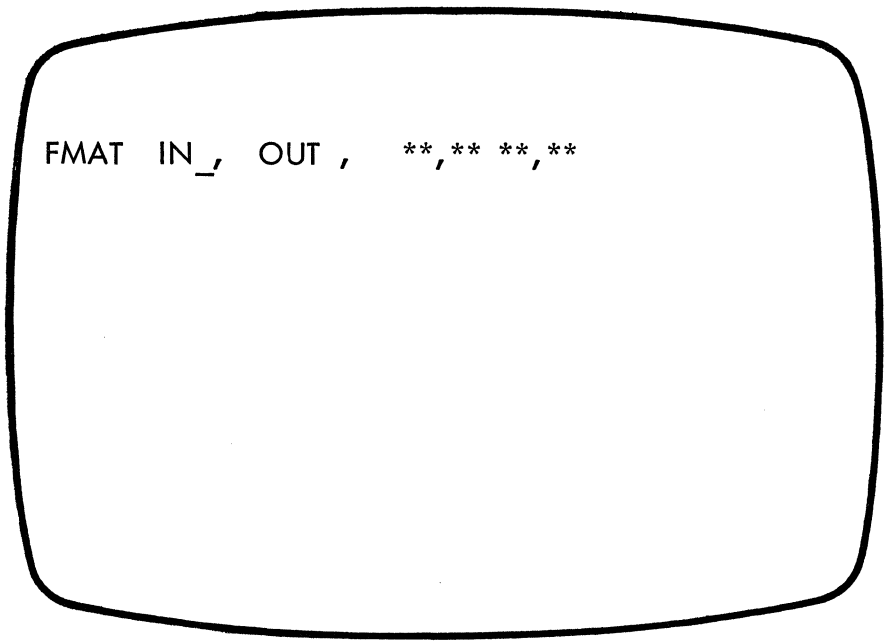

340 DISPLAY STATUS LINE
1 2 3 4 5 6
1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3
FMAT
BATCH
SRCH
B-AUT
PROG
IN , OUT
MOD
TAB
OFL
FMT
INC
WRT
RD
PRT
EOT
EOF
TP1
TP2
L
R
B
D
W
E
SUBTOTAL ACCUMULATOR
TOTAL ACCUMULATOR
SIGN
SIGN
SECONDARY OUTPUT DEVICE
PRIMARY OUTPUT DEVICE
SECONDARY INPUT DEVICE (FORMAT MODE)
FORMAT OR INPUT DEVICE
MODE OF OPERATION
COMMUNICATION STATUS
STATUS OR PERIPHERAL ERROR MESSAGES
OPERATOR ERROR MESSAGES

Model 34ØD

Before turning the Sycor 34ØD on the AUTO OPRT and MEM CTL switches must be set. Their functions are shown in the diagram below:

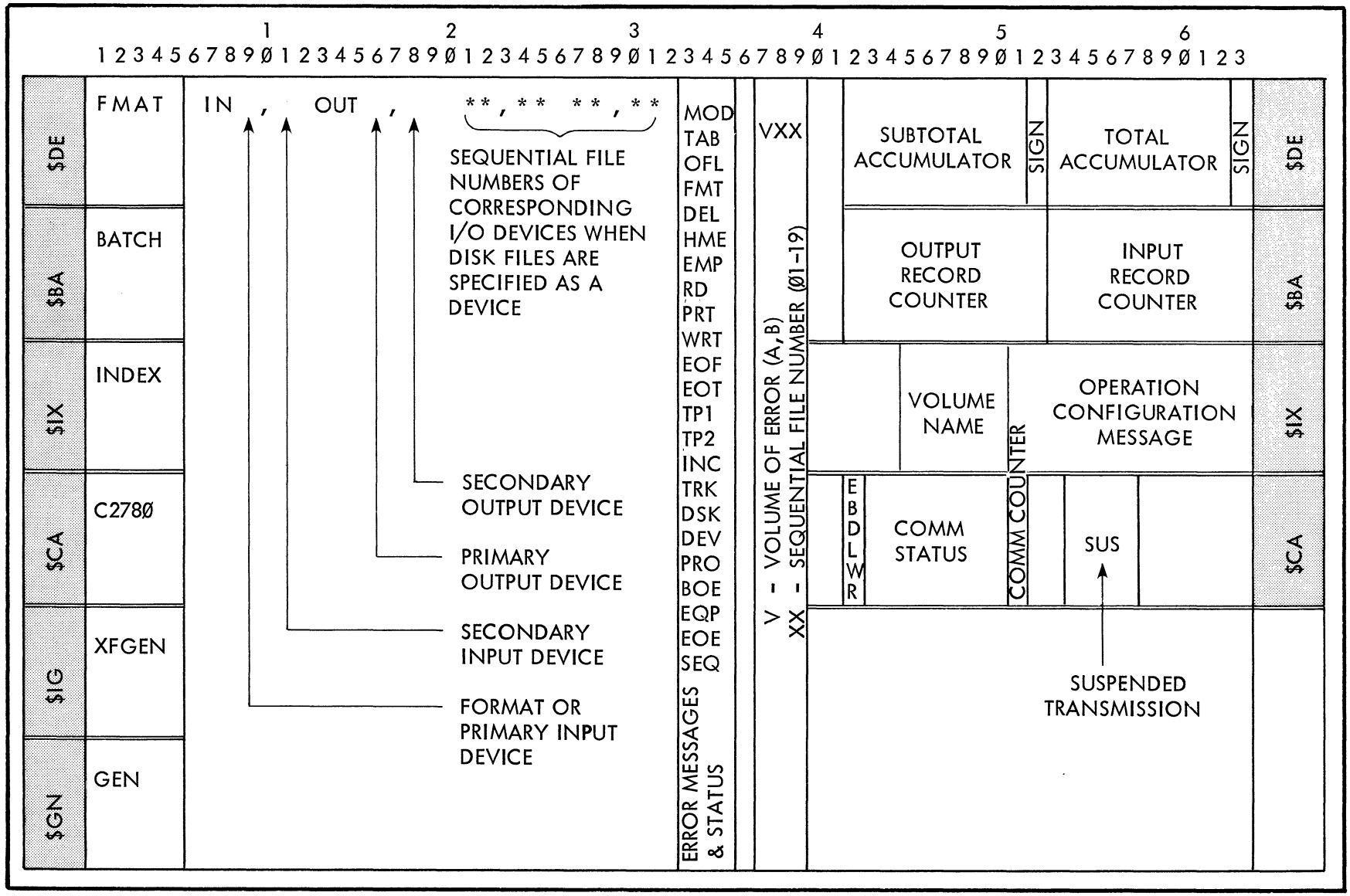
	ON	OFF
AUTO OPRT	Disk heads are homed.	System will be loaded from either cassette or disk, depending on the setting of the MEM CTL switch.
MEM CTL	System is loaded from cassette driver 1.	System is loaded from the diskette loaded on drive A.

Before the terminal can be operational the system and a control program must be loaded into the terminal. It is standard for the Data Entry Control Program ($DE) to be loaded. After $DE has been loaded the CRT will display the following message and the cursor will appear in the IN1 position as shown.



At this point reference can be made to the General Operations Section of the manual to either complete the status line (see next page) or to select another control program.

340D DISPLAY STATUS LINE



Additional Notes

KEYBOARD

INTRODUCTION

The keyboard of the Model 34Ø is basically the same as the keyboard of the Model 34ØD. They both consist of an alpha-numeric keyboard, a ten-key numeric pad, control keys, cursor keys, I/O control keys and option switches.

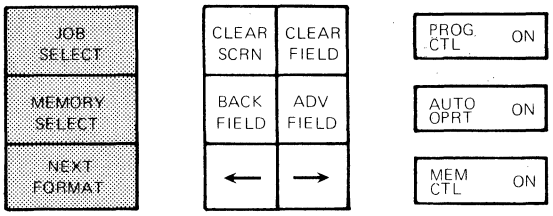
The main difference lies in the I/O Control Keys. In that section only, the keys are broken down by model. The rest of the key descriptions in this section will pertain to both the 34Ø and the 34ØD in general.

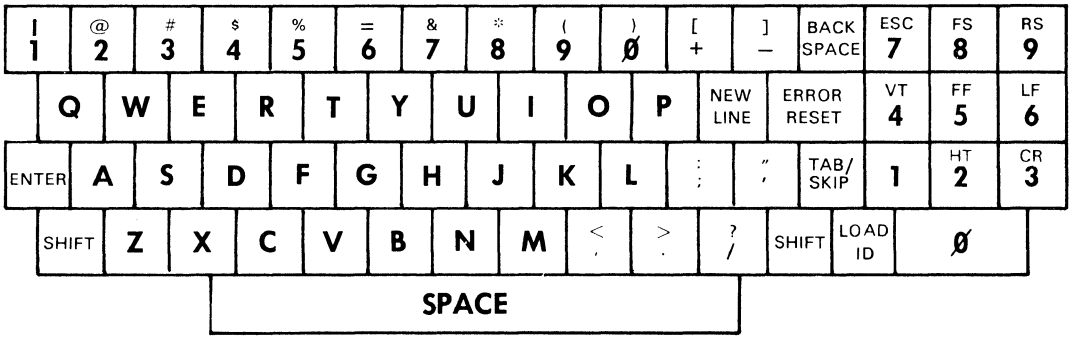
The function of all keys will be described with the option switches set to both ON and OFF.

Unless stated otherwise, the description of the keys, pertaining to the Model 34Ø only, in format mode with program control off also applies to the batch and search modes.

CONTROL KEYS

The shaded keys in the upper left hand corner of the keyboard are the control keys.





Job Select

The JOB SELECT Key is used in all modes to initialize the terminal. After turning the terminal on, depressing JOB SELECT is always the first step in Model 34Ø operation. Job selection sequences are given for each operation in the Operation Section.

Memory Select

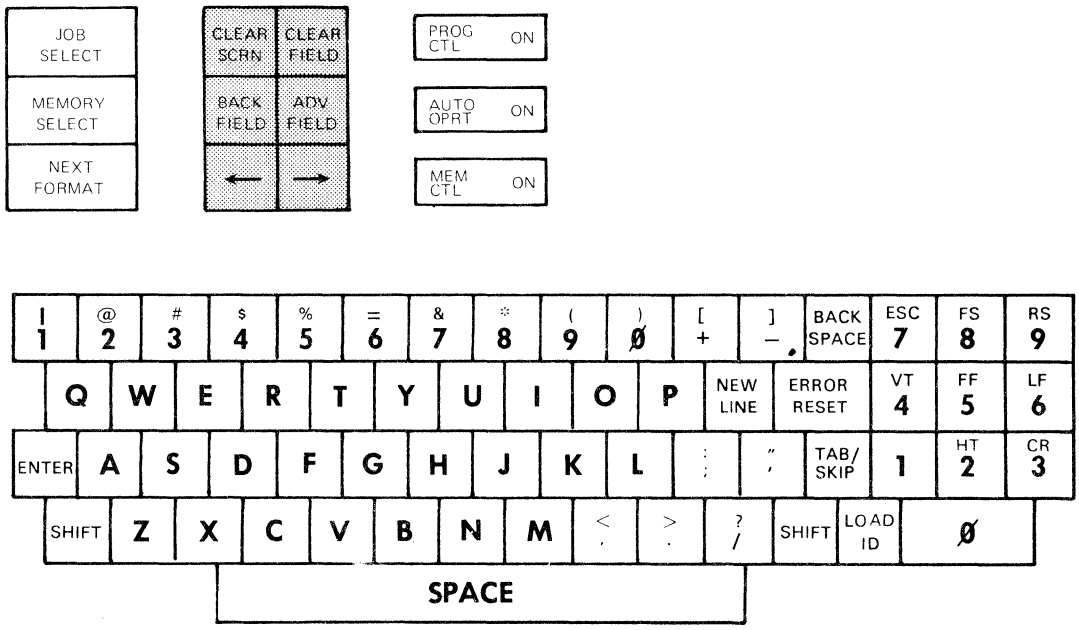
The MEMORY SELECT Key function is defined by the program loaded in memory.

Next Format

In format mode, depressing NEXT FORMAT displays a new format page. NEXT FORMAT works only if the job selection sequence specifies a device in the primary input position. NEXT FORMAT is needed only when the current data page does not contain a protected asterisk [*]. In batch and search modes, depressing NEXT FORMAT advances the primary input. In all modes, if a file separator is encountered when NEXT FORMAT is depressed, the tape rewinds and reads the first record.

CURSOR KEYS

The CURSOR KEYS are located to the right of the control keys.



Clear Screen

With program control off, CLEAR SCREEN clears the entire screen and positions the cursor in the first space on the first line.

With program control on, CLEAR SCREEN clears only the data fields and positions the cursor in the first position of the first data field.

Clear Field

With program control off, CLEAR FIELD clears everything to the right of the cursor on one line.

With program control on, CLEAR FIELD clears the data field the cursor is located in and positions the cursor in the first space of that same field.

Back Field

With program control off, BACK FIELD moves the cursor to the first position of the current line. A second depression moves the cursor to the first position of the previous line.

With program control on, BACK FIELD moves the cursor to the first position of the previous data field.

Advance Field

With program control off, ADV FIELD moves the cursor to the first position of the next line.

With program control on, ADV FIELD moves the cursor to the first position of the next data field. Advance field does not disturb the contents of previously filled data fields.

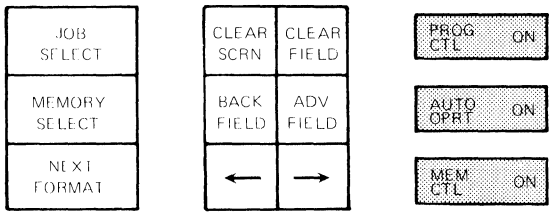
Cursor Keys

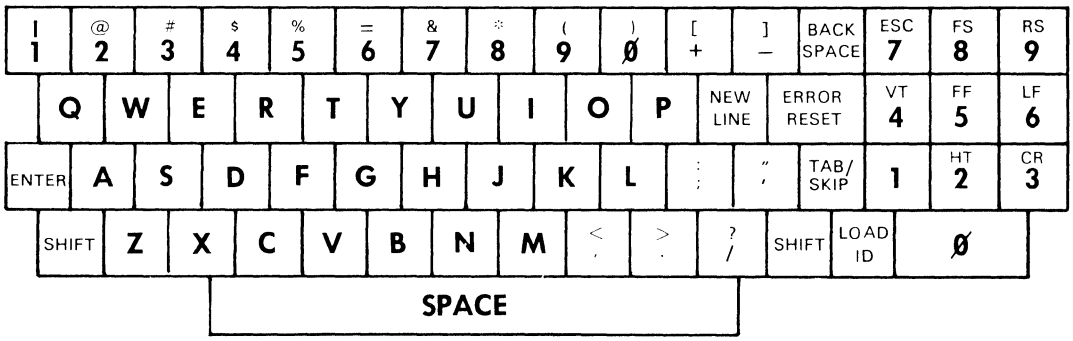
The cursor keys move the cursor to the right or left one space at a time or, if held depressed, move the cursor at the rate of approximately ten characters per second.

With program control on, the cursor keys move the cursor within the current data field only. ADVANCE FIELD\ BACK FIELD\ TAB/SKIP, or ENTER must be used to move the cursor into an adjacent data field.

OPTION SWITCHES

The OPTION SWITCHES are located in the center, at the top, of the keyboard.





Program Control

The PROG CTL switch is used in format mode on the 34Ø and in several operating modes on the 34ØD; and in search mode on the 34Ø. In Format Mode with PROG CTL OFF, all Model 34Ø keys are active except ENTER. A programmer can create a format and record it on cassette tape for permanent storage because he can move the cursor about and enter data freely anywhere on the screen.

With PROG CTL ON; however, the operator is quite restricted in where data can be entered. The operator can use a previously prepared format as a guide in preparing data for computer input. The portion of the display devoted to format is protected (cannot be typed over) and the data portion of the display is controlled. The format can specify the type of entry that will be permitted in each data field and with program control on, the format

specifications will be enforced.

In format mode the following keys are inoperative when the program control switch is on:

|	automatic cursor advance
[ ]	left and right brackets
VT	vertical tab
FF	form feed
ESC	escape
RS	record separator
LF	line feed
CR	carriage return
HT	horizontal tab

In addition to deactivating these format control characters, turning program control on activates ENTER.

The following is true for the Model 340 only. In search mode, the PROG CTL switch is used to distinguish between search and edit operations. In a search operation (PROG CTL OFF) matching records are sought and copied. In an edit operation (PROG CTL ON) non-matching records are sought and copied.

Auto Operation

Having the AUTO OPRT switch ON in format mode, means that each record will be transferred to the specified outputs as soon as it is complete. When AUTO OPRT is OFF, the operator has an opportunity to sight verify the completed entries before depressing ENTER and transferring the record to the specified outputs.

Notice that since a record can be completed by depressing ENTER where AUTO OPRT is OFF, the operator may have to depress ENTER twice to re-

lease the record to the output devices.

In search mode on the 34Ø, AUTO OPRT must be OFF if you wish to have the search operation stop each time a record is found. On the 34ØD, the search operation ignores the AUTO OPRT switch, but stops also.

In batch mode, the AUTO OPRT switch is used to determine how the terminal will respond to file separators. With AUTO OPRT off, one file separator will cause the batch operation to stop. By depressing ENTER, the operator can continue on to the next file on the same tape. With AUTO OPRT on, the terminal will automatically pass single file separators and will stop only when it finds two adjacent file separators.

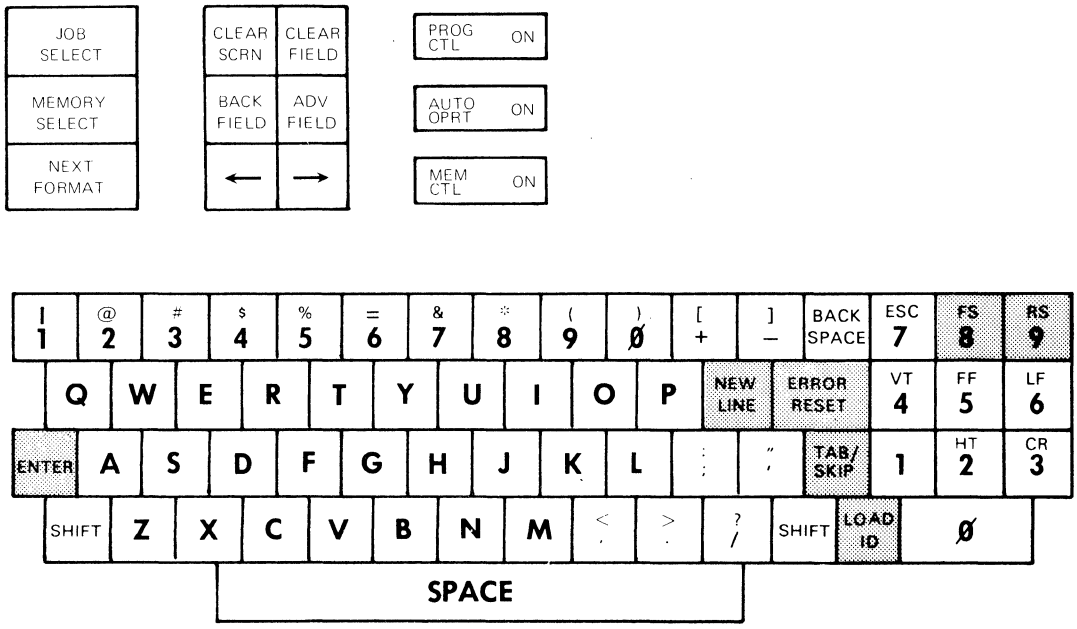
In unattended communications mode on the 34Ø, 19 " @ " signs and a record separator will be sent in place of read errors if AUTO OPRT is on. If AUTO OPRT is OFF, a read error will cause an incomplete.

Memory Control

The MEM CTROL switch is defined by the program loaded in memory.

SPECIAL FUNCTION KEYS

Special function keys that are located on the alpha-numeric keyboard and the ten key pad are described in this section.



Enter

ENTER is the most versatile key on the Model 34Ø or the Model 34ØD keyboard. ENTER may be used in the following ways.

It completes the job selection sequence when all blank job select positions have been filled with input/output device codes or spaces, the cursor disappears from the screen. In format mode, with a format input specified and program control on, depressing ENTER causes the first page of format to be displayed automatically. On the 34ØD, with PROG CTL on, depressing ENTER will execute the declarative program. If program control is off, depressing ENTER after a format job selection causes the cursor to appear on the first line of the screen. In batch mode, when ENTER is depressed, the terminal executes the defined job. In search mode, depressing ENTER conditions the terminal to accept a search identifier as its next input.

When a search or edit operation stops, depressing ENTER continues the search. If the record on the screen was sought by the search operation (a match if program control is off or a non-match if program control is on), it will be transferred to the specified outputs when ENTER is depressed and the search will continue. If the record was not sought by the search (a match with program control on), the record will be skipped and the operation will continue. TAB/SKIP can be used as a place marker during editing. An operator may notice an error made in a previous field and want to go back and correct it before completing the page. Repeated depressions of BACK FIELD will return the cursor to the first position of the field containing the error. The operator then may use the cursor key to locate the error and type over it. When the error is corrected, depressing ENTER will return the cursor to the first position of the field that the operator last used before depressing BACK FIELD. This use of ENTER saves the operator the inconvenience of repeatedly depressing ADVANCE FIELD to return to the last data field used.

When the operator reaches a point in data entry where all of the remaining fields on a page are blank, depressing ENTER performs the function of tab skipping through all of the remaining fields and advances the cursor to the end of the page. Caution: Skipping omission detection or capacity controlled fields will cause an error.

If auto operation is off, completed data pages are not automatically released to the outputs. Instead, the operator has an opportunity to verify the record visually. After verification, depressing ENTER releases the data.

On the 34ØD only, the ENTER key has additional functions during the job selection sequence. When depressed after keying in a disk file name ENTER

opens that file and returns the cursor to the next position in the status line. ENTER will also recall the balance of the status line if depressed during the job selection sequence; thus ending the job selection sequence.

Error Reset

Whenever the keyboard locks and an error message is displayed in the status line of the screen, the first step in correcting the error is to depress ERROR RESET to unlock the keyboard.

Tab/Skip

TAB/SKIP is another key that has many different uses. In general, TAB/SKIP is used to exit from a field that is not entirely filled and the cursor moves to the beginning of the next field. Special used for TAB/SKIP are described in the following paragraphs.

When a positive number is to be added to the accumulator, the operator keys in the number must depress TAB/SKIP. The number is then automatically added to the accumulator and right justified in the data field. Negative numbers are followed by minus (-) sign which plays the same role as TAB/SKIP and causes the number to be subtracted from the accumulator and simultaneously right justified in the data field.

Some data fields are designed to accept input only from an accumulator. When an operator enters such a data field, TAB/SKIP or ENTER are the only keys that the terminal will accept as legal entries. Depressing TAB/SKIP causes the number in the accumulator to be displayed in the data field and thus become a part of the output data. Depressing ENTER does the same but also completes the data page.

Some numeric entry data fields automatically right justify the number the operator keys in. The data is right justified (left space filled) when the operator depresses TAB/SKIP to move the cursor into the next data field.

When TAB/SKIP is depressed in a tab compression field, a tab character appears in the data field and the cursor jumps to the next data field.

All of the above tab/skip functions involved entering data in format mode with program control on. TAB/SKIP is also used with program control off to construct a special character during format programming.

New Line

With program control off, the NEW LINE key is used in creating format control programs.

With program control on, depressing the NEW LINE key will cause the Terminal to seek a new line symbol (¬) in the format program and position the cursor in the first data field following the symbol. Depressing NEW LINE performs the TAB/SKIP function for all the fields skipped.

Record Separator (RS)

The RECORD SEPARATOR is used to define the end of a record. In format mode with program control on, the terminal automatically inserts a record separator in the data record. The operator needs to use the RECORD SEPARATOR key only at the end of search identifiers.

File Separator (FS)

A FILE SEPARATOR marks the end of a data file. A data file typically consists of a series of related data records. File separators may be used individually or in pairs (refer to AUTO OPRT key). File separators are written by selecting a tape key (TAPE 1 or TAPE 2) on the 34Ø or a device key (IN1, IN2, OUT1, or OUT2) on the 34ØD and then depressing the FILE SEPARATOR key. When a file separator is written in search mode, the search identifier must be re-entered.

Load

The LOAD key is used to load a program into memory.

ID

The ID key is used in search mode on the 34Ø only, to store a search identifier.

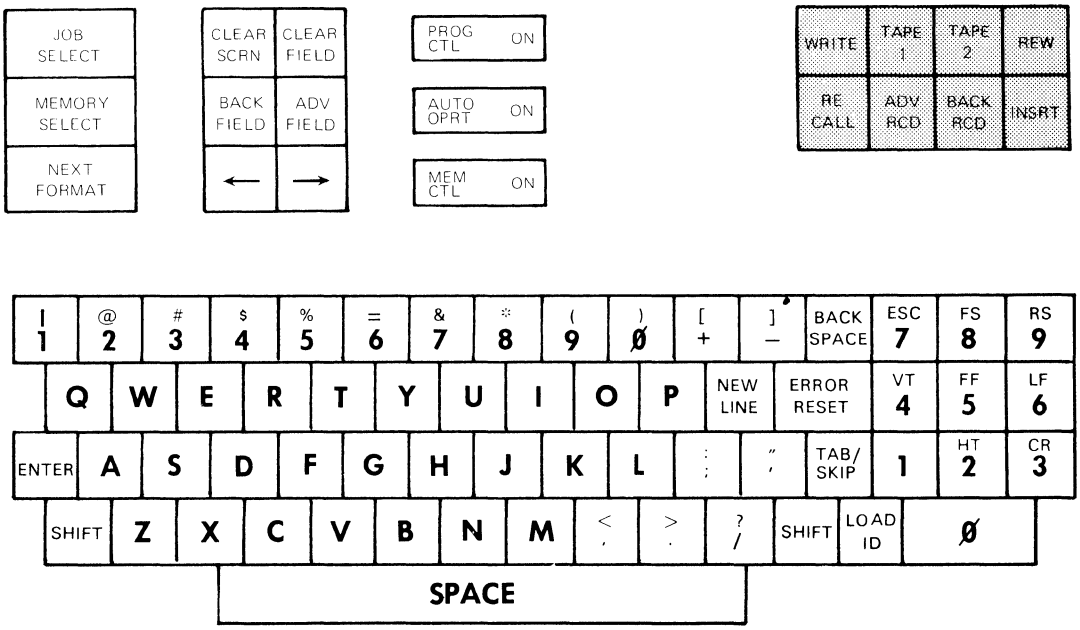
I/O CONTROL KEYS

The Model 34Ø and Model 34ØD keyboards are the same in apperance with the exception of the I/O Control Keys. These keys have the same purpose on both terminals; but operate di fferently because the 34ØD has the capability to read and write to disk files.

Therefore; the Model 34Ø I/O Control Keys are discussed separately from the Model 34ØD I/O Control Keys and only the part pertaining to the terminal being used need be read.

MODEL 34Ø I/O CONTROL KEYS

Below is the Model 34Ø Keyboard. A discussion of the I/O Control Keys follows.



Write

WRITE is used after TAPE 1 or TAPE 2. With program control off, the entire record on the screen is written on the selected tape. With program control on, the unprotected data portion of the display is written on the selected tape ignoring any output devices specified in the status line.

Tape 1 and Tape 2

TAPE 1 or TAPE 2 is depressed just before the other tape control keys (write, recall, advance record, back record, insert, or rewind) to select the cassette drive on which the operation will be executed. TAPE 1 or TAPE 2 also precedes the use of the record separator or file separator.

Rewind (REW)

REWIND is used after TAPE 1 or TAPE 2. REWIND rewinds the selected tape and clears the previous record from the screen. With program control off, the entire screen is cleared. With program control on, REWIND clears only the data areas of the screen.

Recall

RECALL is used after TAPE 1 or TAPE 2. Depressing RECALL backs up the selected tape and then advances it to display the last record on it. After depressing RECALL, the selected tape is in the same position as it was before RECALL was depressed.

Advance Record (ADV RCD)

ADVANCE RECORD is used after Tape 1 or TAPE 2. With program control off, the next record on the selected tape is displayed on the screen. With program control on, ADVANCE RECORD displays only in the data areas of the screen. ADVANCE RECORD cannot be used to advance the specified format input when program control is on.

Back Record (BACK RCD)

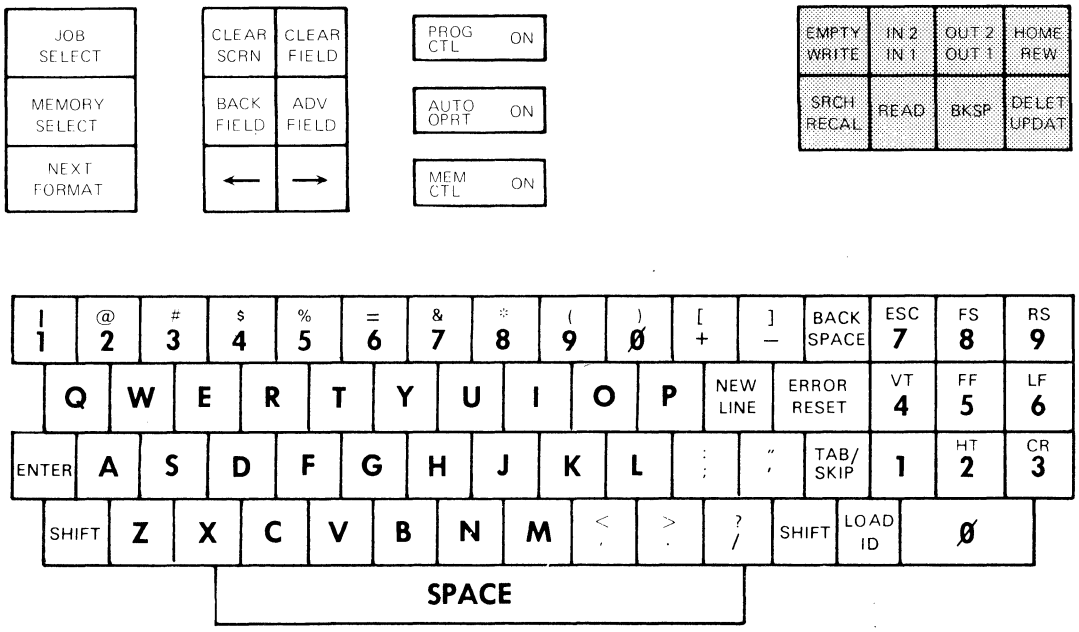
BACK RECORD is used after TAPE 1 or TAPE 2. It clears the screen and backs up one physical record on the selected tape. If the record is only one physical record in length (256 characters), one depression of BACK RECORD is sufficient to back up the tape one complete record. If a record exceeds 256 characters in length, depress BACK RECORD twice to back up the selected tape one complete record.

Insert (INSRT)

INSERT is used to change the contents of a previously recorded record. With the record displayed on the screen, the operator may make changes as desired from the keyboard. Depressing TAPE 1 or TAPE 2 and INSERT backs up the tape and records the changed record over the original. In format mode with program control on, changes can be made only in the data fields. With program control off, the format itself may be corrected. In batch and search modes, the entire record may be corrected with an insert operation. In any insert operation; however, the length of the corrected record must not be changed.

MODEL 340D I/O CONTROL KEYS

This is the 340D Keyboard, followed by a description of each I/O key.



IN1, IN2, OUT1 or OUT2

These keys select the device or file specified in the corresponding status line positions. (IN1-primary input, IN2-secondary input, OUT1-primary output and OUT2-secondary output. IN1, IN2, OUT1 or OUT2 must be depressed before the other device control keys are used. These keys are active when the input or output device is a cassette or diskette file. MEMORY SELECT is used for magnetic tape or card reader.

Write

WRITE is used after IN1, IN2, OUT1, OUT2 or MEMORY SELECT. With program control off, the entire record on the screen is written on to the selected device. With program control on, the unprotected data portion of the display is written on the selected device.

Read

READ is used after IN1, IN2, OUT1, OUT2 or MEMORY SELECT. With program control off, the next record on the selected tape or the current record of a disk file is displayed on the screen. With program control on, READ displays only in the data areas of the screen. READ cannot be used to advance the specified format input when program control is on.

Backspace (BKSP)

BKSP is used after IN1, IN2, OUT1, OUT2 or MEMORY SELECT. BKSP clears the screen and backs up one physical record. A cassette or magnetic tape records data in physical records of up to 256 characters, including the record separator. Disk file records are recorded in physical records (sectors) which are 128 characters in length.

Rewind (REW)

REW is used after IN1, IN2, OUT1, OUT2 or MEMORY SELECT. REW rewinds the selected tape or returns the current disk address of a disk file to the beginning of the file. With program control off, the entire screen is cleared. With program control on, REW clears only the data areas of the screen.

Delete (DELET)

DELET is operable only for disk files. DELET, depressed after a device key deletes the last record read in the file.

Update (UPDAT)

UPDAT is used to change a previously recorded record. This includes eliminating the deleted status of a previously deleted record in a disk file. With the record displayed on the screen, the operator positions the cursor under the characters to be changed and types over them. Depressing IN1, IN2, OUT1, or OUT2 and UPDAT backs up the specified device and records the changed version over the original. In format mode with program control on, corrections can be made only in the data fields. With program control off, the format may be corrected. In batch mode or when searching, the entire record may be corrected with the UPDAT key. In any update operation, care should be taken to not change the record length of tape records and to stay within the defined length of disk file records. Protected files cannot be updated.

Recal

The RECAL key has two functions. To recall a previously selected device during the job selection sequence or to recall a record from a selected device. When RECAL is depressed during the job selection sequence, it recalls the previously selected device. If the device happens to be a disk file, the file is reopened, maintaining the same current disk address it had before it was closed, and the cursor advances to the next input or output position in the status line. When RECAL is depressed after one of the device keys (IN1, IN2, OUT1 or OUT2), the selected device is backed up one record and the record is displayed on the CRT. The selected device is in the same position after depressing RECAL as it was before.

Search (SRCH)

SRCH is used after IN1, IN2, OUT1 or OUT2. Depressing the SRCH key causes the selected device to be searched for the parameter on the display. The parameter cannot be more than 256 characters in length, including the record separator (RS) at the end. Non-matches will be skipped and the 34ØD will stop on a match. To write the record out to a device, depress one of the device keys, then WRITE. Depression of the ENTER key will resume searching. The search parameter can be changed and the search continued by keying in a new parameter, depressing one of the device keys (IN1, IN2, OUT1 or OUT2) and SRCH.

Home

Depression of the HOME key closes all open disk files. The disk head is homed and the HME message is displayed on the status line. Depress ERROR

RESET to clear the message. If the HOME key was depressed in Format mode with the program control switch on, the status line devices are recalled, the declaratives are re-executed and the cursor returns to the field where it was when the HOME key was depressed. Otherwise, the cursor is placed at the IN1 position on the status line and the operator can select new devices or recall old ones.

Empty

This key is used for disk files only. Depression of a device key (IN1, IN2, OUT1 or OUT2) and EMPTY will cause the 340D to ask for verification of the empty command by displaying the message "EMP" in the status line. To actually empty the file, the operator must depress ERROR RESET immediately followed by the ENTER key. Depressing ERROR RESET followed by any other key will cancel the empty operation. Protected files cannot be emptied. An attempt to empty a protected file will cause a "PRO" message to appear in the status line.

General Function Keys

The chart on the following pages describes the function of all the general keys of the keyboard.

340/340D KEY FUNCTION CHART		
KEY/SWITCH	PROGRAM CONTROL--OFF	PROGRAM CONTROL--ON
Ø-9	Displays the representative numeric character in the current position on the CRT.	Displays the representative numeric character in the current position on the CRT. Valid entry in a numeric or mixed field only.
A-Z	Displays the representative alphabetic character in the current position on the CRT.	Displays the representative alphabetic character in the current position on the CRT. Valid entry in alphabetic or mixed fields only.
Space	Displays a space on the CRT.	Displays a space on the CRT. Valid in numeric, alpha, or mixed fields.
. (Period)	Displays a period on the CRT.	Displays a period on the CRT. Valid in numeric, alpha, or mixed fields.
, (Comma)	Displays a comma on the CRT.	Displays a comma on the CRT. Valid in numeric, alpha, or mixed fields.
: (Colon)	Displays a colon on the CRT.	Displays a colon on the CRT. Valid in mixed fields only.
; (Semi-Colon)	Displays a semi-colon on the CRT.	Displays a semi-colon on the CRT. Valid in mixed fields only.
? (Question Mark)	Displays a question mark on the CRT.	Displays a question mark on the CRT. Valid in mixed fields only.

	34Ø/34ØD KEY FUNCTION CHART	
KEY/SWITCH	PROGRAM CONTROL--OFF	PROGRAM CONTROL--ON
| (Cursor Advance)	Displays a cursor advance symbol on the CRT.	Inoperative.
[(Left Bracket)	Displays a left bracket on the CRT.	Inoperative.
@ (At Sign)	Displays an at sign on the CRT.	Displays an at sign on the CRT. Valid in mixed fields only.
# (Pound Sign)	Displays a pound sign on the CRT.	Displays a pound sign on the CRT. Valid in mixed fields only.
$ (Dollar Sign)	Displays a dollar sign on the CRT.	Displays a dollar sign on the CRT. Valid in mixed fields only.
% (Percent Sign)	Displays a percent sign on the CRT.	Displays a percent sign on the CRT. Valid in mixed fields only.
] (Right Bracket)	Displays a right bracket on the CRT.	Inoperative.
& (Ampersand)	Displays an ampersand on the CRT.	Displays an ampersand on the CRT. Valid in mixed fields only.
* (Asterisk)	Displays an asterisk on the CRT.	Displays an asterisk on the CRT. Valid in mixed fields only.
((Left Parenthesis)	Displays a left parenthesis on the CRT.	Displays a left parenthesis on the CRT. Valid in mixed fields only.
) (Right Parenthesis)	Displays a right parenthesis on the CRT. Valid in mixed fields only.	Displays a right parenthesis on the CRT.

34Ø/34ØD KEY FUNCTION CHART		
KEY/SWITCH	PROGRAM CONTROL--OFF	PROGRAM CONTROL--ON
- (Minus)	Displays a minus on the CRT.	Displays a minus on the CRT. Valid in numeric and mixed fields only. Subtracts an accumulator add/subtract fields from the specified accumulator.
+ (Plus)	Displays a plus on the CRT.	Displays a plus on the CRT. Valid in mixed fields only.
= (Equal Sign)	Displays an equal sign on the CRT.	Displays an equal sign on the CRT. Valid in mixed fields only.
" (Quotation Mark)	Displays a quotation mark on the CRT.	Displays a quotation mark on the CRT. Valid in mixed fields only.
< (Less than Symbol)	Displays a less than symbol on the CRT.	Displays a less than symbol on the CRT. Valid in mixed fields only.
> (Greater Than Symbol)	Displays a greater than symbol on the CRT.	Displays a greater than s ymbol on the CRT. Valid in mixed fields only.
/ (Slash)	Displays a slash on the CRT.	Displays a slash on the CRT. Valid in mixed fields only.
' (Apostrophe)	Displays an apostrophe on the CRT.	Displays an apostrophe on the CRT. Valid in mixed fields only.

34Ø/34ØD KEY FUNCTION CHART		
KEY/SWITCH	PROGRAM CONTROL--OFF	PROGRAM CONTROL--ON
TAB/SKIP	Displays a (Horizontal Tab) Symbol on the CRT.	Skips the remaining positions of the current field. If depressed in a capacity control field, or before a data character is entered in an omission detection field, the terminal will stop at that field with a TAB error. If depressed in a tab compression data field, a tab code (HT) will replace the remaining spaces in the data. Right justify, accumulator or extended memory fields are executed by tab/skip.
NEW LINE	Displays (New line stop code) symbol on the CRT.	Skips the remaining positions of the current fields and all remaining fields up to the new line stop code character and outputs a CR/LF character in the positionoof the stop code. All skipped fields are executed or checked for omission detection,etc.
VT (VERTICAL TAB)	Outputs a VT character which is not displayed on the CRT.	Inoperative.
HT (HORIZONTAL TAB)	Outputs an HT character which is not displayed on the CRT.	Inoperative.
FF (FORM FEED)	Outputs a form feed character which is not displayed on the CRT.	Inoperative

340/340D KEY FUNCTION CHART		
KEY/SWITCH	PROGRAM CONTROL--OFF	PROGRAM CONTROL--ON
BACKSPACE	Backspaces the cursor one position to the left.	Backspaces the cursor one position to the left within the current field. The cursor cannot move past the first position of the current field with the backspace key.
SHIFT	Defines the interpretation of keys which contain two (2) characters.	Defines the interpretation of keys which contain two (2) characters.
ESC	Outputs an ESC character which is not displayed on the CRT.	Inoperative.
RS	Outputs an RS (Record Separator) which is displayed on the CRT as a ■ and functions as the end of record symbol.	Inoperative.
LF	Outputs a Line Feed character which is not displayed on the CRT.	Inoperative.

Additional Notes

BASIC OPERATIONS

INTRODUCTION

The purpose of this section is to show sample step-by-step operating instructions for operators to use with Sycor terminals.

Examples of both program loading and data collection are included. The instructions pertaining to 34Ø operation are grouped separately from the 34ØD.

Before attempting to execute the instructions some preparation will be required by a programmer; since data and format cassettes or diskettes are required by many of the examples.

34Ø OPERATIONS

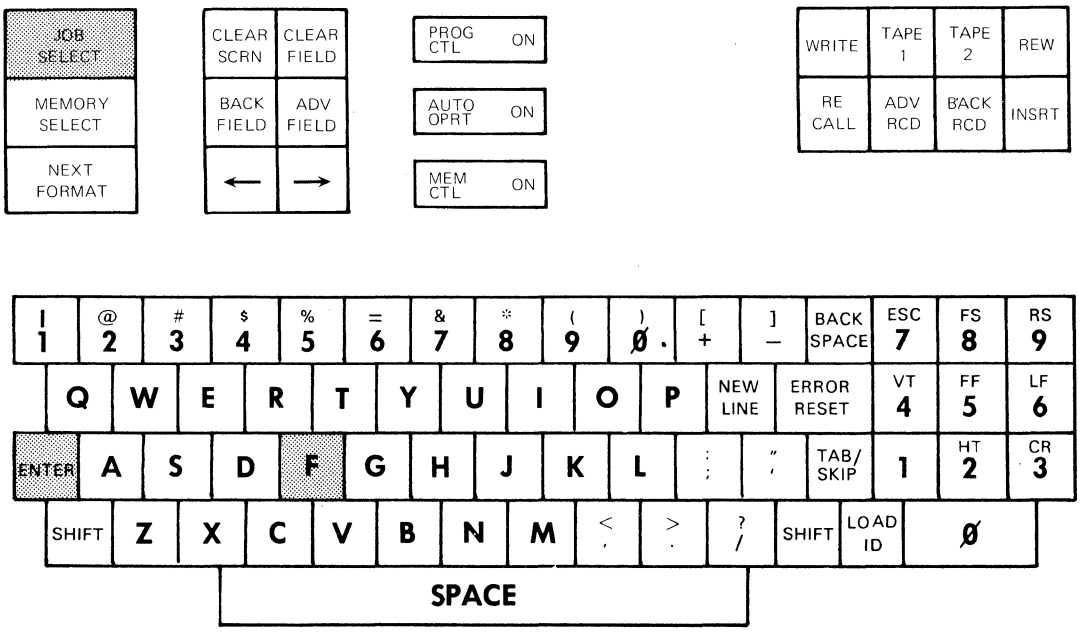
The following sets of instructions pertain to the operation of the Sycor 34Ø terminal.

FREE FORM

Set Up

1. Turn PROG CTL, AUTO OPRT and MEM CTL OFF.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
F	FMAT IN_, OUT ,
SPACE BAR	
SPACE BAR	
SPACE BAR	
SPACE BAR	
ENTER	FMAT IN , OUT ,

Operation

1. The cursor is in the first position of the first line of the display and the entire screen is available for the keying of data such as formats.

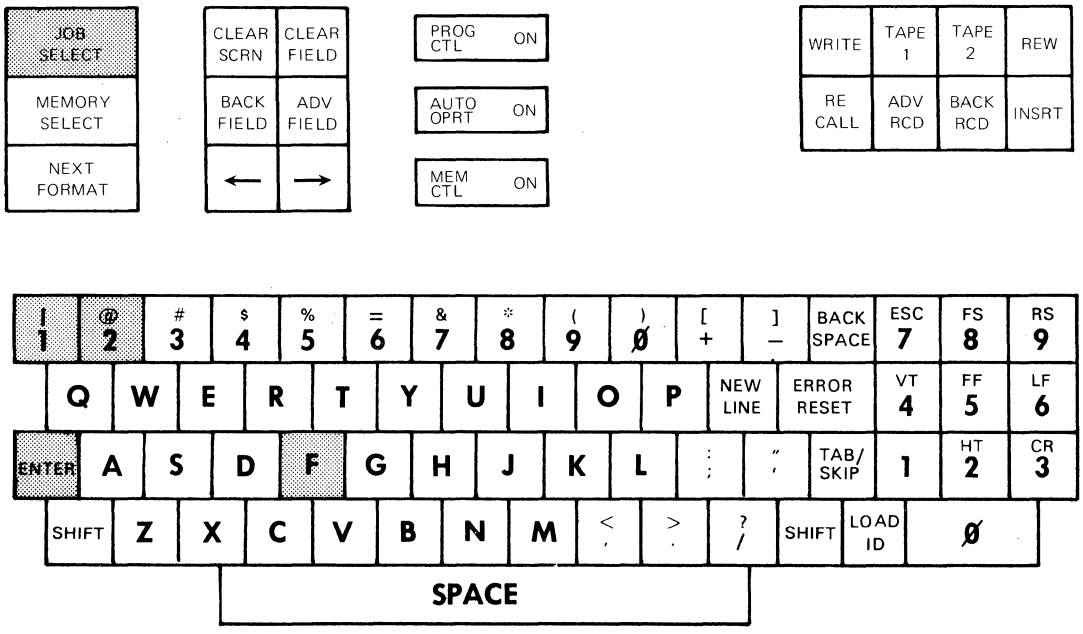
2. Data can be manually written out to a tape with the device keys. It is the responsibility of the operator to place a record separator (RS) at the end of data before writing it out to a device.

ENTERING DATA UNDER FORMAT CONTROL

Set Up

1. A second cassette recorder is required.
2. Load the program and/or peripheral driver into memory if required.
3. Load the format tape on cassette recorder one.
4. Load the data tape on cassette recorder two.
5. Turn PROGRAM CONTROL on.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
F	FMAT IN , OUT ,
1	
SPACE BAR	
2	
SPACE BAR	FMAT IN1, OUT2,
ENTER	The first page of format will be automatically displayed on the screen.

Operation

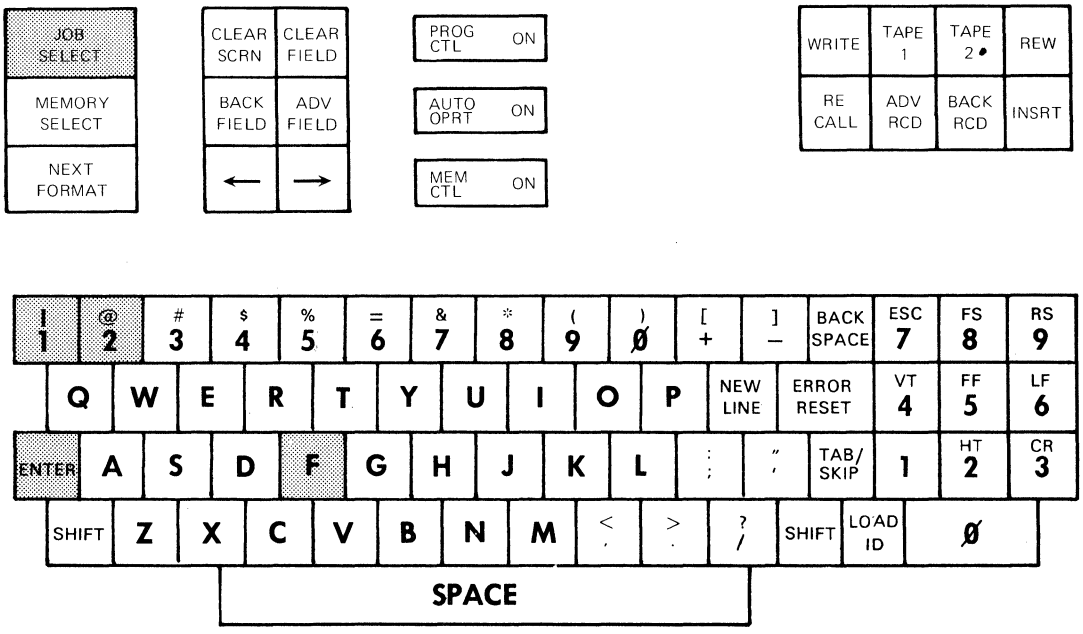
1. Turn AUTO OPRT (auto operation) on.
2. Begin typing data.
   a. Use TAB/SKIP to skip partially filled or unused fields.
   b. If all of the rest of the fields are to be skipped, depress ENTER.
3. After all the fields have been filled the contents of all the data fields will be recorded onto the cassette.
4. If automatic paging is not being used ([*] does not appear anywhere in the current format page), depress NEXT FORMAT when you wish to display the next format page.
5. When the cursor appears in the first data position, repeat steps 2-4 for each page of each source document.
6. When all source documents have been entered, depress TAPE 2, FS.
7. Rewind and remove both tapes.

UPDATING A FILE OF DATA

Set Up

1. A second cassette recorder is required.
2. Load the program and/or peripheral driver into memory if required.
3. Load the tape to be updated on cassette recorder one.
4. Load the format tape on cassette recorder two.
5. Turn PROG CTL off.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
F	FMAT IN , OUT ,
SPACE BAR	
1	
2	
SPACE BAR	FMAT IN ,1 OUT2,
ENTER	The format will be read onto the CRT.

Load Format

1. Depress TAPE 2, ADV REC.
2. Turn PROG CTL on.
3. Depress TAPE 2, REW
4. Remove the format tape from tape drive 2 and replace it with a blank tape for the updated records.

Operation

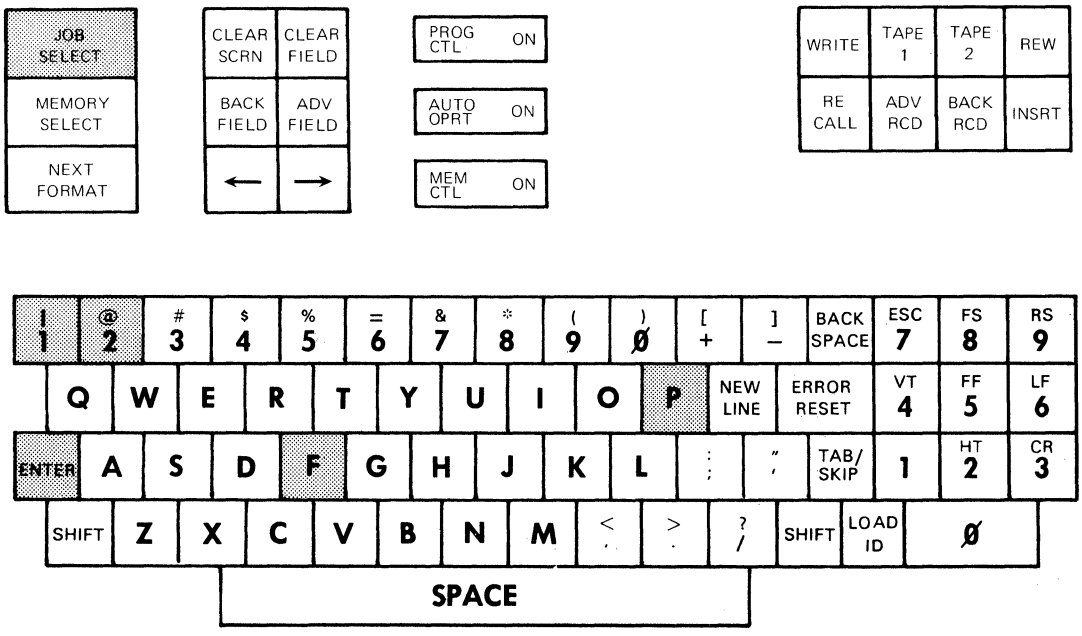
1. Depress tape 1 and REW to position the first data record onto the CRT.
2. Type in changes and/or additions.
   a. Use TAB/SKIP to skip partially filled or unused fields.
   b. If all of the rest of the fields are to be skipped, depress ENTER.
3. When the cursor appears in the first data position, repeat steps 4-6 for each record.
4. When all records have been updated, turn PROGRAM CONTROL off.
5. Depress tape 2, FS.
6. Rewind and remove data tapes.

UPDATING AND PRINTING A FILE OF DATA

Set Up

1. A second cassette recorder and printer is required.
2. Set Up the printer.
3. Load the program and/or peripheral driver into memory if required.
4. Load the tape to be updated on cassette recorder one.
5. Load the format tape on cassette recorder two.
6. Turn PROG CTL on.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
F	FMAT IN , OUT ,
SPACE BAR	
1	
2	
P	FMAT IN ,1 OUT2,P
ENTER	The format will be displayed.

Load Format

1. Depress TAPE 2, ADV REC.
2. Turn PROG CTL on.
3. Depress TAPE 2, REW. Remove the format tape from tape drive 2 and replace it with a blank tape for the updated records.

Operation

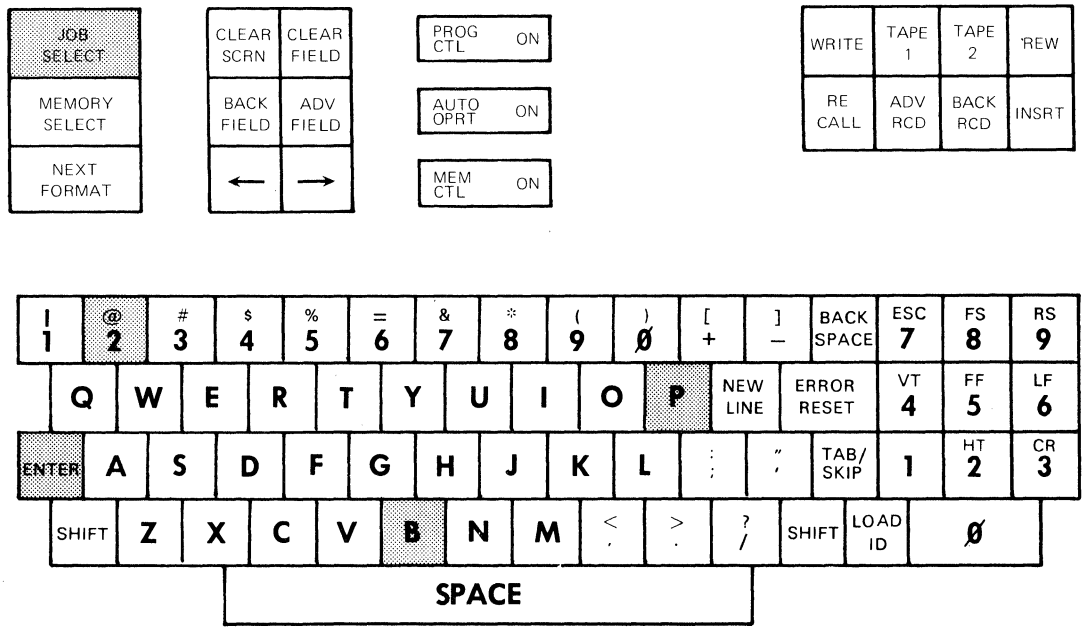
1. Depress tape 1 and REW to position the first data record onto the CRT.
2. Type in changes and/or additions.
   a. Use TAB/SKIP to skip partially filled or unused fields.
   b. If all of the rest of the fields are to be skipped, depress ENTER.
3. When the cursor appears in the first data position, repeat step for each record.
4. When all records have been updated, turn PROGRAM CONTROL off.
5. Depress TAPE 2, FS.
6. Rewind and remove both tapes.

BATCH PRINTING

Set Up

1. A second cassette recorder and printer is required.
2. Set Up the printer.
3. Load the tape to be printed on cassette recorder two.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
B	BATCH IN , OUT ,
2	
P	
SPACE BAR	BATCH IN2, OUTP,
ENTER	

Operation

1. Automatic.

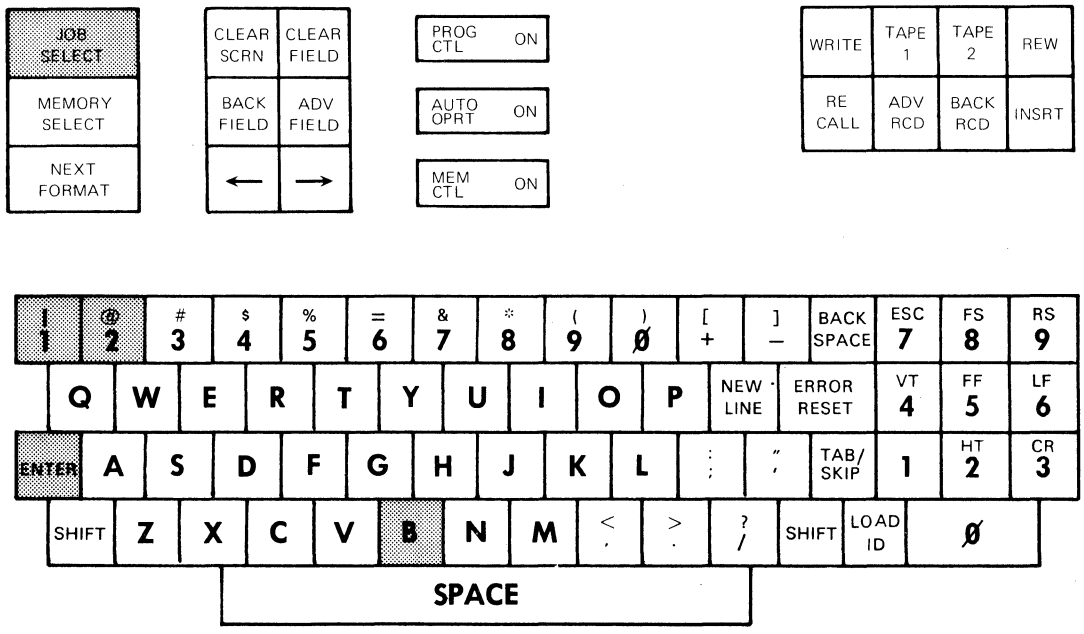
2. If you wish to stop a batch print, depress JOB SELECT.

BATCH COPYING

Set Up

1. A second cassette recorder is required.
2. Load the tape to be copied on cassette recorder one.
3. Load a blank tape on cassette recorder two.
4. If the cassette to be copied contains multiple files turn AUTO OPERATION on.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
B	BATCH IN , OUT ,
1	
2	
SPACE BAR	BATCH IN1, OUT2,
ENTER	

Operation

1. Automatic.

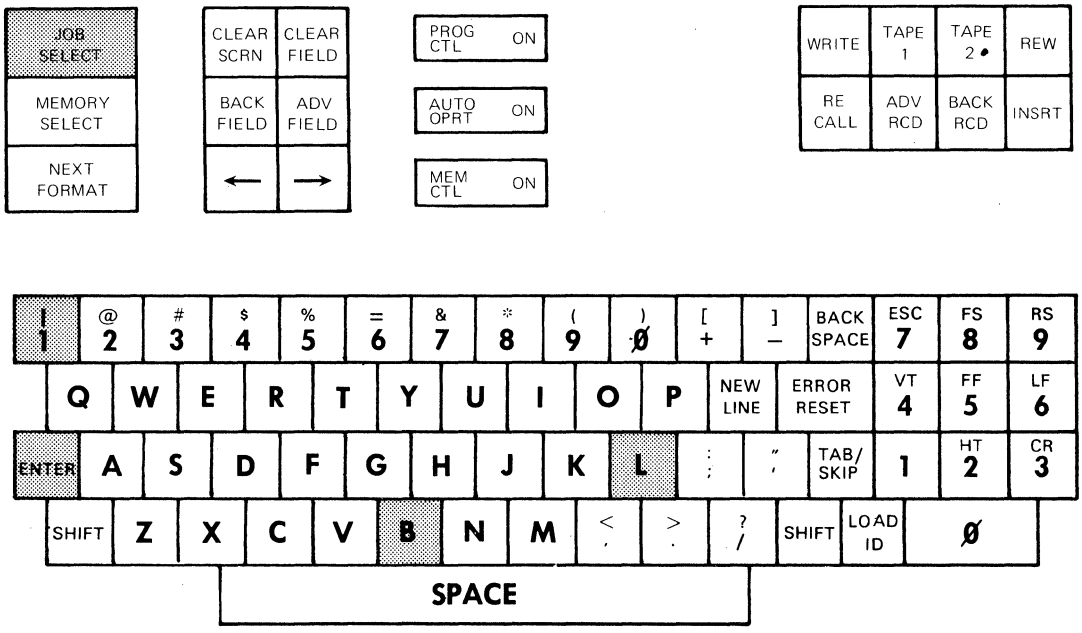
2. If you wish to stop a copy operation, depress JOB SELECT.

RECEIVING DATA

Set Up

1. A communication adapter is required.
2. Load the program and/or peripheral driver into memory if required.
3. Load a blank tape on cassette recorder to receive records.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
B	BATCH IN , OUT ,
L	
1	
SPACE BAR	BATCH INL, OUT1,
ENTER	

Operation

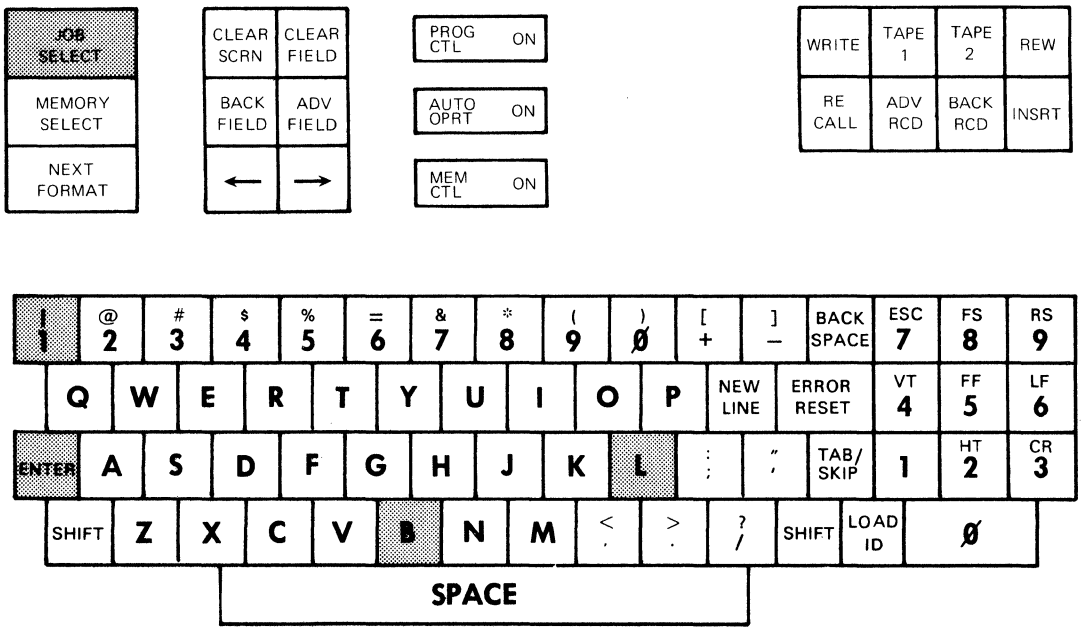
1. Set up data phone.
2. If you wish to terminate communications, depress JOB SELECT.

TRANSMITTING DATA

Set Up

1. A communication adapter is required.
2. Load the program and/or peripheral driver into memory, it required.
3. Load the tape to be transmitted on cassette recorder one.
4. If the cassette to be transmitted contains multiple files turn AUTO OPERATION on.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
B	BATCH IN , OUT ,
1	
L	
SPACE BAR	BATCH IN1, OUTL,
ENTER	

Operation

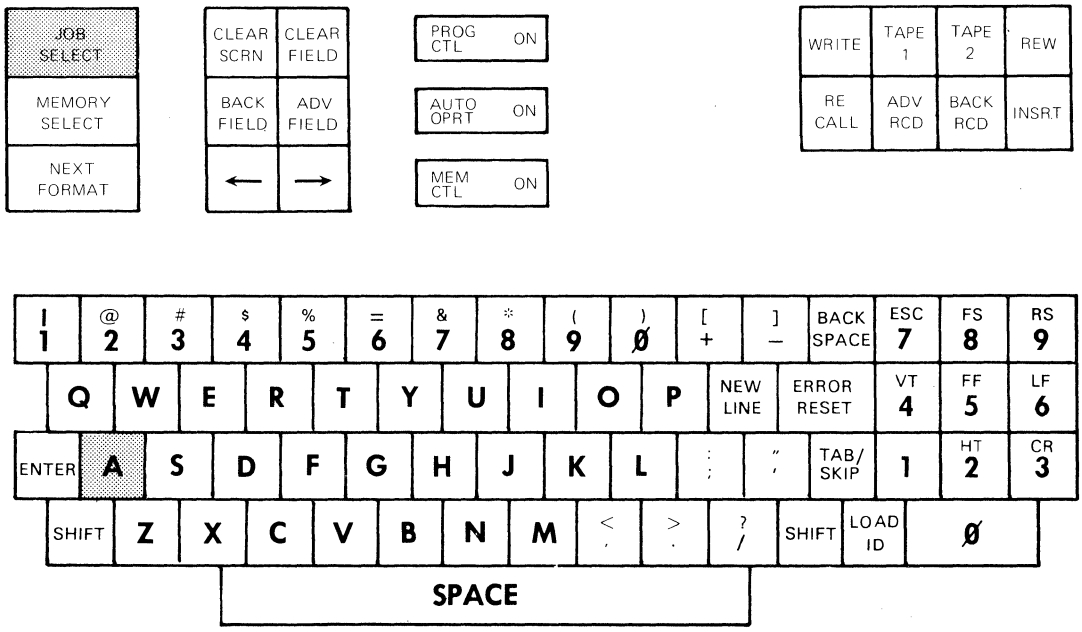
1. Set up data phone.
2. If you wish to terminate communications, depress JOB SELECT.

UNATTENDED COMMUNICATIONS

Set Up

1. A communication adapter and unattended communication is required.
2. Load the program and/or peripheral driver into memory if required.
3. Load the data tape to be transmitted or a blank tape for receiving on thepredetermined tape reader.
4. Turn AUTO OPERATION on and MEMORY CONTROL off.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys: JOB SELECT A	 B-AUT IN OUT , E

Operation

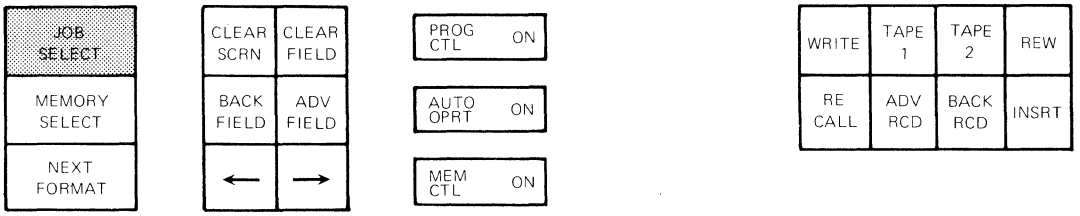
Depress AUTO on data phone.

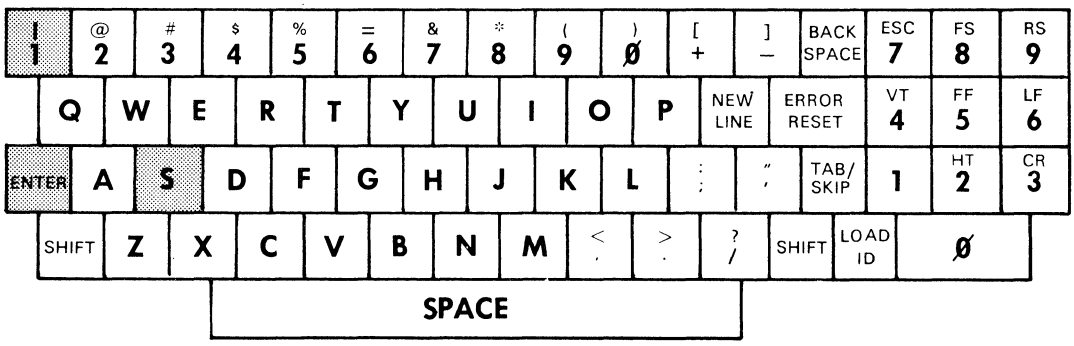
SEARCHING CASSETTE RECORDER ONE

Set Up

1. Load cassette to be searched on cassette recorder one.
2. Turn PROGRAM CONTROL off.
3. Turn AUTO OPERATION off.

Keyboard





Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
S	SRCH IN , OUT ,
1	
SPACE BAR	
SPACE BAR	SRCH IN1, OUT ,
ENTER	

Search Identifier

1. Type in a unique portion of the record you wish to locate. This data is called a Search Identifier and can be up to 256 characters long.

2. Depress record separator.

3. Depress ID.

Operation

1. The search operation will stop when a match is found. If you do not wish to change or correct the record skip to step 5.

2. If you wish to change or correct the record, use the cursor keys to locate the characters you wish to change.

3. Type over the old characters to change them.

4. When the record has been completely corrected, depress TAPE 1, then INSERT.

5. If you wish to continue searching for additional records containing the same search identifier, depress ENTER.

6. If you wish to search the same tape with a new search identifier, depress TAPE 1, REW.

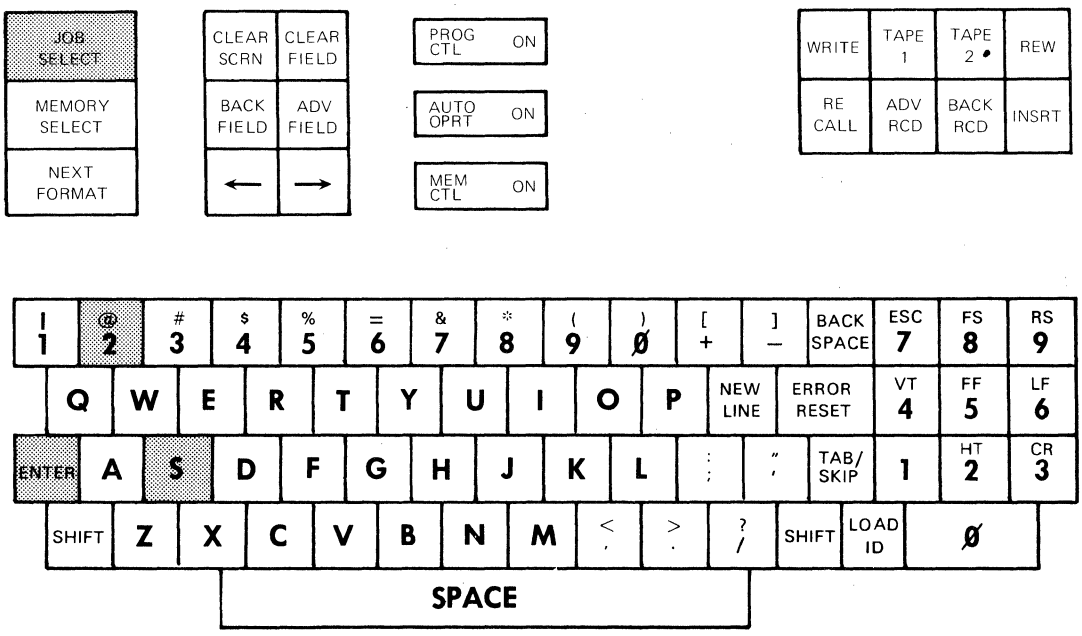
7. Enter a new search identifier and repeat the search operation.

SEARCHING CASSETTE RECORDER TWO

Set Up

1. A second cassette recorder is required.
2. Load the tape to be searched on cassette recorder two.
3. Turn PROGRAM CONTROL off.
4. Turn AUTO OPERATION off.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
S	SRCH IN , OUT ,
2	
SPACE BAR	
SPACE BAR	SRCH IN2, OUT ,
ENTER	

Search Identifier

1. Type in a unique portion of the record you wish to locate. This data is called a search identifier and can be up to 256 characters long.

2. Depress record separator.

3. Depress ID.

Operation

1. The search operation will stop when a match is found. If you do not wish to change or correct the record skip to step 5.

2. If you wish to change or correct the record use the cursor keys to locate the characters you wish to change.

3. Type over the old characters to change them.

4. When the record has been completely corrected, depress TAPE 2, then INSERT.

5. If you wish to continue searching for additional records containing the same search identifier, depress ENTER.

6. If you wish to search the same tape with a new search identifier, depress TAPE 2, REW.

7. Enter a new search identifier and repeat the search operation.

SELECTIVE COPYING

Set Up

1. A second cassette recorder is required.

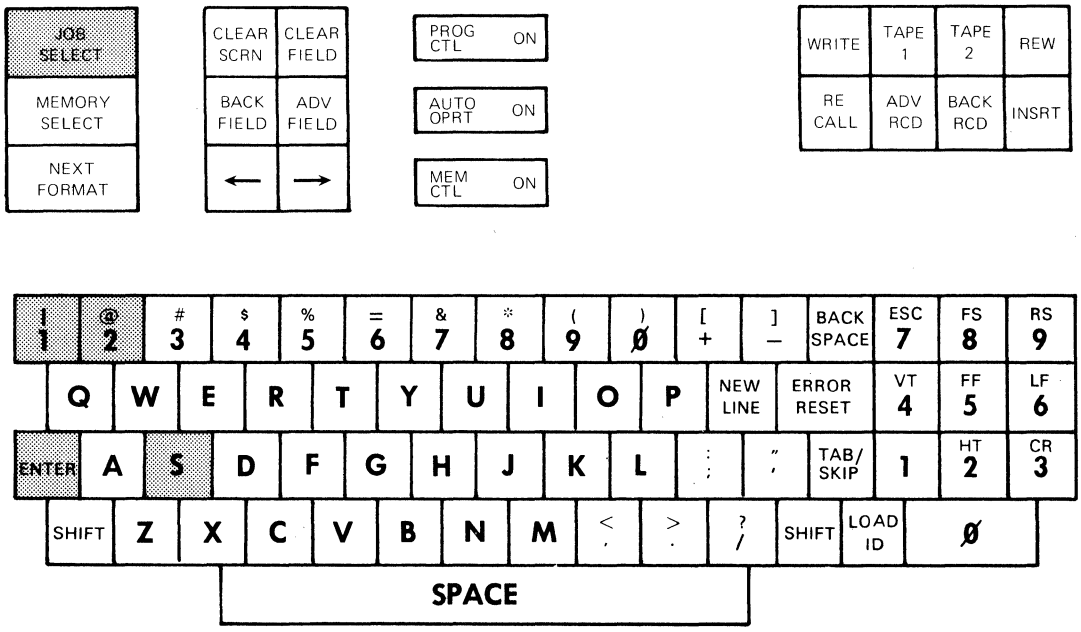
2. Load the cassette containing records to be searched on cassette recorder one.

3. Load a blank tape on cassette recorder two.

4. Turn PROGRAM CONTROL off.

5. If you elect to verify or change each record before copying it, the AUTO OPERATION switch must be off. To copy all matching records, turn AUTO OPERATION on.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
S	SRCH IN , OUT ,
1	
2	
SPACE BAR	SRCH IN1, OUT2,
ENTER	

Search Identifier

1. Type in a unique portion of the record you wish to locate. This data is called a search identifier and can be up to 256 characters long.

2. Depress record separator.

3. Depress ID.

Operation

1. If AUTO OPRT is OFF the search will stop when a match is found. If you do not wish to change the record before copying it, depress ENTER.

2. If you wish to change the record before copying it, use the cursor keys to locate the characters you wish to change.

3. Type over the old characters to change them.

4. When the record has been changed, depress ENTER. The changed record will be copied and the terminal will continue to look for another matching record.

SELECTIVE PRINTING

Set Up

1. A printer is required.

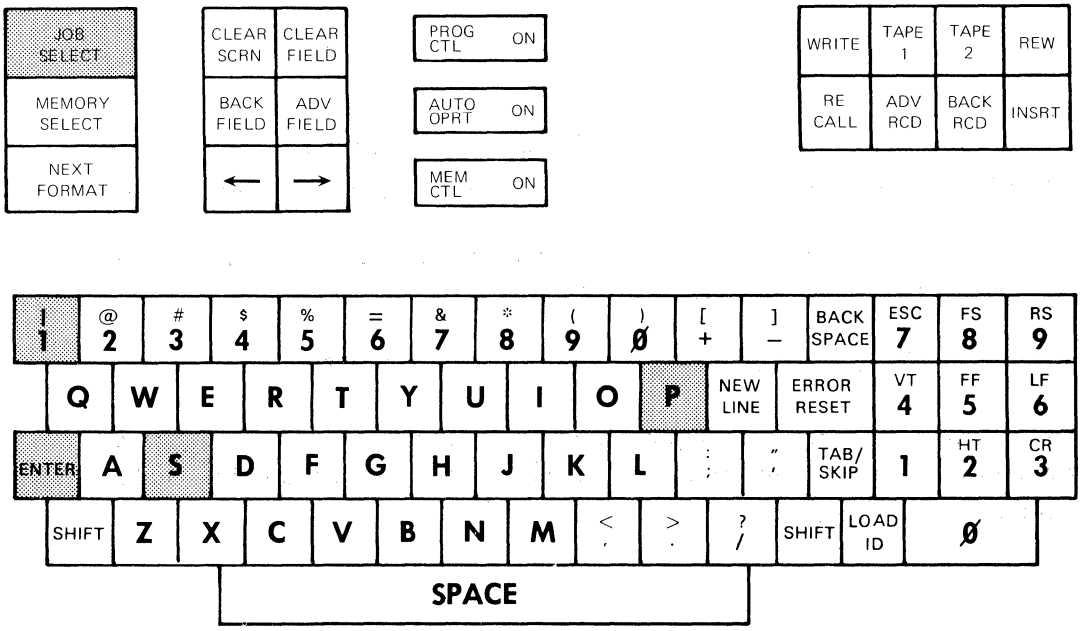
2. Set up the printer.

3. Load the tape containing records to be searched for printing on cassette recorder one.

4. Turn PROGRAM CONTROL off.

5. If you elect to verify or change each record before printing it, the AUTO OPERATION switch must be off. To print all matching records, turn AUTO OPERATION on.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
S	SRCH IN , OUT ,
1	
P	
SPACE BAR	SRCH IN1, OUTP,
ENTER	

Search Identifier

1. Type in a unique portion of the record you wish to locate. This data is called a search identifier and can be up to 256 characters long.

2. Depress record separator.

3. Depress ID.

Operation

1. If AUTO OPRT is OFF, the search will stop when a match is found. If If you do not wish to change the record before printing it depress ENTER.

2. If you wish to change the record before printing it, use the cursor keys to locate the characters you wish to change.

3. Type over the old characters to change them.

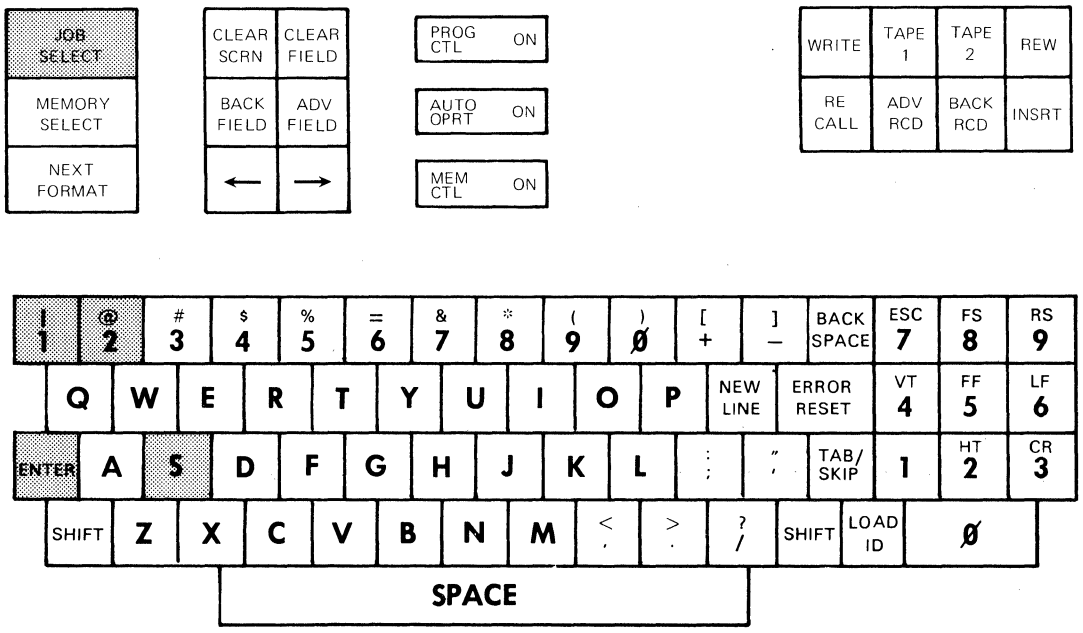
4. When the record has been changed, depress ENTER. The changed record will be printed and the terminal will continue to look for another matching record.

EDITING A FILE OF RECORDS

Set Up

1. A second cassette recorder is required.
2. Load the tape to be edited on cassette recorder one.
3. Load a blank tape on cassette recorder two.
4. Turn PROGRAM CONTROL on.
5. Turn AUTO OPERATION on.

Keyboard



Job Selection Sequer.

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
S	SRCH IN , OUT ,
1	
2	
SPACE BAR	SRCH IN1, OUT2,
ENTER	

Search Identifier

1. Type in a unique portion of the record you wish to locate. This record is called a search identifier and can be up to 256 characters long.

2. Depress record separator.

3. Depress ID.

Operation

1. The records on tape 1 will be copied onto tape 2 until a match is found.

2. To skip the matching record and continue to copy, depress ENTER.

3. To add a record or records before the matching record remove tape 1. (Do not rewind it).

4. Load a tape containing the additional records on cassette recorder one.

5. Advance the records from tape 1 and write them on tape 2. If a large number of records are to be added in one place, use a batch copy job selection.

6. Replace the original data tape on tape 1 and position it before the matching record.

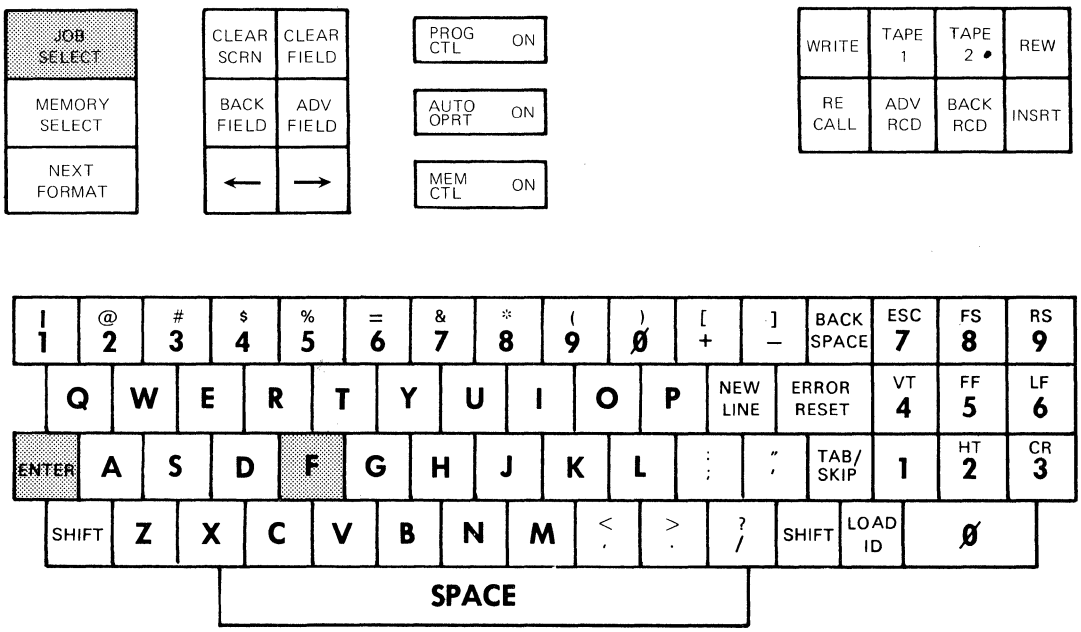
7. Use a batch copy operation to copy the remainder of tape 1 on to tape 2.

LOADING A PROGRAM AND/OR PERIPHERAL DRIVER

Set Up

1. Load the program cassette on cassette recorder one.
2. Turn PROGRAM CONTROL, AUTO OPERATION and MEMORY CONTROL off.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
F	FMAT IN , OUT ,
SPACE BAR	
SPACE BAR	
SPACE BAR	
SPACE BAR	FMAT IN , OUT ,
ENTER	

Loading the Loader

1. TAPE 1, ADV REC.
2. Depress SHIFT/LOAD.

Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
P	PROG IN1, OUT ,
1	
SPACE BAR	
SPACE BAR	PROG IN1, OUT ,
ENTER	

Operation

1. Type a three character name.

2. Depress ENTER.

3. The loader will advance the program tape and display the names of the programs on the tape until it finds the right program name.

4. When the correct program is found it will be loaded in extended memory.

5. Rewind and remove the program tape.

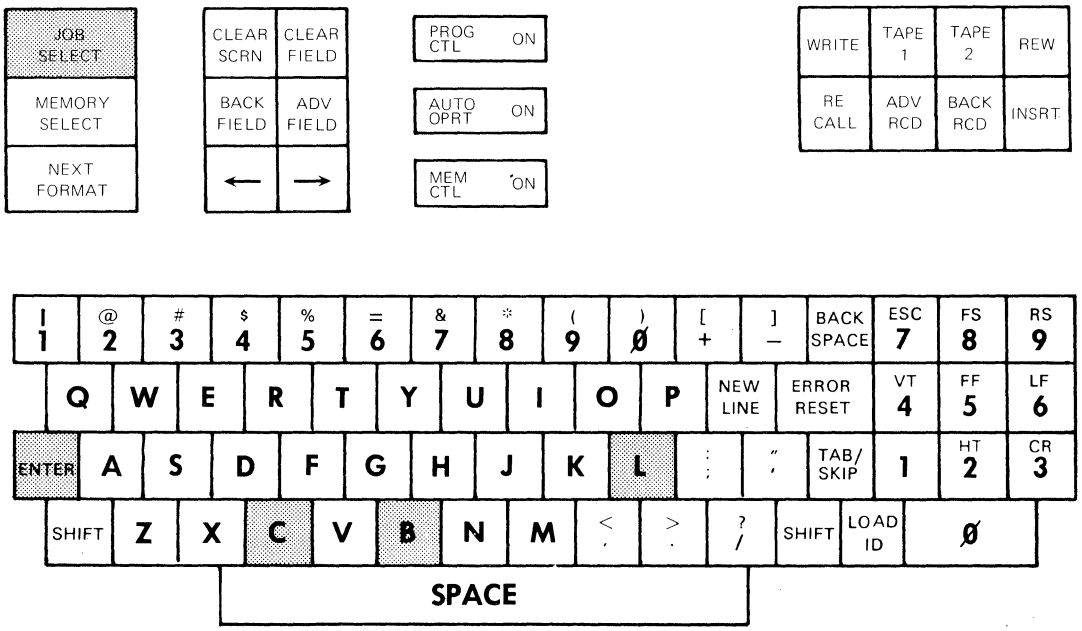
Additional Notes

AUTO ANSWER, RECEPTION

Set Up

1. A tape drive and communications adapter is required.
2. Load the program and/or peripheral driver into memory if required.
3. Load a blank tape on the tape drive.
4. Turn MEMORY CONTROL on.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys: JOB SELECT B L C SPACE BAR ENTER	 BATCH IN OUT , BATCH INL OUTC ,

Operation

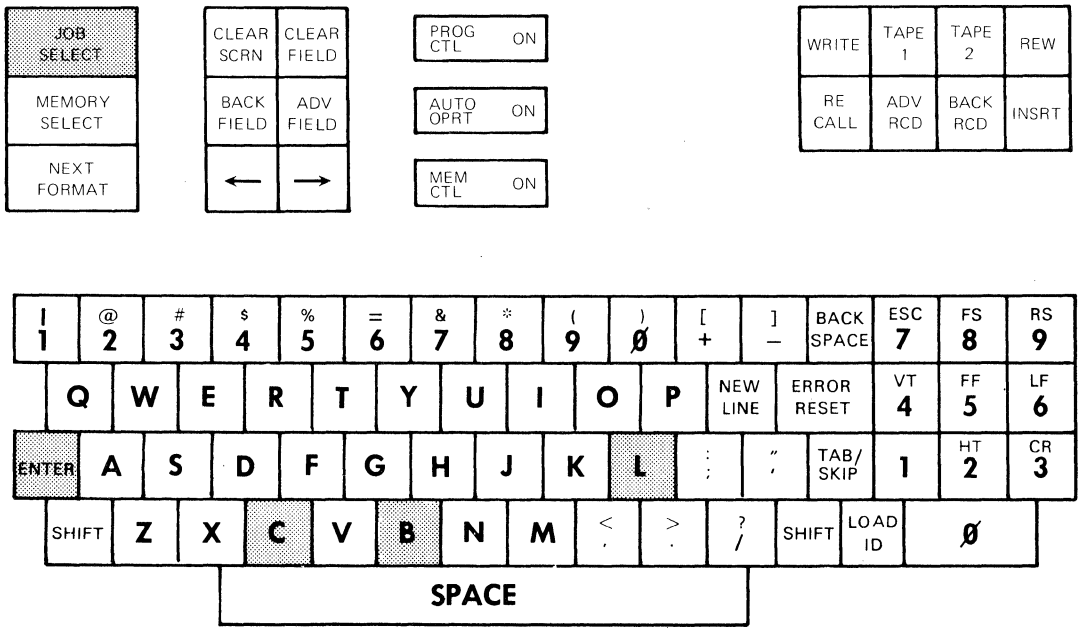
1. Depress AUTO on the data phone.

AUTO ANSWER, TRANMISSION

Set Up

1. A tape drive and communications adapter is required.
2. Load the program and/or peripheral driver into memory if required.
3. Load the data to be transmitted on the tape drive.
4. Turn AUTO OPERATION ON. (Transmission will stop after two file separators).
5. Turn MEMORY CONTROL ON.
6. A Read errors will be replaced by a 20 character @ sign record.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
B	BATCH IN OUT ,
C	
L	
SPACE BAR	BATCH IN1 OUTL,
ENTER	

Operation

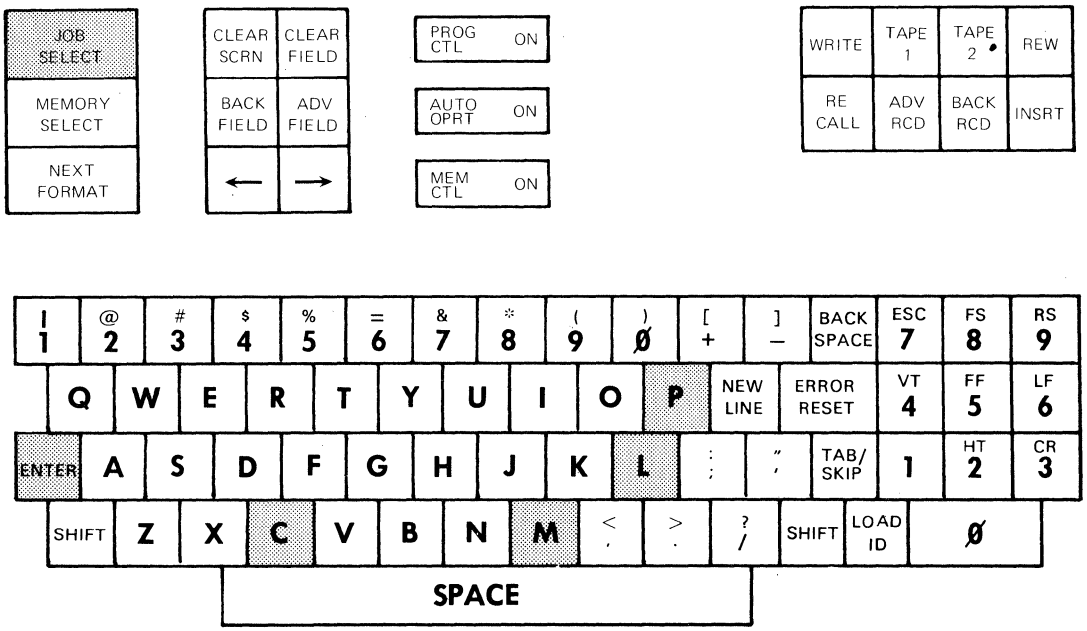
1. Depress AUTO on the data phone.
2. The tape will rewind after each transmission.

MASTER STATION, RECEPTION

Set Up

1. A tape drive and a communications adapter is required.
2. Load the program and/or peripheral driver into memory if required.
3. Load a blank tape on the tape drive.
4. Turn MEMORY CONTROL on.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
P	PROG IN , OUT , MODE
L	
C	
SPACE BAR	PROG INL, OUTC, MODE
ENTER	
M	PROG INL, OUTC, MODE M ID
Key in the terminal ID code (A through Z).	PROG INL, OUTC, MODE M IDA RMT
Key in the remote terminal peripheral device (1,2 or C)	PROG INL, OUTC, MODE M IDA RMT1
ENTER	

Operation

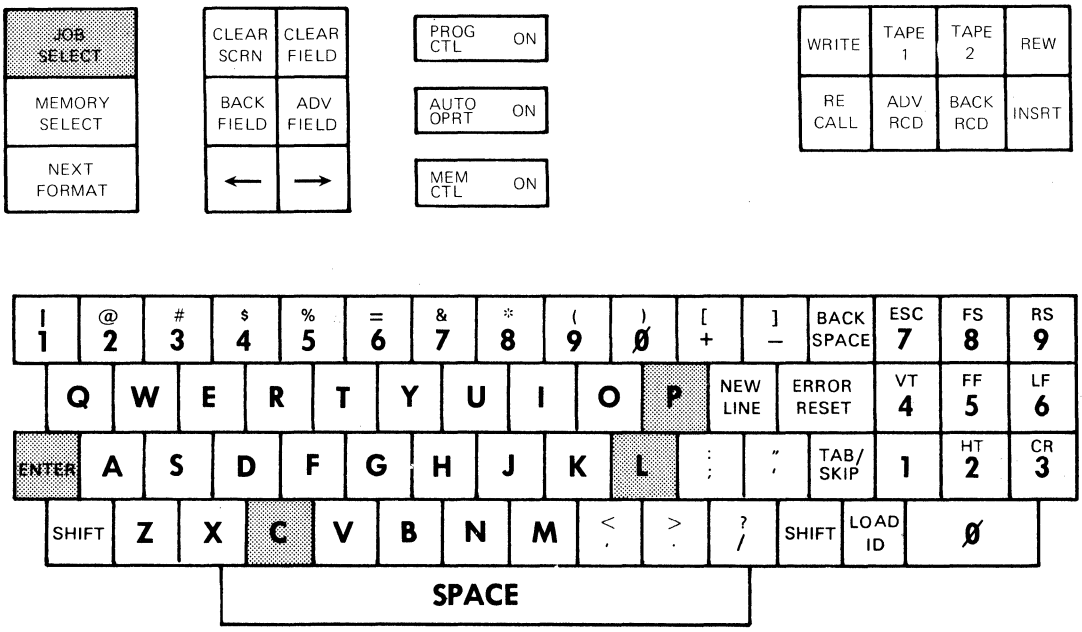
1. Dial the telephone number of the terminal selected.
2. Wait for the data tone; then depress DATA.
3. When an EOF C appears in the status line, the reception is complete.
4. To receive from another terminal, depress MEMORY SELECT.
5. Key in a 1.
6. Key in the terminal ID code (A through Z).
7. Key in a 1, 2 or C (remote terminal device).
8. Depress ENTER.
9. Repeat the operation instructions starting with step 1.

MASTER STATION, TRANSMISSION

Set Up

1. A tape drive and a communications adapter is required.
2. Load the program and/or peripheral driver into memory if required.
3. Load the data tape to be transmitted on the tape drive.
4. To transmit a single file and stop on one file separator turn AUTO OPERATION ON.
5. Turn MEMORY CONTROL on.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys: JOB SELECT P C L SPACE BAR ENTER	 PROG IN , OUT , PROG INC, OUTL,

Search Mode Selection

1. To search for the file to be transmitted, depress S.
2. Key in the file label (A through Z).
3. Depress ENTER.
4. When the file label has been located, the search will stop with the file label displayed. Skip steps 5-8.
5. If the file label is not found, "INC" will be displayed on the status line. To search again, depress ERROR RESET, MEMORY SELECT, REWIND.
6. Depress MEMORY SELECT.
7. Key in L.
8. Repeat steps 2-4.

Master Mode Selection

1. If you have just completed the job selection and did not do a file search, skip to step 3. Otherwise depress MEMORY SELECT.
2. Depress M.
3. Depress M.
4. Key in the terminal identification letter (A through Z).
5. Depress 1, 2, C or P (remote terminal peripheral).
6. Depress ENTER.

Operation

1. Dial the telephone number of the terminal selected.
2. Wait for the data tone and depress DATA.
3. When an EOF C appears in the status line the transmission is complete. Depress ERROR RESET.
4. To search for another file to transmit, depress MEMORY SELECT.
5. Depress M.
6. Repeat the search mode selection and the master mode selection.
7. To transmit the next file to another terminal without searching, depress memory select.
8. Depress I.
9. Key in the terminal identification letter (A through Z).
10. Depress 1, 2, C or P (remote terminal peripheral).
11. Depress ENTER and repeat the operation instructions beginning with step 1.

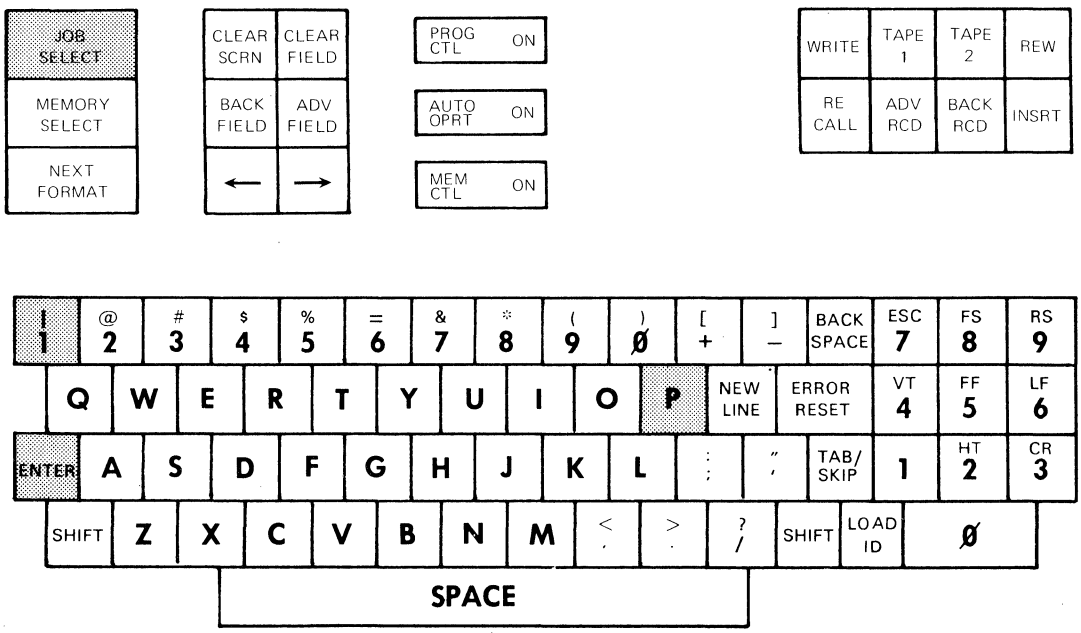
Additional Notes

UNATTENDED COMMUNICATIONS WITH BLOCKING AND PRINTING

Set Up

1. A communication adapter, unattended Communication and a printer is required.
2. Load the program and/or peripheral driver into memory.
3. Load the data tape to be transmitted, or a blank tape for receiving on the tape drive.
4. Turn PROGRAM CONTROL ON if records are to be blocked before transmission.
5. Turn AUTO OPERATION ON unless it is desired to stop at one file separator.
6. Turn MEMORY CONTROL OFF.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
P	PROG IN , OUT ,
1	
SPACE BAR	
SPACE BAR	PROG IN1, OUT ,
ENTER	P-AUT IN , OUT , E

Operation

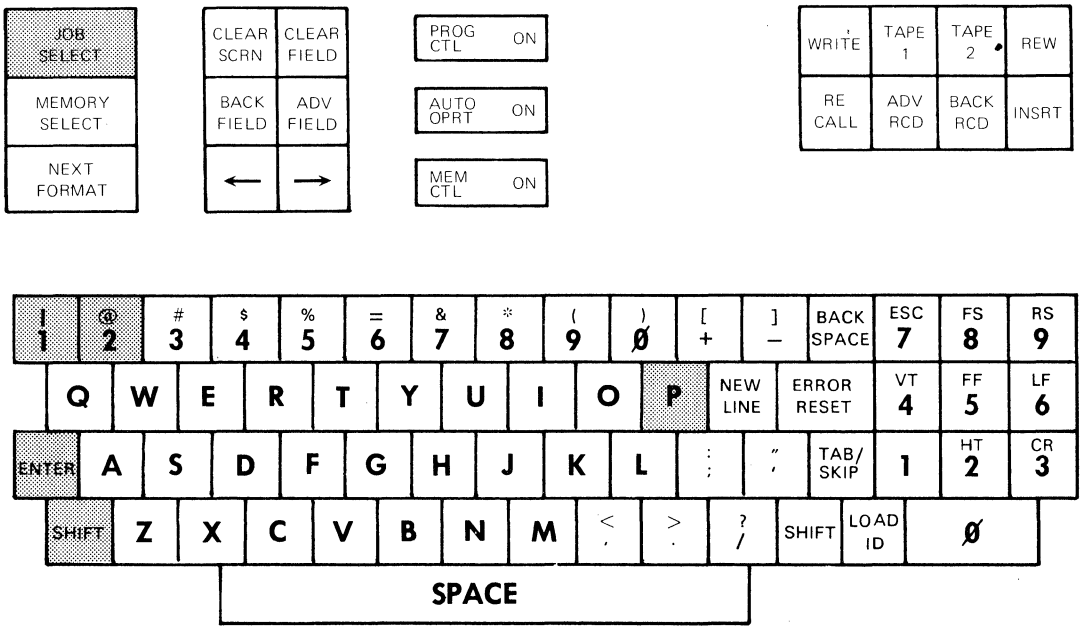
1. Depress AUTO on the data phone.

MERGE AND PRINT

Set Up

1. A printer tape drive, or both is required.
2. Load the program and/or peripheral driver into memory if required.
3. Turn AUTO OPR, PROG CTRL, and MEM CTRL OFF.
4. Load the cassette with fixed data on cassette recorder one.
5. Load the variable data on cassette recorder two.
6. Set-up the printer.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	
P	PROG IN , OUT ,
1	
2	
P	PROG IN1, OUT2,P
ENTER	
Type in the fill character (@)	PROG IN1, OUT2,P @

Operation

1. Operation is automatic.

Additional Notes

340D OPERATIONS

The following sets of instructions pertain to the Sycor 340D terminal.

RECORDING A FORMAT ON DISK

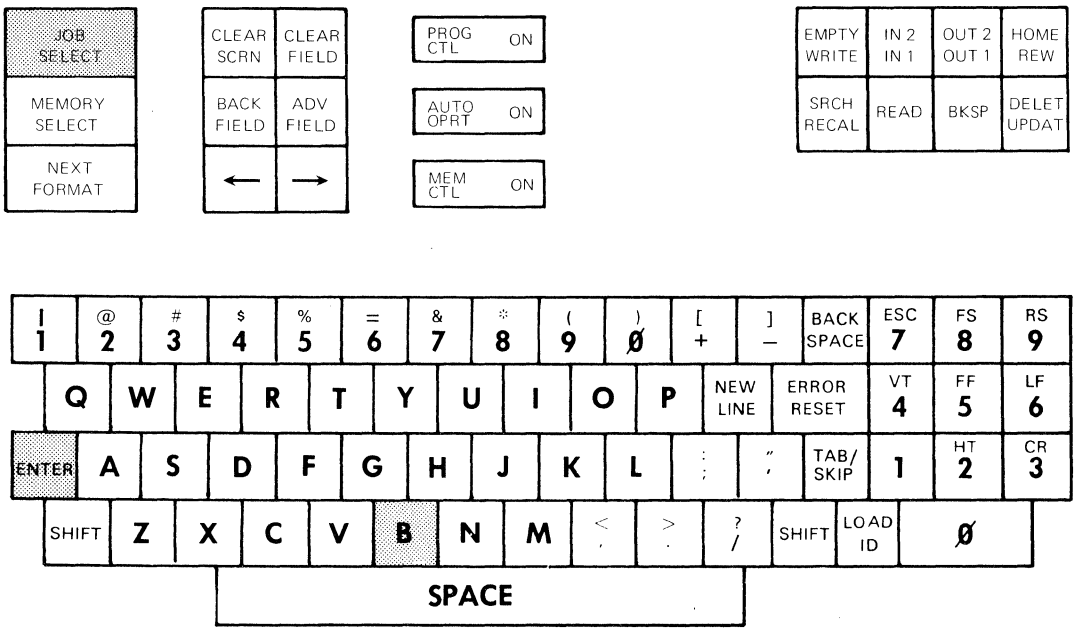
Set Up

1. Turn PROG CTL, AUTO OPRT and MEM CTL OFF.

2. The Data Entry ($DE) Terminal Control Program should be loaded.

   Note: When the terminal is turned on $DE is automatically loaded providing a system disk is on drive A. Otherwise, refer to the Loading a Terminal Control Program instructions in this section.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	FMAT IN_, OUT ,
B	
FILE NAME (That will contain formats)	FMAT INB,_ OUT ,
ENTER	FMAT INB, OUT ,

Operation

1. The cursor will appear in the first position of the first line of the display and the entire screen is available for the keying of formats.

2. To manually write a format out to the disk file depress IN1 and WRITE.

3. Repeat steps 1 and 2 for each format.

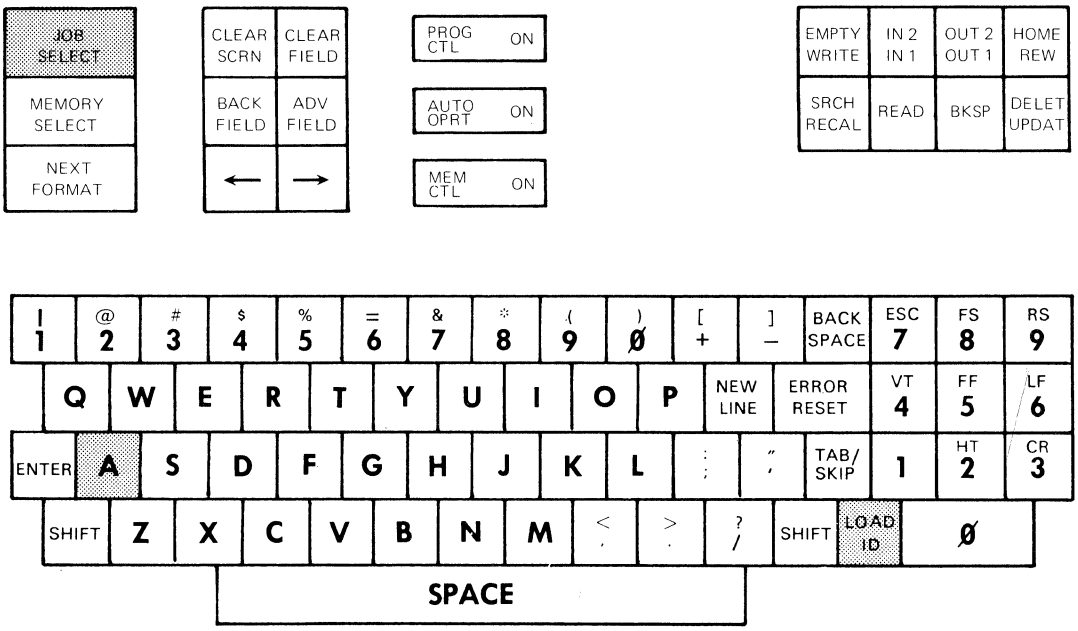
4. After all formats have been written out to the disk file depress the HOME key to close the file.

LOADING A TERMINAL CONTROL PROGRAM FROM DISK

Set Up

1. The System Disk must be on Drive A.
2. PROG CTL, AUTO OPRT and MEM CTL should be OFF.
3. A Control Program can be loaded in any mode.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys: JOB SELECT A NAME OF CONTROL PROGRAM LOAD	FMAT IN_, OUT , **,** **,** FMAT INA, OUT , **,** **,**

Operation

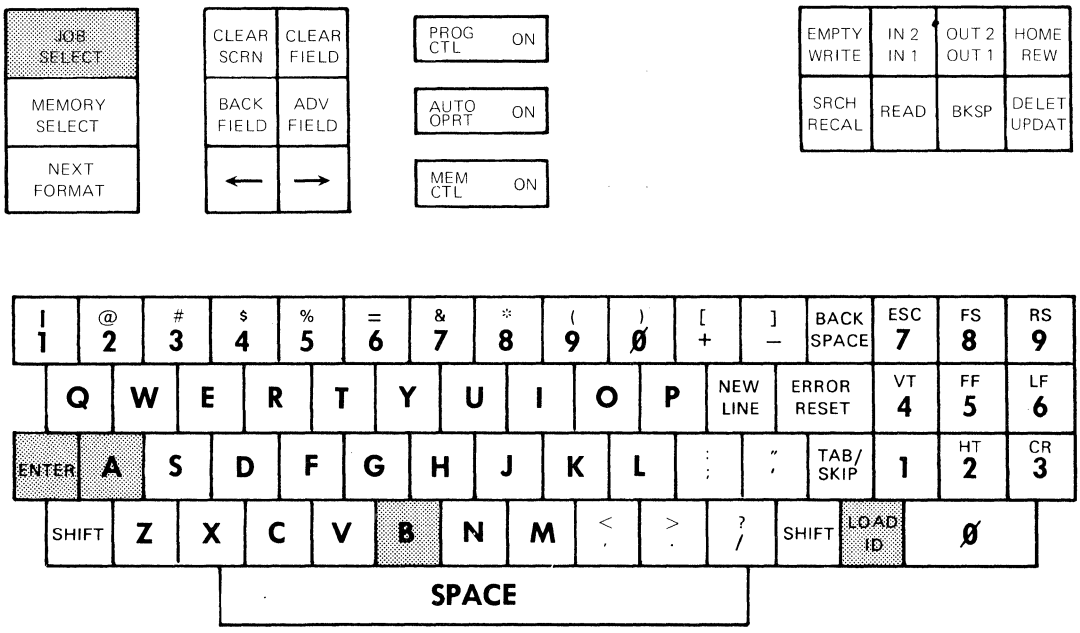
1. Refer to the Terminal Control Section of the 340D Programmer's Manual for operating instructions.

LOADING A TAL PROGRAM FROM DISK

Set Up

1. The Data Entry Terminal Control Program ($DE) must be loaded.
2. Load the disk containing the program and formats on Drive A or Drive B.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys: JOB SELECT A or B FILE NAME ENTER LOAD PROGRAM NAME LOAD ENTER	FMAT IN_, OUT , **,** **,** FMAT INA, OUT , **,** **,**

Operation

1. Refer to the specific operation instructions for that program.

ENTERING DATA UNDER FORMAT CONTROL

Set Up

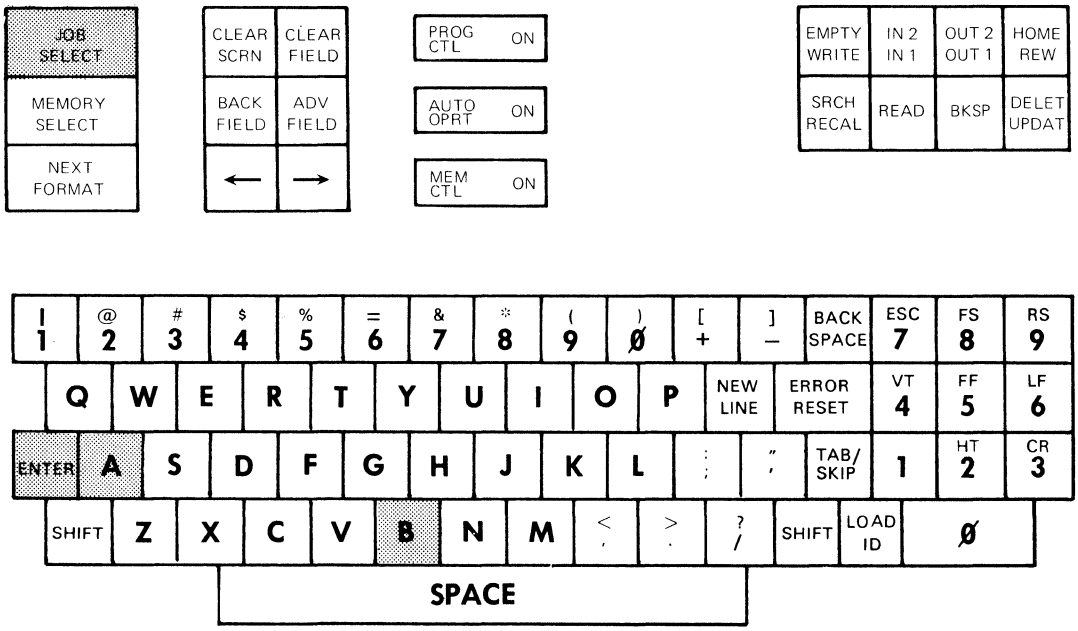
1. The Data Entry ($DE) Terminal Control Program should be loaded.

2. Load any required program or peripheral driver into memory.

3. The file containing the formats and the file that is to contain the data, can be on different or the same disks. Be sure a file has been defined for the data or if using an existing file, be sure that the file is emptied if required.

4. Turn PROG CTL ON.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	FMAT IN_, OUT , **,** **,**
A or B (Drive containing formats)	FMAT INA, OUT , **,** **,**
FILE NAME (of formats)	
ENTER	FMAT INA, _OUT , **,** **,**
SPACE	
A or B (Drive which will contain data)	FMAT INA, OUTB, **,** **,**
FILE NAME (of data)	
ENTER	FMAT INA, OUTB,_ **,** **,**
ENTER	

Operation

1. Turn AUTO OPRT ON to automatically release data to the output device. If AUTO OPRT is turned OFF the ENTER key must be depressed to release data to the output device.

2. Begin typing data.

   a. Use TAB/SKIP to skip partially filled or unused fields.

   b. If all of the rest of the fields are to be skipped, depress ENTER.

3. After all the fields have been filled, the contents of all the data fields will be recorded onto the disk.

4. If automatic paging is not being used ([*], does not appear anywhere in the current format page), depress NEXT FORMAT when you wish to display the next format page.

5. When the cursor appears in the first data position, repeat steps 2-4 for each page of each source document.

6. When all source documents have been entered, turn PROG CTRL OFF and depress the HOME key. This will close all the disk files.

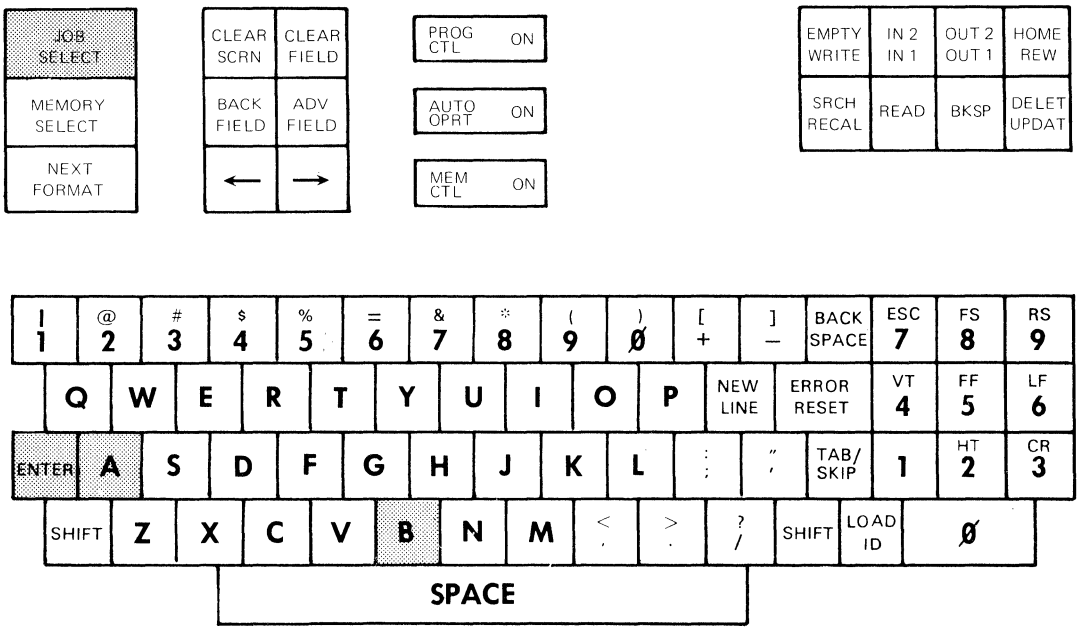
7. Remove the disks and return them to their jackets.

ADDING DATA TO A DISK FILE UNDER FORMAT CONTROL

Set Up

1. The Data Entry Terminal Control Program ($DE) should be loaded.
2. Load any required program or peripheral driver into memory.
3. The file containing the formats and the data file can be on different or the same disks.
4. Turn PROG CTL ON.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	FMAT IN_, OUT , **,** **,**
A or B (Drive containing formats)	FMAT INA, OUT , **,** **,**
FILE NAME (of formats)	
ENTER	FMAT INA, _OUT , **,** **,**
SPACE	
A or B (Drive which will contain data)	FMAT INA, OUTB, **,** **,**
FILE NAME (of data)	
ENTER	FMAT INA, OUTB,_ **,** **,**
ENTER	

Operation

1. Turn AUTO OPRT ON.

2. Begin typing data.

   a. Use TAB/SKIP to skip partially filled or unused fields.

   b. If all of the rest of the fields are to be skipped, depress ENTER.

3. After all the fields have been filled, the contents of all the data fields will be recorded onto the disk.

4. If automatic paging is not being used ([*], does not appear anywhere in the current format page), depress NEXT FORMAT when you wish to display the next format page.

5. When the cursor appears in the first data position, repeat steps 2-4 for each page of each source document.

6. When all source documents have been entered, turn PROG CTL OFF and depress the HOME key. This will close all the disk files.

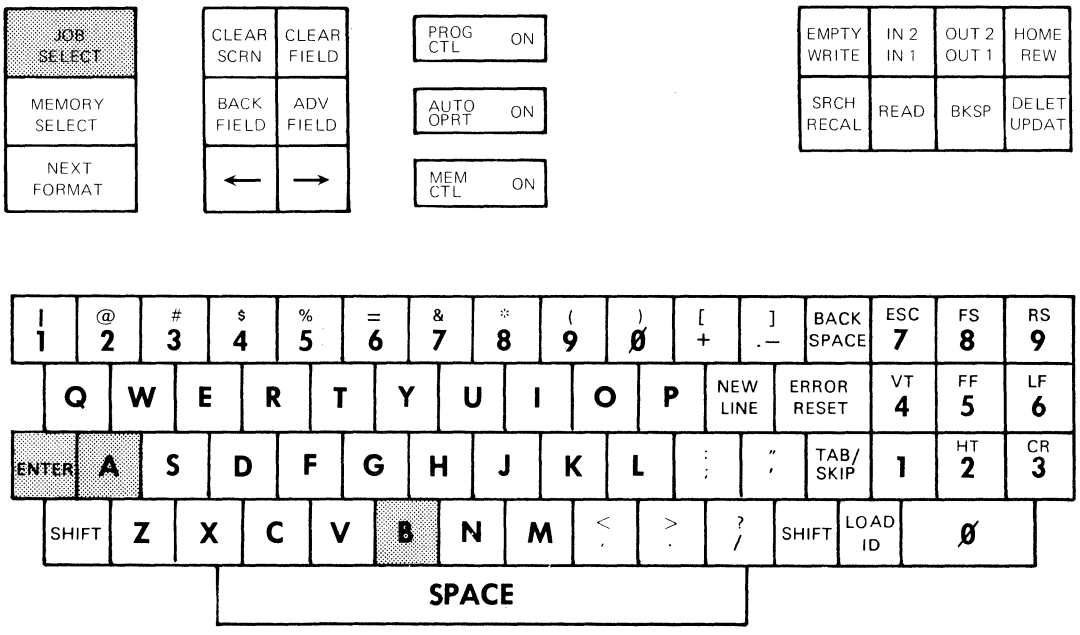
7. Remove the disks and return them to their jackets.

BATCH COPYING - DISK FILE TO DISK FILE

Set Up

1. The Batch Terminal Control Program ($BA) must be loaded.
2. Load the disk (or disks) containing the file to be copied from, and the file to be copied to on either or both drives.
3. If deleted records are not to be copied, MEM CTL should be turned ON.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	BATCH IN_, OUT , **,** **,**
A or B (drive containing file to be copied)	
FILE NAME (to be copied)	
ENTER	BATCH INA,_OUT , **,** **,**
SPACE	
A or B (drive containing file that will be receiving data)	
FILE NAME (receiving data)	
ENTER	BATCH INA, OUTB,_ **,** **,**
ENTER	

Operation

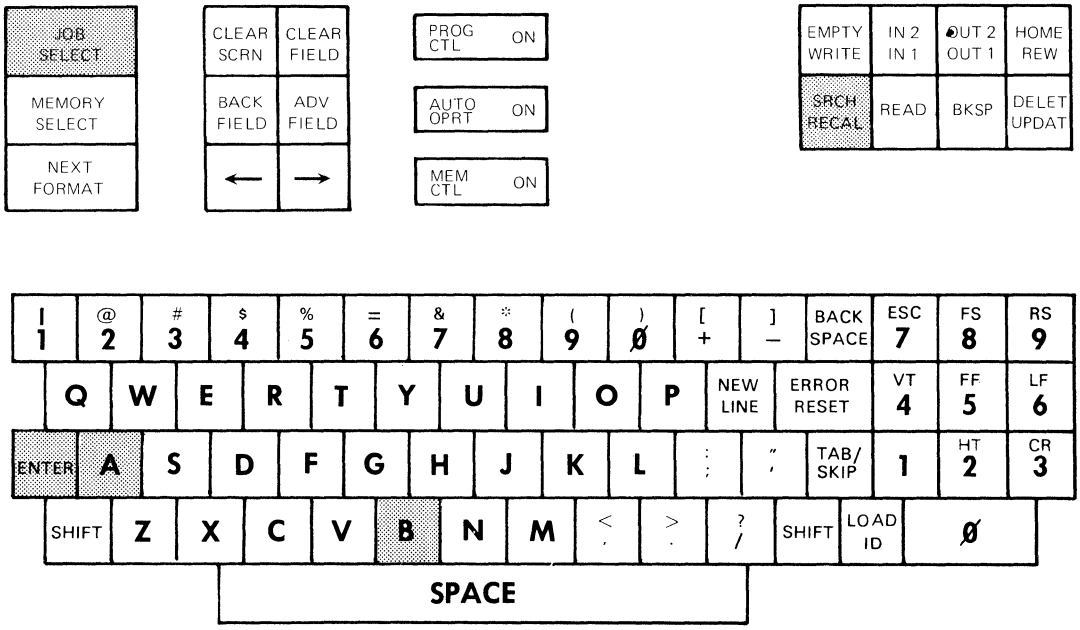
1. Automatic
2. An I/O error causes the terminal to display an error message.
3. Depressing ERROR RESET and ENTER will resume the batch operation.

SEARCHING A DISK FILE

Set Up

1. The terminal must be in free-form.
2. The disk containing the file to be searched can be loaded on either Drive A or B.
3. PROG CTL, AUTO OPRT and MEM CTL should be OFF.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	FMAT IN_ , OUT , **,** **,**
A or B (disk containing file to be searched)	
FILE NAME (to be searched)	
ENTER	FMAT INA, _OUT , **,** **,**
ENTER	

Operation

1. Key in the Search Identifier followed by a RS.

2. Depress IN1 and SRCH. The device selected will be searched for a record that matches.

3. Only a match or a FS will cause the search to stop.

4. Repeat steps 1 and 2 to continue searching.

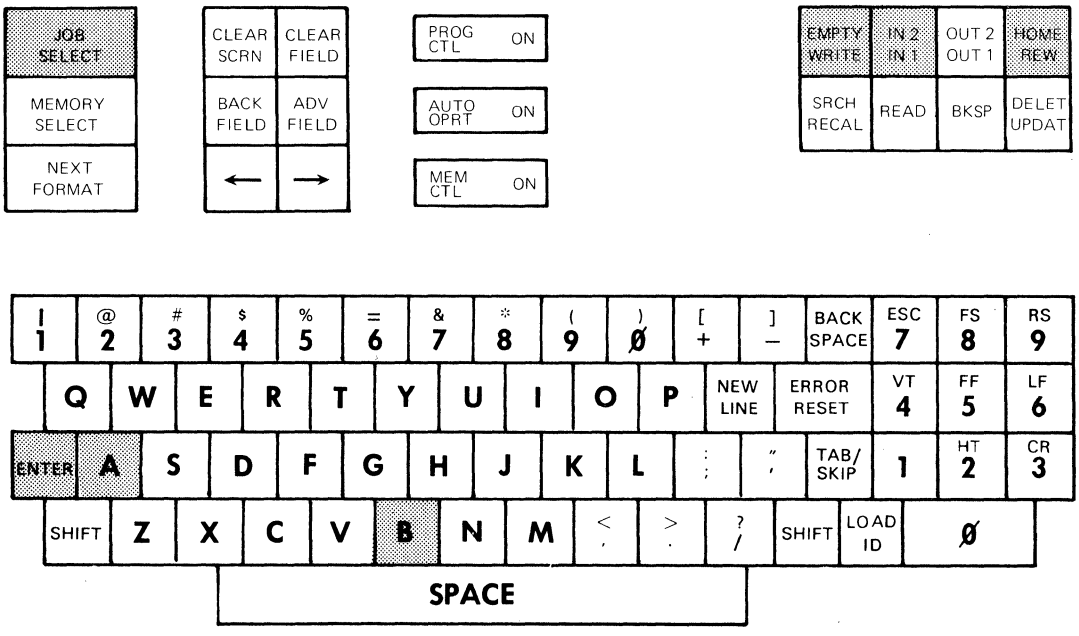
EMPTYING A DISK FILE

Set Up

1. The disk containing the file to be emptied can be mounted on drive A or B.

2. Any control program can be loaded, but the terminal must be in free-form.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	FMAT IN_, OUT , **,** **,**
A or B (disk containing file to be emptied)	
FILE NAME	
ENTER	FMAT INA, _OUT , **,** **,**
ENTER	

Operation

1. Depress IN1 and EMPTY (An 'EMP' message will appear in the status line).
2. Depress ERROR RESET to clear the error message.
3. Depress ENTER to empty the file. Depression of any other key will bypass the empty operation.
4. Depress HOME to close the file.

RECORDING A FORMAT ON CASSETTE

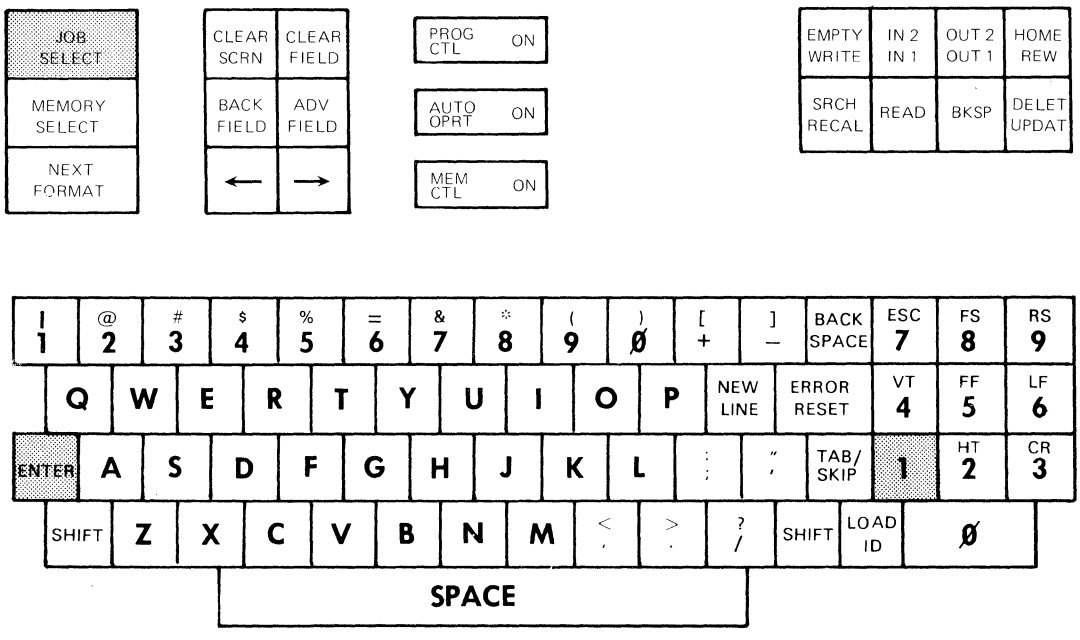
Set Up

1. Turn PROG CTL, AUTO OPRT and MEM CTL OFF.

2. The Data Entry ($DE) terminal control program should be loaded.

   Note: When the terminal is turned on $DE is automatically loaded providing a system disk is on drive A. Otherwise, refer to the Loading a Terminal Control Program instructions in this section.

Keyboard



Job Selection Sequence

ACTION	CRT DISPLAY
Depress the following keys:	
JOB SELECT	FMAT IN_, OUT ,
1	FMAT INB, OUT ,
ENTER	FMAT INB,_OUT ,

Operation

1. The cursor will appear in the first position of the first line of the display and the entire screen is available for the keying of formats.

2. To manually write a format out to the cassette depress IN1 and WRITE.

3. Repeat steps 1 and 2 for each format.

4. After all formats have been written out to the cassette depress IN1, FS to put a file separator at the end of the tape.

Additional Notes

ERROR RECOVERY

ERROR AND STATUS MESSAGES

The Sycor Communications Terminal has a complete error detection system. When an error is detected, the keyboard locks and an error message appears on the status line of the display. Reference should be made to the status line layouts for the exact position of these messages because the position of the message within the status line may vary with the model of the terminal. This section describes all possible error and status messages, their causes, and step-by-step procedures for error recovery. The messages are arranged in alphabetical order for easy reference.

COMMUNICATIONS STATUS MESSAGES

The Communications Status Message consists of a one character display in position 41 of the status line. Displayed alone, this message reflects the status of the communications line as defined below. Status messages, displayed along with error messages, are described in the Error Messages section. These messages reflect errors that occur while in a communications mode.

B Bidding

The terminal is preparing for data transmission by performing or expecting a bid sequence. No operator action is required.

C Communications

Displayed with an error message to indicate to the operator that the terminal is in a communications mode.

D Data

The terminal is in the data state. No operator action is required.

E Enabled

The terminal is enabled for communication and is awaiting contact through the data phone.

L Line

A line error has been detected during data transmission. No operator action is required. The terminal will automatically re-transmit the last record.

R Incorrect Acknowledgement

W Wait

OPERATOR ERROR MESSAGES

Operator Error messages are three character messages that appear in columns 33-35 of the status line when an operator error is detected. These messages apply to both the Model 34Ø and Model 34ØD.

FMT Format Error

Format errors occur only in format mode with program control on. Program control must be turned off to recover from this error.

SITUATION	ACTION
No format on the screen or the first format character is not a field definition character.	Turn PROGRAM CONTROL off and depress ERROR RESET. Correct the format, type a format or use the tape control keys to advance a format onto the screen.
There is an error in the format.	The cursor will be positioned at the point where the format does not make sense. Consult a systems analyst or programmer before attempting to correct this error. Turn PROGRAM CONTROL off and depress ERROR RESET. Type the correction and do an insert on the format tape. Recall the corrected format and turn PROGRAM CONTROL on.

SITUATION	ACTION
An extended memory field is called for (I, J, K, L, W, X, Y, Z) and extended memory has not been loaded with the correct program.	Turn PROGRAM CONTROL off and depress ERROR RESET. Load a program in extended memory. Start this data collection job over.
During data verification.	Turn PROGRAM CONTROL off and depress ERROR RESET. The data and format will have to be repositioned. The data record was not the right length for the format.

MOD Mode Error

SITUATION	ACTION
During a job selection	Depress ERROR RESET and use a valid job select code. If the error results from using a C as a peripheral refer to your program loading instructions.
During data entry	The cursor is positioned under the invalid character. Depress ERROR RESET, enter a valid character and continue with data entry.
During verify	Extended memory peripherals cannot be used as secondary input in verify mode. The job selection must be changed. Depress JOB SELECT.

OFL Overflow

Too many characters in a record or too many characters in a data field.

SITUATION	ACTION
No record separator	ERROR RESET. The terminal requires a record separator as the last character in a record.
After tab/skip or minus in a + or & accumulator field.	ERROR RESET. The number in the accumulator field is large enough to cause an accumulator overflow. Clear the field. Check your source document and enter the correct number. If the error persists, ask a programmer or systems analyst to check your procedures.
Data entry in an S, T, > , <, or $ accumulator field.	ERROR RESET. TAB/SKIP is the only key required for these fields. These fields are filled from an accumulator.
After data entry in a + or & accumulator field (tab/skip or minus not yet depressed).	Depress ERROR RESET. The last character position is reserved for the sign (tab/skip for plus, - for minus). Check your source document. The number you have entered is too long for the accumulator field. If the error persists, ask a systems analyst or programmer to check the source document.
After completely filling an I, J, K or L extended memory field.	You have attempted to enter too many characters in the field. TAB/SKIP must be used to get to the next data field when one of these fields is filled.

OFL Overflow - continued

SITUATION	ACTION
An extended memory data field using table lookup.	The table element called for exceeds the length of the extended memory data field.
An extended memory data field using addition or subtraction.	The arithmetic operation resulted in a number larger than 10 digits plus sign. An OFL will also be flagged if the result is too large for the data field.
An extended memory data field using auto duplication.	The table being brought into the data field is longer than the data field.
An extended memory data field using edit (mask).	The data source contained more data characters than the mask was designed to accommodate.
After data entry in the last data field (cursor not displayed, auto operation off).	ERROR RESET. This message is a warning that the data should be entered by depressing the enter key. If a previous data field requires correcting, depress back field; if not, depress ENTER to output the data.

TAB Tab Error

You depressed tab/skip when you should have entered data.

SITUATION	ACTION
The cursor is positioned in an omission detection field (4, 5 or 6)	Depress ERROR RESET. Make an entry in the field and continue.
The cursor is positioned in a capacity control field (7, 8 or 9)	Depress ERROR RESET. Fill the field completely and continue.

PERIPHERAL ERROR MESSAGES

A Peripheral Error Message is a three character message that appears in the status line of the terminal when an error condition is detected on one of the input/output devices. Error Messages appear in positions 37 thru 39 of the status on the Model 34Ø and in positions 33 thru 35 on the Model 34ØD.

EOF End of File

SITUATION	CAUSE	ACTION
Using the tape control keys.	The last record read was a file separator record.	Depress ERROR RESET.
Format mode with program control on. (Secondary input specified).	The last secondary input record was a file separator.	Depress ERROR RESET. To continue with additional secondary input records, depress CLEAR SCREEN and continue.
Batch mode	One file separator with auto operation off or two file separator's with auto operation on. Note: Each file separator causes a printer carriage return line feed.	Depress ERROR RESET. To continue the batch operation. depress ENTER.
Search mode.	The record on the screen is a file separator record.	Depress ERROR RESET. Note: A file separator causes a printer carriage return line feed. The search identifier may be changed by typing a new identifier and depressing ID to continue the search.
Search mode		To continue searching the next file using the same identifier, depress ENTER.

EOF C End of File

A complete data file has been transmitted.

If auto operation is off, a file ends with one file separator. If auto operation is on, a file ends with two file separators.

Your 340	The Other 340	ACTION
BATCH Transmission	BATCH Reception	To terminate communication, depress JOB SELECT. To transmit another file, depress ERROR RESET, depress ENTER.
BATCH Transmission	BATCH AUTO ANSWER Reception	Communication will be terminated in 12 seconds. To transmit another file, depress ERROR RESET and depress ENTER before the 12 seconds have elapsed. Otherwise to transmit another file, re-dial the auto answer terminal.
BATCH Reception	BATCH Transmission	To terminate communication, depress JOB SELECT. To prepare to receive another file, depress ERROR RESET, depress ENTER.

EOF C End of File - continued

Your 340	The Other 340	ACTION
BATCH Reception	BATCH AUTO ANSWER Transmission	Communication will be terminated within 12 seconds. Depress ERROR RESET.
MASTER Transmission	B-AUT Reception	Depress ERROR RESET. To transmit to another terminal refer to your operator instructions. To transmit another file to the same terminal, depress ENTER and call the same terminal again.
MASTER Reception	B-AUT Transmission	Depress ERROR RESET. To receive from another terminal, refer to your operator instructions.
BATCH Reception	BATCH AUTO ANSWER Transmission	Communication will be terminated within 12 seconds. Depress ERROR RESET.
MASTER Transmission	B-AUT Reception	Depress ERROR RESET. To transmit to another terminal refer to your operator instructions. To transmit another fiel to the same terminal, depress ENTER and call the same terminal again.

EOF C End of File - continued

Your 340	The Other 340	ACTION
MASTER Reception	B-AUT Transmission	Depress ERROR RESET. To receive from another terminal, refer to your operator instructions.

EOT End of Tape

SITUATION	ACTION
You depressed rewind, back record, recall or insert for a tape that was already rewound.	Depress ERROR RESET.
You ran out of input tape.	Depress ERROR RESET.
You ran out of output tape. The last record you tried to write will have to be rewritten on a fresh tape.	DEPRESS ERROR RESET. Rewind the full tape and replace it with a fresh one.
Out of output tape.	BATCH MODE: Do two back records to reposition the input and depress ENTER. FORMAT MODE: If necessary, turn PROGRAM CONTROL off, reposition the format. Turn PROGRAM CONTROL on, and rekey the record that was lost.

EOT W End of Tape

You reached the physical end of tape during data communication. Communication is in the wait state.

Your 340	The Other 340	ACTION
BATCH Transmission	BATCH Reception	Depress ERROR RESET. Rewind and remove the completed tape and load another tape to transmit. (Transmission must always end with EOF). Depress ENTER.
BATCH Transmission	AUTO ANSWER Reception	Depress ERROR RESET. Rewind and remove the completed tape and load another tape to transmit. (Transmission must end with EOF). Depress ENTER.
BATCH Reception	BATCH Transmission	Depress ERROR RESET. Recall the last record recorded on tape. Ask the other operator to reposition the transmission tape after the last record you received.
BATCH Reception	BATCH Transmission	Rewind and remove the full tape and load a fresh one. Depress ENTER and return to the DATA state.

EOT W End of Tape - continued

Your 340	The Other 340	ACTION
BATCH Reception	AUTO ANSWER Transmission	Records may be lost in transferring to a fresh tape. You should plan to limit communication to the capacity of one cassette tape.
MASTER Transmission	B-AUT Reception	Depress ERROR RESET. Rewind and remove the completed tape and load another tape to transmit. (Transmission must always end with EOF). Depress ENTER
MASTER	B-AUT	Records may be lost in transferring to a fresh output tape. You should plan to have enough tape available before starting a reception. To recover from this situation, depress ERROR RESET, rewind the tape and replace it with a fresh one. Depress ENTER and continue to end of file. The cassettes on the Unattended terminal will rewind. Depress ERROR RESET, rewind the output tape and recontact the remote terminal to receive the complete transmission again.

INC Incomplete

SITUATION	ACTION
Master Station Search	The half-inch tape drive encountered three file separator records and/or tape marks before finding the file label specified. Depress ERROR RESET. Rewind and search again.
Communication	Load extended memory with the EBCDIC/CRC program.
HASP Communication during Sign On.	The sign on record was not successfully transmitted or was incorrect. Depress ERROR RESET and ENTER. If the error persists, check the sign on record and repeat the HASP job selection.
During Sign Off	If /*SIGNOFF is not on the CRT, depress S again. Repeat until OFF C appears in the status line. If /*SIGNOFF is still displayed, sign off from the 340 will not be possible and you should contact the CPU operator and ask to be signed off.

INC B

The bid sequence was unsuccessful.

Your 340	The Other 340	ACTION
BATCH Transmission	BATCH Reception	Depress ERROR RESET and ENTER. Return the data set to talk. Arrange to go to the data state again.
BATCH Reception	AUTO ANSWER Transmission	Depress ERROR RESET and ENTER. If necessary, try dialing again.
BATCH Reception	BATCH Transmission	Depress ERROR RESET and ENTER. Return the data set to talk. Arrange to go to the data state again.
BATCH Tranmission	AUTO ANSWER Reception	Depress ERROR RESET and ENTER. If necessary, try dialing again.
MASTER Transmission	B-AUT Reception	Depress ERROR RESET and ENTER. Check the terminal ID (to change the ID depress MEMORY SELECT, 1). Try dialing again. cont.

INC B - cont.

Your 340	The Other 340	ACTION
MASTER Reception	B-AUT Transmission	Depress ERROR RESET and ENTER. Check the terminal ID (to change the ID depress MEMORY SELECT, I). Try dialing again.
B-AUT Transmission	MASTER Reception	No action required. If the terminal is set up properly it will automatically prepare for another call.
B-AUT Reception	MASTER Transmission	No action required. If the terminal is set up properly it will automatically prepare for another call.

INC C Your terminal has received an end of text message, but the last record block was not a file separator.

INC D There is a possible hardware problem in the data set or the line was cut off.

INC E The last communication was incomplete but the terminal is enabled for another communication.

Your 340	The Other 340	ACTION
B-AUT	MASTER	An incomplete communication took place but the terminal is prepared to be re-contacted by the active terminal.
BATCH AUTO ANSWER	BATCH	An incomplete communication took place but the terminal is prepared to be re-contacted by the active terminal.

INC L

The last record block was not received because of a line fault. The terminal has made three attempts to recover and has not been able to transmit the last record block.

Your 340	The Other 340	ACTION
BATCH Transmission	BATCH Reception	Depress ERROR RESET. Find out which record the other operator received last. Reposition the input, depress ENTER and go back to DATA on the data phone. If the error persists, hang up and recontact the other terminal.
BATCH Transmission	AUTO ANSWER Reception	Depress ERROR RESET. Back the input up two records and depress ENTER. Recontact the auto answer terminal.
BATCH Reception	BATCH Transmission	Depress ERROR RESET. Tell the other operator which record you received last. Depress ENTER and go back to DATA on the data phone. If the error persists, hang up and recontact the other terminal.
BATCH Reception	AUTO ANSWER Transmission	Depress ERROR RESET. Re-establish contact and continue to receive data.

INC L Cont.

Your 340	The Other 340	ACTION
MASTER Transmission (before any data is sent)	B-AUT Reception (you thought)	The other terminal is not set up properly. (It is probably set up in BATCH).
MASTER Reception (before any data is received)	B-AUT Transmission (you thought)	The other terminal is not set up properly. (It is probably set up in BATCH).
MASTER Transmission (during data communication)	B-AUT Reception	Depress ERROR RESET. Back up the input two records. (To back up the half-inch tape: Turn memory control off. Depress MEMORY SELECT, BACK RECORD, MEMORY SELECT, BACK RECORD. Turn memory control on). Depress ENTER. Re-contact the other terminal.
MASTER Reception (during data communication)	B-AUT Transmission	Depress ERROR RESET and ENTER and re-contact the other terminal.

INC R

There is a probable hardware problem in one of the terminals or data sets. The last record was lost within the receiving terminal.

Your 340	The Other 340	ACTION
BATCH Transmission	BATCH Reception	Depress ERROR RESET. Talk with the other operator. Reposition the input. Depress enter and return to the data state.
BATCH Reception	BATCH Transmission	Depress ERROR RESET. Check the last record recorded. Check with the other operator. Depress ENTER and return to the data state.

INC W

The communication has been aborted by an operator action or a hardware problem at the other terminal.

Your 340	The Other 340	ACTION
BATCH Transmission	BATCH Reception	Depress ERROR RESET. Recontact the other terminal. Reposition the input. Depress ENTER and continue the communication.
BATCH Transmission	AUTO ANSWER Reception	ERROR RESET. Back up the input two records. Depress ENTER. Recontact the other terminal and try to continue the communication.
BATCH Reception	BATCH Transmission	Depress ERROR RESET and ENTER. Recontact the other terminal and continue the communication.
BATCH Reception	AUTO ANSWER Transmission	Depress ERROR RESET. Recovery must be made at the other terminal.

INC W Cont.

Your 340	The Other 340	ACTION
MASTER Transmission	B-AUT Reception	Depress ERROR RESET. Back up two records and try again. (To back up the half-inch tape: Turn memory control off. Depress MEMORY SELECT, BACK RECORD, MEMORY SELECT, BACK RECORD. Turn MEMORY CONTROL on). If the error occurs again, try to transmit to another device on the other terminal.
MASTER Reception	B-AUT Transmission	Depress ERROR RESET and try again. If the error occurs again, communication will have to wait until the error is corrected at the other terminal.

OFF C

A sign off record has been sent after HASP communication. No operator action required.

PRT Printer Error

A printer error can mean that the printer is not turned on, is out of forms or has a hardware error. Printer errors also occur when the printer vertical tabs are not set, not correct or the record is incomplete.

SITUATIONS	BATCH MODE	FORMAT MODE
Printer is not turned on or not selected, is out of paper or has a hardware problem (probably a fuse).	Depress ERROR RESET. If the error occurs at the beginning of batch job, rewind the input, correct the error and depress enter to start over. If it is inconvenient to position the input before a VT record, position the input before the beginning of a form, position the paper one line above where it was originally set and repeat the job selection to continue.	Depress ERROR RESET. Reposition the format tape, the data tape (if any) and the printer paper to start at the beginning of a sequence. (Before the VT record). Correct the error and repeat the source document you were working on when the error occurred. If repositioning the format at the VT record is inconvenient, reposition the format before the beginning of a form and position the paper one line above the line it was originally set on. Repeat the job selection and enter the source document you were working on when the error occurred.
No apparent cause but the PRT error persists.	Ask a programmer or systems analyst to examine the VT record. This record must consist of ESC VT 14 letters and a record separator. Additional information on this record is given in the programmer's manual. All the VT records must be corrected to continue the batch print.	Ask a programmer or systems analyst to examine the VT record. This record must consist of: [*] ESC VT 14 letters and a record separator. Additional information on this record is given in the programmer's manual. Correct the record and start the format job over.

PRT Printer Error (Continued)

SITUATIONS	BATCH MODE	FORMAT MODE
34Ø power has been interrupted or the master reset button has been used.	Depress ERROR RESET. Re-start the batch with the input tape positioned before a VT record. The paper should be positioned as it was when the batch was originally started.	Depress ERROR RESET. Reposition the format tape, the data tape (if any) and the printer paper to start at the beginning of a sequence. (Before the VT record). Correct the error and repeat the source document you were working on when the error occurred.
No apparent cause but the PRT error persists.	Ask a programmer or systems analyst to examine the VT record. This record must consist of ESC VT 14 letters and a record separator. Additional information on this record is given in the programmer's manual. All the VT records must be corrected to continue the batch print.	Ask a programmer or systems analyst to examine the VT record. This record must consist of: [*] ESC VT 14 letters and a record separator. Additional information on this record is given in the programmer's manual. Correct the record and start the format job over.

RD Read Error

The terminal has been unable to read a record after four attempts.

SITUATION	ACTION
BATCH mode and you wish to skip the record in error.	Depress ERROR RESET. Depress CLEAR SCREEN. Depress ENTER.
BATCH mode and you wish to correct the record (if the data is available).	Depress ERROR RESET. DEPRESS CLEAR SCREEN. Retype the record on the CRT. Do an insert. Do one back record. Depress ENTER.
BATCH Mode and you wish to output the record as is.	Depress ERROR RESET. Do one back record. Depress ENTER. When the read error occurs again, depress ERROR RESET. Depress ENTER.
FORMAT ,ode and the read error is in the format tape.	ERROR RESET. Use a spare format tape or ask a programmer or systems analyst to prepare a new format for you.
FORMAT Mode and the read error is in the secondary input tape.	Use a fresh secondary input tape. Reposition the format (if necessary) and start over.

RDM Magnetic Tape Read Error

A read error has been detected on the half-inch tape unit.

SITUATION	ACTION
BATCH Mode	To skip the record, depress ERROR RESET, CLEAR SCREEN and ENTER.
FORMAT Mode and the half-inch tape is the secondary input.	Use a fresh secondary input tape. Reposition the format (if necessary) and start over.

TP1 or TP2 Cassette 1 or Cassette 2 Hardware Error

SITUATION	ACTION
NON-FORMAT Modes	Reposition the input and depress ENTER to continue.
FORMAT Mode	If necessary, turn PROGRAM CONTROL off, reposition the format and turn PROGRAM CONTROL on. Re-enter the last data record and continue.

TPM Magnetic Tape Hardware Error

You may have a hardware error on the tape drive, you have attempted to do an insert or recall on half-inch tape, or the tape drive is not on line. Insert and recall are not legal tape drive operations. Be sure the tape drive ON LINE light is on. In a write operation, the FILE PROTECT light must be off (write enable ring in place).

Depress error reset.

SITUATION	ACTION
NON-FORMAT Modes	Re-position the input and depress enter to continue.
FORMAT Mode	If necessary, turn PROGRAM CONTROL off, re-position the format and turn PROGRAM CONTROL on. Re-enter the last data record.

TPM W Magnetic Tape Hardware Error with Communications

There is an error on the tape drive and communication is in the wait state.

SITUATION	ACTION
Tape drive not on line	Correct problem Depress ERROR RESET
Tape not loaded	Reposition input Depress ENTER Reposition input Depress ENTER
File protect on during reception	Reposition input Depress ENTER

VFY Verify Error

SITUATION	ACTION
Data character indicated by the cursor does not match the character originally keyed for this field.	Depress ERROR RESET Check the source document carefully and either correct the character displayed or rekey the same character displayed. This corrects the original data.
Entire field is in error	Depress ERROR RESET and CLEAR FIELD. After the field has been filled again, it will be cleared and must be verified immediately.

WRM Magnetic Tape Write Error

The terminal is having difficulty writing on the tape unit. While the WRM status message is on the terminal is correcting its own write problems. No operator action is required.

WRT Cassette Tape Write Error

The terminal is having difficulty writing the current record on cassette tape. While the WRT status message is on, the terminal is correcting its own write problems. No operator action is required.

DISK ERROR MESSAGES

Disk Error Messages are related to diskette operations and therefore occur only on the Model 34ØD terminal. These messages are three characters in length and are displayed in positions 33 thru 35 of the status line as are all other Model 34ØD messages.

BOE Beginning of Extent

An attempt has been made to access a file beyond the first record.

SITUATION	ACTION
Program called for backspacing beyond BOE.	Depress ERROR RESET. Cursor will return to current field.

DEL Deleted

SITUATION	ACTION
The record just advanced onto the screen by the READ key is deleted.	Depress ERROR RESET and continue. Depress ERROR RESET, then UPDAT to un-delete the record. Depress ERROR RESET. Change the record on the display; then depress UPDAT to un-delete and change the record.

DEV Device

The Disk File called for is not resident on the selected disk drive.

SITUATION	ACTION
Disk File or Disk Drive incorrectly selected during job selection sequence.	Depress ERROR RESET. Replace the disk volume, if necessary. Repeat the job selection sequence.
Incorrect disk volume is resident on selected drive.	

DSK vff Disk Error

A read error has occurred in the data tracks of a disk and five additional attempts to read the record have failed. The volume and file number appear in the status line along with the DSK error message. (Example: DSK BØ3 indicates a non-recoverable read error on the third file of volume B.)

SITUATION	ACTION
A record cannot be read from the volume specified in v and the file number specified in ff.	Depress ERROR RESET.

EMP EMPTY

This message is displayed upon depression of the EMPTY Key.

SITUATION	ACTION
Empty the disk file selected previous to the depression of the EMPTY Key.	Depress ERROR RESET and ENTER.
Cancel the EMPTY command.	Depress ERROR RESET and any key except ENTER.

EOE End of Extent

An attempt has been made to access a record beyond the last record of a disk file.

SITUATION	ACTION
File is legitimately filled on a write operation.	Depress ERROR RESET, then HOME, closing all disk files. Then re-open all files selecting an emptied disk file to replace the full one.

EQP Disk Equipment Error

An attempt has been made to access a disk that is not ready.

SITUATION	ACTION
Disk drive door is open. A diskette is not mounted on the drive specified.	Depress ERROR REST. Correct the situation. Then repeat the job selection sequence.
None of the above situations apply.	Call service.

HME Home

The disk heads are in the home position. The door may now be opened and the disks removed.

SITUATION	ACTION
Disk head is homed.	Exchange disks. Depress ERROR RESET and ENTER with PROGRAM CONTROL ON if a declarative program is to reopen the files. If files are opened manually, depress ERROR RESET, then JOB SELECT and ENTER with PROGRAM CONTROL ON to recall the status line and continue.

PGM Program Error

SITUATION	ACTION
During program testing, missing table element. DL1 or UPD issued before a RX1. D1-D4 specified in a CLS instruction.	Correct the source statement.
During program testing, an attempt to empty a non-disk device or an unopened disk file. Trying to read a variable length record with the RDR instruction.	Depress ERROR RESET. Execution of the declarative program will continue.
During program testing, an invalid device was selected.	Correct the source statement.

SITUATION	ACTION
During program testing, a RX1 instruction is issued against a non-index file.	Correct the source statement.

SEQ Sequence Error

SITUATION	ACTION
Indexed DATA file is out of order.	Program is aborted. Start over.

PRO Protect

An attempt has been made to change data in or empty a protected file.

SITUATION	ACTION
An INS, DLT, or EMP instruction has been issued against a protected data file. An UPD or DLI has been issued using a protected index file.	Correct the source code or change protect status of file(s) involved.
An UPDAT, EMPTY, or DELET key has been depressed after selecting a protected file using IN1, IN2, OUT1 or OUT2.	Depress ERROR RESET. Either the wrong file has been selected or the wrong disk installed. Correct the situation and start over.

TRK Track Error

A write error has occurred on a disk and five additional attempts to write the record have failed.

SITUATION	ACTION
A write error has occurred.	Depress ERROR RESET. The track the error occurred on is copied to a spare track, if available. NOTE: If a read error occurs on the bad track the erroneous sector is copied as a deleted record.

TRK VFF Track Error

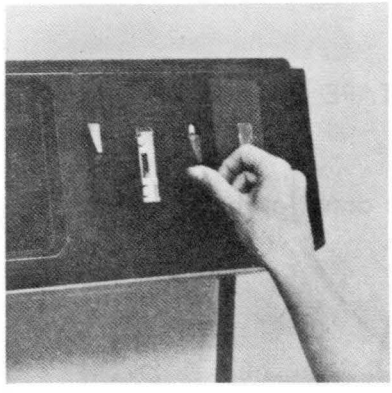
No spare track is available for a TRK error.

SITUATION	ACTION
If displayed immediately after a TRK Error, this means that a write error has occurred and no spare track is available.	The operator must open a new file and copy the bad one to it.
If this occurs after a previous TRK vff, there has been a non-recoverable write error on the spare track.	The recovery procedure is aborted.

Additional Notes

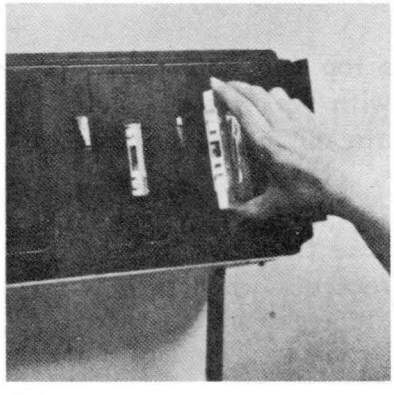
CASSETTE DRIVE 1 OR 2

Loading a Cassette Tape on Drive 2



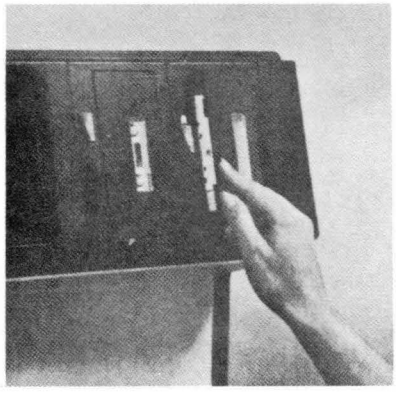
1. Slide the door latch down. The door will swing open and the recording head will be retracted.

2. Position the cassette so that the labeled side is up and the exposed edge of the cartridge is on the left.



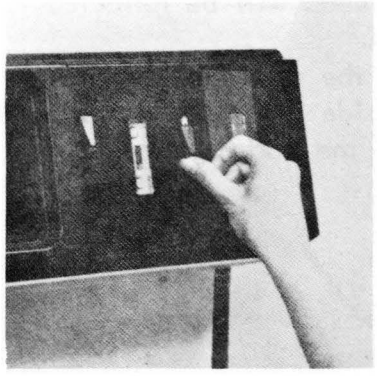
3. Using the right hand, grasp the top and bottom edges of the cassette with your thumb and first two fingers and raise it to a vertical position.

4. Insert the right edge of the cassette between the two metal posts. Push the cassette slightly to the right until the two plastic recorder spindles slip into the holes in the cassette. Push the face of the cassette against the recorder.

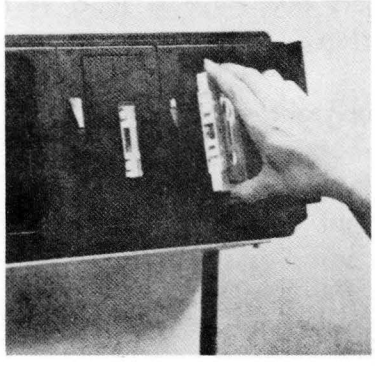


5. Close the cassette door. The door will latch and the recording head will automatically engage the cartridge.

Removing a Cassette Tape from Drive 2



1. Depress TAPE 2, then REW (rewind).
2. Slide the door latch down to open the door.



3. Grasp the top and bottom of the cassette with your hand. Pull the cassette out gently, left edge edge first.
4. Always close the door of the cassette recorder when it is not in use.

Write Protection of Cassette Tapes

To protect a cassette tape from writing, break the plastic protect tab on the upper right edge. A manual protect override pushbutton, located to the right of the cassette door, is provided to allow you to write on a protected tape if necessary.

Cassette Tape Handling Procedures

In order to achieve the maximum reliability and longevity of a magnetic tape cassette, the following procedures must be strictly adhered to:

1. The cassette should always be rewound to the clear leader before removal from the recorder.

2. Upon the removal from a recorder, immediately return the cassette to its plastic storage case.

3. Always store the cassette in a place where there will be no unusual temperature build-up, e.g., the sunlight or near other heat sources.

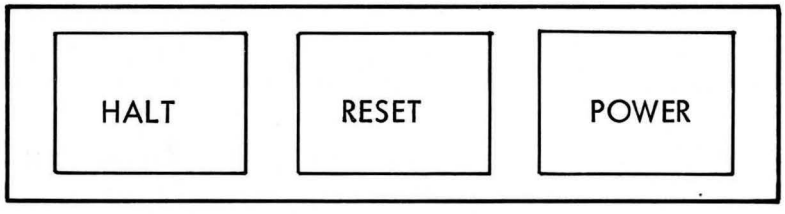
4. Cleaning of the cassette recorder takes very little time and is extremely important in achieving optimum performance. Frequently, or every eight hours of operation, wipe the recorder head with a cotton swab saturated with head cleaner and remove all particles on cassette posts and guides.

MODEL 3440 CARD READER

A program must be loaded into extended memory for the card reader to be operational. The card reader is selected by using a "C" as input during the job selection sequence. Both the input and output hoppers have capacity for 500 cards.

Controls and Indicators

The Controls and Indicators, located on the front panel of the card reader in the upper left hand corner, are pictured below.



They function as follows:

POWER	A pushbutton switch/indicator that turns power on and off to the card reader. This switch has a white indicator panel that is illuminated when power is on.
RESET	A pushbutton switch/indicator that is used to reset the card reader when it is in a HALT condition. This switch has a yellow indicator panel which is illuminated when the card reader is in a HALT condition.
HALT	A pushbutton switch used to place the card reader in the HALT condition. It also turns off the motor. This switch has a yellow panel that is not illuminated.

Preparation of Card Reader

To prepare the card reader for reading, proceed as follows:

1. Make sure the input and output hoppers are clear; then turn the power on by depressing the "POWER" button.

2. Load the cards into the input hopper face down, with column one at the left.

3. Depress the RESET switch and the card reader is ready.

4. Cards may be added to the input stack while the reader is operating. Be sure the input card stack is still at least one inch thick when removing the card weight to add more cards.

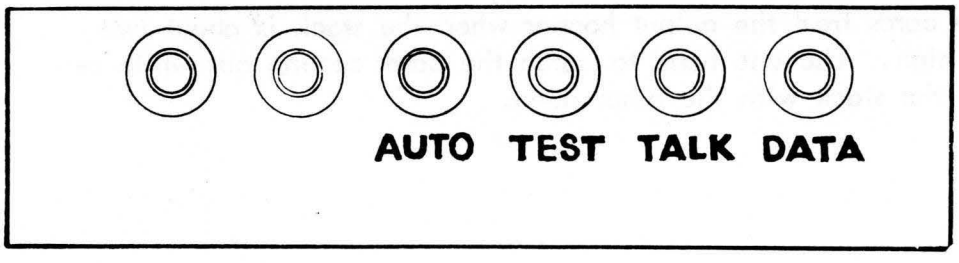
5. Remove cards from the output hopper when the stack is about two inches high. Use one hand to catch the cards coming out while removing the stack with the other hand.

DATA PHONE

A data call may be initiated by either the transmitting or the receiving site. Before starting, be sure that the appropriate input/output devices are ready, such as data cassettes or the proper forms on the printer. If a program is required, be sure it is loaded.

Placing A Call

Pictured below is the control panel of a data phone. When ready to initiate a call, depress the TALK button on the data phone and dial the number of the other site. When both sides are ready for communication, the site that was called (the TALK button will be illuminated) should depress DATA on the data phone and hang up. The initialing site should wait for the data tone to end, depress DATA and hang up. Communications will proceed automatically.



Auto Answer

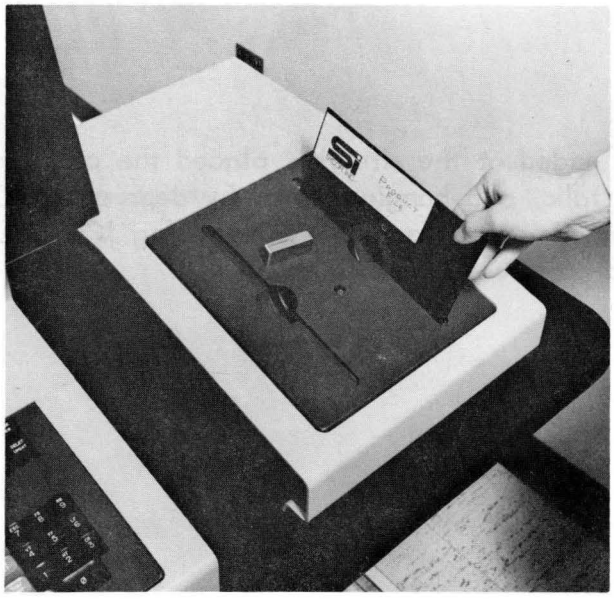
By prior arrangement, one site may have the data phone set for automatic answering (AUTO depressed). In this case, the site placing the call waits for the data tone to end, depresses data, and hangs up. If both sides were properly set up for transmitting and receiving communication will proceed automatically.

Ending a Call

A data call may be ended at the site that placed the call by picking up the receiver, depressing talk, and hanging up or by depressing JOB SELECT on the Model 340 Communications Terminal. Depressing JOB SELECT at both sites is recommended practice.

FLEXIBLE DISK

The flexible disk unit contains two disk drives. The drive on the left is Drive A and the one on the right is Drive B.



Loading the Diskette

A diskette can be loaded only when the read/write head is in the home position. To load a diskette on Drive A, the release lever (located between the two drives) must first be rotated to the right (Figure 1). The disk is then inserted into the drive with the label to the left and to the top. Then rotate the release lever to the left and down to the closed position (Figure 2) and the drive is ready to operate.

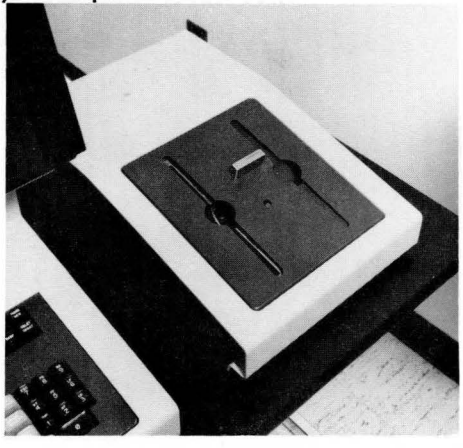


Figure 1 Handle in Loading Position for Drive A

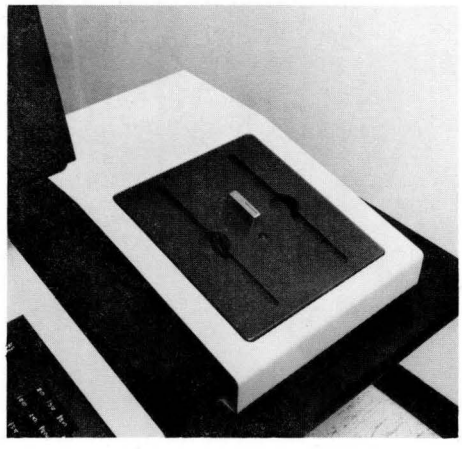


Figure 2 Handle in Closed Position

To load a diskette on Drive B, the release lever must be rotated to the left and up as in Figure 3 . The diskette is inserted with the label to the left and to the top of the disk. Rotating the release lever down and to the right locks the disk in position.

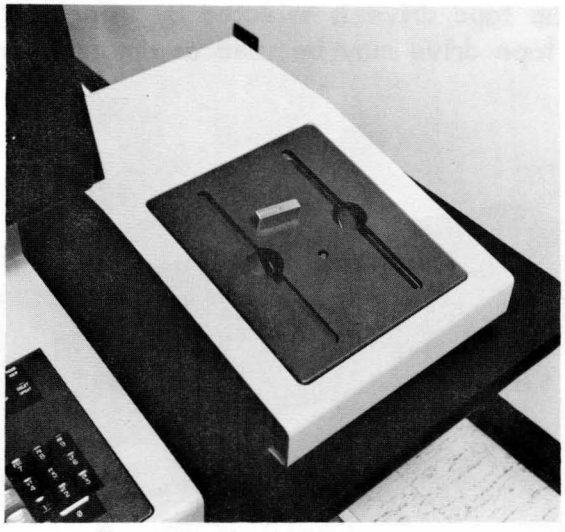


Figure 3 Handle in Loading Position for Drive B

Care of the Diskettes

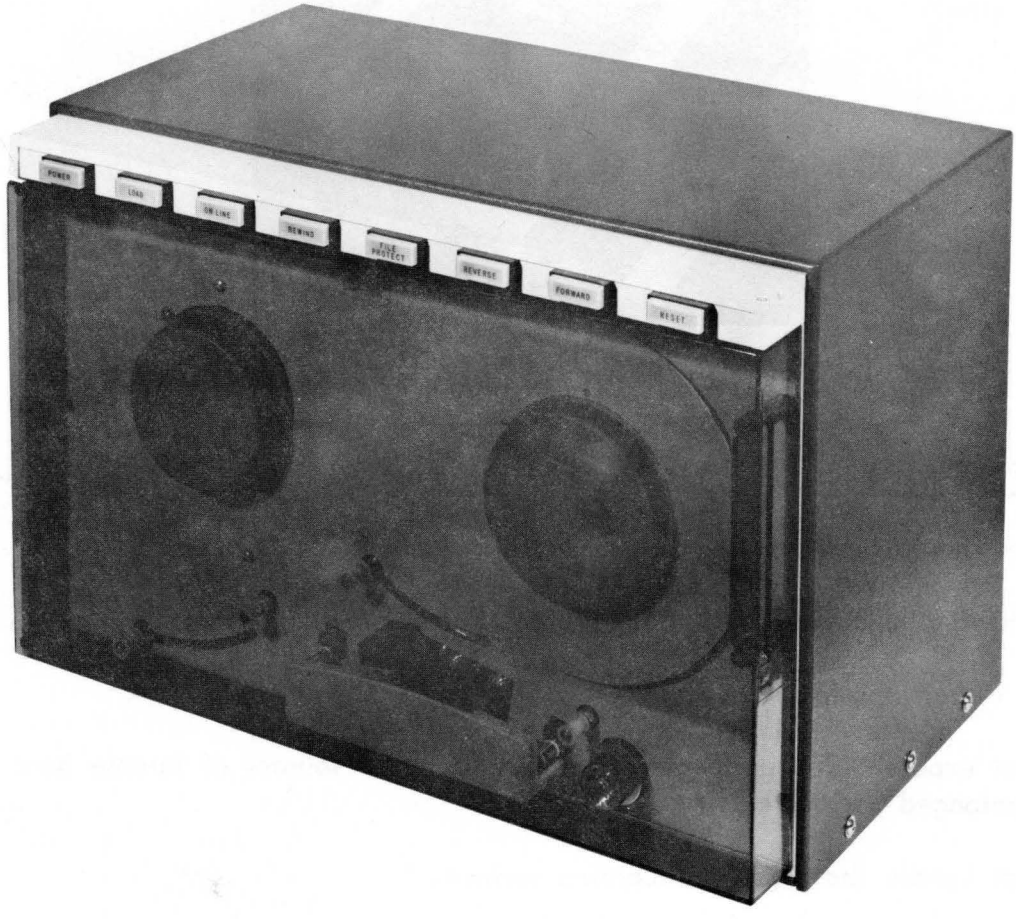
Diskettes should be kept clean at all times. A clean environment helps.

The following suggestions will help protect the diskettes.

- Keep diskettes away from magnets.
- Do not expose diskettes to direct sunlight or other sources of intense heat for prolonged periods of time.
- Do not handle the diskette recording surface.
- Keep the diskette in the envelope it comes in when not in use.
- Do not fold or crease diskettes.

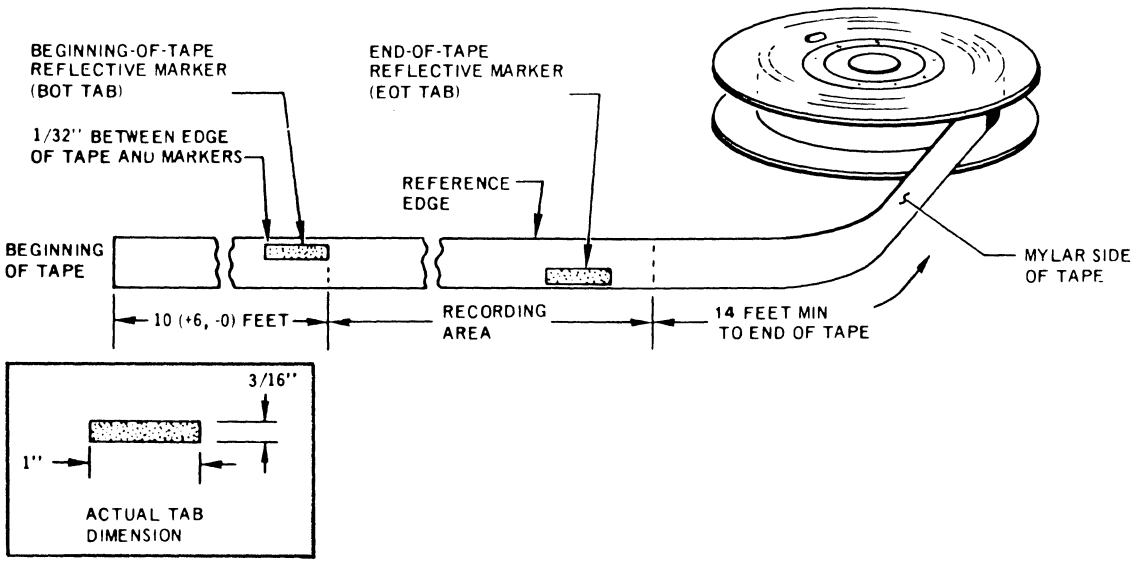
MAGNETIC TAPE DRIVE

This section contains instructions for setting up the tape drive. Be sure extended memory is loaded with the proper tape drive program. Like all extended memory devices, the tape drive is selected by using a "C" in the job selection sequence. The tape drive may be used as an input or an output but not as both.



Magnetic Tape

The tape unit uses an eight inch tape supply reel and no take-up reel. The beginning and end of the tape should be marked with a reflective marker as shown below. These markers are referred to as the Beginning-of-Tape (BOT) tab and the End-of-Tape (EOT) tab.



Loading Tape

Depress the TOGGLE TAB at the end marked PRESS (Figure 4). It will remain in that position. Place the tape reel on the Hold-Down Knob with the write enable ring, or the slot provided for it, toward the tape unit. After pressing the reel firmly against the knob, using the fingertips against the REEL HUB ONLY, press the opposite end of the TOGGLE TAB to lock the tape reel in place. The snap action of the knob will be distinctly felt, and the knob is then firmly locked.

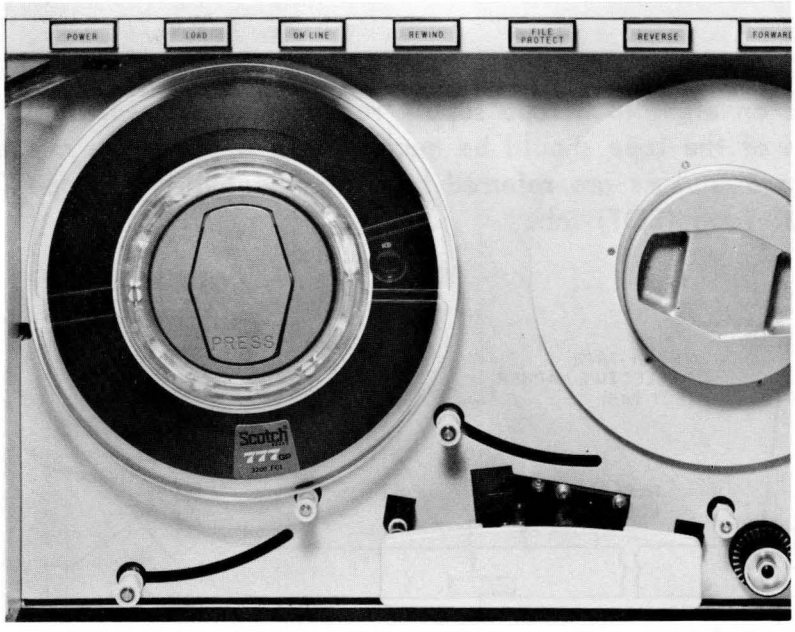


Figure 4 Toggle Tab in Closed Position

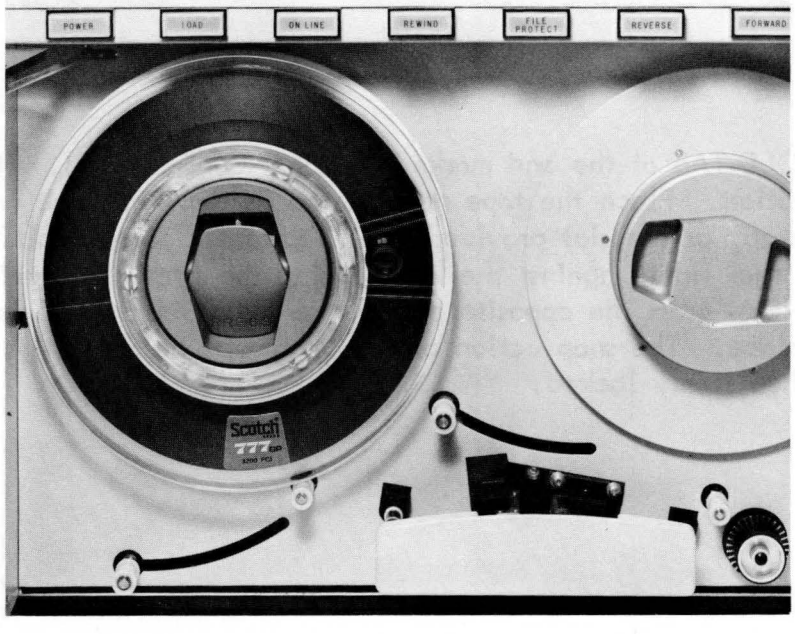
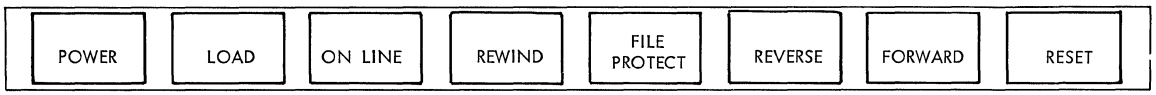


Figure 5 Toggle Tab in Open Position

Care should also be taken to avoid pressing the reel against the magnetic tape when loading the tape or locking the knob. This can cause damage to the film, causing potential read errors or misalignment of the tape as it passes the head.

Manual Tape Controls and Indicators

The Control Keys and indicators, shown below, are located in a panel across the top of the magnetic tape unit. These keys are used to operate the magnetic tape off-line from the magnetic tape unit.



The function of each switch/indicator on the control panel is described in detail below:

KEY NAME	FUNCTION
POWER	Power on/off switch indicator.
LOAD	Used to load the tape after threading. Tape is automatically advanced to the load point, or beginning-of-tape marker, and then the tape system goes on-line. LOAD and ON LINE will be lit when the action is completed. The LOAD light will go out when the tape is advanced from the load point or rewound. The LOAD light will be lit any time that the tape is positioned at the load point.
ON LINE	This combination switch and indicator is lit when the system is under control of the 340. If the system is off-line and if control is to be turned over to the 340, press the ON LINE pushbutton. To take the unit off-line when ON LINE is lit, depress RESET. RESET is the only active pushbutton when the tape unit is on-line.

KEY NAME	FUNCTION
REWIND	Pressing this pushbutton switch when the unit is off-line, will rewind the tape. The operator can stop the rewind by pressing the RESET pushbutton. If RESET is not pressed, the tape will go beyond the beginning-of-tape marker, stop, and then automatically return to the load point. If the REWIND pushbutton is then again pressed, the tape will be drawn out of the tape path and the unload sequence will be completed. If the tape system is under 34Ø control (ON LINE lit), the REWIND pushbutton will not function. This safety feature prevents accidental tape damage.
FILE PROTECT	This indicator is lit when a write enable ring is not installed on the file reel. When a file or supply reel is put on the machine with the write enable ring in place in the slot at the back of the reel, the FILE PROTECT light will be OFF. This indicates that data may be written on the tape. With the ring missing, protective circuits in the tape system prevent data from being written over data previously written on the tape.
REVERSE	If the ON LINE indicator is ON, pressing the REVERSE pushbutton will not affect the operation of the machine. If the tape unit is off-line, pressing this combination pushbutton switch and indicator will light the light and move the tape in reverse at the normal tape speed. To stop the machine, when it is running in this mode, press the RESET pushbutton.
FORWARD	This is a combination pushbutton switch and indicator. The pushbutton will function only when the machine is off-line. If the ON LINE indicator is ON, pressing the FORWARD pushbutton will have no effect. If the ON LINE indicator is OFF and the FORWARD pushbutton is pressed, the indicator will light up and the tape unit will move tape in the forward direction at the normal tape speed. To stop the machine, when it is running in this mode, press the RESET pushbutton.

KEY NAME	FUNCTION
RESET	All tape motion, regardless of the command that established it, will stop when the RESET push-button is pressed. Pressing RESET also moves the tape unit from on line operation with the 34Ø and turns off the ON LINE indicator.

Caution: The tape unit must be reset (ON LINE light off) before 34Ø power is turned OFF.

Tape can be controlled from the 34Ø terminal by depressing the MEMORY SELECT key followed by the normal device control keys. Recall and insert are not legitimate tape drive functions. The MEMORY CONTROL switch determines whether the ADVANCE and BACK RECORD keys will refer to records or files.

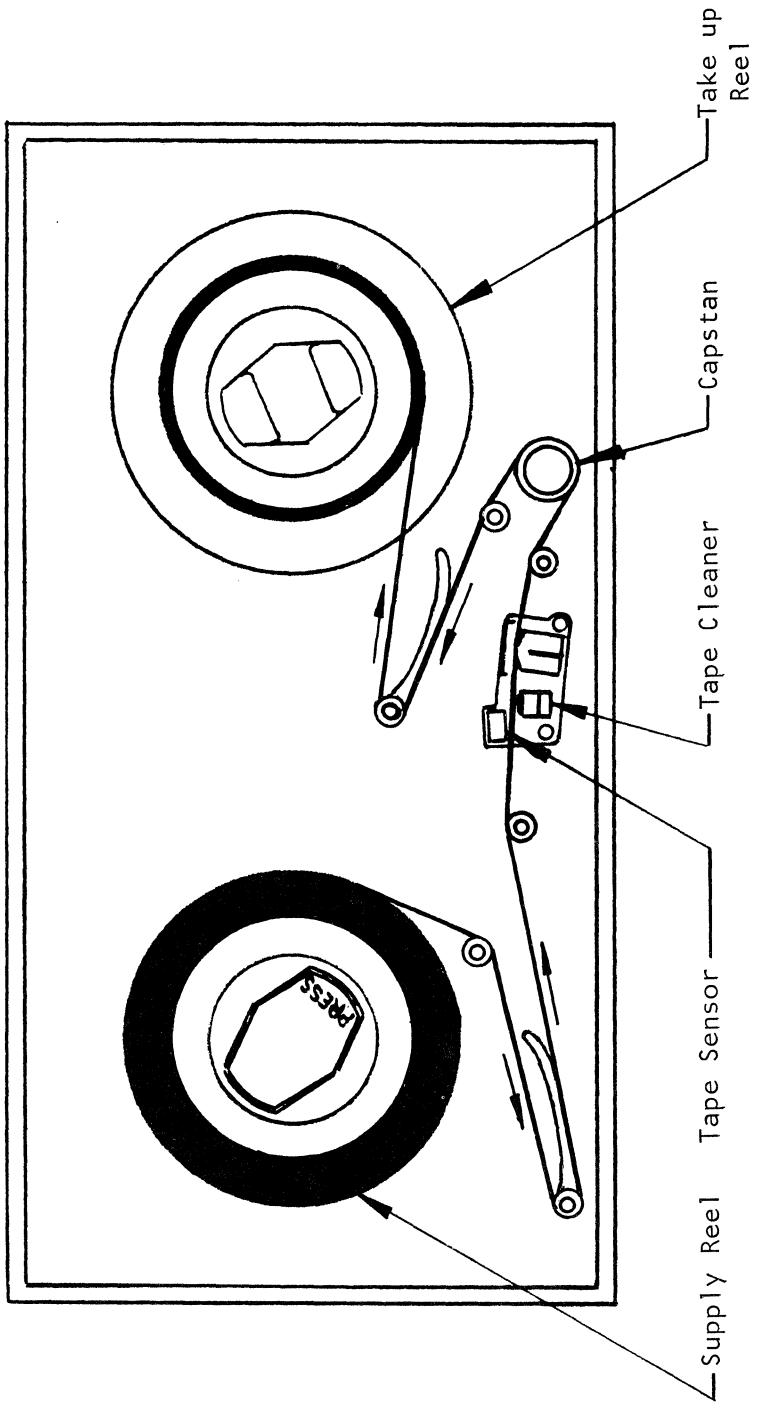
MEMORY CTL	MEMORY SELECT AND ADV RCD (34Ø) OR READ (34ØD) KEY	MEMORY SELECT AND BACK RCD (34Ø) OR BKSP (34ØD)
ON	Advance to the gap following the next file separator.	Back space to the gap preceeding the first record in the current file.
OFF	Advance tape one logical record and display the record.	Back up to the gap before the last physical record. Clear the screen.

The sequence MEMORY SELECT, FS , writes a tape mark on half inch tape.

Tape Threading

To thread tape, refer to the tape threading path shown on the next page and follow this procedure:

1. Lead the end of the tape to the right of the fixed guide and over and around the left side of the buffer arm guide.


Take up Reel
Capstan
Tape Cleaner
Tape Sensor
Supply Reel
PRESS

2. Continue across the head assembly from left to right by passing over the fixed guide, tape cleaner, head (under the head guard), and second fixed guide to the capstan.

3. At the capstan end of the head assembly, lead the tape below and around the right side of the capstan.

4. Pass the tape over the fixed guide and around the left side and over the top of the other buffer arm guide.

5. Lead the tape below and around the right side of the fixed takeup reel.

6. Press the tape end against the top of the fixed reel hub (a separate take-up reel is not used).

7. Holding the tape against the hub, turn the fixed reel until the end of the tape is overlapped and secured by the next tape layer.

8. To complete the loading operation, firmly press the LOAD button on the operator's control panel. Both buffer arms will move to their normal operating positions and the capstan will pull the tape forward until the beginning-of-tape (BOT) marker reaches the photo-sense assembly. Control of the tape system will then be turned over to the 340 automatically, and the ON LINE indicator and LOAD indicator will light up. No operator action is needed to put the tape system on line.

9. If the on-line mode is not desired, the tape unit may be taken off the line, for control from the operator's control panel, by pressing the RESET pushbutton.

10. In the event the power is interrupted while the system is on line, the buffer arms will extend and tension on the tape will be relaxed, preventing any possible tape damage. When power has been restored, tape system operations may be resumed by taking up the slack in the tape and pressing the LOAD pushbutton.

Unloading Tape

Rewind the tape from the 34Ø keyboard or by taking the unit off-line and depressing the REWIND button on the tape drive. This will result in reverse operation. When the beginning-of-tape marker reaches the photosense unit, the rewind will be ended, and the tape unit will advance the tape until the reflective marker is at the photosense head.

To unload the tape, depress REWIND again with the unit off line. The tape will be pulled through the tape path and returned to the supply reel. The tape reel may then be removed from the machine by pressing the TOGGLE TAB to the unlocked position. Again, care should be taken to avoid damage caused by pressing the reel flanges against the sides of the tape.

Operator Maintenance Functions

Proper and regular maintenance of the tape unit will assure operation at the high levels of data and mechanical reliability that have been designed into the system. Particularly important, are the operator maintenance functions that are intended to keep the system free of dirt and contaminants. At the high densities of data on tapes, extremely small particles of dust or oxide from the tape are capable of causing data errors. Careful attention to the cleaning procedures described in this section will assure the greatest possibility of trouble-free operation.

Transport and head cleaning should be performed after every eight hours of system use. Following are the steps to be carried out:

1. Remove the tape from the tape unit.

2. If desired, remove the head cover by pulling it steadily and gently directly away from the machine (see Figure 6).

3. Moisten a Q-tip applicator with head cleaning solution. DO NOT GET THE CLEANER ON YOUR SKIN. Many solvents are irritating to the skin, or they may have a toxic effect.

4. Clean the face of the tape cleaner, following the same procedure described in step 3.

5. Clean the head guides and head guide blocks, shown in Figure 6 with head cleaner. The guide blocks are immediately in back of the guides.

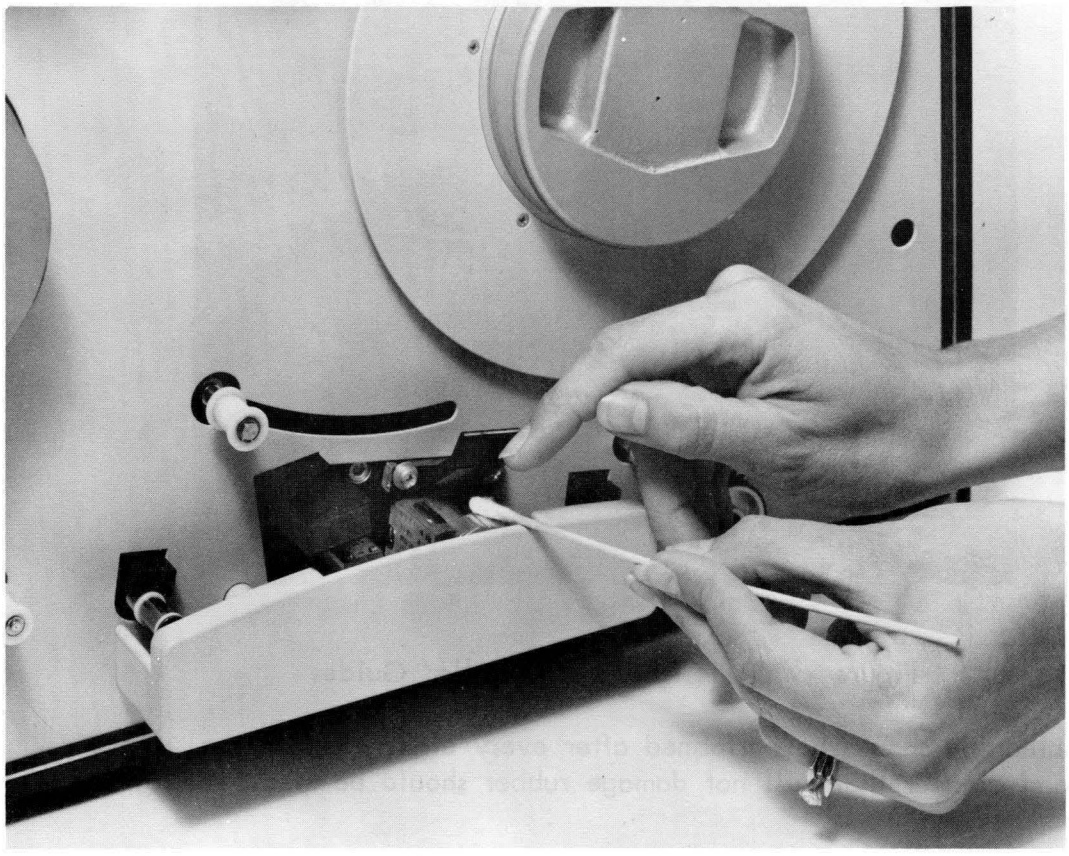


Figure 6 Cleaning the Read/Write Head Assembly

6. Clean the roller guides (Figure 7) with head cleaner, rotating them to be sure all surfaces are cleaned.

7. If it has been removed, replace head cover by aligning the holes in the cover with the mounting pins on the transport and pressing firmly into place.

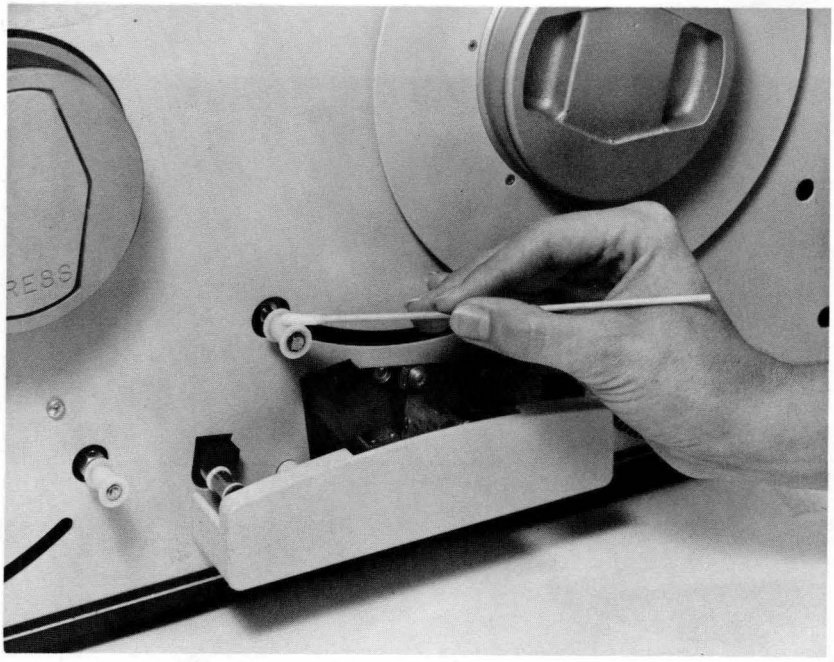


Figure 7 Cleaning the Roller Guides

Capstan cleaning should be performed after every eight hours of use. Alcohol or head cleaner that will not damage rubber should be used. Follow this procedure:

1. Moisten a Q-tip with alcohol or head-cleaning solution, again being careful not to get it on the skin.

2. Rotate the capstan slowly with one hand, without touching the rubber surface.

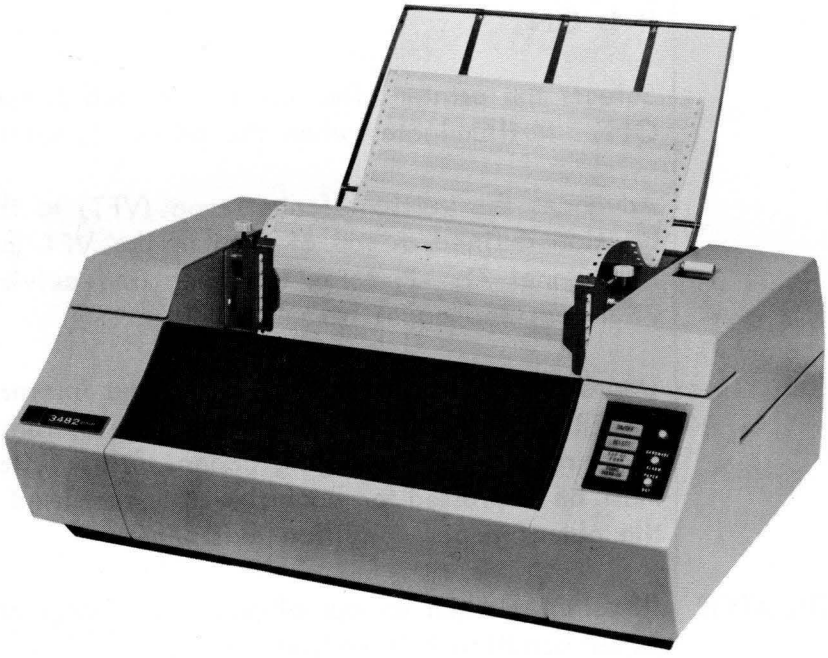
3. At the same time, clean the surface of the capstan with the moistened Q-tip.

Additional cleaning requirements are carried out at longer intervals.

Every four months, the entire surface of the tape unit should be cleaned with solvent, making sure that accumulations of dust around the hold-down knobs and in the head area are removed. Head covers should be removed and cleaned on the inside and outside, making sure that all deposits of dust and other possible tape contaminants are removed.

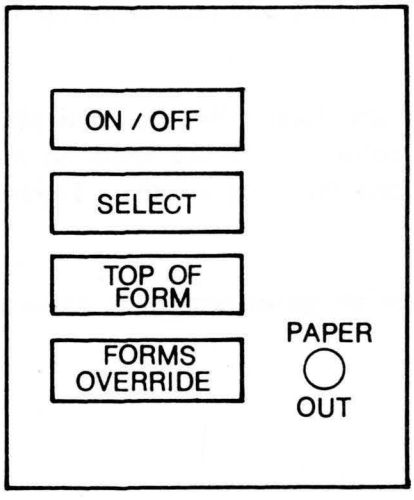
MODEL 3481 AND 3482 PRINTER

This printer may require that a program be loaded into extended memory when used with a 34Ø. Be sure the proper Vertical Format Tape (VFT) is installed.



Control/Indicator Panel

The panel illustrated below, is located to the right on the front of the printer.



A description of the function of each button and light follows.

KEY NAME	FUNCTION
ON/OFF	Turns power ON or OFF. It is illuminated when it is ON.
SELECT	Selects the printer after the ON switch is turned ON. It illuminates when the printer is selected.
TOP OF FORM	Advances the vertical format tape (VFT) to the position defined as top of form in the VFT (punch in channel 7). Performs the same as receiving a FF (form feed code) from the 34Ø.
FORMS OVERRIDE	Depression of this switch overrides the internal PAPER OUT switch which allows the last form to be printed before changing paper. This switch must be depressed for each line to be printed when the out-of-paper condition exists.
PAPER OUT INDICATOR	Illuminates when an out-of-paper condition or paper handling malfunction exists.

Form Loading

1. Lift the forward cover and open the gates for the left and right pin feed mechanisms.

2. Feed form down through the slanted opening in the top of the printer. The form will follow the forward pan and come up to the pin feed tractors.

3. Engage the feed holes of the form with the feed pins on the paper tractors. If necessary, loosen the fixing knob on top of the right tractor and adjust it to accomodate the form width. Tighten the know when finished.

4. Close the pin feed mechanism gates and then close the forward cover.

Top of Form Alignment

1. Use the platen knob to manually position the form to the first print line on the form.

2. Pull platen knob outward to disengage the gears and depress TOP OF FORM SWITCH which positions the VFT at home position (punch in Channel 7). Once aligned, the form will slew to this same line each time the TOP OF FORM switch is depressed or a FF (form feed) is received from the 340. This assumes a properly prepared VFT is loaded on the VFU unit.

Forms Thickness Control

Two adjustment knobs on either side of the print head carriage control the clearance between the platen and the face of the print head. This clearance must be adjusted according to the thickness of the forms being used.

Penetration Control Knob

It is located on the right side of the print head and is preset to 5 prior to shipping. To adjust for optimum print quality, the following steps must be performed:

1. Loosen the lock knob on the left side of the print head.

2. Increase the penetration of the print wires onto the ribbon by slightly turning the PENETRATION CONTROL KNOB.

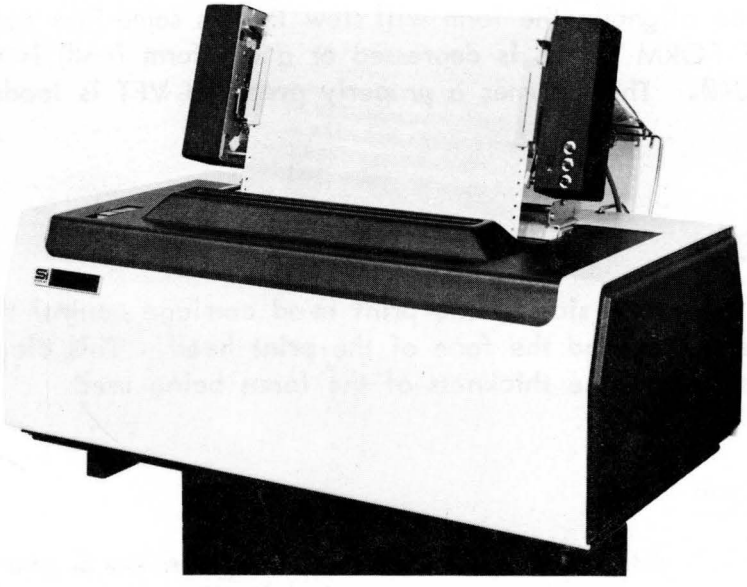
3. Manually move the print head across the paper. Increase the penetration until smudging occurs.

4. Back off on the PENETRATION CONTROL KNOB just to the point of no smudging.

5. Tighten the lock knob which secures the print head in this position.

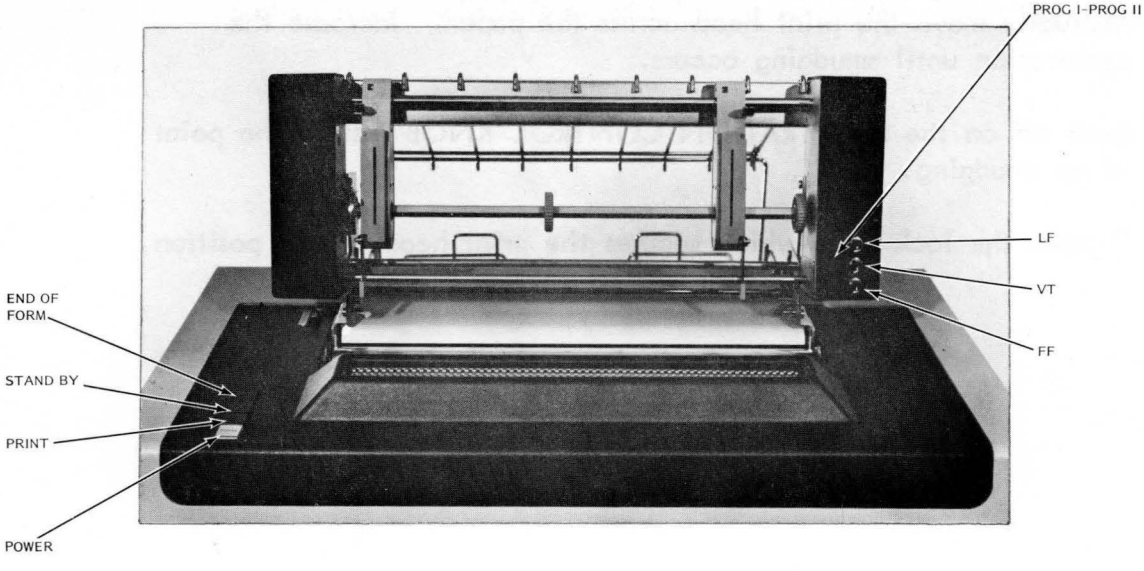
MODEL 3484 AND 3485 PRINTER

When used with a Model 34Ø terminal, this printer may require a program to be loaded into extended memory. Be sure the proper Vertical Format Tape (VFT) is installed.



Controls and Indicators

Shown below are the locations of the indicators and controls described in the following chart on the next page.



KEY NAME	FUNCTION
END OF FORM	Depression of this switch overrides the out of paper detector allowing the last form to be printed, prior to changing paper. In order to stop printing when the last line is completed, the operator must depress the STAND BY Switch which will allow for loading of forms.
STAND BY	Places the printer in a "wait" state. While this switch is illuminated, the printer cannot execute a print command. This indicator is also illuminated when an "out of paper" condition is detected.
PRINT	Places the printer in an operation state. Depressing this switch takes the printer out of the "wait" state. The STAND BY indicator is turned off. The PRINT indicator is illuminated.
POWER	Turns power ON or OFF. It is illuminated when power is ON.
LF	Advances vertical format tape one line or to the next punch in channel 3 of the vertical format tape.
VT	Functions the same as the FF button(below).
FF	Advances the vertical format tape to the next frame with punches in channels 1-5.
PROGRAM SWITCH	Not active with this version of the 3484-3485 printer.

Loading the VFT

1. Remove the Vertical Format Unit housing.

2. Lift the sensing brushes by pulling PRESSURE LEVER forward.

3. Place the VFT on the sprocket feed with channel 1 towards the center of the printer.

4. Place the other end of the tape in the roller located immediately be-

neath the sprocket feed.

5. Place sensing brushes on tape by pushing the pressure lever to its original position.

6. Replace housing on vertical format unit.

Forms Control Mechanisms

Before attempting to load paper into the printer, the operator should be familiar with the following controls which are illustrated in Figure 8

KEY NAME	FUNCTION
PAPER TENSION LEVER	Provides for the adjusting of the tension applied to the continuous form as it is drawn through the carriage by the pin feed mechanism. There are four settings, Ø-3. The highest setting, 3, applies the most tension to the form. The PAPER TENSION LEVER is located at the left rear of the printer, (Figure 9).
FORM THICKNESS LEVER	Setting this lever allows for the adjustment of the distance between the print head and the platen in order to accomodate a variety of thicknesses. The settings of the lever are from 1-5, 5 provides the maximum distance. The 1-5 settings are not meant to indicate the number of parts of a form. The FORM THICKNESS LEVER is located on top of the printer to the left of the carriage.
PAPER FEED RELEASE LEVER	When this lever is locked to the left, the shaft which drives the pin feed tractor mechanism is unlocked and can be controlled manually. This allows for fine vertical adjustments and alignment of the form in setting up the printer. Once the form is vertically aligned, and prior to operation, this lever should be released by depressing a catch in front of the lever. The PAPER FEED RELEASE LEVER is located on the left side of the drive shaft, which is mounted above the platen.
KNURLED KNOBS	There are two KNURLED KNOBS located on the drive shaft. The one on the right is used to vertically adjust the form after the Paper Feed Release Lever is locked to the left. The KNURLED KNOB located in the center of the drive shaft is not used in this version of the 3484 Printer.

KEY NAME	FUNCTION
TRACTOR HORIZONTAL POSITION LEVERS	There are two Tractor Horizontal Levers; one is located on the left-hand and one on the right-hand paper feed tractor mechanism. In order to position a tractor horizontally across the carriage, the TRACTOR HORIZONTAL LEVER should be pushed downward which allows the tractor to be moved in either direction. Once the desired horizontal position is found, the lever should be lifted to its original position to lock the tractor in place. The left-hand tractor mechanism normally should be locked in place to the extreme left of the platen.
TRACTOR LOCKING LEVERS	There is a TRACTOR LOCKING LEVER on each paper feed tractor mechanism to open the mechanism for insertion of pin holes of the form with the pin feeds of the tractor. The TRACTOR LOCKING LEVER should be pulled forward and up, opening the front guard on the pin feeds. After the paper has been placed on the pin feeds, it can be held in position by pressing the TRACTOR LOCKING LEVER down and back, closing the front guard of the pin feed mechanism.

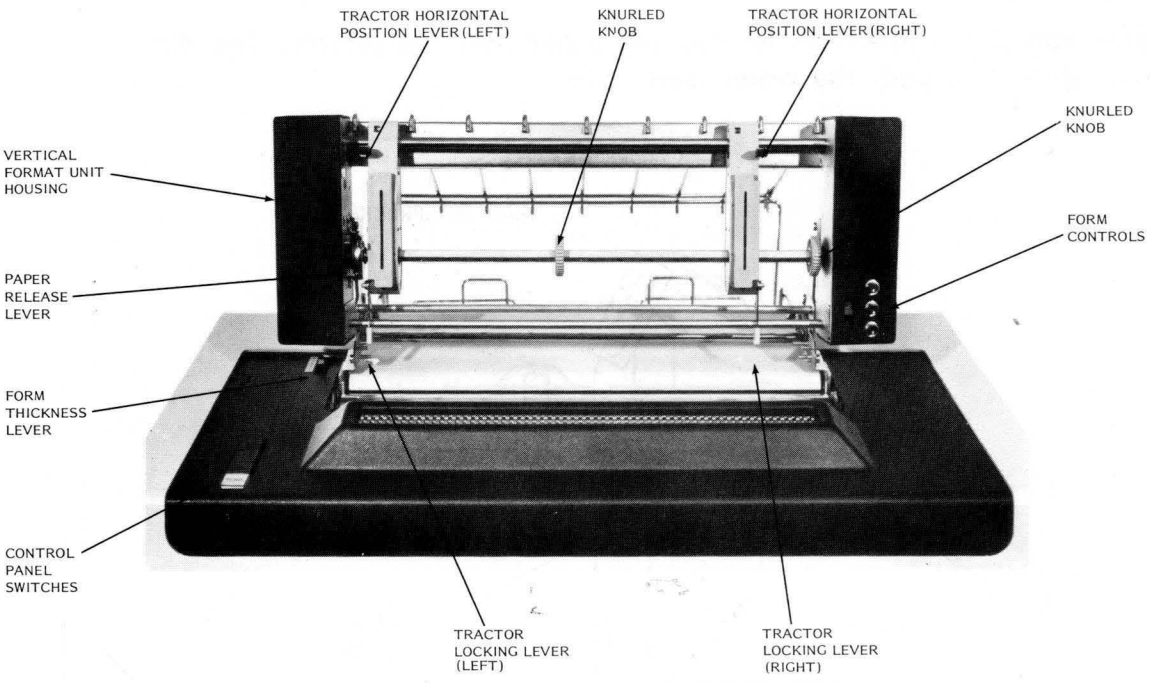


Figure 8 3484 Control Panel Switches & Mechanism Controls

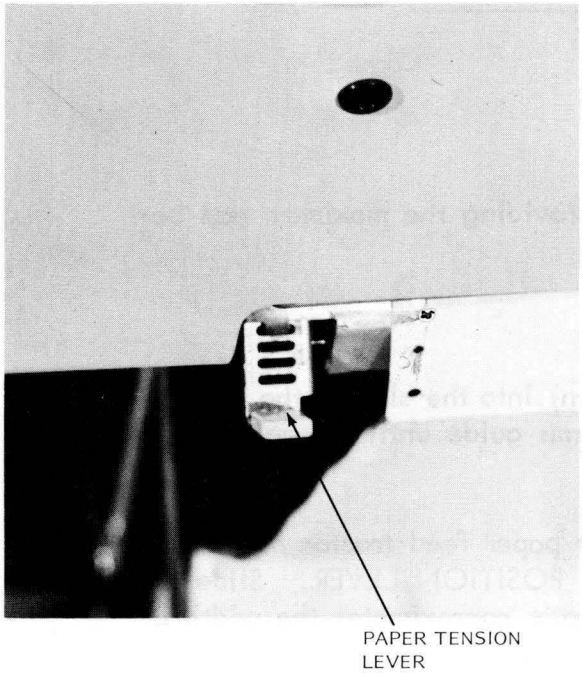


Figure 9 3484 Paper Tension Lever

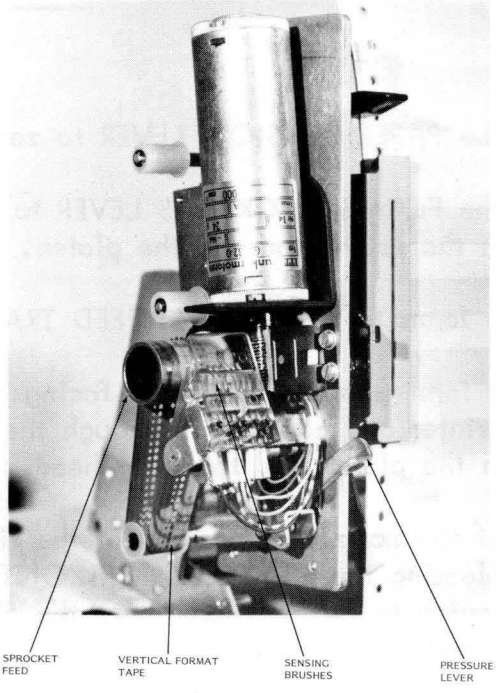
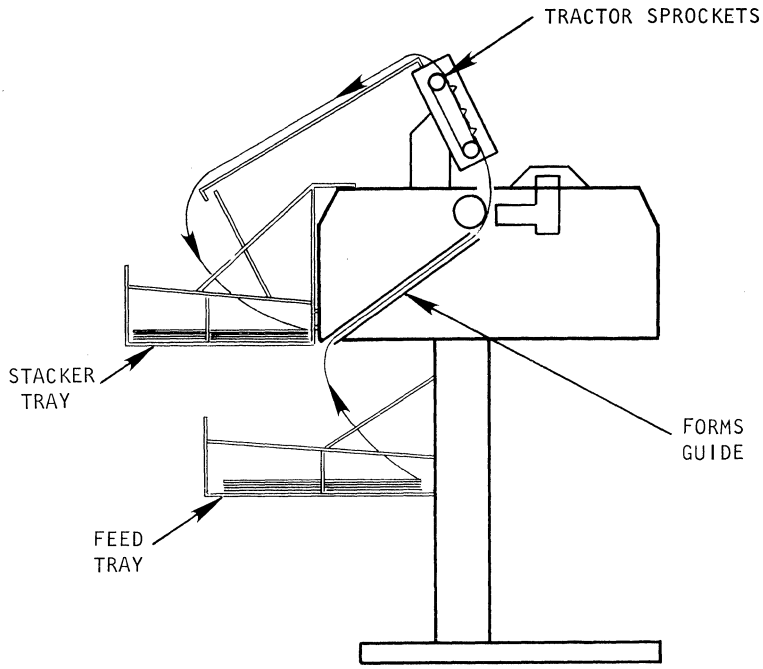


Figure 10 Vertical Format Unit

Form Loading

This section contains instructions for loading paper into the printer. The diagram below shows the path the paper must follow.



1. Set the PAPER TENSION LEVER to zero.

2. Set the FORMS THICKNESS LEVER to 5 providing the maximum gap between the print head and the platen.

3. Place forms to be loaded in FEED TRAY.

4. Insert form (side to be printed facing down) into the slot at the rear of the printer and advance it through the forms guide until it appears between the platen and the print head.

5. Adjust the horizontal position of the right paper feed tractor mechanism by releasing the TRACTOR HORIZONTAL POSITION LEVER. Slide the mechanism to the position where the distance approximates the width of the paper.

6. Open the guides of the pin feed by pulling the TRACTOR LOCKING LEVERS forward. Engage the pin feed holes of the form with the pin feed of the TRACTOR MECHANISM and then push the locking lever downward closing the guides of the TRACTOR MECHANISM.

7. From the rear of the printer, pull the loaded form taut towards the Feed tray and move the Paper Tension Lever to the desired setting.

8. Lock the Paper Feed Release Lever to the left, unlocking the drive shaft of the Tractor Mechanism. By using the KNURLED KNOB at the right of the carriage, advance the form to the first line where printing will take place and where top of form has been defined in the vertical tab record.

9. Depress the black FF CONTROL button which advances the VFT to the home position. Unlock the PAPER RELEASE LEVER.

10. Set the FORM THICKNESS LEVER according to the size of the form to be printed.

11. After printing commences, make certain that at least two printed forms are placed in the stacker tray before allowing the printing operation to be unattended.

Ribbon Changing

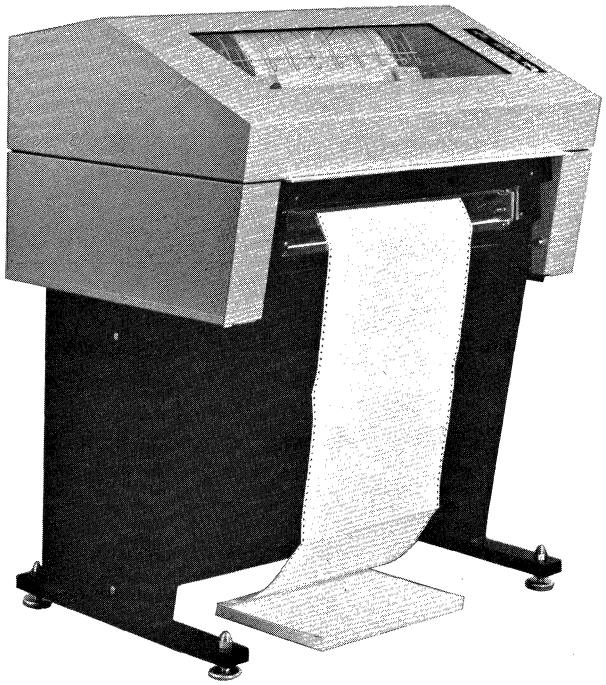
Before threading the ribbon, move the FORM THICKNESS LEVER to position 5, providing a larger gap to pass the ribbon between the printhead and platen. An eyelet is affixed to each end of the ribbon and is engaged by the reversing arms to reverse the direction of the motor which drives the ribbon. To insure proper operation, make certain that:

1. The ribbon passes through the fork of the right and left reversing arms; and

2. The right-hand eyelet is between the reversing arm and the right-hand ribbon reels.

MODEL 3486 PRINTER

This printer requires a program to be loaded into extended memory for the 34Ø and 34ØD. Be sure the correct Vertical Format Tape (VFT) is installed.



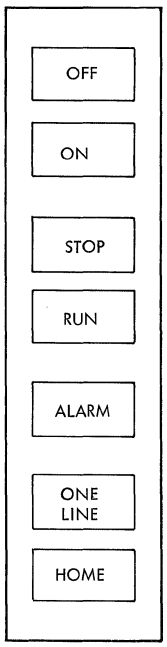


Figure 11 3486 Control Panel

Controls and Indicators

The following controls are located to the right on the cover of the printer. (Figure 11).

KEY NAME	FUNCTION
POWER ON	Turns on primary power in the printer, and illuminates the switch indicator lamp.
POWER OFF	Turns off primary power in the printer, and illuminates the switch indicator lamp.
RUN	Enables the reception of print commands from the 34Ø.
STOP	Inhibits the reception of print commands from the 34Ø.
ALARM*	Illuminates when any one of several fault conditions exist. The fault conditions which can be corrected by the machine operator are: 1. Latch Lever interlock switch not closed. 2. Blown motor fuse.
ON LINE	Advances the paper one line at a time. Operable only when STOP light is on.
HOME*	Advance the Vertical Format Tape to the position defined as TOP OF FORM (punch in Channel 1).
	* By depressing the HOME and ON LINE switches together, the form is slewed at the rate of 27.5 inches per second. The slewing continues as long as the switches are depressed. These switches are operable only when the STOP indicator is illuminated.

Mechanism Controls

On the next page is shown the position of the different adjustment mechanisms available to the operator. The functions of these mechanisms are described in the following chart.

KEY NAME	FUNCTION
INFINITE-FORM POSITION CONTROL	When the lever of this control is unlatched, the knob may be rotated to adjust the vertical position of the form, when the STOP indicator is illuminated.
VERTICAL-FORM POSITION LEVER	Vertically adjusts the print line with respect to pre-printed forms, when the RUN indicator is illuminated and printing is taking place.
TRACTOR POSITION KNOBS	Rotation of these knobs moves the paper feed tractors sideways for horizontal alignment.
FORM THICKNESS KNOBS	Rotation allows for adjusting the spacing between the print drum and point hammers for the accomodating of various sized forms.
CHARACTER ALIGN LEVER	Advances of retards activation of print hammers with respect to the position of the characters on the spinning print drum as they pass print hammers.
LATCH LEVER	Used to latch and unlatch the yoke.

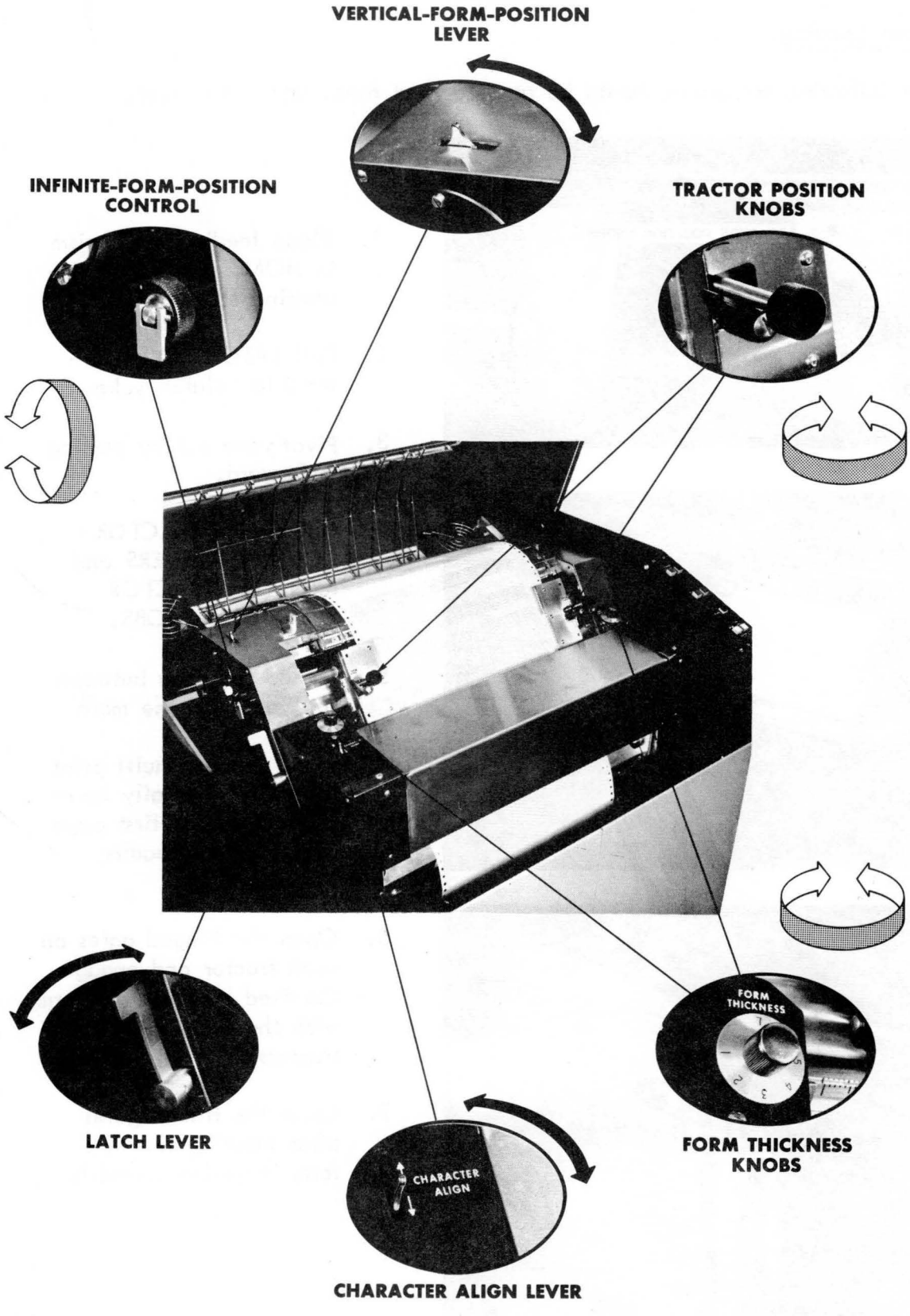
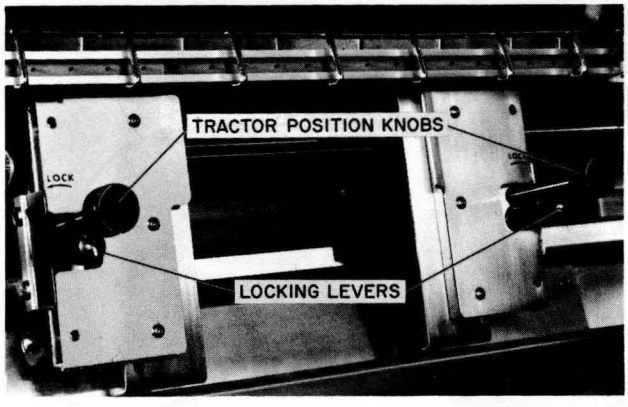


Figure 12 3486 Mechanism Controls

Forms Loading

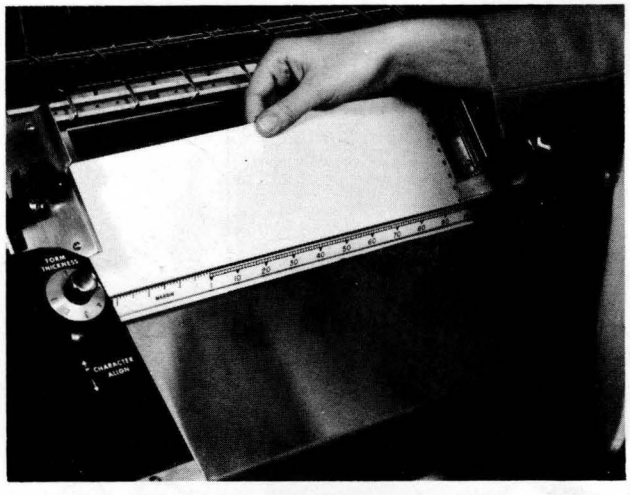
The following procedure should be used to load forms into the printer.



1. Place feeding mechanism in HOME position by depressing HOME.

2. Pull LATCH LEVER forward to unlatch yoke.

3. Pivot yoke out by pulling it forward.

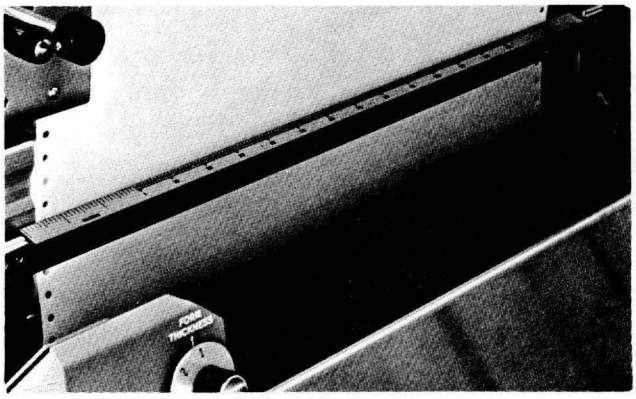


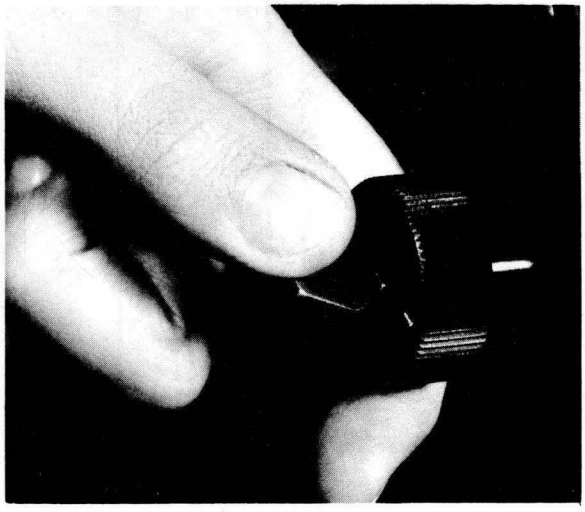
4. Unlock the TRACTOR LOCKING LEVERS and rotate the TRACTOR POSITION KNOBS.

5. Thread the form between the yoke and the main frame
   When loading multi print forms, it is usually helpful to fold the first page over before threading

6. Open the hinged gates on each tractor and engage the feed holes of the form with the feed pins on the tractors.

7. Close the tractor gates after ensuring that the form is loaded correctly.





8. Release the forms from the yoke assembly by pushing it towards the form so that it drops in place over the print line

9. Lock the tractors using the locking levers after the tractors have been adjusted with the aid of the markings in the form scale.

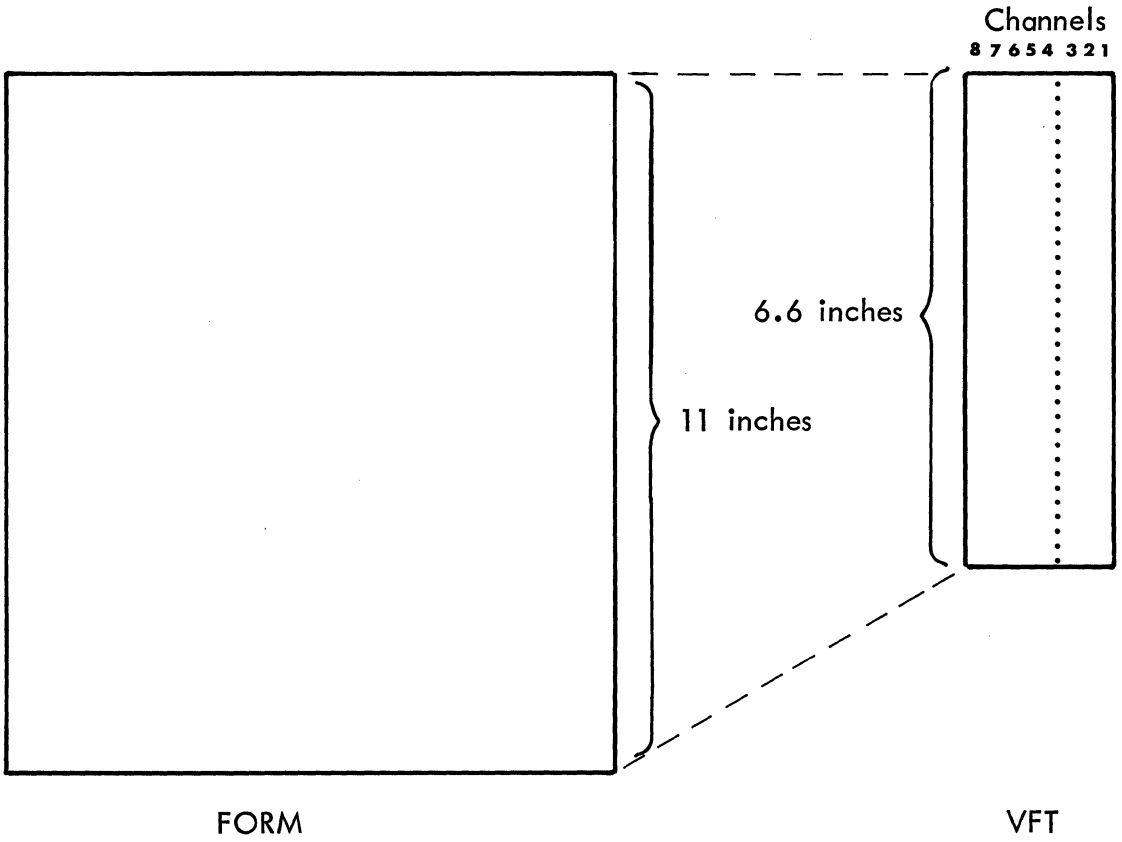
10. Adjust the vertical registrations of the form by using the INFINITE-FORM-POSITION-CONTROL. This control consists of a CLUTCH RELEASE LEVER and a knob. The CLUTCH RELEASE LEVER is activated by pulling it outward, away from the knob. After the clutch is released, rotate the knob until the desired first print line on the form is directly beneath the top of the form scale.

11. Re-engage the clutch by depressing the release lever to go back into the recessed knob.

12. Close and latch the yoke. The continuous paper forms should be placed directly beneath the tractors.

VERTICAL FORMAT TAPE PREPARATION

The length of the Vertical Format Tape (VFT) directly relates to the length of the form for which the VFT is prepared. The form is printed six lines to the vertical inch whereas the VFT is calibrated at ten lines to the inch. Therefore, an eleven inch form (66 lines) requires a VFT of 6.6 inches. Each sprocket hole in the VFT represents a print line on the form.



The minimum length VFT that can be loaded in the vertical format unit depends upon the printer. Refer to the 34Ø Programmer's Manual for individual printer requirements. In order to accomodate forms smaller than the minimum, multiple formats of the same form should be punched in the VFT. As an example, a 36 line form would require a 7.2 inch tape containing two identical formats.

The Vertical Format Unit can accomodate either a five or eight-channel tape. Punching requirements vary slightly for the five and eight channel tapes and are printed in the rules for preparing a vertical format tape in the Programmer's Manual.

After punching the appropriate channel holes, the VFT tape must be evenly cut and the ends joined together to form a circle. An adhesive-backed patch is used to hold the ends of the VFT tape together.

Additional Notes

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REVISION REQUEST AND COMMENT FORM

Please send me copies of all revisions and additions to the

MODEL 340/340D OPERATOR'S MANUAL

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fold here

Suggested Improvements:.....
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Errors noted:.....
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General Comments:.....
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