TABLE OF CONTENTS

#### SYSTEM 32

PAGE 1 OF 3

> \*\*\*\*\*\* # MAP/SERVICE GUIDE TABLE OF CONTENTS # \*\*\*\*\*\*\*

PROGRAM LOCATION, DE SCRIPTION PAGE NO. AND MDI MAP REFERENCE COMPLETE TABLE OF CONTENTS ... 0000-1 SUBJECT INDEX ..... 0000-2 SYSTEM ENTRY MAPS ..... 0100-1 LAMP MAPS ..... 0200-1 LINE PRINTER MAP PROGRAM ..... DIAG 01, MAP 0450 LINE PRINTER MAPS ..... 0400-1 SERIAL PRINTER MAP PROGRAM ..... DIAG 01, MAP 0550 SERIAL PRINTER MAPS ...... 0500-1 62GV MAP PROGRAM ..... 0640 62GV MAPS ..... 0600-1 33FD MAP PROGRAM ..... DISK, MAP 0800 5321 (MCU) MAP PROGRAM ..... DIAG 03, MAP 0950 5321(MCU) MAPS ..... 0900-1 CRT MAPS ..... 1200-1 COMMUNICATIONS MAPS ..... 1400-1 EIA MAPS ..... 1500-1 1200 MODEM MAPS ..... 1600-1 2400 MODEM MAPS ..... 1700-1 CARDIO MAP PROGRAM ..... DIAG 03, MAP 1850 1255(MICR) MAPS ..... 1900-1 1255 (MICR) MAP PROGRAM ..... DIAG 04, MAP 2000 DIAGNOSTIC SERVICE (USER) GUIDE. 3000-1 BSCA SERVICE GUIDE ..... 3100-1 CARDIO SERVICE GUIDE ..... 3300-1

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15 APR77 PN2547500 EC830358 PEC830357

MAP 0000-1

TABLE OF CONTENTS

SYSTEM 32

PAGE 2 OF 3

MAP SERVICE GUIDE ..... 3500-1

1255(MICR) SERVICE GUIDE ..... 3600-1

SUBJECT INDEX

BSCA SERVICE GUIDE ..... 3100-1 CARDIO SERVICE GUIDE ..... 3300-1 CE PANEL TEST ..... 3000-1 DEVICE ADDRESS ASSIGNMENTS .SEE THEORY-DIAGRAM MANUAL, CHAN-8 DIAG CRT/PRNTR DISPLAYS (0000-0385) ... 3000-1 DIAG CRT/PRNTR DISPLAYS (0400-0502) ... 3100-1 DIAG CRT/PRNTR DISPLAYS (0503-0521) ... 3000-1 DIAG CRT/PRNTR DISPLAYS (0522-0524) ... 3000-1 3100-1 DIAG CRT/PRNTR DISPLAYS (0525-0526) ... 3000-1 DIAG CRT/PRNTR DISPLAYS (0527) ..... 3000-1 3100-1 DIAG CRT/PRNTR DISPLAYS (0528-0581) ... 3000-1 DIAG CRT/PRNTR DISPLAYS (0600) ..... 3000-1 3100-1 ERAP, SYSTST, BSCA PROGRAM DESCRIPTION... 3000-1 ERROR CODES (33FD FREELANCE PROG) .... 3000-1 GENERAL LOGIC PROBE SET UP ..... 3500-1 IMPL SWITCH SETTING DPTIONS ..... 3000-1 IMPL SWITCH SETTING OPTIONS (DETAILED). 3000-1 LJADING FROM 33FD OR 62GV ..... 3000-1 MAP CHART DESCRIPTION ...... 3500-1 MDI(MAP DIAGNOSTIC INTEGRATION) ..... 3000-1 MDI TU TEST LIST (ALL DEVICES) ..... 3000-1 PROCESSOR CHECK NOTES ..... 3000-1 SCP INSTALLATION ..... SEE APENDIX C OF INTRO/MAINT MANUAL WRAP ERROR ID TABLES ..... 3000-1

15 APR77

PN2547500

EC830358 PEC830357

MAP 0000-2

MAP 0000-3

TABLE OF CONTENTS SYSTEM 32 PAGE 3 OF 3

33FDFREELANCESUPPORT3000-133FDTESTSFROM33FD(HOW TO RUN)3000-162GVFRIENDSUPPORTNOTES3000-1

15 APR77 PN2547500 EC830358 PEC830357 MAP 0000-3

# SYSTEM ENTRY

SYSTEM 32

PAGE 1 DF 9

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FROM	1	ENTER	THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
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EXIT PDINTS

EXIT TH	IS MAP	ΙΤΟ	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
7	040	0101	 A
8	043	0101	A
6	031	0103	А
7	039	0104	Α
8	042	0104	А
8	045	0105	А
6	028	0105	Α
6	033	0111	А
6	032	0112	А
6	030	0112	А
3	010	0200	А
9	046	0201	А
2	003	0300	А
3	011	0300	Α
9	047	0700	A
3	007	0900	B
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MAP 0100-1

SYSTEM ENTRY

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SYSTEM 32

PAGE 2 DF 9

002 (ENTRY POINT D) IF THE SYSTEM IS LEFT WITH AN ERROR INDICATION, RECORD THE STATUS OF THE FOLLOWING INDICATORS -PROCESSOR CHECK LIGHT -STOP LIGHT -KEYBD RDY LIGHT -LOAD LIGHT -EVENT INDICATORS ERROR BYTE(DPLY CHKS -PROCESSOR MODE) -PORT ERROR BYTE(DPLY CHKS MODE) -CONTROL STORAGE DATA AT ADDRESS X 0081 -CONTROL STORAGE DATA AT ADDRESS X 0082 -PROCESSOR CONDITION REG(DPLY PCR MODE) -CRT DISPLAY POWER OFF. WAIT UNTIL SYSTEM POWERS DOWN. POWER ON. ALWAYS AFTER POWER UP WAIT APPROX. 45 SECONDS FOR THE DISK AND DISKETTE TO BECOME READY, UNLESS INSTRUCTED OTHERWISE. POWER PROBLEMS APPEAR AS: POWER CHECK THERMAL CHECK WILL NOT POWER UP WILL NOT POWER DOWN IS POWER OK ON THE 5320? Y N I 003 I POWER PROBLEM. | GO TO MAP 0300, ENTRY POINT A. 004 IS A 5321(MCU) INSTALLED? Y N 005 GD TO PAGE 3, STEP 008, ENTRY POINT B. 006 IS THE 5321 POWER INDICATOR ON? Y N L ł L 1 1 L 1 ł Ł 1 ł 3 3 C D

MAP 0100-2

INSURE THAT THE IMPL DISKETTE USED IS CONFIGURED FOR YOUR SYSTEM AND USE THE DIAG OI DISKETTE.

IF NECESSARY, REFER TO MLM CONSOLE SECTION FOR CE PANEL OPERATIONS.

> 100CT77 PN2547502 EC832050 PEC830357 MAP 0100-2

СD SYSTEM ENTRY 22 SYSTEM 32 I 1 PAGE 3 OF 9 ł 1 ł 1 I 1 007 1 | GD TO MAP 0900, ENTRY POINT B. 1 008 (ENTRY POINT 6) IF THE FAILING FRU IS OBVIOUS, SUCH AS A BROKEN RIBBON, BROKEN PRINTER BELT, STUCK KEYBOARD KEYS, BROKEN GLASS, ETC., REFERENCE THE MLM AND CORRECT FAILURE, OTHERWISE CONTINUE. DEPRESS RESET. DEPRESS AND HOLD LAMP TEST SWITCH. ARE ALL LAMPS ON THE 5320 LIT? Y N 1 009 | DEPRESS AND HOLD LAMP TEST SWITCH. THERMAL AND/OR POWER CHECK LIGHTS ſ | OFF? YN 1 010 1 | LAMP TEST. | GO TO MAP 0200, ENTRY POINT A. I 1 011 Ł POWER PROBLEM. L | GO TO MAP 0300, ENTRY POINT A. 1 012 IS A 5321(MCU) INSTALLED? YN 1 | 013 | GO TO PAGE 4, STEP 016, ENTRY POINT C. 014 DEPRESS AND HOLD LAMP TEST SWITCH. ARE ALL LAMPS LIT ON THE 5321? Y N 1 015 | GD TD MAP 0900, ENTRY POINT C.

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4 E 10DCT77 PN2547502 EC832050 PEC830357 MAP 0100-3

MAP 0100-4

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SECTION

SYSTEM ENTRY Ē 3 SYSTEM 32 PAGE 4 DF Q 1 ł 016 (ENTRY POINT C) CRT MESSAGE THE COMPLETION OF THE IMPL SEQUENCE REFERENCED IN MLM TO CLEAR CONTROL STORAGE AND IMPL THE DISK, DIAGNOSTIC PATTERNS, FIGURE 1. PERFORM THE FROM FOLLOWING: OPEN THE DOOR ON DISKETTE DRIVE. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO ALTER STOR. SET STOR SEL SWITCH TO CTL. SET FORCE CLOCK SWITCH TO DN. DEPRESS RESET. SET FORCE CLOCK SWITCH TO OFF. DEPRESS RESET. SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO PROC RUN. SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. DEPRESS THE LOAD KEY. DISPLAY WAIT FOR ERROR OR CRT то OCCUR. IMPL SEQUENCE COMPLETED NORMALLY? (CRT DISPLAY EXACTLY AS SHOWN IN MLM SECTION 5, DIAGNOSTIC PATTERNS, FIGURE 1.) Y N 017 Ł SECTION REFERENCE MLM 5. DIAGNOSTIC PATTERNS, FIGURE 2, TO THE CRT MESSAGE THAT MAY OBSERVE L BE DISPLAYED. IS THE EXACT MESSAGE DISPLAYED ON CRT? 1 Y N ł 018 L THE CRT MAY HAVE AN IMPL WRAP ERROR MESSAGE. (SEE DIAGNOSTIC USER'S GUIDE ERROR FOR WRAP CODE 1 DESCRIPTION) 1 WRAP ERROR MESSAGE Α IS 1 DISPLAYED ON CRT? (CRT DISPLAY AS SHOWN IN MLM 1 SECTION 5, DIAGNOSTIC PATTERNS, 1 FIGURE 3.) (IF SCREEN IS BLANK, UNREADABLE OR IN DIFFERENT FORMAT, ANSWER NO) Y N Ł 1 i 1 1 1 l ł 1 ł I 1 1 5 6 6 6 F G н J

100CT77 PN2547502 EC832050 PEC 830357 MAP 0100-4

SYSTEM ENTRY J

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SYSTEM 32

5 OF PAGE 9

1 I 019 TO CLEAR CONTROL STORAGE AND IMPL FROM THE DISKETTE, DO THE FOLLOWING: SET THE DATA SWITCHES TO 0000. SET MDDE SELECTOR SWITCH TO ALTER STOR. SET STOR SEL SWITCH TO CTL. SET FORCE CLOCK SWITCH TO ON. DEPRESS RESET. SET FORCE CLOCK SWITCH OFF. DEPRESS RESET. THE MODE SELECTOR SWITCH TO SET SET THE PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TDGGLE SWITCHES то THE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR CRT DISPLAY TO OCCUR. 1 DO NOT TAKE ACTION AS DESCRIBED ON CRT DISPLAY. DID THE IMPL SEQUENCE COMPLETE NORMALLY? (CRT DISPLAY EXACTLY AS SHOWN IN MLM SECTION 5, DIAGNOSTIC PATTERNS, FIGURE 4.) Y N L 1 020 I IS A WRAP ERROR MESSAGE DISPLAYED | ON CRT? I Y N 1 | 021 1 I I DEPRESS RESET. PROBE AA1-B2-B06 (-LOAD KEY 1 PRESSED) 1 1 | LINE DOWN? L I Y N L 1 1 I I 022 I DEPRESS AND HOLD THE LOAD L 1 | KEY. L 1 PROBE.AA1-B2-B06 (-LOAD I 1 KEY 1 | PRESSED) L 1 1 LINE DOWN? ł 1 Y N 1 1 Ł I 1 1 1 ł 1 1 l 1 Ł Ł ł 1 ł ł I 1

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THE NORMAL COMPLETION OF THE IMPL SEQUENCE IS DISPLAYED IN MLM SECTION 5, DIAGNOSTIC PATTERNS, FIGURE 4.

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1000777 PN2547502 EC832050 PEC 830357 MAP 0100-5

MAP 0100-6 FG H K L M N P SYSTEM ENTRY 4 4 4 5 5 5 5 5 SYSTEM 32 L 1 PAGE 6 OF 9 1 1 1 1 ŧ 1 L ł 1 1 I 1 1 1 I ł 1 033 023 1 L 1 l CHECK FOR DEFECTIVE N/O 1 ł | GO TO MAP 0111, ENTRY POINT A. LOAD KEY 1 I 1 CHECK FOR OPEN CABLE FROM ł 034 LOAD KEY TO AA1-B2-B06. 1 1 DEPRESS AND HOLD THE RESET KEY. I ANY 5320 INDICATOR DN? 024 1 Y N DEPRESS RESET. I PROBE AA1-E2-B08 (+STOP KEY 1 035 PRESSED) 1 Ł IS DISKETTE OPERATING THE TO THE BEST OF YOUR | PROPERLY LINE DOWN? 1 KNOWLEDGE OR CUSTOMER L Y N INFORMATION? ł 1 025 T 1 IF NOT SURE, ANSWER YES TO THIS CHECK FOR DEFECTIVE N/C ł I QUESTION. STOP KEY. 1 CHECK FOR OPEN CABLE FROM Y N L 1 1 STOP KEY TO AA1-B2-B08. L 1 1 1 036 1 1 4 I RUN DISKETTE DIAGNOSTICS 026 1 L FOLLOWS: DEPRESS RESET. 1 1 SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO | 1. PROBE AA1-B2-B07 (-LOAD KEY ŧ RELEASED) 1 2. 1 PROC RUN. 1 LINE DOWN? SET ALL TOGGLE SWITCHES TO 1 3. YN 1 1 1 THE DOWN POSITION. 1 INSERT THE CE SCRATCH 027 1 4. 1 DISKETTE AND CLOSE THE DOOR. CHECK FOR DEFECTIVE N/C 1 DEPRESS THE LOAD KEY. 1 LOAD KEY. 5. I 1 ÷ CHECK FOR OPEN CABLE FROM | (WAIT FOR CRT DISPLAY) 1 DEPRESS THE START KEY. LOAD KEY ΤO 1 6. 1 NC 1 TYPING L 7. LOAD PROGRAM ID BY AA1-B2-B07. 1 Ł 1 IN 33FD. 1 DEPRESS ENTER KEY. 8. 1 028 I FOLLOW INSTRUCTIONS ON CRT. L 9. 1 1 | GO TO MAP 0105, ł 1 1 L L + DISKETTE DIAGNOSTICS | ENTRY POINT A. ł DID T T T OK? 1 1 Y N 029 L I. | 1. CHECK FOR DEFECTIVE N/D I 1 037 | LOAD KEY. ł 1 1 I FOLLOW THE INSTRUCTIONS 2. REPLACE CARD 441-K2. Ł ł 1 CRT. 1 1 030 1 GO TO MAP 0112, ENTRY POINT A. 1 1 1 - 1 031 1 1 GD TO MAP 0103, ENTRY POINT A. L 032 GO TO MAP 0112, ENTRY POINT A. 1 1 ł 100CT77 PN2547502 1 I 1

EC832050 PEC830357 MAP 0100-6

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S SYSTEM ENTRY 6 SYSTEM 32 1 PAGE 7 OF 9 Ţ ł 1 038 TO CLEAR CONTROL STORAGE AND IMPL FROM THE DISKETTE, DO THE FOLLOWING: SET THE DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO ALTER STOR. SET STOR SEL SWITCH TO CTL. SET FORCE CLOCK SWITCH TO ON. DEPRESS RESET. SET FORCE CLOCK SWITCH OFF. DEPRESS RESET. SET THE MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR CRT DISPLAY TO DCCUR. I DO NOT TAKE ACTION AS DESCRIBED ON CRT DISPLAY. THE IMPL DID SEQUENCE COMPLETE NORMALLY? (CRT DISPLAY EXACTLY AS SHOWN IN MLM SECTION 5, DIAGNOSTIC PATTERNS, FIGURE 4.) Y N ŧ 1 039 t | GO TO MAP 0104, ENTRY POINT A. ł 040

GO TO MAP 0101, ENTRY POINT A.

MAP 0100-7

100CT77 PN2547502 EC832050 PEC830357

MAP 0100-7

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#### SYSTEM 32

PAGE 8 OF 9 L 1 041 TO CLEAR CONTROL STORAGE AND IMPL FROM THE DISKETTE, DO THE i. FOLLOWING: 1 I SET THE DATA SWITCHES TO 0000. I SET MODE SELECTOR SWITCH TO ALTER STOR. I SET STOR SEL SWITCH TO CTL. I SET FORCE CLOCK SWITCH TO ON. DEPRESS RESET. SET FORCE CLOCK SWITCH OFF. | DEPRESS RESET. THE MODE SELECTOR SWITCH TO SET PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER SWITCHES TO THE DOWN TOGGLE POSITION. INSERT THE CE DIAG 01 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR CRT DISPLAY TO | OCCUR. DD NOT TAKE ACTION AS DESCRIBED ON CRT DISPLAY. | DID THE IMPL SEQUENCE COMPLETE NORMALLY? (CRT DISPLAY EXACTLY AS SHOWN IN MLM SECTION 5, PATTERNS, FIGURE 4.) SECTION DIAGNOSTIC MLM IYN - 1 042 1 1 | GO TO MAP 0104, ENTRY POINT A. L Ł 043 ÷. GO TO MAP 0101, ENTRY POINT A. 044 IMPL FROM THE DISK. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR CRT DISPLAY TO OCCUR. IMPL SEQUENCE COMPLETED NORMALLY? CRT DISPLAY AS SHOWN PREVIOUSLY) Y N 1 045 GO TO MAP 0105, ENTRY POINT A.

THE NORMAL COMPLETION OF THE IMPL SEQUENCE IS DISPLAYED IN MLM SECTION 5, DIAGNOSTIC PATTERNS, FIGURE 4.

> 1000777 PN2547502 EC832050 PEC 830357

MAP 0100-8

A T 1 8 SYSTEM ENTRY SYSTEM 32 ļ I PAGE 9 OF 9 1 1 11 i i 046 I GD TD MAP 0201, ENTRY POINT A. 1 047 DG NOT POWER OFF. DD NOT RESET. DD NOT IMPL. GD TO MAP 0700, ENTRY POINT A.

	MAP	0100-9
EC832050	Pf	EC 83 03 57
1000777	PI	12547502

SYSTEM ENTRY

SYSTEM 32

PAGE 1 OF 7

## ENTRY POINTS

FRDM	I	ENTER	THIS MAP	
MAP NUMBER		E NTRY POINT	PAGE NUMBER	STEP NUMBER
0100	1	A	1	001

EXIT TH	IS MAP	1	то	
PAGE NUMBER	ST EP NUMBER	1	MAP NUMBER	ENTRY POINT
2	009	1	0102	A
2	011	1	0102	А
6	032	1	0600	А
3	020	1	0600	А
4	022	1	0900	Α
7	035	ł	0900	Α
6	032		1200	Α
5	026	1	1200	А

FXIT POINTS

001 (ENTRY POINT A) DID THE CUSTOMER IDENTIFY THE FAILING DEVICE? Y N 1 1 002 I SET THE DATA SWITCHES TO 0000. I SET THE MODE SELECTOR SWITCH TO | PROC. RUN. | SET BOTH THE IMPL AND IPL SWITCH | TO THE UP POSITION AND ALL OTHER | TOGGLE SWITCHES TO THE DOWN | POSITION. I INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DODR. | DEPRESS THE LOAD KEY. | WAIT FOR ERROR OR CRT DISPLAY TO I OCCUR. 1 | DEPRESS START. | WILL SYSTEM CONTINUE? Y N ł Ł 1 003 1 I DEPRESS AND HOLD START. 1 | PROBE AA1-J2-D02 (-OP START KEY L | PRESSED) L I LINE DOWN? I Y N ł ł 1 ł 1 004 CHECK FOR OPEN CABLE FROM ł. 1 ł 1 | N/O START KEY (OPO10) 1 L | CHECK FOR DEFECTIVE OPERATOR | N/O START KEY (OPO10) 1 ł 1 Ł | REPLACE CARD AA1-J2. 1 1 T 1 1 L 1 1 1

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THE IMPL SEQUENCE COMPLETED NORMALLY BOTH FROM THE DISK AND THE DISKETTE.

EC830358 PEC830357

MAP 0101-1

MAP 0101-2 ΕC SYSTEM ENTRY D 1 1 SYSTEM 32 i PAGE 2 OF 7 1 ŧ. 1 I 005 010 Ł SELECT AND RUN SYSTEM TEST PROBE AA1-J2-D04 (-OP START ΔS KF Y ŧ RELEASED) FOLLOWS: LINE DOWN? 1 SET THE DATA SWITCHES TO 0000. 1 Y N SET THE MODE SELECTOR SWITCH TO t Ł PROC. RUN. 006 SET ALL TOGGLE SWITCHES TO THE DDWN CHECK FOR OPEN CABLE FROM AA1-E2-B05 TU OPERATOR PANEL POSITION. L I N/C START KEY (OP010) INSERT THE CE DIAG 02 DISKETTE AND 1 CHECK FOR DEFECTIVE OPERATOR CLOSE THE DOOR. N/C START KEY (OP010) DEPRESS THE LOAD KEY. WAIT FOR THE CRT DISPLAY. I - 1 REPLACE CARD AA1-J2. LOAD PROGRAM ID BY TYPING IN . . . 1 007 SYSTST. REPLACE CARDS AA1-J2, AA1-N2. DEPRESS THE ENTER KEY. CAUTION: CERTAIN FEATURE DEVICE SYSTEM TEST 008 ARE MUTUALLY EXCLUSIVE. FION III OF DIAGNOSTIC SELECT AND RUN ERAP PROGRAM RESETALL THE ERROR COUNTERS то MODULES SECTION DIAGNOSTIC AS SEE SERVICE(USERS) GUIDE(SECTION 3000). FOLLOWS: FOLLOW INSTRUCTIONS ON CRT; IF DISK SET THE DATA SWITCHES TO 0000. ERROR MESSAGE APPEARS ON CRT EXIT SET THE MODE SELECTOR SWITCH TO TO 62GV MAIN ENTRY CHART PAGE PROC. RUN. 0600-2 . SET ALL TOGGLE SWITCHES TO THE DOWN SELECT AND RUN ERAP PROGRAM AGAIN POSITION. INSERT THE CE DIAG 02 DISKETTE AS FOLLOWS: AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. SET THE DATA SWITCHES TO 0000. SET THE MODE SELECTOR SWITCH TO WAIT FOR THE CRT DISPLAY. LOAD PROGRAM ID BY TYPING IN ERAP. PROC. RUN. DEPRESS THE ENTER KEY. SET ALL TOGGLE SWITCHES TO THE DOWN FOLLOW INSTRUCTIONS ON CRT. POSITION. INSERT THE CE DIAG 02 DISKETTE AND WILL THE ERAP PROGRAM LOAD AND RUN? CLOSE THE DOOR. DEPRESS THE LOAD KEY. ΥN ł WAIT FOR THE CRT DISPLAY. 009 LOAD PROGRAM ID BY TYPING IN ERAP. DEPRESS THE ENTER KEY. GD TO MAP 0102, ENTRY POINT A. FOLLOW INSTRUCTIONS ON CRT. DID ANY DEVICE FAIL? Y N l 011 | GO TO MAP 0102, ENTRY POINT A. 1 012 IS THE FAILING DEVICE THE CRT AND/OR KEYBOARD? Y N ł 1 1 ŧ 1 1 L t 1 15APR 77 PN2547506 I ł EC830358 PEC830357 ·5 3 D FF MAP 0101-2

MAP 0101-3 F SYSTEM ENTRY LM 2 SYSTEM 32 1 1 I 1 ł PAGE 3 OF 7 1 1 1 I 1 - 1 I 1 013 018 I IS THE FAILING DEVICE FD-DISK? IS THE FAILING DEVICE THE PRINTER? YN Y N L | 019 | RD-DISKETTE 1 014 IS THE FAILING DEVICE THE BSCA OR L | SDLC? 1 SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO | | 1. I Y N 1 I PROC RUN. 015 Ł 1 I IS THE FAILING DEVICE THE | | 3. S ET OTHER ł 129 ALL TOGGLE SUTCHES TO THE DOWN POSITION. 4. INSERT THE CE SCRATCH OR 5496 (CARDID)? Ł 1 1 4. I Y N Į | | DISKETTE AND CLOSE THE DOOR. | | 5. DEPRESS THE LOAD K I 1 DEPRESS THE LOAD KEY. 1 ł 1 016 | (WAIT FOR CRT DISPLAY) I IS THE FAILING DEVICE THE 1 L | | 6. DEPRESS THE START KEY | | 7. ENTER PROGRAM ID BY TYPING 5321(MCU)? 1 1 YN L ١ 1 | | IN 33FD. ŧ 1 1 | 8. DEPRESS THE ENTER KEY. | 9. FOLLOW INSTRUCTIONS ON CRT. 1 017 Ł I IS THE FAILING DEVICE ł THE ł 1255(MICR)? 1 1 1 I Y N 020 1 ł 1 62 GV PROBLEM 1 1 1 | GO TO MAP 0600, ENTRY POINT A. 1 1 ŧ 1 1 4 I 021 MICR 1 L I L 1 ł 1. SET DATA SWITCHES TO DOOC. 2. SET MODE SELECTOR SWITCH TO 1 1 1 L 2. 1 1 PROC RUN. 1 ł 1 1 1 SET THE IMPL AND IPL SWITCHES 3. 1 TO THE UP POSITION AND ALL OTHER ł 1 TOGGLE SWITCHES то THE DOWN I ł POSITION. INSERT THE CE DIAG OI DISKETTE 1 1 4. AND CLOSE THE DODR. 1 Ŧ 1 -t DEPRESS THE LOAD KEY (WAIT FOR 5. 1 CRT DISPLAY) 1 1 DEPRESS THE START KEY. DEPRESS THE INQ KEY. REMOVE THE CE DIAG OI DISKETTE 1 1 T ł 1 6. 7. 1 8. ł 1 AND INSERT THE CE DIAG 04 DISKETTE 1 ł 1 Ŧ ł AND CLOSE THE DODR. 9. ENTER PROGRAM ID BY TYPING IN 1 MICR. 1 1 I 1 1 \*\* NOTE \*\* 1 1 PROCESSOR CHECK DCCURS WHEN IF 1 1 1 OR RUNNING LOADING MICR ł 1 DIAGNOSTICS, REPLACE CARD AA1-F2. 10. DEPRESS THE ENTER KEY. L 1 1 ł 1 F t 1 11. FOLLOW INSTRUCTIONS ON CRT. ł ł I L L 1 1 1 1 ł 1 I t L 1 ١ 1 L L 1 L 1 i 1 1 1 1 I 1 E 1 ł 1 ł 1 1 1 1 154PR77 PN2547506 1 ł 1 Ł ł ł 1 T 1 1 1 EC830358 PEC 830357 ł 1 4 4 4 4 GHJKLM

MAP 0101-3

JK SYSTEM ENTRY 3 3 SYSTEM 32 I PAGE 4 OF 7 1 1 1 - 1 1 1 022 | 5321 PROBLEM | GD TD MAP 0900, ENTRY PUINT A. 1 023 CARDID 1. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO 2. PROC RUN. 3. SET THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE 4. AND CLOSE THE DODR. 5. DEPRESS THE LOAD KEY (WAIT FOR CRT DISPLAY) 6. DEPRESS THE START KEY.7. DEPRESS THE INQ KEY. REMOVE THE CE DIAG OI DISKETTE 8. AND INSERT THE CE DIAG 03 DISKETTE AND CLOSE THE DOOR . ENTER PROGRAM ID BY TYPING IN 9. CARDIC. \*\* NOTE \*\* IF PROCESSOR CHECK OCCURS WHEN LOADING OR RUNNING CARDIO DIAGNOSTICS, REPLACE CARD AA2-N2. 10. DEPRESS THE ENTER KEY. 11. FOLLOW INSTRUCTIONS ON CRT.

3 3 ł 1 1 1 1 1 1 1 024 I BSCA OR SDLC 1 . 1. SET DATA SWITCHES TO 000C. 2. SET MODE SELECTOR SWITCH TO | PROC RUN. | 3. SET THE IMPL AND IPL SWITCHES | TO THE UP POSITION AND ALL OTHER I TOGGLE SWITCHES TO THE DOWN POSITION. 4. INSERT THE CE DIAG 01
1 DISKETTE AND CLOSE THE DOOR.
1 5. DEPRESS THE LOAD KEY (WAIT
1 FOR CRT DISPLAY) 4. FOR CRIDISPLATI
6. DEPRESS THE START KEY.
7. DEPRESS THE INQ KEY.
8. REMOVE THE CE DIAG 01
DISKETTE AND INSERT THE CE DIAG
04 DISKETTE AND CLOSE THE DOOR.
04 DISKETTE DOOR. | 9. ENTER PROGRAM ID BY TYPING IN | BSCA OR SDLC. | \*\* NOTE \*\* I F PROCESSOR CHECK OCCURS WHEN LOADING OR RUNNING BSCA OR SDLC DIAGNOSTICS, REPLACE CARD AA2-L2. 10. DEPRESS THE ENTER KEY. | 11. FOLLOW INSTRUCTIONS ON CRT. 1 025 PRINTER 1. SET DATA SWITCHES TO 0000. 2. SET MODE SELECTOR SWITCH TO PROC RUN. 3. SET THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. 4. INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DODR. DEPRESS THE LOAD KEY (WAIT FOR 5. CRT DISPLAY) 6. DEPRESS THE START KEY.7. DEPRESS THE INQ KEY. ENTER PROGRAM ID BY TYPING IN TER IF LINE PRINTER. IF SERIAL 8. PRINTER IF LINE PRINTER. IF SERIAL PRINTER GO TO MAP 0525, ENTRY POINT Α. 9. DEPRESS THE ENTER KEY. 10. FOLLOW INSTRUCTIONS ON CRT. 

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MAP 0101-4

15APR77 PN2547506

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EC830358 PEC830357

MAP 0101-4

A E SYSTEM ENTRY MAP 0101-5 Û 1 2 SYSTEM 32 1 1 1 PAGE 5 OF 7 I 1 1 L 1 029 1 026 SELECT THE FAILING DEVICE FROM THE CUSTOMER IDENTIFY THE DID 1 THE FOLLOWING CHART AND PERFORM 5321 (MCU) AS THE FAILING DEVICE? 1 ACTION AS INDICATED. Y N 1 IF BOTH THE CRT AND KEYBOARD FAIL RUN DIAGNOSTICS ON BOTH DEVICES. I 030 I DID THE CUSTOMER IDENTIFY THE | 1255(MICR) AS THE FAILING DEVICE? KYB-KEYBOARD I Y N 1 SET DATA SWITCHES TO F100. SET MODE SELECTOR SWITCH TO 1. 1 031 L I DID THE CUSTOMER IDENTIFY THE 2. 1 PROC RUN. PRINTER AS THE FAILING DEVICE? ł I. L 3. SET THE IMPL AND THE IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE ł Y N Ł 1 1 DOWN POSITION. 4. INSERT THE CE DIAG DISKETTE AND CLOSE THE DOOR. CE DIAG 01 5. DEPRESS THE LOAD KEY (WAIT Ł FOR CRT DISPLAY) ł 6. DEPRESS THE START KEY. FOLLOW INSTRUCTIONS ON THE 7. ſ CRT. L \_\_\_\_ CRT DISPLAY ł 1 1. SET DATA SWITCHES TO 0000. 2. SET MODE SELECTOR SWITCH TO PROC RUN. 1 3. SET THE IMPL AND IPL SWITCHES THE UP POSITION AND ALL OTHER GLE SWITCHES TO THE DOWN ТΟ 1 1 I TOGGLE POSITION. t 4. INSERT THE CE DIAG DISKETTE AND CLOSE THE DOOR. 1 4. CE DIAG 01 ł Ł 5. DEPRESS THE LOAD KEY. --------I 6. L GO TO MAP 1200, ENTRY POINT A. 1 027 DID THE CUSTOMER IDENTIFY THE BSCA OR SDLC AS THE FAILING DEVICE? YN ł 028 | DID THE CUSTOMER IDENTIFY THE 129 | OR 5496 (CARDID) AS THE FAILING DEVICE? Y N 1 1 ł 1 1 ł 1 1 1 I ł 1 1 L 1 Į 1 1 1 I 15APR77 PN2547506 I I ł 1 1 l 1 ł EC830358 PEC 830357 ł 7 7 766 6 NPQ RSTU MAP 0101-5

SYSTEM ENTRY S T MAP 0101-6 U 55 5 · SYSTEM 32 L 1 1 PAGE 6 OF 7 1 1 1 | 9. FOLLOW INSTRUCTIONS ON CRT. | (STEP 032 CONTINUED) 1 032 EXIT TO THE FAILING DEVICE MAP 11 CHART. 033 KY B-K EY BOARD **PRINTER** 1. SET DATA SWITCHES TO F100. 2. SET MODE SELECTOR SWITCH TO PROC RUN. 1 | 1. SET DATA SWITCHES TO 0000. | 2. SET MODE SELECTOR SWITCH TO | PROC RUN. 3. SET THE IMPL AND THE IPL SWITCHES TO THE UP POSITION AND ALL | 3. SET THE IMPL AND IPL SWITCHES | TO THE UP POSITION AND ALL OTHER I TOGGLE SWITCHES TO THE DOWN OTHER TOGGLE SWITCHES TO THE DOWN POSITION. POSITION. INSERT THE CE DIAG 01 INSERT THE CE DIAG OI DISKETTE 4. 4. | DISKETTE AND CLOSE THE DODR. AND CLOSE THE DOOR. 1 5. DEPRESS THE LOAD KEY (WAIT 5. DEPRESS THE LOAD KEY-(WAIT FOR CRT DISPLAY) | FOR CRT DISPLAY) 1 6. DEPRESS THE START KEY.
1 7. DEPRESS THE IND KEY.
1 8. ENTER PROGRAM ID BY TYPING IN DEPRESS THE START KEY. 6. FOLLOW INSTRUCTIONS ON THE CRT. 7. PRINTER IF LINE PRINTER. IF SERIAL PRINTER GO TO MAP 0525, CRT DISPLAY I ENTRY POINT A. 1. SET DATA SWITCHES TO 0000. 9. DEPRESS THE ENTER KEY. 2. SET MODE SELECTOR SWITCH TO PROC RUN. | 10. FOLLOW INSTRUCTIONS ON CRT. | -----3. SET THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER 034 SWITCHES TO THE DOWN TDGGLE MICR POSITION. 1. SET DATA SWITCHES TO 0000. 2. SET MODE SELECTOR SWITCH TO PROC RUN. 4. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. 5. DEPRESS THE LOAD KEY. 3. SET THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN \_\_\_\_\_ SWI TCHES GO TO MAP 1200, ENTRY POINT A. POSITION. ------ED-DISK 4 . INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. 5. DEPRESS THE LOAD KEY (WAIT FOR CRT DISPLAY) \_\_\_\_\_ 1. 62GV MAIN ENTRY CHART 6. DEPRESS THE START KEY.
7. DEPRESS THE INQ KEY.
8. REMOVE THE CE DIAG OI DISKETTE GO TO MAP 0600, ENTRY POINT A. \_\_\_\_\_ -----RD-DISKETTE AND INSERT THE CE DIAG 04 DISKETTE AND CLOSE THE DOUR. 1. SET DATA SWITCHES TO F800. 2. SET MODE SELECTOR SWITCH TO 9. ENTER PROGRAM ID BY TYPING IN PROC RUN. MICR. MICR. \*\* NOTE \*\* IF PROCESSOR CHECK OCCURS WHEN LOADING OR RUNNING MICR CCRLACE CARD AA1-F2. 3. SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. 4. INSERT THE CE SCRATCH DISKETTE DIAGNOSTICS, REPLACE CARD AA1-F2. 10. DEPRESS THE ENTER KEY. 11. FOLLOW INSTRUCTIONS ON CRT. AND CLOSE THE DOOR. DEPRESS THE LOAD KEY (WAIT 5. FOR CRT DISPLAY) 6. DEPRESS THE START KEY.7. ENTER PROGRAM ID BY TYPING IN 33FD. DEPRESS THE ENTER KEY. 8. (STEP 032 CONTINUES) 15APR77 PN2547506

#### EC830358 PEC830357

MAP 0101-6

PR SYSTEM ENTRY Ν MAP 0101-7 5 55 SYSTEM 32 ł 1 ł PAGE 7 OF 7 1 1 1 1 1 ł 1 035 037 1 | 5321 PROBLEM BSCA DR SDLC | GO TO MAP 0900, ENTRY POINT A. 1. SET DATA SWITCHES TO 0000. 2. SET MODE SELECTOR SWITCH 036 CARDIO PROC RUN. THE IMPL AND IPL SWITCHES 3. SE T 1. SET DATA SWITCHES TO 0000. 2. SET MODE SELECTOR SWITCH TO TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES тο THE POSITION. PRDC RUN. 3. SET THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER INSERT THE CE DIAG O1 DISKETTE з. 4. AND CLOSE THE DODR. TOGGLE DEPRESS THE LOAD KEY (WAIT FOR SWI TO HE S τu THE 5. DOWN POSITION. CRT DISPLAY) 6. DEPRESS THE START KEY.
7. DEPRESS THE INQ KEY.
8. REMOVE THE CE DIAG 01 DISKETTE
AND INSERT THE CE DIAG 03 DISKETTE INSERT THE CE DIAG OI DISKETTE 4. AND CLOSE THE DOOR. DEPRESS THE LOAD KEY (WAIT FOR 5. CRT DISPLAY) 6. DEPRESS THE START KEY. AND CLOSE THE DOOR. DEPRESS THE INQ KEY. REMOVE THE CE DIAG C1 DISKETTE 7. ENTER PROGRAM ID BY TYPING IN 9. 8. BSCA DR SDLC. \*\* NOTE \*\* AND INSERT THE CE DIAG 03 DISKETTE IF PROCESSOR CHECK OCCURS WHEN LOADING OR RUNNING BSCA OR SDLC DIAGNOSTICS, REPLACE CARD AA2-L2. 10. DEPRESS THE ENTER KEY. AND CLOSE THE DOOR. ENTER PROGRAM ID BY TYPING IN 9. CARDIG. \*\* NOTE \*\* IF PROCESSOR CHECK OCCURS WHEN FOLLOW INSTRUCTIONS ON CRT. 11. OR RUNNING CARDID LOADING DIAGNOSTICS, REPLACE CARD AA2-N2. 10. DEPRESS THE ENTER KEY. FOLLOW INSTRUCTIONS ON CRT.

11.

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SYSTEM ENTRY

SYSTEM 32

PAGE 1 OF 5

## ENTRY POINTS

FRDM	1	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		PDINT	NUMBER	NUMBER
0101		А	2	001
0700		В	4	005

# EXIT POINTS

EXIT TH	IS MAP		то	
PAGE NUMBER	STEP NUMBER		MAP NUMBER	ENTRY PDINT
3	004	1	0105	Α

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# 15APR77 PN2547507

EC830358 PEC830357

MAP 0102-1

PAGE 2 OF 5

#### 001

(ENTRY POINT A) SELECT AND RUN ALL DEVICE TESTS THAT ARE ON YOUR SYSTEM 32, AS INDICATED BELOW;

IF A DEVICE TEST FAILS AND THE FAILURE IS NOT ISOLATED USING THE DEVICE MAPS, GD TO ENTRY POINT B ,PAGE 3, OF THIS MAP(INTERMITTENT FAULTS).

1. SET DATA SWITCHES TO F100. SET MODE SELECTOR SWITCH TO PROC RUN. 3. SET THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE 4. AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. (WAIT 5. FOR CRT DISPLAY) 6. DEPRESS THE START KEY. 7. FOLLOW INSTRUCTIONS ON CRT.

#### PRINTER:

\_\_\_\_\_

1. SET DATA SWITCHES TO 0000. 2. SET MODE SELECTOR SWITCH TO PROC RUN. SET THE IMPL AND IPL SWITCHES 3. TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. 4. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. 5. DEPRESS THE LOAD KEY. (WAIT FOR CRT DISPLAY) 6. DEPRESS THE START KEY.
7. DEPRESS THE INQ KEY.
8. ENTER PROGRAM ID BY TYPING IN PRINTER IF LINE PRINTER. IF SERIAL PRINTER GO TO MAP 0525, ENTRY POINT ٨. 9. DEPRESS THE ENTER KEY. 10. FOLLOW INSTRUCTIONS ON CRT.

#### DISK:

1. GO TO 62GV MAIN ENTRY CHART, MAP 0600, ENTRY POINT A. (RETURN HERE AND CONTINUE IF NO (STEP 001 CONTINUES)

(STEP OC1 CONTINUED) PROBLEM FOUND) DISKETTE: 1. SET DATA SWITCHES TO F800. 2. SET MODE SELECTOR SWITCH PROC RUN. ΤΩ 3. SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. 4. INSERT THE CE SCRATCH DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. (WAIT 5. FOR CRT DISPLAY) 6. DEPRESS THE START KEY. ENTER PROGRAM ID BY TYPING IN 7. 33FD. 8. DEPRESS THE ENTER KEY. FOLLOW INSTRUCTIONS ON CRT. 9. CRT: 1. SET DATA SWITCHES TO 000C. 2. SET MODE SELECTOR SWITCH TO PROC RUN. 3. SET THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE 4. AND CLOSE THE DOOR. 5. DEPRESS THE LOAD KEY. 6. GO TO MAP 1200, ENTRY POINT A. (RETURN HERE AND CONTINUE IF NO PROBLEM FOUND) BSCA OR SDLC: (DNLY IF AA2-L2 CARD IS INSTALLED) 1. SET DATA SWITCHES TO 0000. 2. SET MODE SELECTOR SWITCH TO PROC RUN. 3. SET THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWI TCHES TO THE DOWN POSITION. 4. INSERT THE CE DIAG 01 DISKETTE AND CLOSE THE DOOR. 5. DEPRESS THE LOAD KEY. (WAIT FOR CRT DISPLAY) DEPRESS THE START KEY. DEPRESS THE INQ KEY. 6. 7. 8. REMOVE THE CE DIAG OI DISKETTE, INSERT THE CE DIAG O3 DISKETTE AND CLOSE THE DOOR. ENTER PROGRAM ID BY TYPING IN 9. (STEP 001 CONTINUES)

15APR77 PN2547507

EC830358 PEC830357

MAP 0102-2

KE YB DARD :

#### SYSTEM 32

#### PAGE 3 DF 5

(STEP 001 CONTINUED) BSCA OR SDLC. \*\* NOTE \*\* IF PROCESSOR CHECK OCCURS WHEN LOADING OR RUNNING BSCA OR SDLC DIAGNOSICS, REPLACE CARD AA2-L2. 10. DEPRESS THE ENTER KEY. 11. FOLLOW INSTRUCTIONS ON CRT. \_\_\_\_\_ CARDIO (DNLY IF AA2-N2 CARD IS INSTALLED) 1. SET DATA SWITCHES TO 0000. 2. SET MODE SELECTOR SWITCH TO PROC RUN. 3. SET THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER SWITCHES тο TOGGLE THE DOWN POSITION. INSERT THE CE DIAG OI DISKETTE 4 . AND CLOSE THE DOOR . 5. DEPRESS THE LOAD KEY. (WATT FOR CRT DISPLAY) 6. DEPRESS THE START KEY. DEPRESS THE INQ KEY. REMOVE THE CE DIAG OI DISKETTE, 7. 8. INSERT THE CE DIAG 03 DISKETTE AND CLOSE THE DOOR. ENTER PROGRAM ID BY TYPING IN . 9. CARDID. \*≉ NOTE \*\* IF PROCESSOR CHECK DCCURS LDADING OR RUNNING WHEN CARDIO DIAGNOSTICS, REPLACE CARD AA2-N2. 10. DEPRESS THE ENTER KEY. 11. FOLLOW INSTRUCTIONS ON CRT. MICR (DNLY IF AA1-F2 CARD IS INSTALLED) 1. SET DATA SWITCHES TO 0000. 2. SET MODE SELECTOR SWITCH TO PROC RUN. 3. SET THE IMPL AND IPL SWITCHES THE UP POSITION AND ALL OTHER тο SWITCHES то тне TOGGLE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE 4. AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. 5. (WAIT FOR CRT DISPLAY) DEPRESS THE START KEY. DEPRESS THE INQ KEY. 6. 7. 8. REMOVE THE CE DIAG OI DISKETTE, INSERT THE CE DIAG O4 DISKETTE AND CLOSE THE DOOR. ENTER PROGRAM ID BY TYPING IN 9. (STEP 001 CONTINUES)

(STEP 001 CONTINUED) MICR. \*\* NOTE \*\* ΙF PROCESSOR CHECK OCCURS WHEN LOADING OR RUNNING MI DIAGNOSTICS, REPLACE CARD AA1-F2. 10. DEPRESS THE ENTER KEY. MICR 11. FOLLOW INSTRUCTIONS ON CRT. --------------5321 (MCU): (ONLY IF CARDS AA2-N2 AND AA2-P2 ARE INSTALLED. 1. GO TO MAP 0900 ENTRY POINT A. (RETURN HERE AND CONTINUE IF NO PROBLEM FOUND) \_\_\_\_\_\_ DID ALL THE DEVICE TESTS RUN DK? Y N 1 002 FOLLOW INSTRUCTIONS ON CRT OR I HARD COPY MAPS. 003 RELOAD THE SCP PROGRAM. SELECT AND RUN THE ERAP PROGRAM. SET DATA SWITCHES TO 0000. SET THE PROC RUN. MODE SELECTOR SWITCH TO SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. INSERT THE CE DIAG 02 DISKETTE AND CLOSE THE DOOR. WAIT FOR THE CRT DISPLAY. LCAD PROGRAM ID BY TYPING IN ERAP DEPRESS THE ENTER KEY. FOLLOW INSTRUCTIONS ON CRT. WILL THE ERAP PROGRAM LOAD AND RUN? Y N 1 004 | GO TO MAP 0105, ENTRY POINT A. 15APR 77 PN2547507 EC830358 PEC830357

MAP 0102-3

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3 SYSTEM 32 I PAGE 4 DF 5 I OO5 (ENTRY POINT B) INTERMITTENT FAULTS:

THE TABLES TO THE RIGHT CORRELATE THE HEX REPRESENTATION OF THE ERROR CHECKS, STORED IN THE PROCESSOR ERROR BYTE REG AND THE PORT ERROR BYTE REG, WITH THE MOST PROBABLE CAUSES OF THE RECORDED FAILURE.

THE APPROPRIATE HEX VALUE FOR THE ERROR BYTE, MAY BE DETERMINED AS FOLLOWS:

IF ERROR INDICATIONS WERE RECORDED IN MAP 0100 AT THE START DF CALL AND:

THE ERROR BYTE DISPLAY WITH THE MODE SWITCH IN 'DPLY CHKS' POSITION WAS NOT X'GOOO', USE THE RECORDED HEX VALUE FOR THE PROC ERROR BYTE (HIGH BYTE) AND THE PORT ERROR BYTE (LOW BYTE).

THE ERROR EYTE DISPLAY WITH THE MODE SWITCH IN 'DPLY CHKS' POSITION WAS X'0000', USE THE RECORDED HEX VALUE OF THE CONTENTS OF CONTROL STORE ADDRESS X'0082'(HIGH BYTE) FOR PROC ERROR BYTE AND THE CONTENTS OF CONTROL STORE ADDRESS X'0081'(HIGH BYTE) FOR PORT ERROR BYTE.

IF ERROR INDICATIONS WERE RECORDED IN MAP 0700(SCP ERROR MAP), USE THE RECORDED HEX VALUE OF THE CONTENTS OF CONTROL STORE ADDRESS X'0082'(HIGH BYTE) FOR PROC ERROR BYTE AND THE CONTENTS OF CONTROL STORE ADDRESS X'0081'(HIGH BYTE) FOR PDRT ERROR BYTE.

IF ERROR INDICATIONS WERE NOT RECORDED IN MAP 0100 OR MAP 0700, DETERMINE HEX VALUES OF PROC ERROR BYTE AND PORT ERROR BYTE FROM FIRST ERAP PRINTOUT.

CDMPARE THE APPROPRIATE HEX VALUES FOR THE ERRDR BYTES WITH THE HEX NUMBERS IN THE TABLES TO THE RIGHT. FIND AN EXACT MATCH. THE FRU'S (REFER TO PLUG CHART AYO2O FOR (STEP 005 CONTINUES) PROC ERROR BYTE

RECORDEDI ERR BYTEI	FRU'S (CARDS ON AAL)
x 101 1	MZ
X'04'	N2/M2
X1081	N2/M2
X'OC' I	N2/M2
X'10'	L2/M2/J2/K2/H2
X1201	L2/M2/J2/K2/H2
X1241	L2/M2
X*28*	L2/M2
X'2C'	L2/M2
X 30 1	L2/M2/J2/K2/H2
X'34'	L2/M2
X*38*	L2/M2
X'3C'	L2/M2
X 40 1	M2/R2/S2/T2/U2
X'80'	L2/R2/S2/T2/U2
X 90	L2/M2/R2/S2/T2/U2
X'AO' I	L2/R2/S2/T2/U2
X* BO*	L2/M2/R2/S2/T2/U2
X'CO'	P2/Q4
X'DO'	L2/M2/R2/S2/T2/U2

### PORT ERROR EYTE

RECORDED	FRUIS
ERR BYTE	(H2 CARD ON AA1)
X*01 * /	H2/IO ATTACH(NOTE1)
X'04'	H2
X 1061	H2
X '08'	H2/IO ATTACH(NOTE1)
X'10'	H2/IO ATTACH(NOTEL)
X'20'	H2/IO ATTACH(NOTE1)
X 22 1	H2/IO ATTACH(NOTE1)
X'40'	H2/IO ATTACH(NOTE1)
X+80+	H2/IO ATTACH(NOTE1)
X 82 1	H2/IO ATTACH(NOTE1)

15 APR77 PN2547507 EC830358 PEC 830357

MAP 0102-4

#### SYSTEM 32

#### PAGE 5 OF 5

(STEP 005 CONTINUED) CARD FUNCTION)TO THE RIGHT OF THE MATCHED HEX NUMBER IN THE TABLE ARE IN ORDER OF PROBABLE CAUSE OF THE DISPLAYED ERROR.

FAILURE DIAGNUSIS BY MATCHING DISPLAYED ERRORS TO THE TABLE ENTRIES SHOULD BE MADE ONLY IN THE EVENT OF INTERMITTENT FAILURES OR WHEN THE MAPS FAIL TO ISOLATE THE FAILURE. THE TABLES DO NOT NECESSARILY INCLUDE EVERY POSSIBLE CAUSE OF THE DISPLAYED ERROR BUT ONLY THE MOST PROBABLE CAUSES.

#### \*NOTE1\*

IF THE TABLE TO THE RIGHT IDENTIFIES ID ATTACHMENT AS A PROBABLE FAILURE, THE HIGH ORDER 4 BITS OF THE ADDRESS OF THE FAILING ATTACHMENT CAN BE DETERMINED BY REFERRING TO BITS O THRU 3 OF THE LDW BYTE STORED AT CONTROL STORE ADDRESS X'0081' AND PREVIOUSLY RECORDED. USE TABLE BELOW TO IDENTIFY FAILING DEVICE. REFER TO PLUG CHART AYO20 AND AYO30 FOR DEVICE ATTACHMENT CARD LDCATION.

## ADDRESS | DEVICE

	- ۱	
10	i	K EY BU AR D
40	Ł	DISPLAY
50	Ł	CARDIO
50		MICR
80	L	BSCA
0 A	I	62G V
D0	ł	33FD
E0 ·		LINE PRINTER
E 1	L	SERIAL PRINTER

15APR 77 PN2547507 EC830358 PEC830357

MAP 0102-5

SYSTEM ENTRY

SYSTEM 32

PAGE 1 OF 5

ENTRY POINTS

FRDM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0100		Δ	1	001

SET MODE SELECTOR SWITCH TO PROC

SET ALL TOGGLE SWITCHES TO THE DOWN

AA1-K2,

DEPRESS THE LOAD KEY. DID EVENT INDICATOR BIT P GO OFF?

| REPLACE CARDS AA1-H2,

## 001 (ENTRY PDINT A)

RUN.

Y N | | 002

ł

1

1

1

2 A AA 2-G2.

EXIT PDI	NTS			
EXIT THI	S MAP	I	то	
PAGE NUMBER	STEP NUMBER		MAP NUMBER	ENTR Y PO INT
3 3	008 014		0110 0110	 А А
3 3	006 012	1	0600 0600	A A
4 5	030 040	1	0600 0600	А А
5	035	1	0600	А

THE IMPL SEQUENCE COMPLETED NORMALLY FROM THE DISKETTE BUT FAILED FROM THE DISK.

WHEN THE LUAD KEY IS DEPRESSED ALL THE EVENT INDICATORS SHOULD COME ON.

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 PN2547506

 EC830358
 PEC830357

MAP 0103-1

SYSTEM ENTRY Α 1 SYSTEM 32 1 PAGE 2 UF ł 5 ł 1 003 POWER OFF. REMOVE ALL ADAPTER INTERFACE CARDS EXCEPT DISK. CARDS IDENTIFIED IN THE ADAPTER CARD LOCATION TABLE AS FEATURE CARDS WILL BE PRESENT ONLY IF THE FEATURE IS INSTALLED. POWER ON. SET DATA SWITCHES TO F701. SET MODE SELECTOR SWITCH SWITCH TO PROC RUN. OTHER TOGGLE SWITCHES IN SET ALL THE DOWN POSITION. WAIT APPROX. 45 SECONDS FOR THE DISK TO BECOME READY. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT TO COME ON. DID THE STOP LIGHT COME ON? Y N 1 004 I POWER OFF. REINSTALL ALL PREVIOUSLY REMOVED CARDS. I REMOVE CABLES FROM LOCATIONS AA1-B4 AND AA1-B5. JUMPER AA1-M2-B13 (+ SINGLE CYCLE) TO AA1-M2-DO8 (GROUND). | JUMPER AA1-J2-M12 (+ MODE SEL SW | BIT 0) TO AA1-J2-D08 (GROUND). POWER ON. WAIT 45 SECONDS. I DEPRESS THE LOAD KEY. I WAIT FOR ERROR OR CRT DISPLAY TO OCCUR. 1 I IMPL SEQUENCE COMPLETED NORMALLY? Y N 1 1 005 L POWER OFF. 1 | REINSTALL PREVIDUSLY REMOVED CABLES AND REMOVE JUMPERS. | POWER ON. I | OPEN THE DISKETTE DOOR. | DEPRESS AND HOLD THE LOAD KEY. | PROBE AA1-N2-J09 (- LOAD KEY 1 1 RELEASED). 1 ł LINE DOWN? 1 1 L Y N ł 1 1 1 1 1 1 1 1 1 I 1 1 1 1 1 ł 1 1 3 3 3 3 BCDE

ADAPTER INTERFACE CARD LOCATIONS

REFER TO PLUG CHAN AA2-F2	AY030 FDR AA Rt. DISK	2 BOARD
A A 2 - G 2	DISK	
AA2-K2	DISKETTE	
A A2 - L2	BSCA OR	FEATURE
	SDLC	FEATURE
AA2-M2	CRT/KYBD	
A A 2 - Q 2	LINE PRINTER	
AA2-Q2	SERIAL PRINT	ER
AA2-R2	SERIAL PRINT	ER
A A2 - N2	CARDIO	FEATURE
REFER TO PLUG CHAI	AYO20 FDR AA	2 BUARD
AA1-F2	MICR	FEATURE

15APR 77 PN2547508 EC830358 PEC830357

MAP 0103-2

MAP 0103-2

FGH BCDE SYSTEM ENTRY MAP 0103-3 2222 SYSTEM 32 Ł 1 1 1 1 PAGE 3 OF 5 1 1 1 I. Í. 1 1 1 1 1 1 ŧ 1 1 Ł 1 1 1 011 1 006 1 1 ł 1 62 GV MAIN ENTRY CHART I POWER OFF. ł 1 | | REINSTALL PREVIOUSLY REMOVED | GO TO MAP 0600, 1 1 ENTRY POINT A. I I CABLES AND REMOVE JUMPERS. ł I I POWER ON. 1 1 1 007 1 ١ | OPEN THE DISKETTE DOOR. CHECK FOR DEFECTIVE N/C 1 1. | LOAD KEY. I | DEPRESS AND HOLD THE LOAD KEY. ŧ 1 2. REPLACE CARD AA1-N2. | PROBE AA1-N2-J09 (- LOAD KEY 1 1 | RELEASED). 008 1 I LINE DOWN? POWER OFF. 1 I Y N PREVIOUSLY REMOVED REINSTALL 1 I CABLES AND REMOVE JUMPERS. 1 1 POWER ON. 012 1 1 62GV MAIN ENTRY CHART | GO TO MAP 0110, ENTRY POINT A. 1 1 1 GO TO MAP 0600, Ł ł 009 | | ENTRY POINT A. BY SETTING DATA DISPLAY WR1 1 1 SWITCHES 3 AND 4 TO X'OI' AND MODE SELECTOR SWITCH TO DPLY LSR | 013 Ł CHECK FOR DEFECTIVE N/C | | 1. I LOAD KEY. IS WR1 EQUAL TO X'0000'? 1 2. REPLACE CARD AA1-N2. 1 Y N Ł 1 014 | POWER OFF. 010 I REINSTALL PREVIOUSLY POWER OFF. t ALL PREVIOUSLY REMOVED I CABLES AND REMOVE JUMPERS. REINSTALL L CARDS. | POWER ON. | GO TO MAP 0110, ENTRY POINT A. I REMOVE CABLES FROM LOCATIONS AA1-B4 AND AA1-B5. JUMPER AA1 - M2 - B1 3 (+ SINGLE 015 CYCLE) TO AA1-M2-D08 (GROUND). JUMPER AA1-J2-M12 (+ M3DE SEL SW POWER OFF. I. REINSTALL CARD AA2-Q2 IF LINE L BIT 0) TO AA1-J2-DO8 (GROUND). PRINTER. 1 POWER ON. REINSTALL CARD AA2-Q2 AND AA2-R2 IF 1 SET MODE SELECTOR SWITCH TO PROC SERIAL PRINTER. RUN. POWER DN. SET DATA SWITCHES TO F703. SET MODE SELECTOR SWITCH TO PROC I DEPRESS THE LOAD KEY. I WAIT FOR ERROR DR CRT DISPLAY то OCCUR. RUN. L DEPRESS THE LOAD KEY. Į IMPL SEQUENCE COMPLETED NORMALLY? WAIT FOR ERROR OR STOP LIGHT TO COME ON. Y N ł 1 DID STOP LIGHT COME ON? ł I L 1 YN 1 016 REPLACE CARD AA2-Q2, OR AA2-R2 IF 1 SERIAL PRINTER. 1 I 1 15APR77 PN2547508 1 1 1 ł EC830358 PEC830357 1 1 1 4 FGH MAP 0103-3 J

REMOVED

SYSTEM ENTRY Л 3 SYSTEM 32 ł PAGE 4 OF 5 1 1 017 WR1 BY SETTING D AT A DI SPLAY SWITCHES 3 AND 4 TO X'OI' AND MODE SELECTOR SWITCH TO DPLY LSR IS WRI EQUAL TO X'0000'? Y N 1 018 AA 1-J2, I REPLACE CARDS AA2-Q2, AA1-H2, OR AA2-R2 IF SERIAL | PRINTER. 019 POWER OFF. REINSTALL CARD AA2-M2. POWER ON. SET DATA SWITCHES TO F70F. SET MODE SELECTOR SWITCH TO PROC RUN. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT тο COME ON. DID STOP LIGHT COME ON? Y N L 1 020 | REPLACE CARD AA2-M2. 021 DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'01' AND MODE SELECTOR SWITCH TO DPLY LSR IS WR1 EQUAL TO X'0000'? Y N ł 022 CARDS AA2-M2, AA1-J2, REPLACE | AA1-H2. 023 POWER OFF. REINSTALL CARD AA2-K2. POWER ON. SET DATA SWITCHES TO F78F. SET MODE SELECTOR SWITCH TO PROC RUN. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT TO COME DN. DID STOP LIGHT COME ON? Y N 1 1 024 | REPLACE CARD AA2-K2. I

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MAP 0103-4 к ł E 1 025 DISPLAY WR1 ΒY SETTING DATA SWITCHES 3 AND 4 TO X '01' AND MODE SELECTOR SWITCH TO DPLY LSR IS WR1 EQUAL TO X .0000 ?? YN 1 026 REPLACE CARDS AA2-K2, AA1-J2, AA1-H2. ł 027 BSCA OR SDLC INSTALLED ON THE IS SYSTEM? ΥN 028 (ENTRY POINT B) 1 IIS 129 OR 5496 Α (CARDIO) | INSTALLED ON THE SYSTEM? Y N 1 1 1 029 1 | IS A 1255(MICR) INSTALLED ON | THE SYSTEM? 1 Ł 1 IYN L 1 030 L I I 62GV MAIN ENTRY CHART I | GO TO MAP 0600, 1 I I ENTRY POINT A. 1 1 1 í. ł | 031 I POWER OFF. 1 I REINSTALL CARD AA1-F2. ł. I POWER ON. I. I SET DATA SWITCHES TO F78F. I SET MODE SELECTOR SWITCH TO I PROC RUN. I DEPRESS THE LOAD KEY. 1 I WAIT FOR ERROR OR STOP LIGHT TO I COME ON. L 1 | DID STOP LIGHT COME ON? I Y N 1 032 1 1 I REPLACE CARD AA1-F2. 1 1 L 1 1 ł 1 I ł 4 I 1 ł ł 1 L 1 ł t 1 I 1 1 154PR 77 PN2547508 ł 1 ł 1 I EC830358 PEC8 303 57 5 5 5 IMN MAP 0103-4

MN SYSTEM ENTRY 4 4 SYSTEM 32 L 1 PAGE 5 OF 5 t 1 L L 1 033 | DISPLAY WR1 BY SETTING DATA | SWITCHES 3 AND 4 TO X'01' AND MODE SELECTOR SWITCH TO DPLY LSR I IS WRI EQUAL TO X'0000'? Y N 1 034 1 | REPLACE CARDS AA1-F2, AA1-J2, 1 AA1-H2. 1 1 035 | 62GV MAIN ENTRY CHART | GO TO MAP 0600, ENTRY POINT A. 036 POWER OFF. REINSTALL CARD AA2-N2. POWER ON. SET DATA SWITCHES TO F78F. SET MODE SELECTOR SWITCH TO PROC RUN. DEPRESS THE LDAD KEY. WAIT FOR ERROR OR STOP LIGHT TO COME DN. DID STOP LIGHT COME ON? Y N 1 1 037 | REPLACE CARD AA2-N2. 038 WR1 SETTING DISPLAY ΒY DATA SWITCHES 3 AND 4 TO X'OI' AND MODE SELECTOR SWITCH TO DPLY LSR IS WR1 EQUAL TO X'0000'? Y N L 039 | REPLACE CARDS AA2-N2. AA1-J2. AA1-H2. 1 040 62GV MAIN ENTRY CHART GO TO MAP 0600, ENTRY POINT A.

4 L T ł 1 041 POWER OFF. REINSTALL CARD AA2-L2. POWER ON. SET DATA SWITCHES TO F78F. SET MODE SELECTOR SWITCH TO PROC RUN. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT TO COME ON. DID STOP LIGHT COME ON? Y N 1 1 042 | REPLACE CARD AA2-L2. I. 043 DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X 011 AND MODE SELECTOR SWITCH TO DPLY LSR IS WR1 EQUAL TO X\*0000\*? Y N 1 044 | REPLACE CARDS AA2-L2, AA1-J2, | AA1-H2. 045 GO TO PAGE 4, STEP 028, ENTRY POINT B.

MAP 0103-5

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15APR77	PN2547508
EC830358	P EC 830357

MAP 0103-5

MAP 0104-1

SYSTEM ENTRY

SYSTEM 32

PAGE 1 OF 7

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0100		Δ	1	001

001 (ENTRY POINT A)

1 1

1 1

72 AB

THE FIRST DCP MESSAGE DISPLAYED ON CRT MAY BE FOUND IN MLM SECTION 5, DIAGNOSTIC PATTERNS, FIGURE 5. IS THE EXACT MESSAGE DISPLAYED ON CRT? Y N i 002 OPEN THE DISKETTE DODR. 1 DEPRESS LOAD KEY. Ł t DID EVENT INDICATOR BIT P GO OFF? 1 1  $Y \! \in \! N$ Ĺ ł 003 1 | REPLACE CARDS AA1-H2, AA1-K2. I L - 1 1 1 L ۱ 1 1 1 I

EXIT POINTS

EXIT TH	HIS MAP	1	то	
PAGE NUMBER	STEP NUMBER		MAP NUMBER	ENTRY POINT
3 4	009 015	1	0110 0110	А А А

THE IMPL SEQUENCE COMPLETED NORMALLY FROM THE DISK BUT FAILED FROM THE DISKETTE.

WHEN THE LOAD KEY IS DEPRESSED ALL THE EVENT INDICATORS SHOULD COME ON.

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MAP 0104-1

SYSTEM ENTRY MAP 0104-2 В 1 SYSTEM 32 PAGE 2 OF 7 ł ł 004 ADAPTER INTERFACE CARD LOCATIONS POWER OFF. REMOVE ALL ADAPTER INTERFACE CARDS EXCEPT DISKETTE. REFER TO AY030 FOR AA2 BOARD PLUG CHART. A A2 - F2 DISK IDENTIFIED IN THE LOCATION TABLE AS CARDS ADAPTER A A2 - G2 DISK AA2-J4 HALF INDEX FEATURE CARD FEATURE CARDS WILL BE PRESENT ONLY FEATURE IS INSTALLED. IF THE (PRINTER) A A2 -K2 DISKETTE AA2-L2 BSCA OR FEATURE S DL C FEATURE A A2 - M2 CRT/KY BD POWER ON. SET DATA SWITCHES TO F780. A A 2 - N2 CARDIO FEATURE 5321(MCU) AA2-N2 FEATURE MODE SE T SELECTOR SWITCH TO PROC AA2-P2 5321(MCU) FEATURE RUN. A A2 - Q2 LINE PRINTER SET BOTH IMPL AND IPL SWITCH TO THE AA2-Q2 SERIAL PRINTER UP POSITION AND ALL OTHER T SWITCHES TO THE DOWN POSITION. OTHER TOGGLE AA2-R2 SERIAL PRINTER THE CE DIAG OI DISKETTE AND INSERT REFER TO AYO20 FOR AA1 BOARD CLOSE THE DOOR. PLUG CHART. AA1-F2 DEPRESS THE LOAD KEY. MICR FEATURE WAIT FOR ERROR OR STOP LIGHT TO COME ON. DID THE STOP LIGHT COME ON? Y N I 005 POWER DFF. REINSTALL ALL PREVIOUSLY REMOVED CARDS. REMOVE CABLES FROM LOCATION AA1-B4 AND AA1-B5. JUMPER AA1-M2-B13 (+ SIN CYCLE) TO AA1-M2-D08 (GROUND). SINGLE | JUMPER AA1-J2-M12 (+ MODE SEL | BIT 0) TO AA1-J2-D08 (GROUND). SW AA1-B5-D07 JUMPER (-IMPL | DISKETTE) TO AA1-D5-D08 (GROUND). POWER ON. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR CRT DISPLAY то 1 DCCUR. IMPL SEQUENCE COMPLETED NORMALLY? T t YN 1 1 1 I ł 1 Ł 1 1 1 I 1 1 ł 1 1 1 1 1 1 15APR 77 PN2547509 L Ŧ 1 EC830358 PEC830357 33 3 С D Ε MAP 0104-2

DE SYSTEM ENTRY С 22 2 SYSTEM 32 I 1 PAGE 3 DF 7 ł 1 ł 1 1 ł 1 1 1 01 0 006 ł WR1 DISPLAY SETTING POWER DEF. ΒY 1 PREVIOUSLY REMOVED SWITCHES 3 AND 4 TO X'01' AND REINSTALL ł CABLES AND REMOVE JUMPERS. SELECTOR SWITCH TO DPLY LSR. 1 POWER ON. IS WR1 EQUAL TO X'0000'? OPEN THE DISKETTE DOOR. Y N L DEPRESS AND HOLD THE LOAD KEY. 1 PROBE AA1-N2-J09 (- LOAD KEY 011 | POWER OFF. RELEASED). 1 | REINSTALL ALL PREVIOUSLY REMOVED LINE DOWN? I CARDS. REMOVE Y N CABLES FROM i. | AA1-B4 AND AA1-B5. 1 JUMPER 007 AA1-M2-B13 1 | CYCLE) TO AA1-M2-DO8 (GROUND). RUN DISKETTE DIAGNOSTICS - A S 1 JUMPER AA1-J2-M12 (+ MODE SEL | BIT 0) TO AA1-J2-D08 (GROUND). I FOLLOWS: ł I SET DATA SWITCHES TO F800.
 SET MODE SELECTOR SWITCH TO JUMPER AA1 - 85 - D07 ł | DISKETTE) TO AA1-D5-D08 (GROUND). 1 1 POWER DN. ł PROC RUN. SE T OTHER TOGGLE | SET MODE SELECTOR SWITCH TO PROC з. ALL 1 SWITCHES TO THE DOWN POSITION. 4. INSERT THE CE SCRATCH DISKETTE AND CLOSE THE DOOR. | RUN. 1 1 | DEPRESS THE LOAD KEY. WAIT FOR ERROR OR CRT DISPLAY TO 1 5. DEPRESS THE LI (WAIT FOR CRT DISPLAY) 5. THE LOAD KEY. I DCCUR. 1 ł 1 6. DEPRESS THE START KEY. IMPL SEQUENCE COMPLETED NORMALLY? 1 1 ENTER PROGRAM ID BY TYPING YN 7. IN 33FD. 1 L 8. DEPRESS THE ENTER KEY. Ł 012 1 1 I POWER OFF. FOLLOW INSTRUCTIONS ON CRT. 1 9. 1 PREVIOUSLY REMOVED REINSTALL I CABLES AND REMOVE JUMPERS. ł IF NO TROUBLE IS FOUND WITH THE 33FD DIAGNOSTIC TESTS, SUSPECT I POWER ON. Ł A DAMAGED OR DESTROYED DIAG 01 | OPEN THE DISKETTE DOOR. 1 L | DISKETTE. I DEPRESS AND HOLD THE LOAD KEY. Ł 1 | PROBE AA1-N2-J09 (- LUAD KEY ł L 008 | RELEASED). 1 CHECK FOR DEFECTIVE N/C LOAD 1. Ŧ LINE DOWN? KEY. Ł ŧ 2. REPLACE CARD AA1-N2. ΥN 1 1 Ł 1 1 1 009 Ł POWER OFF. 1 REINSTALL PREVIOUSLY REMOVED CABLES AND REMOVE JUMPERS. 1 POWER ON. ł Ł 1 GO TO MAP 0110, ENTRY POINT A. ł 1 1 1 i L 1 1 1 L 1 ł

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EC830358 PEC 830357

MAP 0104-3

MAP 0104-3

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FGHJ SYSTEM ENTRY 3 3 3 3 SYSTEM 32 ł 1 1 1 L 1 PAGE 4 OF 7 ۱ L 1 1 -1 013 ł 1 RUN DISKETTE DIAGNOSTICS AS 1 FOLLOWS: SET DATA SWITCHES TO ŧ 1. F800. 1 2. SET MODE SELECTOR SWITCH TO PROC RUN. 1 I 1 3. SET ALL TOGGLE SWITCHES 1 TO THE DOWN POSITION. INSERT THE CE SCRATCH 1 1 4. DISKETTE AND CLOSE THE DOOR. 5. DEPRESS THE LOAD KEY. T I (WAIT FOR CRT DISPLAY) 1 1 L 6. DEPRESS THE START KEY. ENT ER PROGRAM ID ΒY 7. 1 TYPING IN 33FD. 8. DEPRESS THE ENTER KEY. L 9. FOLLOW INSTRUCTIONS ON 1 1 1 CRT. L 1 1 1 NO TROUBLE IS FOUND WITH IF 1 THE 33FD DIAGNOSTIC TESTS, 1 1 ł DAMAGED SUSPECIT Δ OR 1 ł 1 DESTROYED DIAG O1 DISKETTE. 1 ł 1 1 ۱ ł 014 1. СНЕСК FOR DEFECTIVE N/C LOAD KEY. ſ REPLACE CARD AA1-N2 . 2. 1 015 POWER OFF. 1 REINSTALL PREVIOUSLY REMOVED | CABLES AND REMOVE JUMPERS. POWER ON. Ł GO TO MAP 0110, ENTRY POINT A. 01.6 POWER DFF. REINSTALL CARD AA2-Q2 IF LINE PRINTER. REINSTALL CARD AA2-Q2 AND AA2-R2 IF SERIAL PRINTER. POWER ON. SET DATA SWITCHES TO F782. SET MODE SELECTOR SWITCH TO PROC RUN. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT TO COME ON. DID STOP LIGHT COME ON? Y N ł 1 1 1 1 1 1 1 1 1 κL

ΚL MAP 0104-4 1 1 1 1 1 1 1 l 1 017 L | REPLACE CARD AA2-Q2 AND AA2-R2 IF | SERIAL PRINTER. 018 WR1 DISPLAY ΒY SETTING DATA SWITCHES 3 AND 4 TO X'01'AND MODE SELECTOR SWITCH TO DPLY LSR. IS WR1 EQUAL TO X'0000'? Y N 1 019 REPLACE CARDS AA2-02, AA1-J2, AA1-H2, AND AA2-R2 IF S ER I AL | PRINTER. 02 0 POWER OFF. REINSTALL CARD AA2-M2. POWER ON. SET DATA SWITCHES TO F78E. SET MODE SELECTOR SWITCH TO PROC RUN. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT ΤO COME ON. DID STOP LIGHT COME ON? Y N 1 021 I REPLACE CARD AA2-M2. 022 DISPLAY WR1 SETTING ΒY DATA SWITCHES 3 AND 4 TO X 101 AND MODE SELECTOR SWITCH TO DPLY LSR. IS WR1 EQUAL TO X'0000'? YN 1 023 CARDS AA2-M2, | REPLACE AA1-J2, | AA1-H2. 15APR 77 PN2547509 1 EC 830358 PEC 630357 5 М MAP 0104-4

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SYSTEM ENTRY
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             SYSTEM 32
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024
                                                | (ENTRY POINT C)
POWER OFF.
REINSTALL CARDS AA2-F2, AA2-G2.
                                                1
                                                RUN DISKETTE DIAGNOSTICS
POWER ON.
                                                                                     AS
SET DATA SWITCHES F78F.
                                                | FOLLOWS:
SET MODE SELECTOR SWITCH TO PROC
                                                | .
                                                     SET DATA SWITCHES TO F800.
RUN.
                                               2. SET MODE SELECTOR SWITCH TO
PROC RUN.
3. SET ALL TOGGLE SWITCHES TO
WAIT FOR ERROR OR STOP LIGHT TO COME ON.
                                                | THE DOWN POSITION.
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DID STOP LIGHT COME ON?
                                                4.
                                                                  THE
                                                                               SCRATCH
                                                DISKETTE AND CLOSE THE DOOR.
Y N
                                                5.
                                                     DEPRESS THE LOAD KEY. (WAIT
                                                | FOR CRT DISPLAY)
1 025
                                                6. DEPRESS THE START KEY.
| REPLACE CARDS AA2-F2, AA2-G2.
                                                | 7.
                                                     ENTER PROGRAM ID BY TYPING IN
                                               | 33FD.
| 8. D
026
                                                      DEPRESS THE ENTER KEY.
DISPLAY
          WR1 BY
                      SE TTI NG
                                   DATA
SWITCHES 3 AND 4 TO X'01' AND MODE SELECTOR SWITCH TO DPLY LSR.
                                                | 9. FOLLOW INSTRUCTIONS ON CRT.
                                                I IF NO TROUBLE IS FOUND WITH THE
33FD DIAGNOSTIC TESTS, SUSPECT A
IS WR1 EQUAL TO X'0000'?
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                                                 DAMAGED OR DESTROYED DIAG 01
                                                I DISKETTE.
1 027
 REPLACE CARDS AA2-F2,
                             AA 2-G2,
I.
| AA1-J2, AA1-H2.
                                               033
                                                POWER OFF.
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                                               REINSTALL CARD AA1-F2.
028
   BSCA OR SDLC INSTALLED ON THE
IS
                                               POWER ON.
SYSTEM?
                                               SET DATA SWITCHES F78F.
                                               SET MODE SELECTOR SWITCH TO PROC
YN
Ł
                                               RUN.
                                                DEPRESS THE LOAD KEY.
1 029
                                               WAIT FOR ERROR OR STOP LIGHT TO COME ON.
(ENTRY POINT B)
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IS
                                               DID STOP LIGHT COME ON?
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           129
                 OR 5496 (CARDIO)
  INSTALLED ON THE SYSTEM?
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                                                | REPLACE CARD AA1-F2.
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    IS A 5321(MCU) INSTALLED ON THE
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    SYSTEM?
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    YN
                                               DISPLAY
                                                          WR1
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                                               SWITCHES 3 AND 4 TO X'OI' AND MODE
SELECTOR SWITCH TO DPLY LSR.
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    | 031
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    IS A 1255(MICR) INSTALLED ON
THE SYSTEM?
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                                               IS WR1 EQUAL TO X'0000'?
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         1 036
                                                REPLACE CARDS AA1-F2,
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55 ł 1 1 1 1 045 1 POWER OFF. 1 REINSTALL CARD AA2-N2. 1 I POWER ON. SET DATA SWITCHES F78F. SET MODE SELECTOR SWITCH TO PROC RUN. DEPRESS THE LOAD KEY. | WAIT FOR ERROR OR STOP LIGHT TO COME ON. | DID STOP LIGHT COME ON? ΥN 046 ł I REPLACE CARD AA2-N2. 1 047 L BY SETTING DATA 4 TO X'OI' AND DISPLAY WR1 SWITCHES 3 AND 4 MODE SELECTOR SWITCH TO DPLY LSR. I IS WRI EQUAL TO X:0000:? Y N 1 048 L | REPLACE CARDS AA2-N2, AA1-J2, 1 AA1-H2. 1 049 | GO TO PAGE 5, STEP 032, I ENTRY POINT C. 050 POWER OFF. REINSTALL CARD AA2-L2. POWER ON. SET DATA SWITCHES F78F. SET MODE SELECTOR SWITCH TO PROC R UN. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT TO COME ON. DID STOP LIGHT COME ON? Y N 1 051 REPLACE CARD AA2-L2.

MAP 0104-6

15APR 77 PN2547509 EC830358 PEC8 30 357

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MAP 0104-6

QT SYSTEM ENTRY 55 SYSTEM 32 ł PAGE 6 DE 7 Ł 1 ł 1:037 Ì GO TO PAGE 5, STEP 032, I ENTRY POINT C. 038 POWER OFF. REINSTALL CARDS AA2-N2 AND AA2-P2 POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. WAIT FOR 45 SECONDS DEPRESS THE LOAD KEY. WAIT FOR ERROR OR COME ON. STOP LIGHT то DID STOP LIGHT COME ON? Y N 039 POWER OFF. 1 REMOVE CARD AA2-P2. POWER ON. SET DATA SWITCHES TO 0000. MODE SELECTOR SWITCH TO PROC S ET 1 RUN. WAIT FOR 45 SECONDS DEPRESS THE LOAD KEY. | WAIT FOR ERROR OR STOP LIGHT | COME ON. τo | DID STOP LIGHT COME ON? Y N Ł 1 1 040 1 I REPLACE CARDS AA 2-N2 AND | AA1-H2. 041 ł REPLACE CARDS AA2-P2 AND AA1-H2. L 042 DISPLAY WR1 BY SETTING THE SWITCHES TO X'01' AND THE SELECTOR SWITCH TO DPLY LSR. DATA MODE IS WRI EQUAL TO X'0000'? Y N 043 1 | REPLACE CARDS AA2-N2 AND AA1-H2. 044 GO TO PAGE 5, STEP 032, ENTRY POINT C.

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A U SYSTEM ENTRY 16 SYSTEM 32 11 11 PAGE 7 OF 7 I. 1 i i 052 DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'OI' AND MODE SELECTOR SWITCH TO DPLY LSR. 1 | IS WR1 EQUAL TO X'0000'? | Y N | | | | 053 | | REPLACE CARDS AA2-L2, AA1-J2, | | AA1-H2. 11 054 1 | GO TO PAGE 5, STEP 029, | ENTRY PDINT B. 1 055 1. CHECK FOR SHORTED OPERATOR START N/O KEY. 2. REPLACE CARD AA1-J2.

> 15APR77 PN2547509 EC830358 PEC830357 MAP 0104-7

•• 1. sp.1 SYSTEM ENTRY

SYSTEM 32

PAGE 1 OF 7

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	P A GE NUMBER	STEP NUMBER
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PAGE NUMBER	STEP NUMBER		MAP NUMBER	ENT RY POINT
2	007		0106	Α
3	009	1	0106	А
3	015	1	0106	А
3	017	1	0106	А
. 5	043	- 1	0106	Α
7	062	1	0106	А
6	050	ł	0106	А
6	057	ł	0106	Α
1	004	1	0300	Α
1	003	1	0310	А
5	033	1	0600	А

THE IMPL SEQUENCE FAILED TO COMPLETE NORMALLY FROM BOTH THE DISK AND THE DISKETTE.

00 (E V] R(	D1 ENTRY PO ISUALLY DTATING.	INT A) Check	IF	тне	DISK	IS
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2 A | GO TO MAP 0310, ENTRY POINT A.

1 1 004

| GO TO MAP 0300, ENTRY POINT A.

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15APR 77 PN2547510 EC830358 PEC830357

MAP 0105-1

SYSTEM ENTRY Α 1 SYSTEM 32 1 PAGE 2 OF 7 i 1 005 POWER OFF. REMOVE ALL ADAPTER INTERFACE CARDS EXCEPT THE DISKETTE. CARDS IDENTIFIED IN THE ADAPTER CARD LOCATION TABLE AS FEATURE CARDS WILL BE PRESENT ONLY IF THE FEATURE IS INSTALLED. POWER ON. SET DATA SWITCHES TO F780. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL TOGGLE SWITCHES TO THE OTHER DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT TO COME ON. DID STOP LIGHT COME ON? Y N I 006 | POWER OFF. | REMOVE DISKETTE INTERFACE CARD AT | AA2-K2 AND REINSTALL DISK INTERFACE CAPT CARDS ΑT AA2-F2, AA2-G2. POWER ON. SET DATA SWITCHES TO F701. SET MODE SELECTOR SWITCH TO PROC 1 I RUN. I SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. | WAIT APPROX. 45 SECONDS FOR THE | DISK TO BECOME READY. | DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT TO T | DID STOP LIGHT COME ON? L Y N 1 007 L 1 1 1 l GO TO MAP 0106, ENTRY POINT A. ł. ł 1 1 1 1 ł 1 ł I 3 3 В С

ADAPTER INTERFACE CARD LOCATIONS

REFER TO AY030 FOR AA2 BOARD PLUG CHART.

AA2-K2	DI SKETTE	
AA2-F2	DISK	
A A2 - G2	DISK	
AA2-J4	HALF INDEX	FEATURE
	(PRINTER)	
A A2 - K2	DISKETTE	
AA2-L2	BSCA OR	FEATURE
	SDLC	FEATURE
AA2-M2	CR T /K YBD	
A A 2 - N 2	CARDIO	FEATURE
A A 2 - N 2	5321(MCU)	FEATURE
AA2-P2	5321(MCU)	FEATURE
A A2 - Q2	LINE PRINTER	t i i i i i i i i i i i i i i i i i i i
A A2 - T2	LINE PRINTER	2
AA2-Q2	SERIAL PRINT	ER
AA2-R2	SERIAL PRINT	FER
REFER TO	AY020 FOR A	AL BOARD
PLUG CHAP	रा.	
AA1 - F2	MICR	FEATURE
AA1 – D2	MICR	FEATURE

15APR77	PN2547510
EC830358	P EC 830357
	MAP 0105-2

С SYSTEM ENTRY A MAP 0105-3 2 2 SYSTEM 32 ł 3 OF PAGE 7 ł 008 013 DISPLAY 8 Y SE T TI NG DISPLAY WR 1 DATA WR1 BY S ETT ING ΠΔΤ Δ SWITCHES 3 AND 4 TO X'OI' AND SELECTOR SWITCH TO DPLY LSR. 3 AND 4 TO X'01' AND MODE SW IT CHES MODE SELECTOR SWITCH TO DPLY LSR. IS WR1 EQUAL TO X'0000'? IS WR1 EQUAL TO X'0000'? Y N YN 1 009 014 | POWER OFF. | GO TO MAP 0106, ENTRY POINT A. | REMOVE DISKETTE INTERFACE CARD AND REINSTALL THE DISK CE CARDS AT AA2-F2, AA2 - K2 I INTERFACE CARDS 010 POWER OFF. | AA2-G2. REINSTALL ALL PREVIOUSLY REMOVED POWER ON. SET DATA SWITCHES TO F701. SET MODE SELECTOR SWITCH TO PROC CARDS. 1 POWER ON. RUN. | SET ALL .... | DOWN POSITION. | DOWN POSITION. | DOWN POSITION. | DOWN POSITION. SET DATA SWITCHES TO 0000. TOGGLE SWITCHES TO THE MODE SELECTOR SWITCH TO PROC S ET RUN. THE DISK TO BECOME READY. DEPRESS THE LOAD KEY. SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. 1 WAIT APPROX. 45 SEC DISK TO BECOME READY. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT TO SECONDS FOR THE COME ON. I. WAIT FOR ERROR OR CRT DISPLAY TO | DID STOP LIGHT COME ON? OCCUR. Y N Ŧ ł. ANY DISPLAY ON CRT? | 015 Y N I GO TO MAP 0106, ENTRY POINT A. L t | 011 | REPLACE CARD AA2-K2, AA1-H2. 016 L DISPLAY WR1 BY SETTING SWITCHES 3 AND 4 TO X'01' 1 DATA 012 1 AND RUN DISKETTE DIAGNOSTICS AS I MODE SELECTOR SWITCH TO DPLY LSR. FOLLOWS: IS WR1 EQUAL TD X'0000'? SET DATA SWITCHES TO F800. 1. YN Ł SET MODE SELECTOR SWITCH TO 2. 1 1 PROC RUN. | 017 L 3. SET ALL OTHER TO TO THE DOWN POSITION. TOGGLE SWI TCHES 1 | GO TO MAP 0106, ENTRY POINT A. L INSERT THE CE SCRATCH DISKETTE 4. L AND CLOSE THE DOOR. 018 £ 5. DEPRESS THE LOAD KEY. REPLACE CARD AA2-K2, AA1-H2. ( WAI T FOR CRT DISPLAY) DEPRESS THE LOAD KEY. 6. LOAD PROGRAM ID BY TYPING IN 7. 33 F D. DEPRESS ENTER KEY. 8. FOLLOW INSTRUCTIONS ON CRT. 9. IF NO TROUBLE IS FOUND WITH THE 33FD DIAGNOSTIC TESTS, SUSPECT A DAMAGED OR DESTROYED DIAG 01 DISKETTE. 15 APR77 PN2547510 1

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EC830358 PEC830357

MAP 0105-3

Ś SYSTEM ENTRY Ε MAP 0105-4 3 SYSTEM 32 I 1 ł PAGE 4 OF 1 7 .1 1 025 019 POWER OFF. DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'01' AND MODE REINSTALL CARDS AA2-Q2, AA2-T2 IF SELECTOR SWITCH TO DPLY LSR. LINE PRINTER(IF HALF INDEX FEATURE IS INSTALLED, REINSTALL AA2-J4) IS WRI EQUAL TO X'0000'? REINSTALL CARDS AA2-Q2, AA2-R2 IF Y N SERIAL PRINTER. 1 1 026 REPLACE CARDS AA2-Q2, AA2-T2, AA1-J2, AA1-H2 (AA2-J4 IF HALF POWER ON. WAIT 45 SECONDS. SET DATA SWITCHES TO F782. INDEX) IF LINE PRINTER. SET MODE SELECTOR SWITCH TO PROC | REPLACE CARDS AA2-Q2, AA2-R2, | AA1-J2, AA1-H2 IF SERIAL PRINTER. RUN. AA2-R2, DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT TO 1 COME ON. 027 POWER OFF. DID STOP LIGHT COME ON? REINSTALL CARD AA2-M2. POWER ON. Y N SET DATA SWITCHES TO F78E. 1 MODE SELECTOR SWITCH TO PROC 1 02 0 SET IS HALF I NDE X FEATURE RUN. DEPRESS THE LOAD KEY. INSTALLED(CARD AA2-J4)? 1 WAIT FOR ERROR DR STOP LIGHT TO COME ON. I Y N L 1 021 | REPLACE CARDS AA2-Q2, AA2-T2, DID STOP LIGHT COME ON? AA1-H2 IF LINE PRINTER. REPLACE CARDS AA2-Q2, AA2-R2, Y N L ۱ | AA1-H2 IF SERIAL PRINTER. 028 | REPLACE CARD AA2-M2, AA1-H2. 1 1 022 1 1 POWER OFF. 029 ł REMOVE CARD AA2-J4. DISPLAY WR1 ΒY SETTING DATA SWITCHES 3 AND 4 TO X '01'AND MODE JUMPER AA2-J4B02 TO AA2-J4B09. 1 SELECTOR SWITCH TO DPLY LSR. POWER ON. SET DATA SWITCHES TO F782. SET MODE SELECTOR SWITCH TO PROC IS WR1 EQUAL TO X'0000'? 1 RUN. Y N 1 WAIT FOR 45 SECONDS. DEPRESS THE LOAD KEY. 030 WAIT FOR ERROR DR STOP LIGHT то REPLACE CARDS AA2-M2, AA1-J2 . COME ON. AA1-H2. DID STOP LIGHT COME ON? Ł Y N t 1 023 1 1 | REPLACE CARDS AA2-Q2, AA2-T2. 1 1 024 REPLACE CARD AA2-J4. 1 1 15APR 77 PN254751C ļ

EC830358 PEC830357

MAP 0105-4

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F SYSTEM ENTRY 4 SYSTEM 32 ł PAGE 5 OF 7 1 1 031 POWER OFF. REINSTALL CARDS AA2-F2, AA2-G2. POWER ON. SET DATA SWITCHES TO F78F. SET MODE SELECTOR SWITCH TO PROC RUN. WAIT FOR 45 SECONDS. DEPRESS CE RESET TWICE. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT TO CDME ON. DID STOP LIGHT COME ON? YN 032 Ł SET DATA SWITCHES TO FF00. 1 I DEPRESS THE LOAD KEY. WAIT FOR ERROR TO OCCUR. DID PROCESSOR CHECK OCCUR? I YN 1 ł 1 033 1 ۱ ł I GO TO MAP 0600, ENTRY POINT A. ł 034 L | REPLACE CARDS AA2-F2, AA2-G2, AA2-E2, AA2-D4, AA1-H2. 1 035 DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'01' AND MODE SELECTOR SWITCH TO DPLY LSR. IS WR1 EQUAL TO X'0000'? Y N 1 036 1 I MEASURE +6 VDC TO THE FIXED DISK FROM POWER DISTRIBUTION TERMINAL | BLOCK (PD-TB2-3) TO I/O BOARD, | PIN LOCATIONS AA2-B3-E01, B4-A01, A4-B11, AND TO FIXED DISK CIRCUIT ł BDARD 62 GV-85-811. 1 +6 VOLTS OK? 1 Y N Ł 1 1 037 1 IF ERROR WAS ISOLATED TO A CABLE, REPAIR OR REPLACE. IF OTHER, REPLACE AS REQUIRED. ł Ł 1 ł 1 1 1 I ł ł 1 t I ł ł I 1 ł

GН MAP 0105-5 ł 1 1 1 1 038 | REPLACE CARDS AA2-E2, AA2-F2, | AA2-G2, AA1-H2, AA1-J2. 039 IS BSCA OR SDLC INSTALLED ON THE SYSTEM? Y N 040 (ENTRY POINT B) IS A 129 OR 5496 (CARDIO) INSTALLED ON THE SYSTEM? YN 1 041 IS 5321(MCU) INSTALLED ON THE I SYSTEM? 1 1 042 I IS A 1255(MICR) INSTALLED ON 1 I I THE SYSTEM? IYN ł ł 1 | 043 ŧ 1 | | GD TO MAP 0106, | | ENTRY POINT A. 1 11 1.044 L I POWER OFF. 1 | | REINSTALL CARDS AA1-F2 | | AA1-D2. AND I I POWER ON. I SET DATA SWITCHES TO F78F. I SET MODE SELECTOR SWITCH TO 1 1 | | PROC RUN. | | WAIT FOR 45 SECONDS. | | DEPRESS THE LOAD KEY. | | WAIT FOR ERROR OR STOP LIGHT I TO COME ON. t ł 1 ł I DID THE STOP LIGHT COME ON? 1 Y N 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 ł 1 - 1 1 ł 1 1 1 1 I 1 L 1 154PR77 ł 1 ł PN2547510 1 1 1 1 EC830356 PEC830357 76666 JKLMN MAP 0105-5

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MAP 0105-6 LMN SYSTEM ENTRY KPQ 5 5 5 5 SYSTEM 32 1 t 1 Ţ I. 1 ł PAGE 6 OF 7 ł I. 1 1 1 ł 045 L 052 POWER OFF. POWER OFF. ×. L ł 1 REMOVE CARD AA1-D2. REMOVE CARD AA2-P2. ł POWER ON. POWER ON. I SET DATA SWITCHES TO 0000. I SET DATA SWITCHES TO 0000. ł Ł | SET MODE SELECTOR SWITCH | PROC RUN. | WAIT FOR 45 SECONDS. I SET MODE SELECTOR SWITCH TO TO I SET MODE SELECTOR | PROC RUN. | WAIT FOR 45 SECONDS. 1 DEPRESS THE LOAD KEY. I DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT TO WAIT FOR ERROR OR STOP LIGHT TO I COME ON. I COME ON. 1 DID THE STOP LIGHT COME ON? I DID THE STOP LIGHT COME ON? 1 IYN IYN ł 1 I + 1 046 1 | 053 1 Ł | REPLACE CARD AA1-F2. I REPLACE CARDS Ł AA2-N2 AND | AA1-H2. 1 047 1 1 - 1 Т | REPLACE CARD AA1-D2. 1 054 REPLACE CARDS AA2-P2, AA1-H2. ۱ 1 1 048 1 ŧ 1 DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'01' AND 055 L DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'01' AND DISPLAY 1 MODE SELECTOR SWITCH TO DPLY LSR. 1 t I MODE SELECTOR SWITCH TO DPLY LSR. IS WR1 EQUAL TO X 0000 ?? IS WR1 EQUAL TO X'0000'? Ł YN I 1 YN | 049 1 1 | REPLACE CARDS AA1-F2, 056 AA1-J2. L | AA1-H2. I REPLACE CARDS AA2-N2 AND ł | AA1-H2. L 1 050 1 1 057 E GD TO MAP 0106, ENTRY POINT A. ł | GO TO MAP 0106, ENTRY POINT A. ł 051 POWER OFF. 058 POWER OFF. REINSTALL CARDS AA2-N2 AND AA2-P2. POWER ON. REINSTALL CARD AA2-N2. SET DATA SWITCHES TO 0000. POWER ON. SET DATA SWITCHES TO F78F. SET MODE SELECTOR SWITCH TO PROC SET SELECTOR SWITCH TO PROC MODE RUN-WAIT FOR 45 SECONDS. DEPRESS THE LOAD KEY. RUN. WAIT FOR 45 SECONDS. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT ΤN COME ON. WAIT FOR ERROR OR STOP LIGHT TO COME ON. DID THE STOP LIGHT COME ON? Y N DID THE STOP LIGHT COME ON? ł 1 Y N 059 REPLACE CARD AA2-N2, AA1-H2. 15APR 77 PN2547510 EC830358 PEC8 30 357 7 Ρ Q R MAP 0105-6

JR SYSTEM ENTRY 56 SYSTEM 32 1 -1 I 1 PAGE 7 DF - 7 1 1 1 ł 060 DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'01' AND | DISPLAY | MODE SELECTOR SWITCH TO DPLY LSR. 1 IS WR1 EQUAL TO X'0000'? 1 YN 1 1 ł 061 | | REPLACE CARDS AA2-N2, AA1-J2, | | AA1-H2. 1 062 | GO TO MAP 0106, ENTRY POINT A. 063 POWER OFF. REINSTALL CARD AA2-L2. POWER DN. SET DATA SWITCHES TO F78F. SET MODE SELECTOR SWITCH TO PROC RUN. WAIT FOR 45 SECONDS. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR STOP LIGHT TO COME ON. DID THE STOP LIGHT COME ON? Y N ł 064 | REPLACE CARD AA2-L2, AA1-H2. 065 DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'01' AND MODE SELECTOR SWITCH TO DPLY LSR. IS WRI EQUAL TO X'0000'? Y N 1 066 AA1-H2. CARDS AA2-L2, AA1-J2, 067 GO TO PAGE 5, STEP 040, ENTRY POINT B.

> 15APR77 PN2547510 EC830358 PEC830357 MAP 0105-7

SYSTEM ENTRY

SYSTEM 32

PAGE 1 OF 10

ENTRY POINTS

001

CARDS.

AND AA1-B5.

POWER ON.

DCCUR.

CLOSE THE DOOR.

WAIT APPROX. 45 SECONDS. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR CRT D

(ENTRY POINT A)

FKUM	 - +-		THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0105	-+-	A	1	001

POWER OFF. REINSTALL ALL PREVIOUSLY REMOVED

REMOVE CABLES FROM LOCATIONS AA1-B4

JUMPER AA1-M2-B13 (+ SINGLE CYCLE) TO AA1-M2-D08 (GROUND). JUMPER AA1-J2-M12 (+ MODE SEL SW BIT 0) TO AA1-J2-D08 (GROUND).

JUMPER AA1-B5-D07 (-IMPL DISKETTE) TO AA1-D5-D08 (GROUND).

INSERT THE CE DIAG O1 DISKETTE AND

IMPL SEQUENCE COMPLETED NORMALLY?

DISPLAY TO

EXIT PO	INTS			
EXIT TH	IS MAP	1	то	
PAGE	STEP	1	MAP	ENTRY
NUMBER	NUMBER		NUMBER	POINT
2	005		0107	A
2	007		0107	A
4	014		0107	A
4	019		0107	А
10	068		0107	А
10	071		0110	А

THE IMPL SEQUENCE FAILED TO COMPLETE NORMALLY FROM BOTH THE DISK AND THE DISKETTE.

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 15 APR77
 PN2547511

 EC830358
 PEC 828579

MAP 0106-1

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SYSTEM ENTRY 1 SYSTEM 32 I PAGE 2 OF 10 1 t 002 POWER OFF. REINSTALL PREVIOUSLY REMOVED CABLES AND REMOVE JUMPERS. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC R UN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. IS CE PANEL CLOCK LIGHT ON? Y N I 003 ARE ONLY EVENT INDICATOR BITS 5. | 6, AND 7 ON? | Y N 1 L 1 004 Ł ARE ONLY EVENT INDICATOR BITS 6 AND 7 ON? L | Y N 1 1 ł | 005 L I. 1 I 1 | GO TO MAP 0107, | ENTRY POINT A. 1 I I 1 006 I I DISPLAY WR3 BY SETTING DATA SWITCHES 3 AND 4 TO X'03' AND MODE SELECTOR SWITCH TO DPLY ł Ł I LSR. 1 I IS WR3 LOW BYTE EQUAL TO X'64'? Y N Ł 1 1 ł ł | | 007 1 t 1 Ł | GO TO MAP 0107, ł 1 | ENTRY POINT A. 1 1 1 Ł 1 ł 1 1 1 1 1 ł ł t I ł 1 1 1 1 1 1 l 1 1 1 1 1 1 1 1 4 0 3 DE С

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15APR 77 PN2547511 EC830358 PEC828579

MAP 0106-2

SYSTEM ENTRY Е 2 SYSTEM 32 I PAGE 3 OF 10 I 1 008 STORAGE CARDS MATN POWER OFF. STORAGE CARDS MAY HAVE DIFFERENT P/N'S BUT MAY BE INTERCHANGED FOR SWAP CARDS BETWEEN POSITIONS AA1-04 AND AA1-S2. POWER ON. DIAGNOSTIC PURPOSES. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWI TCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER SWITCHES TDGGLE ΤG THE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. ARE ONLY EVENT INDICATOR BITS 6 AND 7 ON? Y N 009 POWER OFF. PLACE CARD FROM LOCATION AA1-Q4 | BACK TO AA1-S2. | REPLACE CARD AA1-Q4 010 MAIN STORAGE CARDS AND CONTROL STORAGE CARDS MAY HAVE DIFFERENT POWER OFF. SWAP CARDS BETWEEN POSITIONS AA1-Q4 AND AA1-S2. P/N'S BUT MAY BE INTERCHANGED FOR SWAP CARDS BETWEEN POSITIONS AA1-P2 DIAGNOSTIC PURPOSES . AND AA1-R2. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO UP POSITION AND ALL OTHER LE SWITCHES TO THE DOWN THE TOGGLE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. ARE ONLY EVENT INDICATOR BITS 6 AND 7 ON? Y N I L 011 POWER OFF. 1 | PLACE CARD FROM LOCATION AA1-P2 BACK TO AA1-R2. REPLACE CARD AA1-P2. ł 15 APR77

> EC 830358 PEC 828579

> > MAP 0106-3

PN2547511

MAP 0106-3

AND CONTROL

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SYSTEM ENTRY
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23
               SYSTEM 32
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                       4 OF 10
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  012
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  POWER OFF.
1
                   BETWEEN POSITIONS
SWAP CARDS
AA1-P2 AND AA1-R2.
| REPLACE CARDS AA1-L2, AA1-M2,
AA1-N2, AA1-K2.
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013
DISPLAY
           WR3
                  ΒY
                         SETTING
                                      DATA
SWITCHES 3 AND 4 TO X'03' AND MODE
SELECTOR SWITCH TO DPLY LSR.
IS WR3 -LOW BYTE EQUAL TO X'63'?
Y N
1
1 014
| GO TO MAP 0107, ENTRY PDINT A.
015
DISPLAY WR5 BY SETTING DATA
SWITCHES 3 AND 4 TO X'05' AND MODE
SELECTOR SWITCH TO DPLY LSR.
IS WR5 EQUAL TO OR BETWEEN X'0000'-X'1FFF'? (0K-8K)
Y N
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 016
  IS WR5 EQUAL TO OR BETWEEN X'2000'-X'3FFF'? (8K - 16K)
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  1 017
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  | IS WR5 EQUAL TO OR BETWEEN
| X'4000'-X'5FFF'? (16K - 24K)
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    I IS WR5 EQUAL TO OR BETWEEN
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     | X'6000'-X'7FFF'? (24K - 32K)
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      | GO TO MAP 0107,
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       | ENTRY POINT A.
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MAP 0106-4 к 1 1 1 020 POWER OFF. SWAP MAIN STORAGE CARDS AA1-R2 WITH AA1-U2. POWER DN. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN TOGGLE SWI TCHE S TO THE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. DISPLAY WR 5 SETTING DATA ΒY SWITCHES 3 AND 4 TO X'05' AND MODE SELECTOR SWITCH TO DPLY LSR. IS WR5 EQUAL то DR BETWEEN X'6000'-X'7FFF'? YN 1 021 | REPLACE CARD NOW IN AA1-R2. 022 PROBE AA1-N2-B07 (+CSX3) PROBE AA1-N2-B06 (+CSX4) SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO PROC RUN. SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. DEPRESS THE LOAD KEY. DEPRESS THE LOAD KEY ONCE FOR EACH PROBE PIN. BOTH LINES PULSING? Y N 1 ł 1 ł 1 1 1 I 1 ł 1 ł ł 15APR77 PN2547511 1 1 ۱ 1 EC830358 PEC828579

MAP 0106-4

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SYSTEM ENTRY м 4 SYSTEM 32 ۱ PAGE 5 OF 10 1 023 POWER DFF. REINSTALL ALL PREVIDUSLY REMOVED CARDS INTO THEIR ORIGINAL LOCATION. REMOVE ALL MAIN STORAGE CARDS. AA1-R2 0-8K AA 1- S 2 8-16K AA1-T2 16-24K AA1-U2 24-32K POWER ON. 1 PROBE AA1-N2-B07 (+CSX3) PROBE AA1-N2-B06 (+CSX4) SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO PROC RUN. SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. DEPRESS THE LOAD KEY. DEPRESS THE LOAD KEY ONCE FOR EACH PROBE PIN. BOTH LINES PULSING? Y N ł 1 024 POWER DFF. L REMOVE CARD FROM POSITION AA1-P2. ł I PLACE CARD PREVIOUSLY REMOVED FROM AA1-R2 INTO AA1-P2 POSITION. 1 | POWER ON . Ŧ | PROBE A41-N2-B07 (+CSX3) | PROBE A41-N2-B06 (+CSX4) SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO PROC Ł RUN. TOGGLE SWITCHES TO THE . SET ALL ł DOWN POSITION. 1 I DEPRESS THE LOAD KEY ONCE FOR EACH PROBE PIN. 1 BOTH LINES PULSING? 1 ł Y N 1 1 1 ł 1 ł I 1 1 1 1 ł 1 ł 1 Ł ł 1 1 1 1 1 1 1 ۱ 1 ł 1 6 NPQ

11 1 1 Ł 1 1 ł 1 025 | POWER DFF. | REMOVE CARD FROM POSITION AA1-P2. | REINSTALL CARD PREVIOUSLY REMOVED FROM AA1-P2. INTO AA1 - P2 POSITION. | REMOVE CARD FROM AA1-Q4. | PLACE CARD PREVIOUSLY REMOVED | FROM AA1-S2 INTO AA1-Q4 POSITION. POWER ON. T. PROBE AA1-N2-B07 (+CSX3) PROBE AA1-N2-B06 (+CSX4) SET DATA SWITCHES TO F800. I. SET MODE SELECTOR SWITCH TO PROC RUN. 1 SET ALL TOGGLE SWITCHES TO THE ŧ | DOWN POSITION. I DEPRESS THE LOAD KEY. I DEPRESS THE LOAD KEY ONCE FOR | EACH PROBE PIN. 1 BOTH LINES PULSING? I Y N 1 1 026 | REPLACE CARD AA1-N2. - 1 027 | REINSTALL ALL PREVIOUSLY REMOVED CARDS INTO THEIR GRIGINAL LOCATIONS. I REPLACE CARD AA1-Q4. 028 REINSTALL ALL PREVIOUSLY REMOVED CARDS INTO THEIR ORIGINAL LOCATIONS. REPLACE CARD AA1-P2.

MAP 0106-5

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15APR77 PN2547511 PEC828579 EC830358

MAP 0106-5

SYSTEM ENTRY N 5 SYSTEM 32 PAGE 6 DF 10 1 1 1 029 POWER OFF. REINSTALL CARD AA1-R2. POWER UP. PROBE AA1-N2-B07 (+CSX3) PROBE AA1-N.2-B06 (+CSX4) SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO PROC RUN. SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. DEPRESS THE LOAD KEY. DEPRESS THE LOAD KEY ONCE FOR EACH PROEE PIN. BOTH LINES PULSING? Y N T 030 | REPLACE CARD AA1-R2. 031 POWER OFF. REINSTALL CARD AA1-S2. POWER UP. PROBE AA1-N2-607 (+CSX3) PROBE AA1-N2-B06 (+CSX4) SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO PROC RUN. SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. DEPRESS THE LOAD KEY. DEPRESS THE LOAD KEY ONCE FOR EACH PROBE PIN-BOTH LINES PULSING? Y N 1 032 Ł REPLACE CARD AA1-S2 1 1 R

MAP 0106-6 JLR 4 4 1 1 1 1 1 1 1 | 033 ł I POWER OFF. | | REINSTALL CARD AA1-T2. | POWER UP. 1. | PROBE AA1-N2-B07 (+CSX3) | PROBE AA1-N2-B06 (+CSX4) 1 1 I SET DATA SWITCHES TO F80C. I SET MODE SELECTOR SWITCH TO | | SET ALL TOGGLE SWITCHES TO THE I DOWN POSITION. I DEPRESS THE LOAD KEY. I DEPRESS THE LOAD KEY. I DEPRESS THE LOAD KEY ONCE FOR I I EACH PROBE PIN. 1 I BOTH LINES PULSING? I Y N L 1 1 | | | 034 | | REPLACE CARD AA1-T2. 1 1 035 | | REPLACE CARD AA1-U2. 1 036 | REPLACE CARDS AA1-U2, | AA1-L2, AA1-M2, AA1-K2. AA1-N2, 037 POWER OFF. SWAP MAIN STORAGE CARDS AA1-R2 WITH AA1-T2. POWER DN. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. DISPLAY WR5 BY SETTING DATA SWITCHES 3 AND 4 TO X 05' AND MODE SELECTOR SWITCH TO DPLY LSR. IS WR5 F QU AI ТΟ DR BETWEEN X 4000 - X 5 F F F ? Y N 1 038 | REPLACE CARD NOW IN AA1-R2. 15 APR77 PN2547511 EC830358 PEC828579 s MAP 0106-6

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S SYSTEM ENTRY v MAP 0106-7 6 SYSTEM 32 1 ł 1 7 OF 1 PAGE 10 ۱ 039 041 PROBE AA1-N2-B07 (+CSX3) POWER OFF. PROBE AA1-N2-B06 (+CSX4) REMOVE CARD FROM POSITION AA1-P2. SET DATA SWITCHES TO F800. PLACE CARD PREVIDUSLY REMOVED FROM AA1-R2 INTO AA1-P2 POSITION. SET MODE SELECTOR SWITCH TO PROC RUN. SET ALL TOGGLE SWITCHES TO THE DOWN POWER ON. POSITION. DEPRESS THE LOAD KEY. PROBE AA1-N2-B07 (+CSX3) PROBE AA1-N2-BO6 (+CSX4) DEPRESS THE LOAD KEY ONCE FOR EACH PROBE PIN. SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO PROC BOTH LINES PULSING? RUN. YN SET ALL TOGGLE SWITCHES TO THE DOWN L 040 POSI TI ON. DEPRESS THE LOAD KEY. DEPRESS THE LOAD KEY ONCE FOR EACH POWER OFF. L REINSTALL ALL PREVIOUSLY REMOVED 1 THEIR ORIGINAL ł CARDS INTO PROBE PIN. LOCATION . Ł BOTH LINES PULSING? 1 - 1 Ł REMOVE ALL MAIN STORAGE CARDS. Y N Ł I 1 0-8K  $\Delta \Delta 1 - R2$ 1 ł 1 042 AA1-S2 8-16K POWER OFF. 1 1 1 AA 1- T 2 16-24K I REMOVE CARD FROM POSITION AA1-P2. ł 1 ł 1 POWER ON. | REINSTALL CARD PREVIOUSLY REMOVED I | FROM AA1-P2 INTO AA1-P2 POSITION. t PROBE AA1-N2-B07 (+CSX3) PROBE AA1-N2-B06 (+CSX4) L | REMOVE CARD FROM AA1-Q4. I ł SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO PROC CARD PREVIOUSLY REMOVED I PLACE ł 1 I FROM AA1-S2 INTO AA1-Q4 POSITION. R UN. ł L SET ALL TOGG DOWN POSITION. | POWER ON. | PROBE AA1-N2-B07 (+CSX3) | PROBE AA1-N2-B06 (+CSX4) TOGGLE SWITCHES TO THE 1 L DEPRESS THE LOAD KEY. DEPRESS THE LOAD KEY ONCE FOR 1 ł 1 EACH PROBE PIN. SET DATA SWITCHES TO F800. l 1 SET MODE SELECTOR SWITCH TO PROC 1 BOTH LINES PULSING? Ł RUN. ŧ Y N SE T ALL TOGGLE SWITCHES TO THE ł DOWN POSITION. 1 Ł I DEPRESS THE LOAD KEY. I DEPRESS THE LOAD KEY 1 ONCE FOR I EACH PROBE PIN. L | BOTH LINES PULSING? 1 YN t 1 043 ł. | REPLACE CARD AA1-N2. Т 1 I 1 1 1 Ł ł 1 ł ł ł I 15APR 77 1 PN2547511 I 1 L 1 EC830358 PEC828579 8 8 8 8 THV W X MAP 0106-7

UWX SYSTEM ENTRY 777 SYSTEM 32 111 ł 1 1 PAGE 8 OF 10 L 1 L I. 044 REINSTALL I 1 AL L PREVIOUSLY ALL PREVIOUSLY CARDS INTO THEIR REMOVED 1 | ORIGINAL LOCATIONS. 1 | REPLACE CARD AA1-Q4. L 1 - 1 ۱ 045 | REINSTALL ALL PREVIOUSLY REMOVED | CARDS INTO THEIR ORIGINAL LOCATIONS . | REPLACE CARD AA1-P2. 046 POWER OFF. REINSTALL CARD AA1-R2. POWER UP. PROBE AA1-N2-B07 (+CSX3) PROBE AA1-N2-B06 (+CSX4) SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO PROC R UN-SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. DEPRESS THE LOAD KEY. DEPRESS THE LOAD KEY ONCE FOR EACH PROBE PIN. BOTH LINES PULSING? Y N 1 047 1 REPLACE CARD AA1-R2. 048 POWER DFF. REINSTALL CARD AA1-S2. POWER UP. PROBE AA1-N2-B07 (+CSX3) PROBE AA1-N2-B06 (+CSX4) SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO PROC R UN. SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. DEPRESS THE LOAD KEY. DEPRESS THE LOAD KEY ONCE FOR EACH PROBE PIN. BOTH LINES PULSING? YN 1 1 1 1 1 1 ł 1 1 L 1 1 1 · Y Z

ΗΤΥΖ MAP 0106-8 4 7 1 1 1 1 11 1 1 1 1 1 L 11 1 1 1 | 049 ł I REPLACE CARD AA1-S2. 1 1 1 1 1 050 T 1 I REPLACE CARD AA1-T2. 1 1 1 051 | REPLACE CARDS AA1-T2, AA1-N2, 1 AA1-L2, AA1-M2, AA1-K2. 052 POWER OFF. SWAP MAIN STORAGE CARDS AA1-R2 WITH AA1-S2. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWI TCHE S ΤO THE DOWN POSITION. INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. DISPLAY W R5 BY S ETT ING DATA SWITCHES 3 AND 4 TO X'05' AND MODE SELECTOR SWITCH TO DPLY LSR. IS WR5 EQUAL ΤO OR BETWEEN X'2000'-X'3FFF'? Y N 1 053 | REPLACE CARD NOW IN AA1-R2. 054 PROBE AA1-N2-B07 (+CSX3) PROBE AA1-N2-B06 (+CSX4) SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO PROC RUN. SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. DEPRESS THE LOAD KEY. DEPRESS THE LOAD KEY ONCE FOR EACH PROBE PIN. BOTH LINES PULSING? Y N Ł -1 L 1 I. 1 1 1 1 1 1 1 15 APR77 i PN2547511 1 0 9 EC830358 PEC 828579 A A Α В MAP 0106-8

Α SYSTEM ENTRY R SYSTEM 32 8 9 OF 10 ł PAGE Ŧ 1 055 POWER DFF. REMOVE ALL MAIN STORAGE CARDS. 0- 8K 441-R2 AA1-S2 8-16K POWER ON. PROBE AA1-N2-B07 (+CSX3) PROBE AA1-N2-B06 (+CSX4) SET DATA SWITCHES TO F800. MODE SELECTOR SWITCH TO PROC SET RUN. SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. DEPRESS THE LOAD KEY ONCE FOR EACH PROBE PIN. BOTH LINES PULSING? Y N 056 POWER OFF. | REMOVE CARD FROM POSITION AA1-P2. | PLACE CARD PREVIOUSLY REMOVED | FROM AA1-R2 INTO AA1-P2 POSITION. POWER ON. 1 PROBE AA1-N2-B07 (+CSX3) PROBE AA1-N2-B06 (+CSX4) L ۱ 1 SET DATA SWITCHES TO F800. L I SET MODE SELECTOR SWITCH TO PROC I RUN. SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. DEPRESS THE LOAD KEY. DEPRESS THE LOAD KEY ONCE FOR | EACH PROBE PIN. BOTH LINES PULSING? Y N 1 1 1 I 1 1 1 ł ŧ ł 1 1 ł ł 1 î 1 1 L 1 1 1 ŧ 1 I l 1 1 1 0 A A А C. DF

1 I L 1 ł 1 057 1 POWER OFF. I REMOVE CARD FROM POSITION AA1-P2. I REINSTALL CARD PREVIOUSLY REMOVED FROM AA1-P2. INTO AA1-P2 | POSITION. ł | REMOVE CARD FROM AA1-Q4. | PLACE CARD PREVIOUSLY REMOVED | FROM AA1-S2 INTO AA1-Q4 POSITION. I POWER ON. ł. PROBE AA1-N2-BD7 (+CSX3) | PROBE AA1-N2-B06 (+CSX4) SET DATA SWITCHES TO F800. I SET MODE SELECTOR SWITCH TO PROC I RUN. SET ALL TOGGLE SWITCHES TO THE 1 1 DOWN POSITION. I DEPRESS THE LOAD KEY. I DEPRESS THE LOAD KEY ONCE FOR | EACH PROBE PIN. ł BOTH LINES PULSING? Y N - 1 058 t | REPLACE CARD AA1-N2. ł - 1 1 059 | REINSTALL ALL PREVIOUSLY REMOVED CARDS INTO THEIR ORIGINAL LOCATIONS. 1 | REPLACE CARD AA1-Q4. 1 060 REINSTALL ALL PREVIOUSLY REMOVED CARDS INTO THEIR DRIGINAL LOCATIONS. REPLACE CARD AA1-P2.

A A

DF

MAP 0106-9

15 APR77	PN2547511			
FC 830358	PEC 82 8579			

MAP 0106-9

GAA SYSTEM ENTRY 4 AC 8 9 SYSTEM 32 ł 1 PAGE 10 OF 10 ۱ 1 1 £ 1 ł 1 061 l L | POWER OFF. L | REINSTALL CARD AA1-R2. 1 POWER UP. 1 | PROBE AA1-N2-B07 (+CSX3) | PROBE AA1-N2-B06 (+CSX4) 1 I I | SET DATA SWITCHES TO F800. I SET MODE I PROC RUN. SELEC TOR SWI TCH 1 то SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. Ł I DEPRESS THE LOAD KEY. I DEPRESS THE LOAD KEY ONCE FOR I EACH PROBE PIN. L | BOTH LINES PULSING? 1 YN ł t ł 062 ŧ 1 | REPLACE CARD AA1-R2. 1 1 1 1 1 1 063 I REPLACE CARD AA1-S2. Ł I. 064 | REPLACE CARDS AA1-S2, AA1-N2, | AA1-L2, AA1-M2, AA1-K2. 065 POWER OFF. SWAP MAIN STORAGE CARDS AA1-R2 WITH AA1-S2. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWI TCHES ТΟ THE DOWN POSITION. INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. DISPLAY WR 5 DATA ΕY SETTING SWITCHES 3 AND 4 TO X'05' AND MODE SELECTOR SWITCH TO DPLY LSR. TO BETWEEN IS WR 5 EQUAL ÛR X \*0000 \*-X \* 1 F F F \* ? Y N 1 1 066 REPLACE CARD NOW IN AA1-S2. 1 I Δ F

ACA MAP 0106-10 12 F 1 1 Ł ł 1 1 1 ŧ 1 - 1 1 067 Ł | | REPLACE CARDS AA1-R2, AA1-N2, | | AA1-L2, AA1-M2, AA1-K2. I 1 1 068 | GO TO MAP 0107, ENTRY POINT A. Т 069 PROBE AA1-J2-G09 (+ENABLE INTERRUPT) LINE DOWN OR PULSING? Y N 070 | REPLACE CARDS AA1-J2, AA1-H2. 071 GO TO MAP 0110, ENTRY POINT A.

 15APR77
 PN2547511

 EC830358
 PEC 828579

MAP 0106-10

### SYSTEM ENTRY

#### SYSTEM 32

PAGE 1 OF 2

ENTRY POINTS

001

1 |

2 2 A B

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0106	1	Δ	1	001

EXIT TH	IS MAP	I TO	
PAGE NUMBER	STEP NUMBER	I MAP I NUMBER	ENTRY POINT
2	003	0108	A
2	009	0108	A
2	005	1200	Α
2	010	1 1200	Α

EXIT POINTS

(ENTRY POINT A) POWER OFF. REINSTALL ALL PREVIDUSLY REMOVED CARDS IF ANY HAVE BEEN REMOVED. POWER ON. . SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO

SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. INSERT THE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY.

CHECK THE CONSOLE AND THE CE PANEL FOR THE FOLLOWING INDICATIONS:

1	
PROC CHK LIGHT	OFF
STOP KEY LIGHT	ON
LOAD KEY LIGHT	OFF
KEYBD RDY LIGHT	OFF
CLOCK LIGHT	ΟN
PROC INTERRUPT LIGHTS	OFF
CRT DISPLAY	BLANK
1	

DO AEOVE INDICATIONS EXIST? Y N

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220CT76 PN2547512 EC830357 PEC828579

MAP 0107-1

SYSTEM ENTRY A B 1 1 SYSTEM 32 1 1 PAGE 2 0F 2 ł 1 1 ł 002 ł EXAMPLES OF OBVIOUS CRT PROBLEMS 1 ARE: -RANDOM CHARACTERS -MISSING OR OVERLAID LINES -PARTIAL DISPLAY -UNABLE ΤG OBTAIN PROPER BR IGHTNESS -ANY OTHER OBVIOUS CRT PROBLEMS. EXCLUDING DISPLAY, IS THE BLANK 1 CRT OBVIOUSLY BAD? Y N 1 003 ł GO TO MAP 0108, ENTRY POINT A. 1 ł 004 L DISPLAY WR1 BY SETTING SWITCHES 3 AND 4 TO X'01' DISPLAY DATA AND MODE SELECTOR SWITCH TO DPLY LSR. WR1 EQUAL TO X 0800' IS OR X . 0000.5 Y N L ł | 005 MODE SELECTOR SWITCH TO ł SET I PROC RUN. DEPRESS CE START KEY. GO TO MAP 1200, ENTRY POINT A. Ł 1 006 ł REPLACE CARD AA2-M2. 007 DISPLAY WR1 BY SETTING SWITCHES 3 AND 4 TO X'01' AND SELECTOR SWITCH TO DPLY LSR. DATA MODE IS WR1 EQUAL TO X'0800' OR X'0C00'? Y N 008 RETURN MODE SELECTOR SWITCH TO 1 PROCESSOR RUN. DEPRESS CE START KEY. DEPRESS OPERATOR START KEY. ł. (WAIT FOR SEVERAL SECONDS) DEPRESS AND HOLD THE SHIFT KEY. DEPRESS THE PRINT/RESET KEY. 1 DID A MESSAGE PRINT ON PRINTER? L Y N ļ ł 1 1 1 ł 1 1 1 ł 1 1 1 I 2 2 2 С Ð F

CDE MAP C1C7-2 2 2 2 I 1 1 I ł Ŧ 1 L I 1 009 1 1 ł | GO TO MAP CIOS, ENTRY POINT A. l 1 1 C1C 1 1 GO TO MAP 1200, ENTRY POINT A. 011 WRAP ERROR ON CRT OR KEYBOARD. REPLACE CARD AA2-M2. (CRT KEYBOARD CARD)

> 220CT76 PN2547512 EC830357 PEC828579

> > MAP 0107-2

MAP 0108-1

## SYSTEM ENTRY

#### SYSTEM 32

PAGE 1 DF 11

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	P AGE NUMB ER	STEP NUMBER
0107		A	1	001

EXIT TH	IS MAP	1	то	
PAGE NUMBER	STEP NUMBER	1	MAP NUMBER	ENTRY POINT
2	005	1	0109	А
3	014	I	0109	Α
3	017	1	0109	Α
4	021	1	0109	А
6	042	1	0109	Α
7	051	1	0109	Α
7	054	1	0109	Α
8	058	1	0109	А
9	067		0109	Α
10	076	I	0109	А
10	079	1	0109	А
11	083	1	0109	А

EXIT PDINTS

001 (ENTRY P REFER T PART NUM	DINT A) D SYSTEM MEERS AND SO	LOGIC AYO20 FOR CKET LOCATIONS.
AA1-R2 M AA1-S2 M AA1-T2 M AA1-T2 M	AIN STG. AIN STG. AIN STG. AIN STG.	0K –8K 8K –16K 16K–24K 24K–32K
AA1-P2 C 0 AA1-Q4 C 0	ONTROL STG 	0-4K OR 0-4K OR
IS THIS Y N	A 16K MAIN	STORAGE SYSTEM?
002   IS T   SYSTEM   Y N         1   HIS A 24 ?	K MAIN STORAGE	
	COPYRIG	HT IBM CORP 1975
962 ABC		

MAIN STORAGE CARDS AND CONTROL STORAGE CARDS MAY HAVE DIFFERENT P/N'S BUT MAY BE INTERCHANGED FOR DIAGNOSTIC PURPOSES.

15 APR77	PN2547513
EC 830358	PEC 82 85 7 9

MAP 0108-1

С SYSTEM ENTRY 1 SYSTEM 32 I 2 OF PAGE 11 I 003 POWER OFF. AA1-R2, CARDS REMOVE AA1-S2, AA 1-T2, AA 1-U2. (MAIN STORAGE CARDS) POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO DOWN THE POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. ONLY EVENT INDICATOR BITS 5,6, ARE AND 7 ON? Y N I 004 £ | POWER OFF. | REMOVE CARDS | (CONTROL STG). AA1-P2, AA1-Q4 I PLACE CARDS REMOVED PREVIOUSLY (MAIN STG) INTO AA1-P2, AA1-Q4. POWER ON. 1 SET DATA SWITCHES TO 0000. MODE SELECTOR SWITCH TO PROC SET RUN. SET BOTH THE IMPL AND IPL SWITCH Ł THE UP POSITION AND ALL OTHER ТО L SWITCHES 1 TOGGLE TO THE DOWN | POSITION. INSERT THE CE DIAG 01 DI SKE TTE AND CLOSE THE DOOR . | DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. Ł ARE ONLY EVENT INDICATOR BITS 1 5,6, AND 7 ON? 1 Y N E ł 1 005 1 Ł 1 GO TO MAP 0109, ENTRY PDINT A. I I 

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1 1

3 D E

1 1 1 ŧ 006 POWER OFF. AA 1-P 2 REMOVE CARD FROM AND REINSTALL INTO PREVIOUS MAIN STG LOCATION. PREVIOUSLY REMOVED CARD REINSTALL FROM AA1-P2 INTO LOCATION AA1-P2. POWER DN. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR DCCURS. ARE ONLY EVENT INDICATOR BITS 5, AND 7 ON? Y N 1 007 I POWER OFF. | REMOVE CARD FROM AA1-Q4 AND I REINSTALL INTO PREVIOUS MAIN STG I LOCATION. | REINSTALL ALL MAIN STG CARDS. | REINSTALL PREVIOUSLY REMOVED CARD | FROM AA1-Q4 INTO LOCATION AA1-Q4. | REPLACE CARD AA1-P2. 1 800 POWER OFF. REMOVE CARD FROM AA1-04 AND REINSTALL INTO PREVIOUS MAIN S TG LOCATION. REINSTALL ALL MAIN STG CARDS. REPLACE CARD REMOVED FROM AA1-Q4.

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15APR77 PN2547513 EC830358 PEC828579 MAP 0108-2

SYSTEM ENTRY D 2 SYSTEM 32 1 PAGE 3 0F L 11 1 l 009 POWER OFF. REINSTALL CARD INTO LOCAT ION AA1-R2. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TD GGL E SWI TO HE S ΤÛ THE DOWN POSITION. INSERT THE CE DIAG OL DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR DCCURS. ARE ONLY EVENT INDICATOR BITS 5, 6 AND 7 ON? Y N Ł 010 | POWER OFF. | REINSTALL CARDS AA1-S2, AA1-T2, AA1-U2. 1 | REPLACE CARD AA1-R2. 1 011 DISPLAY WR3 LOW BY SETTING SWITCHES 3-4 TO X'03' AND SELECTOR SWITCH TO DSPL LSR. D AT A MODE IS WR3 LOW EDUAL TO X'63'? Y N T | 012 IS WR3 LOW EQUAL TO X'57'? 1 L Y N 1 1 013 ł PROCESSOR CHECKS BY-DISPLAY | SETTING MODE SELECTOR SWITCH TO I DPLY CHKS. 1 ARE BOTH THE SDR AND MOR P-CHK 1 I INDICATORS ON? ł I. Y N 1 1 1 014 ŧ 1 L | GO TO MAP 0109, 1 | ENTRY POINT A. 1 Ł 1 1 1 1 ł 1 1 1 1 1 1 1 1 1 4 F 6 н

ł ł 1 015 POWER OFF. REMOVE CARD FROM AA1-P2 (CONTROL STG). PLACE CARD PREVIOUSLY REMOVED FROM MAIN STG INTO AA1-P2. POWER DN. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES то THE DOWN POSITION. INSERT THE CE DIAG-DI DISKETTE. AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. DISPLAY WR3 LOW BY SETTING DATA SWITCHES 3-4 TO X'03' AND MODE SELECTOR SWITCH TO DSPL LSR. IS WR3 LOW EQUAL TO X 63 ? YN 1 1 016 | POWER OFF. | REMOVE CARD FROM AA1-P2. | REINSTALL PREVIOUSLY REMOVED CARD | FROM AA1-P2 INTO LOCATION AA1-P2. | REMOVE CARD FROM AA1-Q4 (CONTROL STG). | PLACE CARD PREVIOUSLY | FROM MAIN STG INTO AA1-Q4. REMOVED I POWER ON. | SET DATA SWITCHES TO 0000. | SET MODE SELECTOR SWITCH TO PROC I RUN. | SET BOTH THE IMPL AND IPL SWITCH | TO THE UP POSITION AND ALL OTHER | TOGGLE SWITCHES TO THE DOWN I POSITION. INSERT THE CE DIAG OI DISKETTE I AND CLOSE THE DODR. I DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. ł | DISPLAY WR3 LOW BY SETTING DATA | SWITCHES 3-4 TO X'03' AND MODE | SELECTOR SWITCH TO DSPL LSR. 1 IS WR3 LOW EQUAL TO X 63 ? YN 1 | 017 1 L 1 1 1 GO TO MAP 0109, ENTRY POINT A. Ł 1 ł 1 15 APR77 Ł 1 PN2547513 1 1 EC 830358 PEC 828579 4 4 к MAP 0108-3 .1

MAP 0108-3

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SYSTEM ENTRY GJK 3 3 3 SYSTEM 32 I 1 I PAGE 4 OF 1 11 ł t 1 ŧ ł I. 1 018 1 | POWER OFF. | PLACE PREVIOUSLY INTERCHANGED £ STG AND CONTROL STG CARDS MAIN 1 I INTO THEIR ORIGINAL LOCATIONS. 1 I REPLACE CARD AA1-04. ł t 019 POWER OFF. ł INT ERCHANGED PREVIOUSLY 1 PLACE | MAIN STG AND CONTROL STG CARDS | INTO THEIR DRIGINAL LOCATIONS. 1 | REPLACE CARD AA1-P2. 020 -POWER OFF. REMOVE CARD AA1-R2. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWI TCHES TO THE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. DISPLAY WR3 LOW BY SETTING DATA SWITCHES 3-4 TO X'03' AND MODE SELECTOR SWITCH TO DSPL LSR. IS WR3 LOW EQUAL TO X'63'? YN 1 1 021 ł GO TO MAP 0109, ENTRY POINT A. 022 REPLACE CARD AA1-R2.

F MAP 0108-4 3 I 1 1 1 023 POWER OFF. CARD INTO LOCAT ION REINSTALL AA1-52. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER OTHER SWI TCHE S TOGGLE τо THE DOWN POS IT ION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. ARE ONLY EVENT INDICATOR BITS 5,6, AND 7 ON? Y N 1 L 024 | POWER OFF. REINSTALL AA1-T2, AA1-U2-REPLACE CARD AA1-S2. 1 1 025 DISPLAY WR3 LOW - BY SETTING DATA SWITCHES 3-4 TO X'03' AND MODE SELECTOR SWITCH TO DSPL LSR. IS WR3 LOW EQUAL TO X 63 ? Y N 1 026 I IS WR3 LOW EQUAL TO X'57'? 1 YN 1 027 1 1 GO TO PAGE 5, STEP 031, | ENTRY PUINT B. i I 1 1 i ł ł I Ł 1 ł 15APR77 ł PN2547513 1 1 EC830358 PEC828579 5 5 LM MAP 0108-4

SYSTEM ENTRY ŁM 4 4 SYSTEM 32 1 1 PAGE 5 OF 11 1 1 Ł I 1 1 028 L POWER OFF. L REMOVE CARD AA1-S2. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PRUC RUN. SET BOTH THE IMPL AND IPL SWITCHES TO THE UP POSITION AND . ALL OTHER TUGGLE SWITCHES TO THE DOWN POSITION. INSERT THE CE DIAG 01 DISKETTE AND CLOSE THE DOOR . DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. DISPLAY WR3 LOW BY SETTING DATA SWITCHES 3-4 TO X.03. AND MODE SELECTOR SWITCH TO DSPL LSR. DISPLAY 1 1 ł IS WR3 LOW EQUAL TO X'63'? L Y N Ł 1 ł. 1 029 I 1 1 I GO TO STEP 031, I ENTRY POINT B. 1 1 1 030 REPLACE CARD AA1-S2. 031 (ENTRY POINT B) POWER OFF. REINSTALL INTO LOCATION CARD AA1-T2. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN SWITCHES TOGGLE THE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DODR . DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. ARE ONLY EVENT INDICATOR BITS 5,6, AND 7 ON? ΎΝ 032 POWER OFF. | REINSTALL CARD AA1-U2. REPLACE CARD AA1-T2.

MAP 0108-5 N 1 1 I 1 033 DISPLAY WR3 LOW BY SETTING DATA SWITCHES 3-4 TO X'03' AND MODE SELECTOR SWITCH TO DSPL LSR. IS WR3 LOW EQUAL TO X'63'? YN 1 034 I IS WR3 LOW EQUAL TO '57'? I Y N 1 035 | | REPLACE CARDS AA1-U2, AA1-N2, | | AA1-L2, AA1-M2, AA1-K2. 11 1 036 | POWER DFF. | REMOVE CARD AA1-T2. POWER ON. I SET DATA SWITCHES TO 0000. I SET MODE SELECTOR SWITCH TO PROC I RUN. SET BOTH THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. I INSERT THE CE DIAG OI DISKETTE I AND CLOSE THE DOOR. 1 DEPRESS THE LOAD KEY. | WAIT UNTIL ERROR DCCURS. | DISPLAY WR3 LOW BY SETTING DATA | SWITCHES 3-4 TO X'03' AND MODE | SELECTOR SWITCH TO DSPL LSR. I IS WR3 LOW EQUAL TO X'63'? I Y N | | 037 | | REPLACE CARDS AA1-U2, AA1-N2, | | AA1-L2, AA1-M2, AA1-K2. 11 1 038 | REPLACE CARD AA1-T2. 039 REPL ACE AA1-U2, CARDS AA1-N2. AA1-L2, AA1-M2, AA1-K2.

 15APR77
 PN2547513

 EC830358
 PEC 828579

MAP 0108-5

· I N

SYSTEM ENTRY В 1 SYSTEM 32 1 PAGE 6 OF 11 1 040 O4U PDWER OFF. CARDS AA 1-R 2, AA 1- S2, AA1-T2. (MAIN STORAGE CARDS) POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC R UN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWI TCHES то THE DOWN POSITION. THE CE DIAG O1 DISKETTE AND INS ERT CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR DCCURS. ARE ONLY EVENT INDICATOR BITS 5, 6 AND 7 DN? Y N 1 1 041 t POWER OFF. REMOVE CARDS (CONTROL STG). AA1-P2. AA1-Q4 PLACE CARDS REMOVED PREVIOUSLY (MAIN STG) INTO AA1-P2, AA1-Q4. I POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC I RUN. BOTH THE IMPL AND IPL SWITCH SET | TO THE UP POSITION AND ALL OTHER SWITCHES TO I TOGGLE THE DOWN | POSITION. INSERT THE CE DIAG 01 DISKETTE AND CLOSE THE DOOR. I DEPRESS THE LOAD KEY. | WAIT UNTIL ERROR OCCURS. ARE ONLY EVENT INDICATOR BITS 5, Ł 6 AND 7 ON? 1 Y N L Ŧ 042 1 L 1 GO TO MAP 0109, ENTRY POINT A. l

1 043 POWER OFF. REMOVE CARD FROM AA1-P2 AND REINSTALL INTO PREVIOUS MAIN STG LOCATION. REINSTALL PREVIOUSLY REMOVED CARD FROM AA1-P2 INTO LOCATION AA1-P2. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO POSITION AND ALL OTHER THE UP SWITCHES TOGGLE то THE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. ARE ONLY EVENT INDICATOR BITS 5, 6 AND 7 ON? Y N ł 1 044 | POWER OFF. REMOVE CARD FROM AA1-04 AND REINSTALL INTO PREVIOUS MAIN STG LOCATION. | REINSTALL ALL MAIN STG CARDS. | REINSTALL PREVIDUSLY REMOVED CARD | FROM AA1-Q4 INTO LOCATION AA1-Q4. 1 | REPLACE CARD AA1-P2. 045 POWER OFF. FROM AA1-Q4 REMOVE CARD AND REINSTALL INTO PREVIOUS MAIN STG LOCATION. REINSTALL ALL MAIN STG CARDS.

REPLACE CARD REMOVED FROM AA1-Q4.

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15APR 77 PN 2547513 EC830358 PEC828579 MAP 0108-6

MAP 0108-6

SYSTEM ENTRY т Ρ MAP 0108-7 6 SYSTEM 32 1 1 7 OF PAGE 11 1 ł 1 046 052 POWER OFF. POWER OFF. REMOVE CARD FROM AA1-P2 (CONTROL REINSTALL CARD INTO LOCATION AA 1-R 2. STG). PLACE CARD PREVIOUSLY REMOVED FROM POWER. ON . SET DATA SWITCHES TO 0000. MAIN STG INTO AA1-P2. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET MODE SELECTOR SWITCH TO PROC SET BOTH THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER RUN. SET BOTH THE IMPL AND IPL SWITCH TO TDGGLE SWI TCHE S τü DOWN THE UP POSITION AND ALL OTHER GLE SWITCHES TO THE DOWN POSITION. THE INSERT THE CE DIAG C1 DISKETTE AND TOGGLE POS IT I ON. CLOSE THE DOOR. DEPRESS THE LOAD KEY. INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DOOR. WAIT UNTIL ERROR OCCURS. DEPRESS THE LOAD KEY. ONLY EVENT INDICATOR BITS 5,6, WAIT UNTIL ERROR OCCURS. AR E AND 7 ON? DISPLAY WR3 LOW BY SETTING DATA SWITCHES 3-4 TO X'03' AND MODE SELECTOR SWITCH TO DSPL LSR. ΥN 1 047 POWER OFF. | REINSTALL CARDS AA1-S2, AA1-T2. IS WR3 LOW EQUAL TO X 63 ? Y N ł REPLACE CARD AA1-R2. 1 053 I. POWER OFF. 048 DISPLAY WR3 LOW BY SETTING SWITCHES 3-4 TO X'03' AND SELECTOR SWITCH TO DSPL LSR. DA TA MODE | REMOVE CARD FROM AA1-P2. | REINSTALL PREVIOUSLY REMOVED CARD FROM AA1-P2 INTO LOCATION AA1-P2. IS WR3 LOW EDUAL TO X'63'? | REMOVE CARD FROM AA1-Q4 (CONTROL Y N STG). Ł CARD PREVIOUSLY REMOVED I PLACE | FROM MAIN STG INTO AA1-Q4. 049 IS WR3 LOW EQUAL TO X'57'? POWER ON. I. 1 SET DATA SWITCHES TO 0000. Y N 1 SET MODE SELECTOR SWITCH TO PROC 1 I L 050 I RUN. DISPLAY PROCESSOR CHECKS BY I SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL SETTING MODE SELECTOR SWITCH TO OTHER 1 SWITCHES TO DPLY CHKS. TOGGLE THE DOWN 1 POSITION. ł ARE BOTH THE SDR AND MOR P-CHK I INSERT THE CE DIAG OI DISKETTE ł INDICATORS ON? AND CLOSE THE DOOR. ł 1 I DEPRESS THE LOAD KEY. Y N ł WAIT UNTIL ERROR OCCURS. f -1 1 051 ŧ DISPLAY WR3 LOW BY SETTING DATA SWITCHES 3-4 TO X'03' AND MODE 1 | GO TO MAP 0109, 1 I ENTRY POINT A. I SELECTOR SWITCH TO DSPL LSR. ļ ł 1 I IS WR3 LOW EQUAL TO X'63'? Y N 1 1 I Ŧ 054 1 1 L ŧ ł 1 GO TO MAP 0109, ENTRY POINT A. 1 1 t ł 1 I 1 15APR77 PN2547513 1 1 I 1 T 1 L ł EC830358 PEC828579 8 8 8 8 RST υ ν MAP 0108-7 -

SUV SYSTEM ENTRY 777 SYSTEM 32 ł 1 PAGE 8 OF 11 1 t L 1 ł 1 I 055 L | POWER OFF. | PLACE PREVIOUSLY INTERCHANGED | MAIN STG AND CONTROL STG CARDS INTO THEIR ORIGINAL LOCATIONS. 1 I REPLACE CARD AA1-Q4. 1 ł 1 056 POWER OFF. | PLACE PREVIOUSLY INTERCHANGED | MAIN STG AND CONTROL STG CARDS | INTO THEIR ORIGINAL LOCATIONS. | REPLACE CARD AA1-P2. 057 POWER DEE. REMOVE CARD AA1-R2. POWER ON. SET DATA SWITCHES TO 0000. S ET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCHES THE UP POSITION AND ALL OTHER GLE SWITCHES TO THE DOWN то TOGGLE DOWN POSITION. INSERT THE CE DIAG 01 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. DISPLAY WR3 LOW BY SETTING DATA SWITCHES 3-4 TO X'03' AND MODE SELECTOR SWITCH TO DSPL LSR. IS WR3 LOW EQUAL TO X'63'? Y N 058 | GO TO MAP 0109, ENTRY POINT A. 1

059

REPLACE CARD AA1-R2.

7 I 1 1 I 060 POWER OFF. CARD INTO LOCATION REINSTALL AA1-52. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SW IT CHES TO THE DOWN POSI TI ON. INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. ARE ONLY EVENT INDICATOR BITS 5, AND 7 ON? 6 ΥN 1 | 061 | POWER OFF. | REINSTALL CARD AA1-T2. i. | REPLACE CARD AA1-S2. 062 DISPLAY WR3 LOW BY SETTING DATA SWITCHES 3-4 TO X'03' AND MDDE тο SELECTOR SWITCH TO DS PL LSR. IS WR3 LOW EQUAL TO X '57'? YN ł | 063 | REPLACE CARDS AA1-T2, AA1-N2, | AA1-L2, AA1-M2, AA1-K2. 1 064 REPLACE CARD AA1-S2.

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15APR77	PN 2547513
EC830358	PEC828579

MAP 0108-8

SYSTEM ENTRY Δ 1 SYSTEM 32 ł PAGE 9 OF 11 1 ł 065 POWER OFF. REMOVE CARDS AA1-R2, AA1-S2.(MAIN STGI POWER ON. SET CATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. ARE ONLY EVENT INDICATOR BITS 5,6, AND 7 ON? Y N L 1 066 | POWER OFF. REMOVE CARDS I (CONTROL STG). AA1-P2, AA1-Q4 | PLACE CARDS REMOVED PREVIOUSLY (MAIN STG) INTO AA1-P2, AA1-Q4. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. 1 SET BOTH THE IMPL AND IPL SWITCH TD THE UP PDSITION AND ALL OTHER SWITCHES TO THE 1 TOGGLE DOWN | POSITION. INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. 1 ARE ONLY EVENT INDICATOR BITS 1 5,6, AND 7 ON? YN 1 067 ł 1 GO TO MAP 0109, ENTRY POINT A. 1 ł I 1 0

W X

1 ł ł 068 POWER OFF. REMOVE CARD FROM AA1-P2 AND REINSTALL INTO PREVIOUS MAIN STG LOCATION. REINSTALL PREVIOUSLY REMOVED CARD FROM AA1-P2 INTO LOCATION AA1-P2. POWER ON. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SW IT CHES ΤO THE DOWN POSITION. INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DODR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR OCCURS. **ARE** ONLY EVENT INDICATOR BITS 5, 6 AND 7 DN? Y N L 069 I POWER OFF. REMOVE CARD FROM AA1-Q4 AND | REINSTALL INTO PREVIOUS MAIN STG | LOCATION. | REINSTALL MAIN STG CARD. | REINSTALL PREVIOUSLY REMOVED CARD | FROM AA1-Q4 INTO LOCATION AA1-Q4. I REPLACE CARD AA1-P2. 070 POWER OFF. REMOVE CARD FROM AA1-Q4 AND REINSTALL INTO PREVIOUS MAIN STG LOCATION. REINSTALL MAIN STG CARD. REPLACE CARD REMOVED FROM AA1-04.

MAP 0108-9

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15APR77 PN2547513 EC830358 PEC 828579

MAP 0108-9

W SYSTEM ENTRY Δ MAP 0108-10 9 Α SYSTEM 32 ł PAGE 10 OF 11 Ł 071 077 POWER OFF. POWER OFF. REINSTALL CARD INTO LOCATION REMOVE CARD FROM AA1-P2 (CONTROL AA1-R2 . STG). PLACE CARD PREVIDUSLY REMOVED FROM POWER ON. SET DATA SWITCHES TO 0000. MAIN STG INTO AA1-P2. SET MODE SELECTOR SWITCH TO PROC POWER ON. SET DATA SWITCHES TO 0000. RUN. SET BOTH THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER SET MODE SELECTOR SWITCH TO PROC RUN-SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN TOGGLE SWITCHES TO THE DOWN POSITION. INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DOOR. POSITION. DEPRESS THE LOAD KEY. INSERT THE CE DIAG O1 DISKETTE AND WAIT UNTIL ERROR OCCURS. CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT UNTIL ERROR DCCURS. ARE ONLY EVENT INDICATOR BITS 5, 6 AND 7 DN? Y N DISPLAY WR3 LOW BY SETTING DATA SWITCHES 3-4 TD X'03' AND MODE SETTING DATA 1 SELECTOR SWITCH TO DSPL LSR. 1 072 Ł POWER OFF. REINSTALL CARD INTO LOCATION IS WR3 LOW EQUAL TO X'63'? AA1-S2. Y N T REPLACE CARD AA1-R2. 078 I. 1 | POWER OFF. | REMOVE CARD FROM AA1-P2. 073 DISPLAY WR3 LOW BY SETTING DATA SWITCHES 3-4 TO X'03' AND MODE REINSTALL PREVIOUSLY REMOVED CARD | FROM AA1-P2 INTO LOCATION AA1-P2. SELECTOR SWITCH TO DSPL LSR. | REMOVE CARD FROM AA1-Q4 (CONTROL I STG ). IS WR3 LOW EOUAL TO X 63 ? | PLACE CARD PREVIOUSLY REMOVED FROM MAIN STG INTO AA1-Q4. YN 1 | POWER ON. 074 SET DATA SWITCHES TO 0000. 1 IS WR3 LOW EQUAL TO X'57'? SET MODE SELECTOR SWITCH TO PROC Ł Y N RUN. L SET BOTH THE IMPL AND I'PL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN 1 1 075 1 PROCESSOR CHECKS DISPLAY BY 1 1 SETTING MODE SELECTOR SWITCH TO POSITION. DPLY CHKS. CE DIAG O1 DISKETTE IN SER T THE AND CLOSE THE DOOR. I 1 ARE BOTH THE SDR AND MOR P-CHK I DEPRESS THE LOAD KEY ł INDICATORS ON? WAIT UNTIL ERROR OCCURS. I L 1 Y N ł DISPLAY WR3 LOW BY SETTING DATA SWITCHES 3-4 TO X'03' AND MODE 1 1 1 1 1 076 SELECTOR SWITCH TO DSPL LSR. ł 1 -1 | GO TO MAP 0109, ſ -1 ENTRY PDINT A. IS WR3 LOW EQUAL TO X'63'? 1 ł Y N ł 1 ۱ I 1 079 1 ł L GD TD MAP 0109, ENTRY POINT A. ł ł 1 1 1 1 ł ł I ł 15APR77 PN2547513 1 1 1 1 1 1 EC830358 PEC 828579 1 1 Δ A A Y Ζ Δ В С MAP 0108-10

YZAA SYSTEM ENTRY 1 1 B C 0 0 1 1 SYSTEM 32 0 0 1 PAGE 11 OF 11 1 1 I t 11 1 1 1 080 I | POWER DFF. ł 1 | PLACE PREVIDUSLY INTERCHANGED | MAIN STG AND CONTROL STG E 1 MAIN 1 1 INTO THEIR ORIGINAL | CARDS L 1 I LOCATIONS. I 1 | REPLACE CARD AA1-Q4. 1 Ł ł. 081 ł | POWER OFF. | PLACE PREVIOUSLY INTERCHANGED | MAIN STG AND CONTROL STG CARDS 1 MAIN | INTO THEIR ORIGINAL LOCATIONS. ۲ | REPLACE CARD AA1-P2. l ١ 082 POWER OFF. | REMOVE CARD AA1-R2. POWER DN. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC I RUN. SET BOTH THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN POSITION. INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DOOR. I DEPRESS THE LOAD KEY. | WAIT UNTIL ERROR OCCURS. 1. | DISPLAY WR3 LOW BY SETTING DATA | SWITCHES 3-4 TO X'03' AND HODE DATA | SELECTOR SWITCH TO DSPL LSR. ł 1 IS WR3 LOW EQUAL TO X'63'? I Y N 1 1 1 083 I 1 | | GO TO MAP 0109, ENTRY POINT A. 1 084 Ł | REPLACE CARD AA1-R2. 1 085 REPLACE CARDS AA1-S2, AA1-M2, AA1-L2, AA1-N2, AA1-K2.

> 15APR77 PN2547513 EC830358 PEC828579 MAP 0108-11

SYSTEM ENTRY

SYSTEM 32

PAGE 1 OF 5

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP	I	ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0108		А	1	001
0111		А	1	001

001

(ENTRY POINT A)

POWER OFF. REINSTALL ALL PREVIOUSLY REMOVED CARDS IF ANY. PLACE PREVIOUSLY INTERCHANGED MAIN STORAGE AND CONTROL STORAGE CARDS, IF ANY HAVE BEEN INTERCHANGED, INTO THEIR DRIGINAL SOCKET LOCATIONS. POWER ON. CHECK FOR LOOSE OR MISSING MINIBUS VOLTAGE CONNECTORS AA1 ON BOARD.(PIN SIDE) CHECK FOR CORRECT VOLTAGE ON THE MINIBUS. 1 POWER DISTRIBUTION REFER то DIAGRAM. +5VDC (YA160) • +8.5VDC (YA160) -5VDC (YA160) METER VOLTAGE ON AA1-N2-D03 (+5VDC) TO

AA1-M2-D08 (GROUND). AA1-P2-B06 (-5VDC) TO AA1-M2-D08 (GROUND). AA1-P2-B11 (+8.5VDC) TO AA1-M2-D08 (GROUND). (REMOVE THE CONNECTOR ON AA1-P2-B11 TO MEASURE THE +8.5VDC. REPLACE CONNECTOR AFTER COMPLETION.)

ANY PROBLEMS FOUND?

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 EXIT POINTS

EXIT TH	IS MAP	I TO	
PAGE NUMBER	STEP NUMBER	I MAP NUMBER	ENTRY POINT
5	031	1 0300	E

220CT76 PN2547514

EC830357 PEC828579

MAP 0109-1

MAP 0109-2 SYSTEM ENTRY В 1 SYSTEM 32 t PAGE 2 DF 5 ł 002 AS POWER COMES ON BOTH THE UP AND POWER OFF. OPEN THE DISKETTE DRIVE. WAIT UNTIL SYSTEM POWERS DOWN. DOWN LIGHTS COME ON MOMENTARILY, THEN ONLY THE UP LIGHT IS ON FOR APPROX. 8 SECONDS (LINE PULSE UP?) GOES OFF AND ONLY THE DOWN LIGHT IS PROBE AA1-K2-DD6 (+SYSTEM POR) POWER ON. ON. LINE PULSE UP? Y N 003 LEAVE PROBE ON PIN. POWER OFF. REMOVE CARDS AA1-K2, AA1-J2. | POWER ON. L I LINE PULSE UP? Y N 004 I REPLACE POWER SEQUENCE CARD L 1 1 005 LEAVE PROBE ON PIN. | POWER OFF. REINSTALL CARD AT AA1-K2. | POWER ON. L | LINE PULSE UP? Y N 1 1 006 | | REPLACE CARD AA1-K2. 007 Ł | REPLACE CARD AA1-J2. 1 008 DEPRESS RESET. SET FORCE CLOCK SWITCH TO ON. PROBE AA1-J2-SO6 (-131.1 MS CLOCK). LINE PULSING? Y N 1 009 UNPLUG CABLE AA2-U3. | PROBE AA1-J2-SO6 (- 131.1 | CLOCK). MS ſ LINE PULSING? 1 Y N 1 1 1. A. I ł 1 I 1 1 1 ۱ 220CT76 PN2547514 ł 1 1 I ۱ EC830357 PEC828579 3 C 3 3 DE MAP 0109-2

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SYSTEM ENTRY DE С 2 2 2 SYSTEM 32 ł. T T PAGE 3 OF 1 5 1 ł 1 L 1 1 010 016 REINSTALL CABLE AA2-U3. UNPLUG CROSSOVER CABLE AA1-Z4. 1 PROBE AA1-J2-S06 (- 131.1 MS I CLOCK). POWER DFF. REMOVE AA1-L2, AA1-M2, AA1-N2 CARDS AND REPLACE THESE CARDS WITH NEW Ł LINE PULSING? YN 1 SOCKET ł 1 011 E REINSTALL CROSSOVER CABLE POWER ON. AA1-Z4. T | REPLACE CARD AA1-J2. 1 012 RUN. L REPLACE CROSSOVER CABLE AA1-Z4. 1 013 REINSTALL CABLE AA2-U3. REMOVE KEYBOARD COVER. CLOSE THE DOOR. UNPLUG KEYBOARD PC BOARD SIGNAL CABLE. PROBE AA1-J2-S06 (-131.1 MS OCCUR. CLOCK). LINE PULSING? NORMALLY? Y N Y N 014 017 REPLACE CABLE AA2-U3. | POWER OFF. . I REINSTALL 015 DISASSEMBLE KEYBOARD PER MLM. Ł REPLACE KEYBOARD PC BOARD. 1 I POWER ON. RUN. GCCUR. DID L NORMALLY? Y N 1 1 1 I 1 1 1 L E ł 1 1 1 1

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REPLACE THE FOLLOWING FRU'S IN THIS SUGGESTED ORDER.

MAP 0109-3

ONES. LABEL EACH REMOVED CARD WITH LOCATION FOR EASIER IDENTIFICATION. SET ALL DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO DOWN POSITION. INSERT THE CE DIAG OI DISKETTE AND DEPRESS THE LOAD KEY. WAIT FOR ERROR OR CRT DISPLAY TO DID THE IMPL SEQUENCE CCMPLETE PREVIOUSLY REMOVED | CARDS AA1-L2, AA1-M2, AA1-N2.

| REMOVE AA1-H2, AA1-J2, AA1-K2 AND | REPLACE THESE CARDS WITH NEW ONES. LABEL EACH REMOVED CARD WITH SOCKET LOCATION FOR EASIER IDENTIFICATION.

I SET ALL DATA SWITCHES TO OCOO. I SET MODE SELECTOR SWITCH TO PROC SET BOTH THE IMPL AND IPL SWITCH I TO THE UP POSITION AND ALL CTHER TOGGLE SWITCHES TO DOWN POSITION. I INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. | WAIT FOR ERROR OR CRT DISPLAY TO THE IMPL SEQUENCE COMPLETE

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MAP 0109-3

MAP 0109-4 н SYSTEM ENTRY L 3 4 SYSTEM 32 ł 1 PAGE 4 OF 5 I 1 018 020 POWER DFF. REPLACE THE CROSSOVER CA AA1-Z2. (REFER TO ALD AY020) POWER OFF. CABLE AT REINSTALL PREVIOUSLY REMOVED CROSSOVER CABLE AT AA1-Z3. REPLACE THE CROSSOVER CABLE POWER DN. ΔT AA1-Z4. (REFER TO ALD AY020) SET ALL DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROC POWER ON. SET ALL DATA SWITCHES TO 0000. RUN-SET MODE SELECTOR SWITCH TO PROC SET BOTH THE IMPL AND IPL SWITCH TO UΡ POSITION AND ALL OTHER RUN. ТНЕ TOGGLE SWITCHES TO DOWN POSITION. INSERT THE CE DIAG OI DISKETTE AND SET BOTH THE IMPL AND IPL SWITCH TO THE UP POSITION AND ALL OTH TOGGLE SWITCHES TO DOWN POSITION. OTHER CLOSE THE DOOR. DEPRESS THE LOAD KEY. INSERT THE CE DIAG O1 DISKETTE AND WAIT FOR ERROR OR CRT DISPLAY TO CLOSE THE DOOR. DEPRESS THE LOAD KEY. OCCUR. WAIT FOR ERROR OR CRT DISPLAY TO DID THE IMPL SEQUENCE COMPLETE OCCUR. NORMALLY? THE IMPL SEQUENCE COMPLETE Y N DID NORMALLY? 019 Y N 1 POWER OFF. REINSTALL PREVIOUSLY 021 REMOVED CROSSOVER CABLE AT AA1-Z2. BSCA OR SDLC INSTALLED ON THE IIS I SYSTEM? REPLACE THE CROSSOVER CABLE AT AA1-Z3. (REFER TO ALD AY020) YN 1 POWER ON. 1 022 | POWER OFF. SET ALL DATA SWITCHES TO 0000. PREVIOUSLY REMOVED SET MODE SELECTOR SWITCH TO PROC REINSTALL 1 I CROSSOVER CABLE AT AA1-Z4. L RUN. L SET BOTH THE IMPL AND IPL SWITCH то THE UP POSITION AND ALL OTHER 023 1 TOGGLE SWITCHES TO DOWN POSITION. INSERT THE CE DIAG OI DISKETTE I POWER OFF. REINSTALL PREVIOUSLY REMOVED AND CLOSE THE DOOR. CROSSOVER CABLE AT AA1-Z4. I REPLACE THE CROSSOVER CABLE AT DEPRESS THE LOAD KEY. WAIT FOR ERROR OR CRT DISPLAY TO | AA1-Z1. (REFER TO ALD AY020) OCCUR. POWER ON. SET ALL DATA SWITCHES TO OOCC. SET MODE SELECTOR SWITCH TO PROC DID THE IMPL SEQUENCE COMPLETE NORMALLY? Ł Y N RUN. £ SET BOTH THE IMPL AND IPL ۱ SWITCH THE UP POSITION AND ALL CTHER то TOGGLE SWITCHES TO DOWN POSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT FOR ERROR OR CRT DISPLAY TO L OCCUR. DID THE IMPL SEQUENCE COMPLETE NORMALLY? 1 Y N ٠ł 1 1 1 ſ ł t 1 ł 1 ı 1 1 ł ł 1 2200176 PN2547514 1 1 1 Ŧ 1 EC830357 PEC828579 5 5 - 4 5 5 5 .1 κL MNP MAP 0109-4
G J K M N P SYSTEM ENTRY 344444 SYSTEM 32 1 ł 1 1 1 1 5 OF PAGE 5 1 1 1 1 1 I ł I ł 1 1 1 1 ł ۱ I 1 1 t 1 1 024 POWER OFF. 1 ł 1 1 1 1 ł | REINSTALL PREVIOUSLY I 1 | REMOVED CROSSOVER CABLE | AT AA1-Z1. 1 1 L ł 1 1 1 I I. 1 1 1 | | 025 L ł | REPLACE CROSSOVER CABLE ł 1 1 | | AA1-Z1. 1 1 t 1 ł 1 1 026 I Ì | REPLACE CROSSOVER CABLE 1 | AA1-Z4. ŧ 1 1 I. 1 027 t I REPLACE CROSSOVER CABLE AA1-Z3. 1 1 L 028 REPLACE CROSSOVER CABLE AA1-Z2. 029 POWER OFF. REINSTALL ONE CARD AT A TIME. POWER ON. REIMPL TO FIND THE FAILING CARD.

A F MAP 0109-5 1 3 ł Ł 1 1 í I 1 030 ł POWER OFF. 1 | REINSTALL ONE CARD AT A TIME. POWER ON. REIMPL TO FIND THE FAILING CARD. 1 031

GO TO MAP 0300, ENTRY POINT E.

220CT76 PN2547514

EC830357 PEC828579

MAP 0109-5

SYSTEM ENTRY

SYSTEM 32

PAGE 1 DF 6

ENTRY POINTS

FROM	١	ENTER	THIS MAP	
MAP NUMBER	1	ENTRY	PAGE NUMBER	STEP NUMBER
C1C3 C1C4 O1O6	   	A A A	1 1 1	001 001 001

001 (ENTRY POINT A) POWER DFF. REINSTALL PREVIOUSLY REMOVED CABLES AND REMOVE JUMPERS. POWER ON. SET THE MODE SELECTOR SWITCH TO PROC RUN. ALL PINS SHOULD BE AT THE DOWN LEVEL. PROBE AA1-84-813 (+MODE SELECTOR SW BIT 0) PROBE AA1-84-812 (+MODE SELECTOR SW BIT 1) PROBE AA1-B4-D13 (+MODE SELECTOR SW BIT 2) PROBE AA1-B4-D12 (+MODE SELECTOR SW BIT 3) ALL LINES DOWN? Y N ١ 1 CO2 IS ONLY (+MODE SELECTOR SW BIT 0) 1 LINE UP? 1 Y N I I 1 003 1 1. CHECK FOR OPEN CABLE FROM MODE SELECTOR SWITCH TO THE FAILING PIN. (REFER TO ALD I Ł ł | ZZ930) 2. CHECK FOR DEFECTIVE MODE ł

SELECTOR SWITCH. (REFER TO ALD ZZ930) 3. REPLACE CARD AA1-J2.

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THE IMPL SEQUENCE FAILED TO COMPLETE BECAUSE OF A CE PANEL PROBLEM OR THE PROBLEM IS KNOWN TO BE IN THE CE PANEL.

060CT75 PN2547515 EC828579 PEC825460

MAP 0110-1

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SYSTEM ENTRY
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1 1
            SYSTEM 32
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            PAGE 2 DF
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 C04
1
 1. CHECK FOR OPEN CABLE FROM MODE
  SELECTOR SWITCH TO AA1-B4-B13.
 (REFER TO ALD ZZ930)
2. CHECK FOR DEFECTIVE MODE
SELECTOR SWITCH. (REFER TO ALD
 ZZ930)
  3. REPLACE CARD AA1-J2.
005
TURN THE MODE SELECTOR SWITCH ONE
POSITION COUNTER CLOCKWISE.
ALL PINS SHOULD BE AT THE UP LEVEL.
      . . .
                 · ...
PROBE AA1-84-813
(+MODE SELECTOR SW BIT 0)
PROBE AA1-B4-B12
(+MODE SELECTOR SW BIT 1)
PROBE AA1-B4-D13
(+MODE SELECTOR SW BIT 2)
PROBE AA1-B4-D12
(+MODE SELECTOR SW BIT 3)
ANY LINE DOWN?
Y N
1
1 006
PROBE AA1-85-D05 (-ADDRESS COMP
 STOP SW)
| ADDRESS COMP SWITCH.
  SWITCH IN DOWN POSITION - LINE UP
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 SWITCH IN UP POSITION - LINE DOWN
 ARE LEVELS CORRECT?
1
 Y N
t
1
١
  1 007
  1. CHECK FOR DEFECTIVE SWITCH.
1
  (REFER TO ALD ZZ930)
1
  2. REPLACE CARD AA1-J2.
1
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I
 603
 PROBE AA1-85-D09 (-IPL DISKETTEN
t
  IPL DISKETTE SWITCH.
 SWITCH IN DOWN POSITION - LINE UP
1
  SWITCH IN UP POSITION - LINE DOWN
 ARE LEVELS CORRECT?
t
 Y N
  t
  1 009
ł
  1. CHECK FOR DEFECTIVE SWITCH.
   (REFER TO ALD ZZ930)
   2. REPLACE CARD AA1-J2.
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MAP 0110-2
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010
PROBE AA1-85-D07 (-IMPL DISKETTE)
IMPL DISKETTE SWITCH.
SWITCH IN DOWN POSITION - LINE UP
SWITCH IN UP POSITION - LINE DOWN
ARE LEVELS CORRECT?
YN
011
| 1. CHECK FOR DEFECTIVE SWITCH.
| (REFER TO ALD ZZ930)
2. REPLACE CARD AA1-J2.
012
PROBE
         AA1-85-D13
                       (-CHECK
                                  RUN
SWITCH)
CHECK RUN SWITCH.
SWITCH IN DOWN POSITION - LINE UP
SWITCH IN UP POSITION - LINE DOWN
ARE LEVELS CORRECT?
YN
013
1. CHECK FOR DEFECTIVE SWITCH.
(REFER TO ALD ZZ930)
2. REPLACE CARD AA1-J2.
014
PROBE AA1-85-808 (-CE START KEY
PRESSED)
CE START SWITCH.
SWITCH DEPRESSED - LINE DOWN
SWITCH RELEASED - LINE UP
ARE LEVELS CORRECT?
Y N
 015
1. CHECK FOR DEFECTIVE SWITCH.
 (REFER TO ALD ZZ930)
2. REPLACE CARD AA1-J2.
              0600775
                          PN2547515
t
1
              EC828579
                          PEC825460
з
```

52 CD

MAP 0110-2

F

SYSTEM ENTRY MAP 0110-3 E F 2 ٦ SYSTEM 32 1 Į PAGE 3 OF 6 1 Т 1 016 022 PROBE AA1-85-808 (-CE START KEY PROBE AA1-85-812 (-RESET KEY PRESSED) PRESSED) FORCE CLOCK SWITCH. RESET SWITCH. SWITCH IN DOWN POSITION - LINE UP SWITCH DEPRESSED - LINE DOWN SWITCH IN UP POSITION - LINE DOWN SWITCH RELEASED - LINE UP APE LEVELS CORRECT? ARE LEVELS CORRECT? YN Y N 1 1 017 023 1. CHECK FOR DEFECTIVE SWITCH. (REFER TO ALD ZZ930) CHECK FOR DEFECTIVE SWITCH. 1. (REFER TO ALD ZZ930) 2. REPLACE CARD AA1-J2. 2. REPLACE CARD AA1-K2. 1 1 E I C18 024 PROBE AA1-85-D06 (-CONTROL STORAGE PROBE AA1-85-804 (-LAMP TEST) SW) LAMP TEST SWITCH. SWITCH RELEASED - LINE UP SWITCH DEPRESSED - LINE DOWN STOR SEL SWITCH. SWITCH IN DOWN POSITION - LINE UP SWITCH IN UP POSITION - LINE DOWN ARE LEVELS CORRECT? ARE LEVELS CORRECT? Y N Y N 1 025 1 1. CHECK FOR DEFECTIVE SWITCH. 019 1 1. CHECK FOR DEFECTIVE SWITCH. (REFER TO ALD ZZ930) (REFER TO ALD ZZ930) 2. REPLACE CARD AA1-J2. 2. REPLACE CARD AA1-J2. 1 026 t. 020 PROBE AA1-85-D12 (-DISPLAY PWR PROBE AA1-85-D11 (-PREVIOUS PWR CHECK) FAULT DISP) DPLY PWR CHK SWITCH. PWP FAULT DISP PREV SWITCH. SWITCH DEPRESSED - LINE DOWN SWITCH RELEASED - LINE UP SWITCH IN DOWN POSITION - LINE UP SWITCH IN UP POSITION - LINE DOWN ARE LEVELS CORRECT? ARE LEVELS CORRECT? Y N Y N 027 1 1. CHECK FOR DEFECTIVE SWITCH. (REFER TO ALD ZZ930) 021 1 ۱ 1. CHECK FOR DEFECTIVE SWITCH. (REFER TO ALD ZZ930) 2. REPLACE CARD AA1-K2. ł 2. REPLACE POWER SEQUENCE CARD. 060CT75 PN2547515 ł 1 EC828579 PEC825460 З G MAP 0110-3

MAP 0110-4 SYSTEM ENTRY G н ۵ З SYSTEM 32 Į PAGE 4 OF 6 1 028 032 SET THE ADDRESS SWITCHES 1-2 TO FF. PROBE ONLY IF BSCA OR' SDLC IS ALL PINS SHOULD BE AT THE UP LEVEL. INSTALLED. IF BSCA DR SDLC IS NOT INSTALLED ANSWER YES TO THIS QUESTION. PROBE AA1-B4-D05 PROBE AA1-85-805 (-COM DISPLAY TO (+ADDRESS SWITCH 1-2 BIT 0) A DAPTER ) PROBE AA1-B4-DC4 (+ADDRESS SWITCH 1-2 BIT 1) COM DPLY SWITCH. PROBE AA1-84-803 SWITCH IN DOWN POSITION - LINE UP (+ADDRESS SWITCH 1-2 BIT 2) SWITCH IN UP POSITION - LINE DOWN PROBE AA1-B4-D02 (+ADDRESS SWITCH 1-2 BIT 3) ARE LEVELS CORRECT? PROBE AA1-B4-D10 Y N (+ADDRESS SWITCH 1-2 BIT 4) t PROBE AA1-B4-D09 1 029 (+ADDRESS SWITCH 1-2 BIT 5) DEFECTIVE SWITCH. PROBE AA1-84-808 1 1. CHECK FOR (REFER TO ALD ZZ930) (+ADDRESS SWITCH 1-2 BIT 6) 2. REPLACE CARD AA2-L2. PROBE AA1-B4-D07 (+ADDRESS SWITCH 1-2 BIT 7) 030 ANY LINE DOWN? SET THE ADDRESS SWITCHES 1-2 TO CO. Y N ALL PINS SHOULD BE AT THE DOWN LEVEL . 033 Ł SET THE ADDRESS SWITCHES 3-4 PROBE AA1-84-D05 00. (+ADDRESS SWITCH 1-2 BIT C) PINS SHOULD BE AT THE DOWN ALL 1 PROBE AA1-B4-D04 LEVEL . (+ADDRESS SWITCH 1-2 BIT 1) PROBE AA1-B4-D06 PROBE AA1-84-803 (+ADDRESS SWITCH 1-2 BIT 2) (+ADDRESS SWITCH 3-4 BIT 0) PROBE AA1-B4-D02 PROBE AA1-84-805 1 (+ADDRESS SWITCH 1-2 BIT 3) (+ADDRESS SWITCH 3-4 BIT 1) PROBE AA1-84-D10 1 PROBE AA1-84-804 (+ADDRESS SWITCH 1-2 BIT 4) (+ADDRESS SWITCH 3-4 BIT 2) t PROBE AA1-B4-D09 PROBE AA1-B4-B02 (+ADDRESS SWITCH 1-2 BIT 5) (+ADDRESS SWITCH 3-4 BIT 3) 1 PROBE AA1-84-808 PROBE AA1-B4-D11 1 (+ADDRESS SWITCH 1-2 BIT 6) (+ADDRESS SWITCH 3-4 BIT 4) PROBE AA1-B4-B10 (+ADDRESS SWITCH 3-4 BIT 5) PROBE AA1-84-007 (+ADDRESS SWITCH 1-2 BIT 7) PROBE AA1-84-809 ARE ALL LINES DOWN? (+ADDRESS SWITCH 3-4 BIT 6) Y N PROBE AA1-B4-B07 (+ADDRESS SWITCH 3-4 BIT 7) 1 1 031 CHECK FOR OPEN CABLE FROM ARE ALL LINES DOWN? 1 1. ŧ ADDRESS SWITCH 1-2 TO THE FAILING YN Ł Ł PIN. (REFER TO ALD ZZ930) ۱ ŧ 1 1 2. CHECK FOR DEFECTIVE ADDRESS SWITCH 1-2. (REFER TO ALD ZZ930) 3. REPLACE CARD AA1-K2. L ۰, t 1 **١** 1 1 060CT75 PN2547515 ł 1 1 EC828579 PEC825460 ۵ 5 5 5 н JKL MAP 0110-4 

TO

SYSTEM ENTRY с ј κL ۵ ۵ 2 4 SYSTEM 32 5 OF 6 PAGE 1 1 L 1 034 1 1. CHECK FOR OPEN CABLE FROM ADDRESS SWITCH 3-4 TO THE FAILING PIN. (REFER TO ALD ZZ930) 2. CHECK FOR DEFECTIVE ADDRESS SWITCH 3-4. (REFER TO ALD ZZ930) 3. REPLACE CARD AA1-J2. Ł 035 SET THE ADDRESS SWITCHES 3-4 TO FF. ALL PINS SHOULD BE AT THE UP LEVEL. ł PROBE AA1-B4-D06 (+ADDRESS SWITCH 3-4 BIT 0) PROBE AA1-84-805 (+ADDRESS SWITCH 3-4 BIT 1) PROBE AA1-84-804 (+ADDRESS SWITCH 3-4 BIT 2) 1 1 PROBE AA1-84-802 I. (+ADDRESS SWITCH 3-4 BIT 3) PROBE AA1-B4-D11 (+ADDRESS SWITCH 3-4 BIT 4) PROBE AA1-B4-B10 ł (+ADDRESS SWITCH 3-4 BIT 5) 043 PROBE AA1-B4-B09 (+ADDRESS SWITCH 3-4 BIT 6) PROBE AA1-B4-B07 Y N (+ADDRESS SWITCH 3-4 BIT 7) ł ANY LINE DOWN? Y N 036 END 037 LEAVE PROBE ON FAILING PIN. POWER OFF. REMOVE THE Y1 CABLE. (REFER TO ALD 77930) POWER ON. 1 LINE DOWN? YN 1 t 038 1 • CHECK FOR DEFECTIVE ADDRESS SWITCH 3-4• (REFER TO ALD ZZ930) 2• CHECK FOR SHORTED CABLE. I. (REFER TO ALD ZZ930) 1 • 1 039 REPLACE Y1 CABLE. (REFER TO ALD ZZ930)

MAP 0110-5 040 LEAVE PROBE ON FAILING PIN. | POWER OFF. REMOVE THE Y1 CABLE. (REFER TO AL ZZ930) POWER ON. LINE DOWN? Y N 1 041 1. CHECK FOR DEFECTIVE ADDRESS SWITCH 1-2. (REFER TO ALD | ZZ930) 1 2. CHECK FOR SHORTED CABLE. (REFER TO ALD ZZ930) 042 REPLACE Y1 CABLE. (REFER TO ALD 1 77930) IS ONLY (+MODE SELECTOR SW BIT C) LINE DOWN? 044 LEAVE PROBE ON FAILING PIN. POWER OFF. REMOVE THE Y1 CABLE. (REFER TO ALD ZZ930) POWER ON. LINE DOWN? Y N 1 045 1. CHECK FOR DEFECTIVE MODE | SELECTOR SWITCH. (REFER TO ALD ZZ930) 2. CHECK FOR SHORTED CABLE. | (REFER TO ALD ZZ930) 046 REPLACE Y1 CABLE. (REFER TO ALD ZZ930) 0600775 PN2547515 EC828579 PEC825460 6 MAP 0110-5 M

SYSTEM ENTRY м 5 SYSTEM 32 ۱ PAGE 6 OF 6 ١ 1 ۱ 047 LEAVE PROBE ON FAILING PIN. POWER OFF. REMOVE THE Y1 CABLE. (REFER TO ALD ZZ930) POWER ON. LINE DOWN? YN t C48 1 1. CHECK FOR DEFECTIVE MODE 

 I. CHECK FOR DEFECTIVE MODE

 SELECTOR SWITCH. (REFER TO ALD

 ZZ930)

 2. CHECK FOR SHORTED CABLE.

 (REFER TO ALD ZZ930)

 1 049 REPLACE Y1 CABLE. (REFER TO ALD ZZ930)

> 060CT75 PN2547515 EC828579 PEC825460

> > MAP 0110-6

MAP 0111-1

SYSTEM ENTRY

SYSTEM 32

PAGE 1 DF 3

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0100	1	Α	1	001

001 (ENTRY POINT A) POWER OFF. REINSTALL PREVIOUSLY REMOVED CABLES AND REMOVE JUMPERS. POWER ON. SET THE ADDRESS SWITCHES 1-2 TO 00. ALL PINS SHOULD BE AT THE DOWN LEVEL. PPOBE AA1-84-D05 (+ADDRESS SWITCH 1-2 BIT 0) PROBE AA1-B4-D04 (+ADDRESS SWITCH 1-2 BIT 1) PROBE AA1-84-803 (+ADDRESS SWITCH 1-2 BIT 2) PROBE AA1-84-D02 (+ADDRESS SWITCH 1-2 BIT 3) PROBE AA1-84-D10 (+ADDRESS SWITCH 1-2 BIT 4) PROBE AA1-B4-D09 (+ADDRESS SWITCH 1-2 BIT 5) PROBE AA1-B4-B08 (+ADDRESS SWITCH 1-2 BIT 6) PROBE AA1-B4-D07 (+ADDRESS SWITCH 1-2 BIT 7) ARE ALL LINES DOWN? Y N 1 002 1 1. CHECK FOR OPEN CABLE FROM ADDRESS SWITCH 1-2 TO THE FAILING 1 PIN. (REFER TO ALD ZZ930) 1 1

2 CHECK FOR DEFECTIVE ADDRESS
SWITCH 1-2. (REFER TO ALD ZZ93C)
3. REPLACE CARD AA1-K2.

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2 A COPYRIGHT IBM CORP 1975

EXIT POINTS

EXIT TH	IS MAP	то	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
2	007	0109	A

THE IMPL SEQUENCE FAILED TO COMPLETE BECAUSE OF A CE PANEL PROBLEM.

> 060CT75 PN2547516 EC828579 PEC825460

> > MAP 0111-1

Δ SYSTEM ENTRY 1 SYSTEM 32 PAGE 2 OF ٦ 1 003 SET THE ADDRESS SWITCHES 1-2 TO FF. ALL PINS SHOULD BE AT THE UP LEVEL. PROBE AA1-B4-D05 (+ADDRESS SWITCH 1-2 BIT C) PROBE AA1-B4-D04 (+ADDRESS SWITCH 1-2 BIT 1) PROBE AA1-B4-B03 (+ADDRESS SWITCH 1-2 BIT 2) PROBE AA1-B4-D02 (+ADDRESS SWITCH 1-2 BIT 3) PROBE AA1-B4-D10 (+ADDRESS SWITCH 1-2 BIT 4) PROBE AA1-84-009 (+ADDRESS SWITCH 1-2 BIT 5) PROBE AA1-84-808 (+ADDRESS SWITCH 1-2 BIT 6) PROBE AA1-84-D07 (+ADDRESS SWITCH 1-2 BIT 7) ANY LINE DOWN? Y N 1 ۱ 004 THE ADDRESS SWITCHES 3-4 TO I SET 1 00. ALL PINS SHOULD BE AT THE DOWN I LEVEL . PROBE AA1-B4-D06 (+ADDRESS SWITCH 3-4 BIT 0) PROBE AA1-B4-B05 (+ADDRESS SWITCH 3-4 BIT 1) PROBE AA1-B4-B04 (+ADDRESS SWITCH 3-4 BIT 2) PROBE AA1-B4-B02 (+ADDRESS SWITCH 3-4 BIT 3) PROBE AA1-B4-D11 (+ADDRESS SWITCH 3-4 BIT 4) 1 PROBE AA1-B4-B10 ( +ADDRESS SWITCH 3-4 BIT 5) PROBE AA1-B4-B09 (+ADDRESS SWITCH 3-4 BIT 6) 1 PROBE AA1-B4-B07 (+ADDRESS SWITCH 3-4 BIT 7) ARE ALL LINES DOWN? 1 Y N 1 1 1 1 1 1 ۲ ١ 1 1 Т 1 1 1 - 1 I. 1 ۱ 1 1 1 I 1 1 1 1 322 вср

C D MAP 0111-2 2 2 L 1 1 ١ ł 1 Ł 1 005 1. CHECK FOR OPEN CABLE FROM ADDRESS SWITCH 3-4 TO THE FAILING | PIN. (REFER TO ALD ZZ930) 2. CHECK FOR DEFECTIVE ADDRESS SWITCH 3-4. (REFER TO ALD ZZ930) 3. REPLACE CARD AA1-J2. 1 006 SET THE ADDRESS SWITCHES 3-4 TO FF. ALL PINS SHOULD BE AT THE UP LEVEL. PROBE AA1-B4-D06 (+ADDRESS SWITCH 3-4 BIT 0) PROBE AA1-84-805 (+ADDRESS SWITCH 3-4 BIT 1) PROBE AA1-B4-B04 (+ADDRESS SWITCH 3-4 BIT 2) PROBE AA1-84-802 (+ADDRESS SWITCH 3-4 BIT 3) PROBE AA1-B4-D11 (+ADDRESS SWITCH 3-4 BIT 4) PROBE AA1-B4-B1C (+ADDRESS SWITCH 3-4 BIT 5) PROBE AA1-B4-B09 (+ADDRESS SWITCH 3-4 BIT 6) PROBE AA1-B4-B07 (+ADDRESS SWITCH 3-4 BIT 7) ANY LINE DOWN? YN 007 GO TO MAP 0109, ENTRY POINT A. t 1 008 LEAVE PROBE ON FAILING PIN. POWER OFF. REMOVE THE Y1 CABLE. (REFER TO ALD ZZ930) POWER ON. LINE DOWN? YN ١ 1 009 1 1. CHECK FOR DEFECTIVE ADDRESS SWITCH 3-4. (REFER TO ALD ZZ930) 2. CHECK FOR SHORTED CABLE. CABLE. (REFER TO ALD ZZ930) 06DCT75 PN2547516 1 EC828579 PEC825460 з Ε MAP 0111-2

ΒE SYSTEM ENTRY 2 2 SYSTEM 32 ۱ I PAGE 3 OF З ł 1 1 1 1 1 010 1 1. REPLACE CARDS AA1-M2, AA1-J2, 1 AA1-K2. 2. REPLACE Y1 CABLE. (REFER TO | ALD ZZ930) t I 011 LEAVE PROBE ON FAILING PIN. POWER OFF. REMOVE THE Y1 CABLE. (REFER TO ALD ZZ930) POWER ON. LINE DOWN? YN ۱ 012 1. CHECK FOR DEFECTIVE ADDRESS SWITCH 1-2. (REFER TO ALD ZZ930) 2. CHECK FOR SHORTED CABLE CABLE. (REFER TO ALD ZZ930) 1 . 1 013 1. REPLACE CARDS AA1-M2, AA1-J2, AA1-K2. 2. REPLACE Y1 CABLE. (REFER TO ALD

ZZ930)

060CT75 PN2547516 EC828579 PEC825460

MAP 0111-3

SYSTEM ENTRY

SYSTEM 32

PAGE 1 OF 4

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0100	I	Α	1	001

001 (ENTRY POINT A) THE WRAP ERROR DISPLAY ON CRT APPEARS AS SHOWN IN MLM SECTION 5, DIAGNOSTIC PATTERNS, FIGURE 3. (SEE DIAGNOSTIC USER'S GUIDE FOR WRAP ERROR CODE DESCRIPTION) IS ONLY A DISKETTE WRAP ERROR MESSAGE DISPLAYED ON CRT? Y N L 002 IS ONLY A DISPLAY OR KEYBOARD WRAP ERROR MESSAGE DISPLAYED ON I CRT? I Y N ł 003 L I IS ONLY ONE WRAP ERROR MESSAGE L | DISPLAYED? I Y N 11 ł Ł 1 004 t 1 1 Ł I GO TO MAP 0113, ENTRY POINT ł ł | A. t 1 1 005 1 | SELECT THE DEVICE WITH THE WRAP | ERROR AND PERFORM ACTION AS | INDICATED IN THE FOLLOWING I 1 1 | CHART. I IS THE WRAP ERROR DISPLAYED FOR THE DISK OR THE DISKETTE? ł L Y N t 1 1 ł 1 1 1 1 1 1 ł 1 1 1 1 1 ł 1 1 1 l ſ ŧ ł ł 1 ł i COPYRIGHT IBM CORP 1976 1 1 1 1 I 1 1 ł <sup>.</sup> 3 2 2 2 ABCD

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	I MAP I NUMBER	ENTRY POINT
1	004	0113	Δ

WRAP ERROR DISPLAYED ON CRT IS THE FAILURE.

220CT76 PN2547517 EC830357 PEC830387

MAP 0112-1

SYSTEM ENTRY B C MAP 0112-2 D 1 1 1 SYSTEM 32 I Ł PAGE 2 OF 4 1 - 1 I 1 006 1 007 KEYBOARD | DISKETTE 1 1. SET DATA SWITCHES TO F8CO. REPLACE AA2-M2. 1 2. SET THE MODE SELECTOR TO PROC | RUN. 3. SET ALL TOGGLE SWITCHES TO THE CRT DISPLAY | DOWN POSITION. 4. INSERT THE CE SCRATCH DISKETTE AND CLOSE THE DOOR. 5. DEPRESS THE LOAD KEY. (WAIT REPLACE AA2-M2. \_\_\_\_\_ \_\_\_\_\_ | FOR CRT DISPLAY) PRINTER 1. SET DATA SWITCHES TO 0000. 2. SET MODE SELECTOR SWITCH TO PROC 6. DEPRESS THE START KEY. 7. ENTER PROGRAM ID BY TYPING IN 1 33FD. RUN-3. SET THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN 8. DEPRESS THE ENTER KEY. 9. FOLLOW INSTRUCTIONS ON CRT. POSITION. 4. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. I DISK 5. DEPRESS THE LOAD KEY. (WAIT FOR | PRESS RESET CRT DISPLAY) PROBE AA2-K2-PO4(-CHAN DATA 6. DEPRESS THE START KEY.7. DEPRESS THE INQ KEY. | PROTECT). 8. ENTER PROGRAM ID BY TYPING IN PRINTER IF LINE PRINTER. IF SERIAL I F THE LINE IS DOWN GO TO MAP | 0319, ENTRY POINT A. PRINTER GO TO MAP 0525, ENTRY POINT I IF THE LINE IS UP GO TO MAP 0600, Α. 9. DEPRESS THE ENTER KEY. I ENTRY POINT A(DISK MAIN ENTRY 10. FOLLOW INSTRUCTIONS ON CRT. | CHART). 008 IS THE WRAP ERROR MESSAGE 1026? Y N 009 REPLACE CARD AA2-M2. 010 KEYBOARD DIAGNOSTICS RUN AS FOLLOWS: 1. SET DATA SWITCHES TO F100. 2. SET MODE SELECTOR SWITCH TO PROC RUN. 3. SET THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN SWITCHES POSITION. 4. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. 5. DEPRESS THE LOAD KEY. (WAIT FOR CRT DISPLAY) 6. DEPRESS THE START KEY.7. FOLLOW INSTRUCTIONS ON CRT. 220CT76 PN2547517

EC830357 PEC830387

MAP 0112-2

I SYSTEM ENTRY MAP 0112-3 Α 1 SYSTEM 32 ł PAGE 3 OF 4 l Ł 1 011 IS THE WRAP ERROR MESSAGE D050? Y N 1 1 012 DISKETTE DIAGNOSTICS Δ٩ RUN FOLLOWS: I. 1. SET DATA SWITCHES TO F800. SET MODE SELECTOR SWITCH TO I. 2. PROC RUN. | 3. SET ALL TOGGLE SWITCHES TO THE | DOWN POSITION. 4. INSERT THE CE SCRATCH DISKETTE AND CLOSE THE DOOR. 5. DEPRESS THE LOAD KEY. ł (WAIT | FOR CRT DISPLAY) 6. DEPRESS THE START KEY. 1 7. ENTER PROGRAM ID BY TYPING IN I 1 33FD. 1 8. DEPRESS THE ENTER KEY. 9. FOLLOW INSTRUCTIONS ON CRT. 1 L 013 DEPRESS RESET. PROBE AA1-N2-S03 (-CHAN ID DEVICE WORKING) LINE DOWN? ΥN | 014 | REPLACE CARD AA2-K2. 015 ADAPTER CARD LOCATIONS POWER OFF. REMOVE THE ADAPTER CARDS LISTED TO (REFER TO AYO30 FOR PLUG CHART) THE RIGHT. AA2-F2 DISK AA2-K2 DISKETTE AA2-Q2 LINE PRINTER POWER ON. AA2-R2 SERIAL PRINTER DEPRESS RESET. AA2-L2 BSCA OR SDLC (FEATURES) PROBE AA1-N2SO3(-CHAN I/O DEVICE AA2-N2 CARDIC (FEATURE) WORKING). LINE UP? Y N 016 REPLACE CARD AA1-N2. 220CT76 PN2547517 I EC830357 PEC830387 4 E MAP 0112-3 Ì

MAP 0112-4 F SYSTEM ENTRY Е 3 4 SYSTEM 32 I L PAGE 4 OF 4 1 1 T 1 1 1 017 C23 POWER OFF. POWER OFF. REINSTALL CARD AA2-F2. REINSTALL CARD AA2-L2(BSCA OR SDLC). POWER ON. DEPRESS RESET. POWER ON. PROBE AA1+N2SO3(-CHAN I/O DEVICE DEPRESS RESET. PROBE AA1-N2SO3(-CHAN I/O DEVICE WORKING). WORKING). LINE UP? LINE UP? ΥN Y N 018 | REPLACE CARD AA2-F2. 024 | REPLACE CARD AA2-L2. L 019 ŧ POWER OFF. REINSTALL CARD AA2-K2. 025 REPLACE CARD AA2-N2. POWER ON. DEPRESS RESET. PROBE AA1-N2S03(-CHAN I/O DEVICE WORKING). LINE UP? YN L 1 020 | REPLACE CARD AA2-K2. 021 POWER OFF. REINSTALL CARD AA2-Q2(LINE PRINTER) OR AA2-R2(SERIAL PRINTER). POWER ON. DEPRESS RESET. PROBE AA1-N2SO3(-CHAN I/O DEVICE WORKING). LINE UP? Y N ł 022 CARD AA2-02 (LINE OR AA2-R2 (SERLAL I REPLACE | PRINTER) | PRINTER). 1 1 1 ł ł 1 1 I ł 220CT76 PN2547517 1 L EC830357 PEC830387 4 F MAP 0112-4

MAP 0113-1

SYSTEM ENTRY

SYSTEM 32

PAGE 1 DF 4

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MA P NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0112		Δ	1	001

001 (ENTRY POINT A) POWER OFF. REMOVE ALL ADAPTER INTERFACE CARDS EXCEPT THE DISKETTE.

CARDS IDENTIFIED IN THE ADAPTER CARD LOCATION CHART AS FEATURE CARDS WILL BE PRESENT DNLY IF THE FEATURE IS INSTALLED.

POWER ON. SET DATA SWITCHES TO F780. SET MODE SELECTOR SWITCH TO PROC RUN. SET BOTH IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN PDSITION. INSERT THE CE DIAG O1 DISKETTE AND CLOSE THE DOOR. DEPRESS THE LOAD KEY. WAIT FOR STOP LIGHT TO COME ON.

DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'01'AND MCDE SELECTOR SWITCH TO DPLY LSR.

IS WR1 EQUAL TO '0000'? Y N | | EXIT POINTS

EXIT TH	IS MAP		то	
PAGE NUMBER	ST EP NUMBER		MAP NUMBER	ENTRY POINT
2	008	1	0319	Α

THE FAILURE IS A MULTIPLE WRAP ERROR DISPLAY.

ADAPTER INTERFACE CARD LOCATIONS

REFER TO	AY030	FOR	<b>A A 2</b>	BOARD
PLUG CHAR	ι <b>τ.</b>			
A A2 - F2	DISK			
A A 2 - G 2	DI SK			
AA2-K2	DISKET	TE		
A A2 - L2	BSCA C	)R	FEAT	URE
	SDLC		FEAT	URE
AA2-M2	CRT/KY	BD		
A A2 - Q2	LINE			
	PRINTE	R		
A A2 - T2	LINE P	RINT	ER	
A A2 - Q2	SERIAL	PRI	NT ER	
AA2-R2	SERIAL	. PRI	NTER	t i i i i i i i i i i i i i i i i i i i
AA2-N2	CARDIO	l i	FEAT	URE
REFER TO	AY020	FOR	A A 1	BOARD
PLUG CHAR	Τ.			

AA1-F2 MICR FEATURE

22 AE

1 Ł 1 L 1 ł ł 1 ł ł 1 1 ۱ Ł Ł 1 I 1 1 I L ŧ 1 1 1 1 1 1 1 ł ł 1 1 1

 15 APR77
 PN2547518

 EC 830358
 PEC 830357

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MAP 0113-1

A B SYSTEM ENTRY C D MAP 0113-2 1 1 SYSTEM 32 1 1 L PAGE 2 OF - 4 1 1 1 1 1 1 002 006 BY SETTING DATA DISPLAY WR 5 POWER OFF. REMOVE DISKETTE INTERFACE CARD AA2-K2 AND REINSTALL THE DISK INTERFACE CARDS AT AA2-F2, I SWITCHES 3 AND 4 TO X'05'AND MODE | SELECTOR SWITCH TO DPLY LSR. | AA2-G2. I IS WR5 EQUAL TO X E084 ? POWER ON. SET DATA SWITCHES TO F701. I Y N 11 SET MODE SELECTOR SWITCH TO PROC 1 007 | | REPLACE CARDS AA2-Q2, AA2-T2 IF | | LINE PRINTER. REPLACE CARDS RUN. I SET ALL TOGGLE SWITCHES TO THE DOWN POSITION. | | AA2-Q2, AA2-R2 IF SERIAL WAIT APPROX. 45 SECONDS FOR DISK TO BECOME READY. THE | | PRINTER. 1 1 | DEPRESS THE LOAD KEY. 1 008 | WAIT FOR STOP LIGHT TO COME ON. . | GO TO MAP 0319, ENTRY POINT A. | DISPLAY WRI BY SETTING DATA | SWITCHES 3 AND 4 TO X'01'AND MODE | SELECTOR SWITCH TO DPLY LSR. 009 POWER OFF. REINSTALL CARD AA2-M2. 1 POWER ON. SET DATA SWITCHES TO F78E. I IS WRI EQUAL TO X'0000'? Ł ΥN SET MODE SELECTOR SWITCH TO PROC Ŧ 1 003 RUN. ł | REPLACE CARDS AA1-J2, AA1-H2, APPROX . 45 SECONDS FOR THE WAIT DISK TO BECOME READY. | | CROSSOVER CABLE AA1-Z3, AA1-Z4. DEPRESS THE LOAD KEY. 1 1 WAIT FOR STOP LIGHT TO COME ON. 004 | REPLACE CARD AA2-K2. WR 1 DISPLAY ΒY SETTI NG 1 SWITCHES 3 AND 4 TO X'OI'AND MODE 005 POWER OFF. REINSTALL CARDS AA2-Q2, AA2-T2 IF SELECTOR SWITCH TO DPLY LSR. LINE PRINTER. REINSTALL CARDS AA2-Q2, AA2-R2 IF SERIAL PRINTER. IS WR1 EQUAL TO X'0000'? Y N POWER ON. 1 SET DATA SWITCHES TO F782. 010 SET MODE SELECTOR SWITCH TO PROC | REPLACE CARD AA2-M2. RUN-WAIT APPROX. 45 SECONDS FOR THE DISK TO BECOME READY. DEPRESS THE LOAD KEY. WAIT FOR STOP LIGHT TO COME ON. DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'01'AND MODE . DI SPLAY DATA SELECTOR SWITCH TO DPLY LSR. IS WR1 EQUAL TO X'0000'? Y N t 1 15 APR77 1 PN2547518 1 I 1 EC 830358 PEC 830357 ł 3 C D F MAP 0113-2

DATA

E SYSTEM ENTRY 2 SYSTEM 32 I 3 OF 1 PAGE 4 L 1 011 POWER DFF. REINSTALL CARDS AA2-F2, AA2-G2. POWER ON. SET DATA SWITCHES TO F78F. MODE SELECTOR SWITCH TO PROC S ET RUN. WAIT APPRDX. 45 SECONDS FOR DISK TO BECOME READY. THE DEPRESS THE LOAD KEY. WAIT FOR STOP LIGHT TO COME ON. DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'01'AND MODE SELECTOR SWITCH TO DPLY LSR. IS WRI EQUAL TO X'0000'? Y N 1 1 012 | REPLACE CARDS AA2-E2, AA2-F2, AA2-G2. 013 IS BSCA OR SDLC INSTALLED ON THE SYSTEM? Y N L Ł 014 (ENTRY POINT B) 1 5496 IS A 129 0R (CARDIO) L INSTALLED ON THE SYSTEM? 1 1 YN | 015 Ł IS A 1255(MICR) INSTALLED ON THE SYSTEM? IS ł ł 1 I Y N ſ 1 016 1 ł I REPLACE CARDS AA1-J2, AA1-H2, t Ł | CROSSOVER CABLE AA1-Z3. ł AA1-Z4. ł Ŧ 1

1 1 1

11 4 FGH

1

GH MAP 0113-3 1 1 Ł 1 ł 1 T 1 L 1 017 | POWER OFF. | REINSTALL CARD AA1-F2. I POWER ON. | SET DATA SWITCHES TO F78F. | SET MODE SELECTOR SWITCH TO PROC | RUN. WAIT APPRGX. 45 SECO DISK TO BECOME READY. 45 SECONDS FOR THE | DEPRESS THE LOAD KEY. I WAIT FOR THE STOP LIGHT TO COME I ON. 1 DISPLAY WR1 ΒY SETTING DATA | SWITCHES 3 AND 4 TO X'01'AND MODE | SELECTOR SWITCH TO DPLY LSR. 1 IS WRI EQUAL TO X 0000 ? I Y N 1 Ł L 018 | REPLACE CARD AA1-F2. L 1 . 019 | REPLACE CARDS AA1-J2, AA1-H2, I CROSSOVER CABLE AA1-Z3, AA1-Z4. 1 020 POWER OFF. REINSTALL CARD AA2-N2. POWER ON. SET DATA SWITCHES TO F78F. SET MODE SELECTOR SWITCH TO PROC R UN. APPROX. WAIT 45 SECONDS FOR THE DISK TO BECOME READY . DEPRESS THE LOAD KEY. WAIT FOR THE STOP LIGHT TO COME ON. DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'OI'AND MODE SELECTOR SWITCH TO DPLY LSR. IS WR1 EQUAL TO X'0000'? Y N 1 021 1 REPLACE CARD AA2-N2. 1 022 REPLACE CARDS AA1-J2, AA1-H2. CROSSOVER CABLE AA1-Z3, AA1-Z4.

 15APR77
 PN2547518

 EC830358
 PEC830357

MAP 0113-3

F SYSTEM ENTRY 3 SYSTEM 32 ł PAGE 4 OF 4 1 ł 023 POWER OFF. REINSTALL CARD AA2-L2. POWER ON. SET DATA SWITCHES TO F78F. SET MODE SELECTOR SWITCH TO PROC RUN. WAIT APPROX. 45 SECUNDS FOR DISK TO BECOME READY. THE DEPRESS THE LOAD KEY. WAIT FOR THE STOP LIGHT TO COME ON. DISPLAY WR1 BY SETTING DATA SWITCHES 3 AND 4 TO X'01'AND MODE D'I SPLAY DATA SELECTOR SWITCH TO DPLY LSR. IS WRI EQUAL TO X'0000'? Y N 1 024 I REPLACE CARD AA2-L2. 1 025

GD TD PAGE 3, STEP 014, ENTRY POINT B.

 15APR 77
 PN2547518

 EC830358
 PEC830357

MAP 0113-4

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SYSTEM 32
PAGE 1 GF 3
ENTRY POINTS
                 _____
FROM | ENTER THIS MAP
       -+-
          ______
                     _____
MAP | ENTRY PAGE STEP
NUMBER | PGINT NUMBER NUMBER
0100 | A
                   1
                           001
001
(ENTRY POINT A)
*****
* LAMP TEST *
*****
DEPRESS SYSTEM RESET.
IS LOW BYTE BIT P INDICATIOR ON?
YN
1
002
PRDBE AA1-85-D04 (+5VDC
                                CPU)
| (VOLTAGE FOR LED'S)
| LINE UP?
I Y N
1 1
1 003
  | CHECK FOR MISSING +5 VDC ON CPU
ł
 BOARD.
1 1
004
I 1.CHECK FOR OPEN CABLE.(ZZ930)
I (FROM AA1-B5-D04 TO CE PANEL
I +5VDC) (FROM AA1-B5-B03 TO CE
| PANEL +5VDC)
2. REPLACE DEFECTIVE INDICATOR.
3. CHECK FOR MISSING +5VDC ON CE
| PANEL.
| 4. REPLACE DEFECTIVE CE PANEL
| PRINTED CIRCUIT BOARD FOR
I INDICATORS.
1
005
DEPRESS AND HOLD SYSTEM RESET
SWITCH.
ARE POWER CHECK AND/OR THERMAL
CHECK
INDICATORS ON?
Y N
1
006
DEPRESS AND HOLD LAMP TEST
| SWITCH.
  ALL INDICATORS OFF ON CE PANEL?
1
  YN
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  1 1
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    - 1
1
  1 1
3 3 2
ABC
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LAMP TEST

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MAP C200-1

EXIT POINTS

EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENT RY POI NT
3	025	0300	A

 15APR 77
 PN2547504

 EC 830358
 PEC 828692

MAP 0200-1

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MAP 0200-2
                                             FGHJ
С
             LAMP TEST
1
             SYSTEM 32
                                              1
                                                I
                                                  1
                                                1
                                                    1
             PAGE 2 OF
                            З
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                                                   1
                                                1
                                                  1
                                                    1
1
                                                1
                                                  1
                                                    012
C07
                                                1
                                                  1
DEPRESS AND HOLD LAMP TEST SWITCH.
                                                  I DEPRESS AND HOLD LAMP TEST
                                                1
                                                 | SWITCH.
ALL INDICATORS OFF (EXCEPT LOW BYTE
                                              1
                                                | PROCESSOR CHECK, CLOCK LIGHT,
                                                ł
P)?
                                                 I AND HIGH BYTE DISPLAY FAIL TO
                                                T
ΥN
                                                  | LI TE?
                                                1
1
                                                1
                                                  Y N
1 008
                          LAMP
                                 TEST
                                                L
                                                   1
 DEPRESS
          AND
                  HOLD
                                                  1
                                                    013
 SWITCH.
                                                1
                                                  1
                                                           CHECK FOR OPEN CABLE.
 SINGLE INDICATOR FAILS TO COME
                                                1
                                                    | 1.
1
                                                  I | (FROM AA1-85-D04 TO CE
                                                1
 ON?
| | PANEL +5VDC)
 Y N
                                                1
1
                                                                                ΑT
                                                            RE SE A T
                                                                       CABLE
                                                1
                                                    1 2.
1
  1
                                                 | LOCATION AA1-B2, AA1-A2,
  009
                                                1
t
                                               | | | AND AA1-A3.
| | | 3. CHECK
| | OPERATOR
  DEPRESS
             AND HOLD LAMP
                                 TE ST
CHECK FOR +5VDC
                                                                                ΑT
  | SWITCH.
ł
                                                                   PANEL .
   LOW BYTE LIGHTS 0, 1, 2, AND 3
                                                                             (FROM
  1
                                              1
  | FAIL TO LITE?
                                                 | | AA1-B2-D03
                                                                   TO
                                                                           OPERATOR
                                               1
ł
                                                 | | PANEL)
| | 4. R
  I Y N
                                                L
                                                           REPLACE THE FAILING
                                                L
                                               | | INDICATORS.
    I 010
  1
               AND HOLD LAMP TEST
    DEPRESS
                                               1 1 1
                                             L
  ł
                                                 1 014
                                                1
  L
    SWITCH.
ł
                              6,
    LOW BYTE LIGHTS 4, 5,
                                              | | | REPLACE CARD AA1-K2.
                                  7.
  ł
    AND THE LOAD LIGHT AND STOP
                                               1 1
                                             Ł
  ł
                                               | 015
  1
1
      Y N
                                               | REPLACE CARD AA1-H2.
                                              1
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      1
      011
                                               016
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    Ł
                                              t
     I DEPRESS AND HOLD THE
                                LAMP
                                              | REPLACE CARD AA1-N2.
    1
  ł
1
        TEST SWITCH.
  1
      1
        PROC. INTERRUPT LIGHTS 4,
                                             017
      L
        2, 1 FAIL TO LITE?
      1
                                             REPLACE CARD AA1-J2.
    Y N
  I
          1
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                                                             15APR 77
                                                                         PN2547504
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                                                             EC830358
                                                                         PEC828692
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          1
3 3
                                                                      MAP 0200-2
D
 EFGHJ
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A 1	B 1	D 2								м	ΑP	0	20	0 –	3
		     O1 PR DE Sh LI Y	9 OB PR IT NE	E ES CH D	AA1 S OWN	-B : AN	5-B 1D	04 H	( 0 L	- L .D	AM L	P A M	TE P	ST T	) EST
			02 1. C/ A/ TE 2.	20 ABL A1- ST	E.( B5- Sh RE	CH ZZ9 BO4 PL1	HEC 930 + T ACE	к ) О	(F CE DE	RO FE	FO M PA CT	R NE IV	L	D L L	PEN AMP AMP
		1 02 CF CE (2	21 HEC 27	= S 1 CK DPE 930	FC RAT , OP	IR IR IOR	мі РА D)	S S NE	IN L.	IG	G	RO	UN	D	то
	02 PR CE LI Y	2 0 E F I N E N	SE PAN E L	A NEL JP?	A1- )	В 5-	-D 0	4	(	+C	PU	1 +	5 V	DC	то
		02 CF BC	23 IEC DAP	СК Кр.	FOF	L M	[ 5 5	IN	IG	+5	٧	DC	0	N	CPU
	1. (f 2.	RC	CH DM RE	HEC AA EPL PA	K F 1-E ACE NEL	OR 5-1 91	0P 204 RIN	EN T TE	0 D	CA CE CI	BL P RC	E. AN UI	(Z EL T	Z 9 ) BO	30) Ard
02 P0 G0	25 DWE D 1	R	CH M4	I AR A P	т s 03 0	0,	EN	TR	Y	ΡO	IN	T	Α.		

15APR 77	PN2547504
EC830358	PEC828692

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MAP 0200-3

LAMP RESET

SYSTEM 32

PAGE 1 OF 6

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0100 1400		А А	1	001 001

```
001
(ENTRY POINT A)
*****
* LAMP RESET *
*****
DEPRESS AND HOLD THE RESET KEY.
ARE ALL INDICATORS ON OPERATOR
                                 AND
CE PANEL ON EXCEPT THE POWER CHECK
AND THERMAL CHECK?
Y N
1
002
| DEPRESS AND HOLD THE RESET KEY.
1
L
 ΙS
      HIGH
             BYTE DISPLAY P-BIT
 INDICATOR ON?
L
 Y N
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1
 1
I
 003
  1 15
         ANY
              HIGH
                       BYTE DISPLAY
1
  INDICATOR ON?
1
1
  - 1
  1
    004
    I IS A 5321(MCU) INSTALLED ON
  L
   I THE SYSTEM?
  1
  ł
    11
  1
      005
  ł
  1
    t
      I GO TO PAGE 2, STEP 008,
1
  1
      | ENTRY POINT C.
  1
    ł
  1
1
    ł
      1
     006
  L
    ARE ALL 5321 LIGHTS (EXCEPT
  1
    | POWER INDICATOR) OFF?
  1
Y N
  1
    I.
  1
      1
    1 007
  1
1
        GO TO MAP 0900, ENTRY POINT
    I
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ABCD
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MAP 0201-1

EXIT POINTS

EXIT TH	IS MAP	ΙΤΟ	
PAGE	STEP	I MAP	ENTRY
NUMBER	NUMBER	I NUMBER	POINT
1	007	0900	с
4	018	0900	С

ANY NUMBER OF INDICATORS ON WHICH MAY OR MAY NOT EFFECT CUSTOMER CPERATION AFTER POWER IS UP AND RESET HAS BEEN DEPRESSED.

220CT76	PN2547503
EC830357	PEC828692

MAP 0201-1

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SYSTEM 32

PAGE 2 OF 6

008 (ENTRY POINT C) PROBE THE PIN FOR THE FAILING INDICATOR.

IF THE LINE IS UP THE CARD IS GOOD AND THE PROBLEM IS FROM THE PROBED PIN IN THE INDICATOR CIRCUIT.

THE '\_00\_00' IS THE HIGH/LOW BYTE ON THE CE PANEL.

REFER TO THE TABLE BELOW TO FIND THE PROBLEM.

FAILING I INDICATOR	PROBE LOC. AA1-	BOARD CABLE LOC. AA1-	REPLACE CARD AA1-
   PROC CHECK   LOAD LIGHT   STOP LIGHT   STOP LIGHT   STRT LIGHT   CLK LIGHT   CLK LIGHT   PROC INTR2   PROC INTR1   X'PO0_00'   X'_P00_00'   X'_P00_00'   X'_90_00'    K2-S09           N2-B04           N2-D04           N2-D04           J2-D13           H2-S12           K2-B12           K2-B12           K2-B12           K2-B12           K2-B12           K2-B12           K2-B12           K2-B12           K2-B01           K2-D05           K2-B03           K2-B03           K2-D13           K2-D13           K2-D13           K2-D13           K2-D13           K2-D13           K2-D13           K2-S12           N2-N03           N2-S12           N2-M03           N2-P09           J2-G06           J2-G06           J2-G07	B2-B12 B2-B10 B2-B09 B2-B09 B2-D05 B2-B11 A3-B11 A3-B11 A3-B11 A3-B13 A3-D13 A3-D12 A3-B12 A3-B12 A3-B10 A3-B03 A3-D02 A3-D04 A3-B04 A3-B04 A3-B05 A3-D05 A3-D05 A3-D05 A3-D05 A3-D07 A3-D10 A3-B09 A3-D09 A3-D09	K2 N2 N2 J2 H2 A22- K2 H2 H2 H2 H2 H2 H2 H2 H2 H2 H2 H2 H2 H2	
X'_00_01'	J2-J07	A3-B07	J2

220CT76 PN2547503 PEC828692 EC830357

MAP 0201-2

LAMP RESET С 1 SYSTEM 32 3 OF PAGE 6 I ł 009 POWER OFF. REMOVE CARD AT AA2-L2. POWER ON. SET THE BSCA DISPLAY SWITCH TO THE DOWN POSITION. IS ANY HIGH ORDER INDICATOR ON? Y N 1 010 POWER OFF. REINSTALL CARD AA2-L2. POWER ON. RUN BSCA DIAGNOSTICS AS FOLLOWS: L 1 1. SET DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO 1 2. PROC RUN. ł I 3. SET THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGGLE SWITCHES TO THE DOWN SWITCHES POSITION. 1 4. INSERT THE CE DIAG OI DISKETTE AND CLOSE THE DOOR. 1 5. DEPRESS THE LOAD KEY. (WAIT J. DEPRESS THE LOAD NET.
FOR CRT DISPLAY)
G. DEPRESS THE START KEY.
T. DEPRESS THE INQ KEY.
8. REMOVE THE CE DIAG OI DISKETTE
AND INSERT THE CE DIAG O3
DISKETTE AND CLOSE THE DOOR. ENTER PROGRAM ID BY TYPING IN 9. I BSCA. 10. DEPRESS THE ENTER KEY. | 11. FOLLOW INSTRUCTIONS ON CRT. 011 POWER OFF. REMOVE CARD AT AA1-K2. DEPRESS AND HOLD THE DPLY PWR CHK SWITCH. IS ANY HIGH ORDER INDICATOR ON? Y N ł 1 1 1 1 I 1 F ł 1 1 1 4 4 EF 1

(AA2-L2 CARD ONLY PRESENT IF BSCA IS INSTALLED. IF BSCA IS NOT INSTALLED ANSWER YES TO THIS QUESTION.)

MAP 0201-3

220CT76 PN2547503 EC830357 PEC828692

MAP 0201-3

۴ LAMP RESET 3 SYSTEM 32 1 PAGE 4 OF 6 1 012 REINSTALL PREVIOUSLY REMOVED CARD/S. POWER ON. DEPRESS THE RESET KEY. PROBE THE PIN FOR PIN FOR THE FAIL ING INDICATOR. ΙF THE LINE IS UP THE CARD IS GOOD AND THE PROBLEM IS FROM THE PROBED PIN IN THE INDICATOR CIRCUIT. THE '\_00\_00' IS THE HIGH/LOW BYTE ON THE CE PANEL. REFER TO THE TABLE BELOW TO FIND THE PROBLEM. | FAILING | PROBE| BOARD | REPLACE| INDICATOR! LOC. | CABLE | CARD | AA1- | LOC. AA1-1 AA1-1-|PROC CHECK | K2-S09 | B2-B12 | |LOAD LIGHT | N2-B04 | B2-B10 | К2 Ν2 STOP LIGHTIN2-D04| B2-B09 N2 STOP LIGHT J2-D13 | STRT LIGHT H2-S13 | B2-D05 J2 H2 KYBD LIGHT | AA2- | AA2-| |M2-S12| B2-B11| |CLK LIGHT |K2-E12| A3-B11| M2 K2 ICLK LIGHT |K2-B12| A3-B11| К2 |PROC INTR4|H2-B05| A3-B13| |PROC INTR2|H2-D04| A3-D13| H2 Н2 |PROC INTR1 | H2-D05 | A3-D12 | Η2 |X'POO\_OO' |K2-BO4| A3-B12| |X'\_80\_OO' |K2-D12| A3-B10| К2 X'\_80\_00' К2 X'\_40\_00' 1K2-J05| A3-B03| К2 ł X'\_20\_00' |K2-B02| A3-D03| |K2-B09| A3-D02| Κ2 |X'\_10\_00' |X'\_08\_00' ĸг K2-G03 A3-D04 Κ2 |X'\_04\_00' |X'\_02\_00' |X'\_01\_00' |K2-D13| A3-B04| |K2-D11| A3-D05| К2 К2 |K2-B13| A3-B05| Κ2 X'\_00P00' X'\_00\_80' |J2-G05| A3-D11| |N2-M03| A3-D06| J2 ł Ν2 X'\_00\_40' |N2-S12| A3-B06| N2 |X'\_00\_20' |X'\_00\_10' |N2-M09| A3-D07| |N2-P09| A3-D10| N2 Ν2 X1\_00\_081 [J2-G06] A3-B09] J2 |X'\_00\_04' |J2-G07| A3-D09| |X'\_00\_02' |J2-J06| A3-B08| |X'\_00\_01' |J2-J07| A3-B07| J2 J2 J2 1

MAP 0201-4 ABE 1 1 3 1 1 1 1 1 1 ł 1 013 I I REPLACE POWER SEQUENCE CARD. 014 REPLACE CARDS AA1-H2, AA1-J2, ł AA1-K2. 015 IS A 5321(MCU) INSTALLED ON THE SYSTEM? Y N 016 STEP 019, ENTRY GO TO PAGE 4, POINT B. L 017 UNPLUG CABLE AA2-U5. DEPRESS AND HOLD THE RESET KEY. ARE ALL INDICATORS ON OPERATOR AND CE PANEL ON EXCEPT THE POWER CHECK AND THERMAL CHECK? Y N 1 I 018 | GO TO MAP 0900, ENTRY POINT C. 019 (ENTRY POINT E) PROBE AA1-85-804 (-LAMP TEST) LINE DOWN? Y N 1 1 I 1 L 1 1 ł 1 220CT76 PN2547503 1 I EC830357 PEC828692 5 5 G MAP 0201-4 н

SYSTEM 32 SYSTEM 32 PAGE 5 OF 6 PROBE THE PIN FOR THE FAILING INDICATOR. IF THE LINE IS UP THE CARD IS GOOD AND THE PROBLEM IS FROM THE PROBED PIN IN THE INDICATOR CIRCUIT. THE '_OO_OO' IS THE HIGH/LOW BYTH ON THE/CE PANEL. REFER TO THE TABLE BELOW TO FIND THE PROBLEM. FAILING   PROBE  BOARD  REPLACE INDICATOR  LOC.   CABLE   CARD AA1-   LOC.   AA1-   AA1-   LOC.   AA1-   AA1-   LOC.   AA1-   AA1-   J2- STOP LIGHT N2-BO4  B2-B10  N2 ISTOP LIGHT N2-D13  J2 ISTOP LIGHT  A22-   AA2-   M2-S12  B2-B11  M2 ICLK LIGHT  K2-B12  A3-B11  K2  PROC INTR4 H2-B06  A3-B13  H2  PROC INTR4 H2-B06  A3-B13  H2  PROC INTR4 H2-B06  A3-B13  H2  PROC INTR4 H2-B06  A3-B13  H2	
PAGE 5 OF 6 PROBE THE PIN FOR THE FAILING INDICATOR. IF THE LINE IS UP THE CARD IS GOOD AND THE PROBLEM IS FROM THE PROBED PIN IN THE INDICATOR CIRCUIT. THE '_OO_OO' IS THE HIGH/LOW BYTH ON THE/CE PANEL. REFER TO THE TABLE BELOW TO FIND THE PROBLEM. I FAILING   PROBE  BOARD   REPLACE I NDICATOR   LOC.   CABLE   CARD   AA1-   LOC.   AA1-   AA1-   LOC.   AA1-	
020 PROBE THE PIN FOR THE FAILING INDICATOR. IF THE LINE IS UP THE CARD IS GOOD AND THE PROBLEM IS FROM THE PROBE PIN IN THE INDICATOR CIRCUIT. THE '_OO_OO' IS THE HIGH/LOW BYT ON THE/CE PANEL. REFER TO THE TABLE BELOW TO FINE THE PROBLEM. I FAILING   PROBE  BOARD  REPLACE   INDICATOR  LOC.   CABLE   CARD   AA1-   LOC.   AA1-   AA1-     AA2-       AA2-       A	
IF THE LINE IS UP THE CARD IS GODI AND THE PROBLEM IS FROM THE PROBE PIN IN THE INDICATOR CIRCUIT. THE '_OO_OO' IS THE HIGH/LOW BYT ON THE/CE PANEL. REFER TO THE TABLE BELOW TO FINIT THE PROBLEM. I FAILING   PROBE  BOARD  REPLACE I INDICATOR  LOC.   CABLE   CARD   AA1-   LOC.   AA1-   AA1-   AA1-   AA1-   AA1-   AA1-   AA1-   AA1-   AA1-   AA1-   AA1-   AA1-   AA1-   AA1-   AA1-   AA2-   AA2	G
THE '_OO_OO' IS THE HIGH/LOW BYTHON THE/CE PANEL. REFER TO THE TABLE BELOW TO FINE THE PROBLEM. 	D
REFER TO THE TABLE BELOW TO FINITHE PROBLEM.         I FAILING   PROBE  BOARD  REPLACE         I NDICATOR   LOC.   CABLE   CARD           AA1-   LOC.   CABLE   CARD           AA1-   LOC.   AA1-           AA2-           STOP LIGHT  N2-D04  B2-B09  N2           STOP LIGHT  A2-D13  J2           STRT LIGHT  H2-S13  B2-D05  H2           KYBD LIGHT   AA2-   AA2-           M2-S12  B2-B11  M2           CLK LIGHT  K2-B12  A3-B11  K2           CLK LIGHT  K2-B12  A3-B11  K2           PROC INTR4 H2-B06  A3-B13  H2           PROC INTR4 H2-B06  A3-B13  H2	E
FAILING         PROBE        BCARD         REPLACE           INDICATOR       LCC.       CABLE         CARD           AA1-       LCC.       AA1-           AA1-       LCC.       AA1-           AA1-         AA1-           PROC       CHECK       K2-S09           STOP       LIGHT       N2-B04           STOP       LIGHT       N2-D04           STOP       LIGHT       N2-D13           STOP       LIGHT       N2-D13           STRT       LIGHT       J2-D13           KYBD       LIGHT       A2-           M2-S12       B2-B11       M2           CLK       LIGHT       K2-B12           CLK       LIGHT       K2-B12           PROC       INTR4       H2-B05           A3-B11       K2           PROC       INTR4           H2-B05       A3-B13           PROC       INTR4	D
IPROC CHECK   K2-S09   B2-B12   K2         ILDAD LIGHT   N2-B04   B2-B10   N2         ISTOP LIGHT   N2-D04   B2-B09   N2         ISTOP LIGHT   J2-D13   J2         ISTRT LIGHT   H2-S13   B2-D05   H2           KYBD LIGHT   AA2-   AA2-           M2-S12   B2-B11   M2           CLK LIGHT   K2-B12   A3-B11   K2           CLK LIGHT   K2-B12   A3-B11   K2           PROC INTR4   H2-B05   A3-B13   H2	
IPROC INTR1 H2-D05  A3-D13  H2         IX PO0_C0'  K2-B04  A3-B12  K2         IX'_80_00'  K2-D12  A3-B10  K2         IX'_80_00'  K2-D12  A3-B10  K2         IX'_20_00'  K2-D12  A3-B03  K2         IX'_20_00'  K2-B02  A3-D03  K2         IX'_10_00'  K2-B09  A3-D02  K2         IX'_08_00'  K2-G03  A3-D04  K2         IX'_04_00'  K2-B13  A3-B04  K2         IX'_04_00'  K2-B13  A3-B05  K2         IX'_04_00'  K2-B13  A3-B05  K2         IX'_00_00'  J2-G05  A3-D11  J2         IX'_00_80'  N2-M03  A3-D06  N2         IX'_00_40'  N2-S12  A3-B06  N2         IX'_00_10'  N2-P09  A3-D10  N2         IX'_00_04'  J2-G07  A3-D09  J2         IX'_00_04'  J2-G07  A3-B08  J2         IX'_00_01'  J2-J07  A3-B07  J2	

MAP 0201-5 G 4 1 1 1 1 021 LEAVE THE PROBE ON THE PIN. POWER OFF. REMOVE CABLE AT AA1-85. POWER ON. LINE DOWN? ΥN ŀ 022 | LEAVE THE PROBE ON THE PIN. POWER OFF. REINSTALL CABLE AT AA1-E5. REMOVE CABLE AT Y1. I POWER ON. | LINE DOWN? I Y N 1 023 | | 1. CHECK FOR DEFECTIVE LAMP | TEST SWITCH. (REFER TO ALD | | ZZ930) I 2. CHECK FOR SHORTED CABLE. I (REFER TO ALD ZZ930) 1 1 024 REPLACE Y2 CABLE. 025 LEAVE THE PROBE ON THE PIN. POWER OFF. REINSTALL CABLE AT AA1-B5. REMOVE CARD AT AA1-J2. POWER ON. LINE DOWN? Y N 026 | REPLACE CARD AA1-J2. 027 LEAVE THE PROBE ON THE PIN. POWER OFF. REMOVE CARD AT AA1-H2. POWER ON. LINE DOWN? YN | 028 | REPLACE CARD AA1-H2. 1 1 I 220CT76 PN2547503 L EC830357 PEC828692 6 MAP 0201-5 J

J LAMP RESET 5 SYSTEM 32 ł I PAGE 6 OF 6 I 029 LEAVE THE PROBE ON THE PIN. POWER OFF. REMOVE CARD AT AA1-K2. POWER ON. LINE DOWN? Y N Ł | 030 REPLACE CARD AA1-K2. 031 LEAVE THE PROBE ON THE PIN. POWER DFF. Remove card at AA2-M2. Power on. LINE DOWN? Y N L 032 | REPLACE CARD AA2-M2. T 033 REPLACE CARD AA1-N2.

> 220CT76 PN2547503 EC830357 PEC828692 MAP 0201-6

POWER MAPS

# SYSTEM 32

### PAGE 1 DF 35

# ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY PO INT	PAGE NUMBER	STEP
01 00	ļ	A	2	001
0105	1	A	2	001
0318		G	27	144

EXIT PO	INTS		
EXIT TH	IS MAP	1 TO	
PAGE	STEP	I MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
		+	
30	173	0301	Α
24	116	0301	A
31	176	0301	A
25	131	0301	8
30	116	0302	~
31	176	0302	Â
25	131	0302	B
30	173	0303	Ā
24	116	0303	A
31	176	0303	А
25	131	0303	в
30	173	0304	А
24	116	0304	Α
31	176	0304	A
25	131	0304	В
31	173	0305	A
24	116	0305	A
21 .	170		A
23	173	0305	•
24	116	0306	Ā
31	176	0306	A
25	131	0306	в
31	173	0307	A
24	116	0307	Α
31	176	0307	A
26	131	0307	в
22	109	0308	A
29	158	0308	A
20	109	0309	~
5	012	0310	Â
13	046	0310	A
33	184	0310	A
33	189	0310	А
13	048	0310	Α
19	079	0311	Α
21	095	0311	Α
9	023	0311	A
19	077	0311	Α
12	036	0312	A
15	057	0312	A
12	040		A
14	043	0313	A •
16	053	0315	
31	173	0315	Ā
34	193	0315	Â
22	108	0316	A
23	115	0316	A

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POWER MAPS

SYSTEM 32

PAGE 2 OF 35

EXIT POINTS

EXIT TH	IS MAP	١	то	
PAGE	STEP	ļ	MAP	ENTRY
NUMBER	NUMBER	1	NUMBER	PCINT
28	149	1	0316	Α
31	175	1	0316	A
34	190	1	0316	Α
34	192	1	0316	Α
24	116	ł	0316	Α
35	194	1	0316	Α
7	018	١	0317	Α
11	030	1	0317	A
19	076	1.	0317	А
35	194	1	0317	A
9	023	1	0317	Α
6	014	L	0317	в
29	156	ł	0503	Α

001

1

-	-	÷	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	
(	Ε	N	т	R	Y		Ρ	ο	I	N	т		A	)							

 	 	-	 •	-	-	-	-	-	-	-	-	-	-	-

INTRODUCTION:

IT IS A GOOD PROCEDURE TO CHECK FOR OBVIOUS PROBLEMS SUCH AS, FUSE 101, FUSE 102, AND CUSTOMER INPUT POWER BEFORE CONTINUING THROUGH MAPS.

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ALL LOCATIONS IN THE POWER SUPPLY AREA ARE SHOWN IN SEC. 8 OF THE MLM.

FRAME GROUND MAY BE USED FOR GROUND REFERENCE UNLESS OTHERWISE STATED.

TOOLS NEEDED FOR PROBLEM ISOLATION: 1) CE PROBE.

2) CE METER.

3) JUMPER WIRES.

4) CABLE EXTENDER.

5) TOOLS FOR REMOVING COVERS.

+6 VDC CONTROL VOLTAGE ON SEQUENCE CARD TEST POINT, SC-TP-BO5 IS A 2.5% TOLERANCE VOLTAGE THAT CAN BE USED AS A REFERENCE FOR CE METER ACCURACY CHECK.

TO DISPLAY THE POWER CHECK BYTE:

FOLLOWING A PWR CHK, PRESS THE DPLY PWR CHK SWITCH WITH THE PWR FAULT (STEP 001 CONTINUES)

(STEP 001 CONTINUED) DPLY SWITCH IN THE PRES POSITION. THE CONDITION CAUSING THE CURRENT PWR CHK IS DISPLAYED. WITH THE PWR FAULT DISP SWITCH IN THE PREV POSITION, THE ERROR CHECK BYTE FROM THE LAST PWR CHK IS DISPLAYED. 15 THIS CHECK BYTE RECORDED AUTOMATICALLY IN THE PREVIOUS CHECK REGISTER BY PRESSING THE SYSTEM RESET BUTTON WITH THE CONSOLE POWER SWITCH OFF WHEN ATTEMPTING TO CLEAR THE PWR CHK. THIS CHECK BYTE CANNOT BE RETAINED IF MAIN LINE POWER WAS LOST OR REMOVED SINCE THE RECORDING. THE NORMAL RECOVERY TECHNIQUE OF PRESSING RESET WITH SETING \*POWER ON TO OFF (OPERATORS PANEL) IN ORDER TO CLEAR A POWER CHECK MAY NOT WORK IN THE CASE OF A POWER LINE DISTURBANCE WHERE POWER IS NOT LOST COMPLETELY. IN THIS CASE THE PWR CHK INDICATOR MAY BE CLEARED BY TURNING MAIN LINE SWITCH "OFF" FOR A FEW SECONDS, THEN 'ON'. THE FEED THROUGH CONNECTOR USED TO INTERFACE THE POWER SEQUENCE CARD TO ITS CABLING IS REFERRED TO IN THE POWER MAPS AS A MAPLE BLOCK CONNECTOR\*. THE FORMAT USED FOR REFERRING TO SIGNAL LINES WILL BE: >> SIGNAL LINE NAME <<. PIN LOCATION \*\*\*\*\* POWER SEQ CARD MAPLE--XYY CONNECTOR . 1 1) CHECK FUSES F101 & F102. AFTER ATTEMPTING TO POWER UP, IS PWR OR TH CHK DN? Y N 002 1 GO TC PAGE 4, STEP 007, ENTRY POINT B.

30DEC77 PN2594601

EC832050A PEC828777

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POWER MAPS
A
2
            SYSTEM 32
1
            PAGE 3 OF
                          35
1
I
1
003
         POWER
                               + OFF!
1)
   SET
                    ON'
                          тс
(OPERATORS PANEL).
2) DISPLAY AND RECORD PRESENT POWER
FAULT INDICATORS. (SEE NOTE 1.
BELOW.)
Ŧ
NOTE 1.
POWER FAULT DISPLAY - HIGH BYTE.
*
0 1 2 3 4 5 6 7
*
 * *
      * * * *
              *
0 1 - - - - - - -
                      UNDER VOLTAGE.
1 0 - - - - - -
                      OVER VOLTAGE.
1 1 - - - - - - -
                      OVER CURRENT.
--01---
                      MULTI LEVEL
                      FILTER ASM.
- - 1 1 - - - -
                      DUAL LEVEL
                      FILTER ASM.
- - - - 0 0 0 0
                     LEVEL UNKNOWN.
-
 - - - 0 0 0 1
                    -4 V
                    +5V
-
 - - - 0 0 1 0
 - - - 0 0 1 1
-
                    -5V
_
   - - 0 1 0 0
                    +6V
 -
- - - - 0 1 0 1
                  +8.5V
-
 - - - 0 1 1 0
                   +12V
 - - - 0 1 1 1
                   -12V
_
- - - - 1 0 0 0
                   +24V
- - - - 1 0 0 1
                   -24 V
   -
      - 1 1 1 1
                      MORE THAN ONE
                      LEVEL BAD.
ON THE OPERATOR PANEL, ARE BOTH TH
AND PWR CHK INDICATORS ON?
Y N-
1
 004
L
1
 1) SET MAIN LINE SWITCH TO "OFF".
2) WAIT 10 SECONDS.
3) SET MAIN LINE SWITCH TO "ON".
1
  1
IS PWR CHK INDICATOR ON SOLID
IMMEDIATELY AFTER
                       MAIN
                               LINE
  SWITCH IS SET 'ON'?
Ł
t
  Y N
L
  1
 005
SET POWER ON' TO 'ON'
  | 1)
L
  (OPERATORS PANEL).
t
1
  IS THE PWR CHK INDICATOR ON
AFTER ATTEMPTING TO POWER UP?
I.
  1
1
  (ALLOW UP TO 45 SECONDS DELAY.)
1
    YN
1
  1
   1
      1
I.
  1
    1
      1
١
  1
      1
      1
1
  E
    L
1
    1
      1
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    1
      I
      1
3 3 1
5 5 7 4
BCDE
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MAIN LINE SWITCH IS LOCATED AT REAR OF MACHINE AND BELOW PRINTER.

30DEC77 PN2594601

EC832050A PEC828777

POWER MAPS MAP 0300-4 Ε ٦ SYSTEM 32 ļ PAGE 4 OF 35 ۱ 1 ł 006 IS THE TH CHK INDICATOR ON? Y N 1 1 007 ------1 (ENTRY POINT B) 1 1 SYSTEM IS THE POWERED ON NORMAL OPERATION: FANS RUNNING. t DISK MOTOR TURNING, DISKETTE MOTOR NORMALLY? 1 YN TURNING, AND LAMP TEST LIGHTS ALL t LED'S. ł 1 ł 008 ł POWER ON 1) SET TO .OFF. PWR CHK AND TH CHK ON THE OPERATOR ţ ۱ PANEL SHOULD LIGHT ANY TIME THE (OPERATORS PANEL). 1 1 LAMP TEST SWITCH IS PRESSED WITH THE MACHINE POWERED OFF AND WITH SET THE PWR FAULT DISP 2) I 1 1 SWITCH ON THE CE PANEL TO THE THE MAIN LINE SWITCH STILL ON. | PRES POSITION. L 1 3) PRESS THE LAMP TEST SWITCH ON THE CE PANEL AND AT THE SAME TIME PRESS THE DPLY PWR CHK 1 IN ADDITION, WHEN THE LAMP TEST AND DPLY PWR CHK SWITCHES ARE PRESSED I. 1 CONCURRENTLY THE LEFTMOST 8 BITS SWITCH. ONLY SHOULD LIGHT ON THE CE PANEL. IF ALL INDICATORS LIGHT WITH LAMP TEST ONLY, THE MACHINE IS NOT POWERED OFF PROPERLY. IF NO INDICATORS LIGHT WITH LAMP TEST THE MACHINE MAY NOT HAVE AC POWER OR THE LAMP TEST CIRCUITRY MAY BE FAULTY. DID TEST SHOW BOTH POWER AND TH 1 1 INDICATORS AND HIGH BYTE 1 1 (LEFTMOST & BITS) ON CE PANEL? ١ Y N Ł I t 1 I ţ Ŧ 009 DID TEST SHOW BOTH PWR AND TH t ŧ INDICATORS BUT NOT ALL THE I 1 | HIGH BYTE INDICATORS ON? YN ŧ 1 1 1 - 1 1 1 010 DID TEST SHOW EITHER PWR OR ۱ 1 TH INDICATORS? 1 YN 1 1 1 1 1 1 1 1 1 ŧ 1 1 1 1 1 1 1 1 ۱ ١ 1 I 1 1 · 30DEC 77 PN2594601 ł ł 1 1 1 1 t ļ 1 1 EC832050A PEC828777 1 630995 ĸι c GНJ MAP 0300-4

L POWER MAPS

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DD

SYSTEM 32

PAGE 5 OF 35

THE COOLING FANS

CPERATE

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!
011
1) SET MAIN LINE SWITCH TO 'OFF'.
DANGER: LINE VOLTAGE PRESENT WHEN
MACHINE SET 'OFF'.
2) REMOVE AC POWER BOARD COVER.
3) PUSH IN TO CLOSE K1 RELAY
CONTACTS WITH AN INSULATED TOOL.
4) SET MAIN LINE SWITCH TO 'CN'.

MAP 0300-5

MLM SEC. 8 SHOWS LOCATION OF K1 ON THE AC BOARD.

•

PROPERLY? YN T 012 | DANGER ---> WHEN CHECKING PRIMARY POWER CABLING, UNPLUG THE AC CORD. 1 1 1 1) CHECK CUSTOMER INPUT AC POWER. 2) CHECK FROM MAIN LINE SWITCH THROUGH LINE FILTER TO AC CORD AT 1 CUSTOMER INPUT. CHECK FOR ALL CONDITIONS THAT WOULD PREVENT AC VOLTAGE FROM BEING PRESENT. 3) CHECK FOR DEFECTIVE MAIN LINE SWITCH L CONTINUITY CHECK FOR SWITCH ACTION & FOR GROUND SHORTS & OPENS ON SWITCH & CABLE). ł 4) TO CHECK OUT AC POWER | DISTRIBUTION. GO TO MAP 0310, ENTRY POINT A. 1 -----------L ł 5) REPLACE AC BDARD. L 013 1) SET MAIN LINE SWITCH TO "OFF". 2) CHECK FUSE 101.

MLM SEC. 8 SHOWS HOW AC POWER COMES INTO THE MACHINE. ALSO REFERS TO FEALD'S.

LOCATION: FIRST FUSE TO THE RIGHT DF MAIN LINE SWITCH,

AC TO THE AC POWER BOARD TRANSFORMER IS SUPPLIED THROUGH FUSE 101.

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3CDEC77 PN2594601

POWER MAPS MN 55 SYSTEM 32 1 1 PAGE 6 DF 35 1 1 1 1 t 1 1 014 1) REPLACE FUSE 101. 2) SET MAIN LINE SWITCH TO 'ON'. SET POWER ON' TO 'ON' 3) 1 (OPERATORS PANEL) . 4) WAIT FOR A REASONABLE LENGTH OF TIME TO SEE IF THERE IS SOME PROBLEM CAUSING THE FUSE TO BLOW. IF FUSE CONTINUES TO BLOW. 5) MARK THIS PLACE. 1 1 1 6) TO CHECK OUT CONTROL VOLTAGE LOADING. GO TO MAP 0317, ENTRY POINT B. ----IF FUSE CONTINUES TO ELOW. AND NO OTHER DEFECT IS FOUND. 7) REPLACE AC POWER BOARD. 1 1 015 1) INSTALL FUSE 101. (ENTRY POINT C) \_\_\_\_\_\_ 2) OPEN COVERS TO ACCESS THE POWER SUPPLIES, POWER SEQUENCE CARD, AND CPU LOGIC GATE. 3) REMOVE POWER SEQUENCE CARD. SEAT POWER STATUS CABLE AT PWR 4) SEQ CARD. TOP PLUG POSITION. I. 5) SEAT POWER SENSE CABLE AT PWR SEQ CARD. BOTTOM PLUG POSITION. 1 1 6) SEAT POWER SEQUENCE CARD. SEAT CABLE AT CPU BOARD AA1-A2 7) PLUG POSITION ON CARD SIDE OF BOARD. I. POWER STATUS CABLE. 1 > 8) SEAT ALL J-CONNECTORS ON MULTI AND DUAL LEVEL FILTER ASM. POWER SENSE CABLE. ŧ 9) SET MAIN LINE SWITCH TO "DN". 10) SET POWER ON' TO 'ON' (OPERATORS PANEL). (STEP 015 CONTINUES)

MAP 0300-6

MLM SEC. 8 SHOWS LOCATION OF SEQ CARD AND CABLES.

30DEC77 PN2594601

#### EC832050A PEC828777

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POWER MAPS
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#### SYSTEM 32

### PAGE 7 DF 35

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(STEP 015 CONTINUED)
DID SYMPTOMS REMAIN SAME AFTER
SEATING?
YN
ł
1 016
1
| GD TD PAGE 2. STEP 001.
| ENTRY POINT A.
I
017
   MEASURE
             CONTROL +5 VDC
                               AT
1)
AA1-A2-B03 OR -D02.
WAS +5 VDC OUT TO THE AA1 BOARD
CORRECT?
Y N
I
018
| 1) MARK THIS PLACE.
L
 -----
2) TO CHECK OUT ALL
                           CONTROL
VOL TAGES.
 GO TO MAP 0317, ENTRY POINT A.
L
۱
 -----
    ------
 1
I
3)
     SET
          POWER DN. TO
                             OFF !
1
 (OPERATORS PANEL).
 4) SET MAIN LINE SWITCH TO "OFF".
I.
     REMOVE THE POWER SEQUENCE
 5)
١
1
 CARD.
6) USE POINTS LISTED BELOW TO
 ISOLATE THE PROBLEM:
Ł
1
 POWER +5 VDC. (CONTROL VOLTAGE).
ł
 5% (+/-)
1
                    PIN LOCATION
                     *****
 FRCM:
       POWER
                    MAPLE--B03,
1
        SEQUENCE
                         --D02.
ţ
        CARD
I
        CONNECTOR
   TO:
       CPU BOARD
                    AA1-A2-B03,
                         --D02.
```

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8

# 30DEC77 PN2594601

#### EC832050A PEC828777

POWER MAPS

SYSTEM 32

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1 PAGE 8 DF 35 1 1 1 019 1) INSTALL ANY CABLES PREVIOUSLY REMOVED. 2) REMOVE CONSOLE OPERATOR PANEL TO ACCESS PWR CHK AND TH CHK LED'S. 3) MEASURE CONTROL +5 VDC 0N OPERATOR PANEL: E POWER +5 VDC TO OPERATOR PANEL LED'S. PIN LOCATION \*\*\*\* OPERATOR PANEL (LONG LEG OF PWR, TH, LED'S CAELE TO LED'S WAS +5 VDC TO THE OPERATOR PANEL CORRECT ? Y N ł 020 1) USE SIGNAL POINTS LISTED BELOW TO ISOLATE THE PROBLEM: ۱ 1 POWER +5 VDC TO OPERATOR PANEL LED'S. PIN LOCATION 1 \*\*\*\*\*\* ł FROM: CPU BOARD AA1-A2-803. D02, 1 TO: CPU BOARD AA1-82-802 то: OPERATOR (LONG LEG OF PANEL CABLE TO LED .S) PWR, TH, LED'S 1 2) REPAIR OF REPLACE DEFECTIVE t 1 +5V CABLES FROM CPU BOARD TO OPERATOR PANEL. ł 021 1) REMOVE CE PANEL AND ATTACH THE RIGHT HAND SIDE OF PANEL TO RIGHT HAND SIDE OF THE CPU FRAME SO THAT IT EXTENDS DUTWARD FACING THE KEY BOARD. 2) MEASURE CONTROL +5 VDC ON THE CE PANEL. POWER +5 VDC TO CE PANEL SWITCHES AND LED'S. PIN LOCATION \*\*\*\*\* J CONNECTOR ON CEP-J1-5 LED PC BOARD 1 WAS +5 VDC TO THE CE PANEL CORRECT? YN 1 1 1 ł ł 1 ł 1 L 1 I 1 ۱ ۱ ł. 1 99 Q R

30DEC77 PN2594601

EC832050A PEC828777

JKQR POWER MAPS 4 4 8 8 SYSTEM 32 ł 1 ł 1 1 1 PAGE 9 OF 35 1 Ł 1 1 1 1 022 1 ł 1) USE SIGNAL POINTS LISTED 1 | BELOW TO ISOLATE THE PROBLEM: 1 1 1 POWER +5 VDC TO CE PANEL SWITCHES AND LED'S. 1 PIN LOCATION 1 - 1 \*\*\*\*\* ۱ FROM: CPU BOARD AA1-A2-B03, ł D02 . 1 ł TO: CPU BOARD AA1-85-802 TO: CE PANEL CEP-Y2-D02 1 1 Y2 CONNECTOR 1 1 TO: DPLY PWR CHK CE PANEL 1 ٢ SWITCH I ł J CONNECTOR ON CEP-J1-5 то: 1 1 LED PC BOARD 1 11 1 OR 2) REPAIR OR REPLACE DEFECTIVE +5V CABLES FROM CPU REPAIR 1 | | BOARD TO THE CE PANEL LED'S. - 1 023 1) MARK THIS PLACE. 1 1 ----2) TO CHECK OUT CONTROL VOLTAGES AT THE POWER SEQUENCE I CARD. | GO TO MAP 0317, ENTRY POINT A. \_\_\_\_\_ 11 3) SET MAIN LINE SWITCH TO 'OFF'. 4) MARK THIS PLACE. Ł 5) TO CHECK OUT LAMP TEST CABLING, GO TO MAP 0311, ENTRY POINT A. | ------1 6) REPLACE THE POWER SEQUENCE ŧ. | CARD. T 1 024 | GO TO PAGE 19, STEP 078, | ENTRY POINT E. 025

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GD TO PAGE 19, STEP 083, ENTRY POINT D.

> 30DEC77 PN2594601

> EC832050A PEC828777
POWER MAPS н 4 SYSTEM 32 ł PAGE 10 DF 35 I 026 THE FOLLOWING CONDITIONS SHOULD EXIST: 1) DISK MOTOR TURNING. 2) DISKETTE MOTOR TURNING. 3) FANS BLOWING. ARE ALL OR ANY CONDITIONS MET? Y N 1 1 027 1) SET MAIN LINE SWITCH TO "OFF". 2) REMOVE COVER FROM THE AC POWER | BOARD. 3) SET MAIN LINE SWITCH TO 'ON'. SET 'POWER ON' TO 'ON' (4) (OPERATORS PANEL) . 1 AS POWER IS 5) DBSERVE K1 APPLIED. (LOCATION: LARGE RELAY ON BOTTOM 1 LEFT AC POWER BOARD, MLM SEC. 8.) 1 1 DOES KI PICK OR PICK AND THEN | DROP? YN 1 Ł 1 | 1) SET 'POWER ON' TO 'OFF' | (OPERATORS PANEL). | | 028 1 1 Ł 2) MEASURE CONTROL VOLTAGE AT THE FOLLOWING POINT ON THE 1 L POWER SEQUENCE CARD: (MLM SEC 8 f FOR PIN LOCATION) 1 1 -1 GROUND ----- SC-TP-B08 +24VDC ----- SC-TP-B04 1 1 1 Ł ŧ. 11 (21.6 TO 26.4) 1 +24 V NORMAL AT SC-TP PIN? I YN ۱ 1 t 1 1 029 1 1) SET MAIN LINE SWITCH TO 1 OFF . Ł 1 I I 2) REMOVE POWER SEQUENCE t CARD. 3) SET MAIN LINE SWITCH TO I 1 'ON'. 1 1 1 1 ł 1 MLM SEC. 8. 1 I ł ۱ L 1 1 4) MEASURE CONTROL VOLTAGE ON F POINTS ON THE MAPLE BLOCK TAB ł | PINS: ł ۱ | DANGER: LINE VOLTAGE PRESENT ł ł ON AC BOARD. 1 ۱ t (STEP 029 CONTINUES) 1 1 1 1 ſ L ۱ 1 1 1 331 STU

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υ
            POWER MAPS
1
            SYSTEM 32
0
            PAGE 11 DF 35
1
1
(STEP 029 CONTINUED)
| | GROUND ----- MAPLE--MO8.PO8.
                       --M09,P09
 1
1
1
 1
    +24VDC
                     (21.6 TO 26.4)
               -- MAPLE--M13.P13
1
  1
۱
 1
1
 +24 V NORMAL?
  YN
Ł
  ł
ł
 030
  ( 1) MARK THIS PLACE.
L
  i.
1
    L
 1
   ------
  2) TO CHECK ALL CONTROL
Voltages,
1
 GO TO MAP 0317, ENTRY POINT A.
t
1
 - 1
1 031
| REPLACE POWER SEQUENCE CARD.
L
032
   SET
          POWER
                    ON' TO 'OFF'
1)
(OPERATORS PANEL).
2) PROBE SC-TP-D03, (-PICK K1).
3) PRESS RESET.
4)
    SET
          POWER
                    ON!
                          то
                                ' ON'
(DPEPATORS PANEL).
5) DESERVE PROBE AS POWER ON
SWITCH IS SET "ON".
DID THE LINE GO TO DOWN POSITION
AFTER THE "POWER ON" SWITCH WAS SET
'ON'?
YN
1
033
1 1)
      SET
            POWER ON' TO POFF!
(OPERATORS PANEL).
2) SET MAIN LINE SWITCH TO "OFF".
3) REMOVE POWER SEQUENCE CARD.
Ł
 1
       MLM SEC. 8.
1
  1 1
                CONTINUITY
4)
       METER
                               FROM
4) METER CONTINUITY
MAPLE--B04, (-POWER OFF),
                                 то
| GROUND, MAPLE--DOB.
| WITH 'POWER ON' SWITCH 'OFF',
DDES METER SHOW AN OPEN CIRCUIT?
YN
1 1
١
  034
 | GO TO PAGE 12, STEP 036,
Ł
 | ENTRY POINT CA.
١
L
035
 WITH "POWER ON" SWITCH "ON", DDES
ŧ
  METER SHOW A SHORT CIRCUIT?
ł
 YN
۱
  1
    ۱
1
  1
    1
    1
1
  1
1
  1
    1
1 1 1
2 2 2
  w x
```

MLM SEC. 8. PROBE GROUND IS ON SC-TP-B08. FRAME CAN ALSO BE USED FOR PROBE GND. +5VDC PROBE POWER IS LOCATED ON AA1-B5-B02 OR AA1-C5-B02.

> 30DEC77 PN2594601 EC832050A PEC828777

MAP 0300-11

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w X
           POWER MAPS
1 1
1 1
           SYSTEM 32
           PAGE 12 OF 35
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  ١
  1
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 036
1
1
 -----
  (ENTRY POINT CA)
ſ
I
     1) SET MAIN LINE SWITCH TO 'OFF'.
  2) MARK THIS PLACE.
1
  1
  ------
 3) TO CHECK OUT 'POWER ON' SWITCH
1
 CABLING.
L
 GO TO MAP 0312. ENTRY POINT A.
L
  1
Ł
 1
DANGER: LINE VOLTAGE PRESENT WITH
 POWER
              SWITCH IN 'OFF'
        ON.
POSITION.
Ł
4) REPLACE THE POWER DN/OFF
I SWITCH.
037
    SET POWER
                       TO 'OFF'
1)
                  ON!
(OPERATORS PANEL).
    MLM SEC. 8.
1
1
2) METER CONTINUITY OF MAPLE--D03,
(-POWER ON), TO GROUND, MAPLE--DO8
(MLM SEC 8)
WITH 'POWER ON' SWITCH 'ON', DOES
METER SHOW AN OPEN CIRCUIT?
Y N
1
1 038
| GO TO STEP 040.
ENTRY POINT CB.
039
WITH "POWER ON" SWITCH "OFF", DOES
METER SHOW A SHORT CIRCUIT?
YN
ſ
 040
ł
 Ŧ
 (ENTRY POINT CB)
----------------
1) SET MAIN LINE SWITCH TO "OFF".
 2) MARK THIS PLACE.
1
  1
     3) TO CHECK OUT 'POWER ON' SWITCH
Ł
 CABLING,
 GO TO MAP 0313, ENTRY POINT A.
  ------
 (STEP 040 CONTINUES)
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Y

1 1 Ł 1 (STEP 040 CONTINUED) 1 1 1 | DANGER: LINE VOLTAGE PRESENT | WITH "POWER ON" SWITCH IN "OFF" 4 1 | POSITION. 1 ( 4) REPLACE THE POWER ON SWITCH. 041 1 1) REPLACE POWER SEQUENCE CARD. IF FAILURE PERSISTS, 1 OF 2) CHECK CONTINUITY PINS THROUGH JUMPER PLUG IN THE MAPLE | CONNECTOR, J/G PLUG POSITION. 3) REPLACE CONNECTOR. 042 SET POWER ON. TO 'OFF' 1) (OPERATORS PANEL). 2) SET MAIN LINE SWITCH TO 'OFF'. 3) REMOVE POWER SEQUENCE CARD. MLM SEC. 8. 4) METER CONTINUITY OF MAPLE--D03, (-POWER ON), TO GROUND, MAPLE--DO8. WITH 'POWER ON' SWITCH 'ON', DOES METER SHOW AN OPEN CIRCUIT? YN 043 | GO TO STEP 045, | ENTRY POINT CC. 044 WITH 'POWER ON' SWITCH 'OFF', DOES METER SHOW A SHORT CIRCUIT? Y N 045 (ENTRY POINT CC) -----1) SET MAIN LINE SWITCH TO "OFF". 2) MARK THIS PLACE. 1 3) TO CHECK OUT "POWER ON" SWITCH CABLING, GO TO MAP 0313. ENTRY POINT A. 1 1 | DANGER: LINE VOLTAGE PRESENT WITH OFF! POWER ON SWITCH IN | POSITION. 4) REPLACE THE "POWER ON" SWITCH. £ 30 DEC77 PN2594601 EC832050A PEC828777 1 ٦ MAP 0300-12 z

MAP 0300-12

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4 1 1 1 0 0 2 SYSTEM 32 PAGE 13 OF 35 I 1 1 ŧ ۱ 1 1 1 11 1 046 L 1 1 1) MARK THIS PLACE. 1 1 1 | ł \_\_\_\_\_ 1 1 2) TO CHECK OUT AC POWER 1 L DISTRIBUTION. I ۱ | GO TO MAP 0310. L 1 I ENTRY POINT A. L 1 ------1 1 1 1 1 | 3) REPLACE THE POWER SEQUENCE t I CARD. 1 1 1 1 1 047 1 | REPLACE SEQUENCE CARD 1 1 ł 048 1) MARK THIS PLACE. 1 1 1 2) TO CHECK DUT AC POWER | DISTRIBUTION. | GO TO MAP 0310, ENTRY POINT A. -----3) REPLACE THE POWER SEQUENCE CARD. 1 049 1) MARK THIS PLACE. 1 -----2) TO CHECK OUT OPERATING VOLTAGES TO ALL I/O DEVICES. GO TO MAP 0318, ENTRY POINT A. 3) SET 'POWER DN' TC 'OFF' (OPERATORS PANEL). -----------1 IS THE SYSTEM POWERED "OFF" NORMALLY? YN 1 050 1) SET MAIN LINE SWITCH TO "OFF". 2) REMOVE POWER SEQUENCE CARD. 3) METER CONTINUITY OF MAPLE--D03, (-POWER ON), TO GROUND, MAPLE--DO8. L 1 WITH "POWER ON" SWITCH "ON", DOES METER SHOW AN OPEN CIRCUIT? Ł YN 1 1 ł 1 L 1 ł 1 ۱ 1 1 ۱ I 1 1 1 1 6 4 4 AAA а в с

GSTZ

POWER MAPS

NORMAL POWERED OFF: FANS STOPPED, DISK MOTOR STOPPED, DISKETTE MOTOR STOPPED.

> 30DEC77 PN2594601 EC832050A PEC828777

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POWER MAPS
A A
вс
           SYSTEM 32
1 1
33
           PAGE 14 OF
                       35
1
  I
t
  1
0 51
| GO TO STEP 053.
| ENTRY POINT CD.
1
052
WITH 'POWER ON' SWITCH 'OFF', DOES
METER SHOW A SHORT CIRCUIT?
Y N
1
 053
1
  (ENTRY POINT CD)
1
  1
1) SET MAIN LINE SWITCH TO "OFF".
  2) MARK THIS PLACE.
ł
1
  1
                            .
  ------
۱
 3) TO CHECK OUT 'POWER ON' SWITCH
1
1
  CABLING.
  GO TO MAP 0313, ENTRY POINT A.
1
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1
1
 DANGER: LINE VOLTAGE PRESENT WITH
ł
POWER ON' SWITCH IN
                           OFF!
POSITION.
4) REPLACE THE POWER ON SWITCH.
1
054
    METER CONTINUIT.
1)
                            FROM
MAPLE--B04,
                             то
GROUND, MAPLE--DO8.
1
WITH "POWER ON" SWITCH "OFF",
                            DOES
METER SHOW AN OPEN CIRCUIT?
YN
1
055
GO TO PAGE 15, STEP 057,
I ENTRY POINT CE.
ł
056
WITH 'POWER ON' SWITCH 'ON', DOES
METER SHOW A SHORT CIRCUIT?
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30DEC77 PN2594601 EC832050A PEC828777

DE 1 1 SYSTEM 32 4 4 PAGE 15 DF 35 ١ 1 1 057 ł (ENTRY POINT CE) \_\_\_\_\_ 1 1) SET MAIN LINE SWITCH TO "OFF". 2) MARK THIS PLACE. \_ \_\_ 3) TO CHECK OUT POWER ON/OFF 1 SWITCH CABLING. GO TO MAP 0312, ENTRY POINT A. -----. 1 1 DANGER: LINE VOLTAGE PRESENT WITH POWER ON OFF! SWITCH IN | POSITION. 4) REPLACE THE POWER ON SWITCH. 1 058 1) SET POWER DN! TO 'OFF' (OPERATORS PANEL). 2) SET MAIN LINE SWITCH TO 'OFF'. 3) INSTALL THE POWER SEQUENCE CARD. 4) SET MAIN LINE SWITCH TO "ON". 5) SET POWER ON то 1 ON! (OPERATORS PANEL). 6) MEASURE VOLTAGES AT THE FOLLOWING POINTS ON THE TERMINAL BLOCK: 1 GROUND ---- PD-TB1-1.2.3.4. +24VDC ---- PD-TB2-8 (21.6 TO 26.4) -24VDC ---- PD-TB2-7 (21.6 TC 26.4) ARE BOTH VOLTAGES PRESENT? Y N 059 GD TO PAGE 17, STEP 070, ENTRY POINT F. t 060 1) SET POWER ON' TO 'OFF' (OPERATORS PANEL). 2) PROBE SC-TP-B13, (+PICK K1 DUAL). 3) SET MAIN LINE SWITCH TO "OFF". 4) SET MAIN LINE SWITCH TO 'ON'. SET POWER ON TO PON 5)

POWER MAPS

A A

5) SET 'PDWER ON' TO 'DN' (OPERATORS PANEL). 6) OBSERVE PROBE AS POWER SWITCH IS TURNED OFF AGAIN.

(STEP 060 CONTINUES)

PROBE GROUND IS ON SC-TP-B08. FRAME CAN ALSO BE USED FOR PROBE GND. +5VDC PROBE POWER IS LOCATED ON AA1-B5-B02 OR AA1-C5-B02.

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 PN2594601

 EC832050A
 PEC828777

FA POWER MAPS 4 Α SYSTEM 32 1 1 З PAGE 16 DE 35 1 I (STEP 060 CONTINUED) l Ł IS THE SIGNAL DOWN AFTER POWER 1 1 ON' SWITCH IS TURNED 'OFF'? 1 YN ł ł 1 061 1 1 | 1) REPLACE POWER | CARD. SEQUENCE L t 1 ł 1 062 ١ 1 1) SET MAIN LINE SWITCH TO Į 1 'OFF'. ł ı 2) MARK THIS PLACE. ł I ----3) TO CHECK OUT CONTROL LINE ł L CABLING TO DUAL, Ł GO TO MAP 0315, ENTRY POINT A. 1 1 I 1 4) REPLACE THE POWER SEQUENCE 1 1 | CARD. IF FAILURE PERSISTS 5) REPLACE DUAL LEVEL FILTER 1 ASM. ł 1 ł 1 063 ı GO TO PAGE 17, STEP 070, 1 ENTRY POINT F. 1 064 POWER 1) SET то 1 OFF! ON! (OPERATORS PANEL). 2) SET MAIN LINE SWITCH TO "OFF". SC-TP-D09, (+THERMAL METER 3) SENSE) . L +5 VDC RANGE. MLM SEC. 8. GROUND IS ON SC-TP-B08. I 4) OBSERVE METER AS MAIN LINE SWITCH IS SET TO 'ON'. LINE DOWN (BELOW .5VDC)? Y N 1 ł ۱ 1 1 1 ۱ 1 ł 1 t 7 A A F G

1 065 1) SET MAIN LINE SWITCH TO 'OFF'. 2) REMOVE THE POWER SEQUENCE CARD. 3) CHECK CONTINUITY BETWEEN POINTS ON THE PWR SEQ CARD CONNECTOR (CALLED MAPLE): +THERMAL SENSE. PIN LOCATION \*\*\*\*\*\* FROM: POWER SE-MAPLE--P10 QUENCE CARD CONNECTOR GROUND . TO: POWER SE-MAPLE--MO8, QUENCE CARD P08, M09, CONNECTOR P09 IS THE THERMAL CIRCUIT OPEN? Y N L 066 1) REPLACE POWER SEQUENCE CARD. 067 1) USE THE POINTS LISTED BELOW TO ISOLATE THE OPEN CIRCUIT. CONTROL GROUND TO +THERMAL SENSE. PIN LOCATION \*\*\*\*\*\* FROM: POWER MAPLE--MO8. SEQUENCE P08, M09, CARD P09 CONNECTOR NDTE: CABLE EXTENDER NEEDED FOR MEASUREMENT ON AC POWER BOARD. то: AC POWER ACP-J1-808, D08, B09, BOARD D09 TO: AC POWER ACP-J2-3 BOARD TO: AA2 BOARD AA2-V3-D11 то: PRINTER BOARD 130-11, 13C51 то: PRINTER THERMAL PRINTER BOARD то: 130-52. 13012 то: AA2 BOARD AA2-V3-D12 AA GATE THERMAL то: POWER SUPPLIES TO: THERMAL TO: AC POWER ACP-J2-1 BOARD IF NO CONTINUITY, REPLACE CABLE (STEP 067 CONTINUES) 30DEC77 PN2594601 EC832050A PEC828777

MAP 0300-16

A G

DA POWER MAPS 3 F SYSTEM 32 . 1 L 6 PAGE 17 OF 35 ۱ 1 1 ۱ 1 (STEP 067 CONTINUED) TO: AC POWER ACP-J1-810 1 1 BOARD 1 IF NO CONTINUITY, REPLACE AC BOARD ۱ 1 1 1 TO: POWER SE-MAPLE--P10 1 1 QUENCE CARD CONNECTOR L IF NO CONTINUITY, REPLACE CABLE L ł. 11 IF ISOLATED TO OPEN THERMAL. I t 2) CORRECT THE CAUSE OF t OVERHEATING. ۱ 1 I CHECK FANS, CHECK FOR нот 1 I 1 COMPONENTS, I 1 1 3) REPLACE THE THERMAL IF L DEFECT IVE. I. | OTHERWISE, ۱ 4) CORRECT THE OPEN CIRCUIT. T 1 - ł I 968 1) REPLACE POWER SEQUENCE CARD. 1 069 1) DISPLAY AND RECORD POWER FAULT INDICATORS. (SEE NOTE 1, STEP 003) ANY PRES FAULT INDICATORS CN? YN L 070 1 \_\_\_\_\_ \_\_\_\_\_ (ENTRY POINT F) L 1 1 1 ł 1) SET 'POWER ON' то OFF! (OPERATORS PANEL). 1 2) CHECK FREVIOUS PWR FAULT REGISTER. ANY PREV FAULT INDICATORS ON FROM t. SOME PREVIOUSLY RECORDED ERROR? YN 1 ŧ 1 071 ARE вотн PWR CHK AND TH CHK ł INDICATORS ON? 1 Y N 1 1 т ŧ 1 -1 1 Ŧ ł ł 1 ł ł I 1 1 1 2 2 2 1 1 1 1 8 . . . .

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CAUTION:

THE PREV FAULT REGISTER HAS NO DC RESET AT MAIN LINE POWER 'ON' TIME. THERE MAY BE BITS ON RANDOMLY IN THE PREV FAULT REGISTER IF NO FAULT HAS BEEN SAVED SINCE THE MAIN LINE SWITCH WAS SET TO 'ON'. THEREFORE, THESE BITS ARE MEANINGLESS.

> 3 ODEC77 PN2594601 EC832050A PEC828777

A POWER MAPS

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1 SYSTEM 32

PAGE 18 DF 35

072 1) SET 'POWER ON' TO 'DFF' (OPERATORS PANEL). 2) SET THE PWR FAULT DISP SWITCH ON

THE CE PANEL TO THE PRES POSITION. 3) PRESS THE LAMP TEST SWITCH ON THE CE PANEL AND AT THE SAME TIME PRESS THE DPLY PWR CHK SWITCH.

DID TEST SHOW BOTH 'PWR CHK' AND 'TH CHK' INDICATORS 'ON' (DPERATOR PANEL) AND HIGH BYTE (LEFTMOST 8 BITS) ON CE PANEL? YN 1 1 073 DID TEST SHOW BOTH 'PWR CHK' AND 'TH CHK' INDICATORS 'ON' 1 CHK INDICATORS 'ON' (OPERATOR PANEL) BUT NOT ALL THE HIGH BYTE LIGHTS DN? YN 1 Ŧ Т 1 074 | DID TEST SHOW EITHER 'PWR CHK' OR 'TH CHK INDICATORS . ON. 1 (OPERATOR PANEL)? t Y N 1 1 1 1 075 1 1 1) SET MAIN LINE SWITCH TO 1 I OFF . 1 1 2) CHECK FUSE 102. 1 | FUSE 102 GOOD? I 1 Y N ł 1 1

PWR CHK AND TH CHK ON THE OPERATOR PANEL SHOULD LIGHT ANY TIME THE LAMP TEST SWITCH IS PRESSED WITH THE MACHINE POWERED 'OFF' AND WITH THE MAIN LINE SWITCH STILL 'ON'.

IN ADDITION, WHEN THE LAMP TEST AND DPLY PWR CHK SWITCHES ARE PRESSED CONCURRENTLY THE LEFTMOST 8 BITS DNLY SHOULD LIGHT ON THE CE PANEL.

IF ALL INDICATORS LIGHT WITH LAMP TEST ONLY, THE MACHINE IS NOT POWERED 'OFF' PROPERLY.

IF NO INDICATORS LIGHT ON LAMP TEST THE MACHINE MAY NOT HAVE AC POWER OR THE LAMP TEST CIRCUITRY IS FAULTY.

LOCATION: SECOND FUSE TO THE RIGHT OF THE MAIN LINE SWITCH. AC TO THE AC POWER BOARD IS SUPPLIED THROUGH FUSE 102.

> 30DEC77 PN2594601 EC832050A PEC828777 MAP 0300-18

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POWER MAPS
AAA
                                          AAA
PQR
                                          NST
1 1 1
            SYSTEM 32
                                          1
8 8 8
                                          811
            PAGE 19 DF 35
                                              1
1
 1 1
                                          1
                                            1
                                              1
 | |
| 076
1
                                              1
                                            1
                                             079
                                          1 1
   1) REPLACE FUSE 102.
1
                                          I I OFFI
   2) SET MAIN LINE SWITCH TO
1
  1
                                          | | 2) MARK THIS PLACE.
   'ON'.
1
 1
  3) MARK THIS PLACE.
1
                                          .
                                              1
  1 |
                                         | | 3) TO CHECK OUT LAMP TEST
| | CABLING,
| | GO TO MAP 0311, ENTRY POINT A.
   ----
       _____
  1
  4) TO CHECK OUT CONTROL
  I VOLTAGES.
  GO TO MAP 0317, ENTRY POINT A.
                                          | | | | | | | | A) REPLACE THE POWER SEQUENCE
  5) REPLACE POWER SEQUENCE CARD.
                                          | | CARD.
1 1
 077
1) INSTALL FUSE 102.
                                          1 080
2) SET MAIN LINE SWITCH TO "OFF".

    CABLE IS CORRECT

    TO CPU BOARD.

    SET 'POWER ON'

 3) MARK THIS PLACE.
١.,
     (OPERATORS PANEL).
 ---
4) TO CHECK OUT LAMP TEST
                                          2) REMOVE OPERATOR
                                          ACCESS THE LED'S.
I CABLING,
 GO TO MAP 0311. ENTRY POINT A.
ł
1 1
5) REPLACE THE POWER SEQUENCE
                                          | REMOVED LEAD (SHORT LEG).
                                          | 4) PRESS LAMP TEST SWITCH.
CARD.
1 1
IF FAILURE PERSISTS.
                                          DDES CABLE SHOW CONTINUITY?
    YN
                                          1 1
1 6)
GO TO PAGE 6, STEP 015,
                                          | | 081
                                          | | 1) REPAIR OR REPLACE CABLE.
ENTRY POINT C.
                                          082
078
                                          1) REPLACE THERMAL CHECK OR POWER
CHECK LED.
    -----
(ENTRY POINT E)
------
                                          ł
L
                                          083
1) METER AA1-B2-B13, (-DISPLAY PWR
                                          CHK DOTTED).
                                          (ENTRY POINT D)
                                           ----------
    +5 VDC RANGE.
    GROUND IS ON AA1-B2-D08.
2) PRESS LAMP TEST SWITCH.
                                          THE KEYBOARD.
DOES SIGNAL HAVE A NOTICABLE
DEFLECTION OF APPROXIMATELY 1V
                         NOTICABLE
                                          PANEL.
TOWARD GROUND?
                                          BELOW:
Y N
  1
                                               LED PC BOARD
                                          (STEP 083 CONTINUES)
                                                        30DEC77
A A
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MAP 0300-19

( 1) SET MAIN LINE SWITCH TO

CABLE IS CORRECT FROM SWITCH TO CPU BOARD. TO POFE!

PANEL то

 3)
 OPEN
 CABLE
 TO PWR
 CHK DR
 TH

 CHK
 LED
 METER
 THE
 RESISTANCE

 BETWEEN
 AA1-B2-B13
 AND
 THE

1) REMOVE CE PANEL AND ATTACH THE RIGHT HAND SIDE OF PANEL TO RIGHT HAND SIDE OF THE CPU FRAME SO THAT THE PANEL EXTENDS DUTWARD FACING 2) MEASURE CONTROL +5 VDC ON THE CE USE SIGNAL POINT LISTED POWER +5 VDC TO CE PANEL SWITCHES AND LED'S.

PIN LOCATION \*\*\*\*\* J CONNECTOR ON CEP-J1-5

PN2594601

EC832050A PEC828777

POWER MAPS Α м 1 SYSTEM 32 8 PAGE 20 DF 35 (STEP 083 CONTINUED) 1 WAS +5 VDC TO THE CE PANEL 1 CORRECT? 1 L YN 084 1 1) REPAIR OR REPLACE DEFECTIVE 1 +5V CABLES FROM CPU BOARD TO THE CE PANEL. 1 USE SIGNAL POINTS LISTED BELOW 1 1 TO ISOLATE THE PROBLEM: ł I 1 1 1 POWER +5 VDC TO CE PANEL 1 SWITCHES AND LED'S. 1 PIN LOCATION 1 1 1 \*\*\*\*\*\* FROM: 1 I CPU BOARD AA1-A2-B03. 1 D02, 1 Ł I TO: CPU BOARD AA1-85-802 CE PANEL CEP-Y2-D02 1 Y2 CONNECTOR Ł I DPLY PWR CHK CE PANEL SWITCH J J CONNECTOR ON CEP-J1-5 | LED PC BOARD 1 L 1 085 I. LINES USED СНЕСК FOR 1.1) DISPLAYING HIGH EYTE (MLM SEC. 1 8). 2) CHECK FOR DEFECTIVE LED. 3) AFTER CORRECTING PROBLEM, INSTALL CE PANEL BACK IN THE MACHINE). 086 1) SET MAIN LINE SWITCH TO "OFF". 2) SET MAIN LINE SWITCH TO 'ON'. 3) PRESS THE DPLY PWR CHK SWITCH WITH THE PWR FAULT DISP SWITCH IN THE PRES POSITION. 1 DOES PRES FAULT REGISTER CONTAIN X . 0013 YN t 087 REFER TO FEALD LOGICS TO TRACE PROBLEM CAUSING BIT TO IF PROBLEM NOT FOUND IN STAY DN. CABL ING, 1) REPLACE POWER SEQUENCE CARD.

U 1 T 088 1) SET MAIN LINE SWITCH TO 'OFF'. 2) REMOVE J9 ON DUAL FILTER ASM. J9 LOCATED ABOUT CENTER ON DUAL FILTER ASM BOARD. 1 MLM SEC. 8. 3) SET MAIN LINE SWITCH TO "ON". 4) SET POWER ON TO •ON• (OPERATORS PANEL). X 7F CAN BE DISPLAYED IN THE PRES FAULT REGISTER WHEN THE 'PWR CHK' INDICATOR IS ON. DO INDICATORS DISPLAY X'7F' AND PWR CHK ? YŇ 089 ( 1) SET POWER ON' TO POFF (OPERATOR PANEL). ( 2) SET MAIN LINE SWITCH TO 'OFF'.
( 3) CONNECT J9 DUAL. 4) REPLACE THE POWER SEQUENCE | CARD. 5) CHECK CABLE TO CE PANEL. 6) CHECK CE PANEL INDICATORS. | 7) CHECK POWER STATUS CABLE TO AC BOARD. 090 1) SET \*POWER ON . тο 10FF1 (OPERATORS PANEL). 2) SET MAIN LINE SWITCH TO "OFF". 3) CONNECT J9 DUAL. FORCE AN OVERCURRENT ! PWR CHK BY SHORTING THE +24 VDC DUTPUT FROM THE DUAL LEVEL FILTER ASM CONNECTOR, DUAL-E3 OR DUAL-E4, TO GROUND CONNECTOR, DUAL-E6 OR-DUAL-E7. MLM SEC. 8. L. 4) SET MAIN LINE SWITCH TO "ON". 5) SET 'POWER ON' TO 'ON' (OPERATORS PANEL). X\*F8\* OR X\*FF\* CAN BE DISPLAYED IN THE PRES FAULT REGISTER WHEN THE "PWR CHK" INDICATOR IS "ON". (STEP 090 CONTINUES)

MAP 0300-20

30DEC77 PN2594601

EC832050A PEC828777

MAP 0300-20

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POWER MAPS
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                                                                   MAP 0300-21
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κ
            SYSTEM 32
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                                              1
1
                                            7
            PAGE 21 OF 35
                                            1
                                             1
 (STEP 090 CONTINUED)
                                            1
DO INDICATORS DISPLAY X'F8' DR
                                             096
                                            KEEP A RECORD OF PREV FAULT
 X + FF + AND + PWR CHK + ?
I.
                                            DISPLAYS FOR FUTURE REFERENCE.
  Y N
1) SEAT POWER SEQUENCE CARD.
1
 1
                                            2) SEAT ALL CABLES
CONNECTORS. CHECK THAT
   091
١
  1
  1) DISCONNECT JUMPER +24V TO
 | GND. INSTALLED TO FORCE CHECK.
                                            TERMINAL BLOCK SCREWS ARE TIGHT.
   2) REPLACE THE POWER SEQUENCE
                                            ł.
                                            | IF INTERMITTENT FAILURES PERSIST,
  I CARD.
                                            REPLACE FRU'S IN THE FOLLOWING
ORDER UNTIL THE PROBLEM IS
 1 3) CHECK CABLE TO CE PANEL.
  4) CHECK CE PANEL INDICATORS.
  5) CHECK POWER STATUS CABLE TO
                                            | RESOLVED.
 AC BOARD.
                                             3) REPLACE POWER SEQUENCE CARD.
  1
 092
                                            | IF FAILURE PERSISTS.
INDICATORS APPEAR TO BE WORKING
                                            4) REPLACE MULTI DR DUAL FILTER
                                            ASSEMBLY AS INDICATED BY A HISTORY OF FAILURES ENCODED IN
 PROPERLY.
          POWER ON
                         то
                               OFF!
1 1) SET
                                            | THE PREV FAULT REGISTER.
| IF FAILURE PERSISTS,
(OPERATORS PANEL).
 2) SET MAIN LINE SWITCH TO "OFF".
3) DISCONNECT YOUR JUMPER +24V TO
                                           5) REPLACE AC POWER BOARD.
                                           | IF FAILURE PERSISTS.
| 6) REPLACE POWER SWITCHES.
 GND INSTALLED TO FORCE CHECK.
 4) SET MAIN LINE SWITCH TO 'ON'.
                                           IF FAILURE PERSISTS.
     SET POWER
                    ON' TO ON'
1 5)
                                            7) REPLACE CABLES ONE AT A TIME.
 (OPERATORS PANEL).
١
 6) TRY TO RECREATE POWER CHECK.
7) IF NO CHECK DCCURS, RERU
         NO CHECK DCCURS, RERUN
                                            097
 DIAGNESTICS
               TO VERIFY SYSTEM
                                            1) MARK THIS PLACE.
  OPERATION.
ARE ALL SYSTEM FUNCTIONS CORRECT?
                                              _____
                                            2) GO TO MAP 0317, ENTRY POINT A.
 YN
  I
                                            TO CHECK DUT CONTROL VOLTAGES AT
Ł
  1 093
  USE YA160 & YA162, VOLTAGE
DISTRIBUTION PAGES, TO ISOLATE
                                            THE POWER SEQUENCE CARD.
I USE
                                                   ----
  | MISSING VOLTAGE(S).
                                            3) SET POWER
                                                               ON' TO OFF
                                            (OPERATORS PANEL).
1
  094
                                            4) SET MAIN LINE SWITCH TO "OFF".
1
  RETURN SYSTEM TO THE CUSTOMER.
                                            5) OPEN COVERS TO ACCESS THE POWER
1
                                            SUPPLIES, POWER SEQUENCE CARD, AND CPU LOGIC GATE.
095
1) SET MAIN LINE SWITCH TO "OFF".
                                           (REF MLM SEC. 8)
2) MARK THIS PLACE.
                                            6) REMOVE POWER SEQUENCE CARD.
                                            7) SEAT JUMPER CARD PLUGGED INTO
REAR OF MAPLE BLOCK CONNECTOR.
1
   _____
3) TO CHECK OUT LAMP TEST CABLING,
                                           (G AND J MAPLE BLOCK POSITIONS)
                                               SEAT POWER STATUS CABLE AT PWR
GO TO MAP 0311, ENTRY POINT A.
                                            8)
SEQ CARD.
4) REPLACE THE POWER SEQUENCE CARD.
                                            (TOP PLUG POSITION.)
                                            9) SEAT POWER SENSE CABLE AT PWR
                                            SEQ CARD.
                                            (BOTTOM PLUG POSITION.)
```

10) SEAT POWER SEQUENCE CARD. 11) SEAT CABLE AT CPU BOARD AA1-A2 (STEP 097 CONTINUES)

> 30 DEC77 PN2594601

EC832050A PEC828777

MAP 0300-21

AND

ALL

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SYSTEM 32
            PAGE 22 DF 35
(STEP 097 CONTINUED)
PLUG POSITION ON CARD SIDE OF
BOARD
1
(POWER STATUS CABLE.)
1
12) SEAT ALL J-CONNECTORS ON MULTI
AND DUAL LEVEL FILTER ASM.
T
(POWER SENSE CABLE.)
13) SET MAIN LINE SWITCH TO "ON".
    SET POWER ON' TO 'ON'
14)
(OPERATORS PANEL).
DID PROBLEM REMAIN AFTER SEATING?
YN
             . . . .
        • .• .
098
1) IF NO FAILURE DOCURS, RERUN
DIAGNOSTICS TO VERIFY SYSTEM
OPERATION.
2) IF ALL SYSTEM FUNCTIONS ARE
| CORRECT, RETURN THE SYSTEM TO THE
| CUSTOMER.
1
099
IS THIS AN INDICATED UNDER VOLTAGE
PROBLEM (BIT 0 - OFF. BIT 1 - ON)?
Y N
1 100
IS THIS AN INDICATED OVER VOLTAGE
PROBLEM (BIT 0 - ON, BIT 1 -
 OFF)?
  Y N
1
1
  1
 101
  IS THIS
             AN INDICATED OVER
1
  CURRENT PROBLEM (BIT 0 - ON.
  | BIT 1 - ON)?
    Y N
  1
  t
    1
   1 1 0 2
    | INCORRECT INDICATION HAS BEEN
  1
ŧ
    I DETECTED.
  1
   | IF FAILURE PERSISTS,
  1
    1 1) REPLACE THE POWER SEQUENCE
  Ŧ
1
    I CARD.
  1
 1 1
    103
ł
  1
    IS THE ERROR OVER CURRENT ON
  1
    MULTI (BIT 2 - OFF, BIT 3 -ON)?
  1
    Y N
      1
    1
    1
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POWER MAPS

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MAP 0300-22
А
104
IS THE ERROR OVER CURRENT ON DUAL (BIT 2 - ON, BIT 3 - ON)?
YN
 105
I INCORRECT
            INDICATION HAS BEEN
DETECTED.
IF FAILURE PERSISTS,
1) REPLACE THE POWER SEQUENCE
I CARD.
106
OVERCURRENT AND MORE THAN ONE LEVEL
( BITS 4-7 ALL ON)?
YN
1
107
OVERCURRENT
               AND
                     ANY
                           LEVELS
| INDICATED ( ANY BITS 4-7 DN)?
 Y N
1
 108
 1) SET
           MAIN LINE SWITCH TO
 | 2) MARK THIS PLACE.
  ( 3) TO CHECK OUT SENSE LINE
 | CABLING,
 | GO TO MAP 0316, ENTRY POINT A.
   ------
 11
 4) REPLACE THE POWER SEQUENCE
1
 CARD.
 | IF FAILURE PERSISTS.
  5) REPLACE DUAL LEVEL FILTER
 ASM.
 1
1 109
 1) MARK THIS PLACE.
 1
 2) EXIT TO THE APPROPRIATE CHART
FOR THE VOLTAGE LEVEL DETECTED BY
LIGHTS 4-7 ON THE CE PANEL UPON
| POWER CHECK.
 __________
 -24 VDC --->
GO TO MAP 0308, ENTRY POINT A.
 +24 VDC --->
1
| GO TO MAP 0309, ENTRY POINT A.
 (STEP 109 CONTINUES)
             30DEC77
                      PN2594601
2
             EC832050A PEC828777
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Α
z
                     MAP 0300-22
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A A POWER MAPS ΧZ 2 2 SYSTEM 32 22 PAGE 23 OF 35 1 L | | (STEP 109 CONTINUED) | | | 3) REPLACE THE POWER SEQUENCE CARD. | IF FAILURE PERSISTS, 1 1 4) REPLACE THE DUAL LEVEL FILTER ASM. 1 1 1 1 110 1) SET MAIN LINE SWITCH TO "OFF". 2) MARK THIS PLACE. 3) GO TC MAP 0316, ENTRY POINT A. TO CHECK OUT SENSE LINE CABLING. 1 1 ANY PROBLEM FOUND IN SENSE LINES? YN 1 . . . 1 1 | 111 | 1) SET 'POWER ON' TO 'OFF' (OPERATORS PANEL). 1 | | 2) REPLACE SEQUENCE CARD. | | IF FAILURE PERSISTS, 3) REPLACE DUAL LEVEL FILTER ASM. 1 1112 . REPAIR OR REPLACE CABLES THAT WERE FOUND TO BE BAD. L 113 OVERCURRENT AND MORE THAN ONE LEVEL ( BITS 4-7 ALL ON?) YN 1 1114 OVERCURRENT AND ANY LEVELS | INDICATED (BITS 4-7 DN)? YN 1 1 1 1115 1 1) SET MAIN LINE SWITCH TO I | OFF . 2) MARK THIS PLACE. L 1 1 1 | --------3) TO CHECK OUT SENSE LINE 1 1 1 CABLING. GO TO MAP 0316, ENTRY POINT A. \_\_\_\_\_ \_\_\_\_ 1 1 1 4) REPLACE THE POWER SEQUENCE 1 CARD. t IF FAILURE PERSISTS. 1 5) REPLACE MULTI LEVEL FILTER ASM. IF FAILURE PERSISTS, L ( 6) REPLACE DUAL LEVEL FILTER ł ASM. 1 (STEP 115 CONTINUES) L 1 1 2 2 54 вв

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30DEC77 PN2594601 EC832050A PEC828777 MAP 0300-23

в POWER MAPS в 2 SYSTEM 32 З PAGE 24 OF 35 (STEP 115 CONTINUED) 1 116 1) SET MAIN LINE SWITCH TO "OFF". 2) MARK THIS PLACE. 1 ----------3) TO CHECK OUT SENSE LINE CABLING (SKIP OVER VOLTAGES NOT ENCODED IN THE FAULT REGISTER.) GO TO MAP 0316, ENTRY POINT A. 4) MARK THIS PLACE. 5) EXIT TO THE APPROPRIATE CHART FOR THE VOLTAGE LEVEL DETECTED BY LIGHTS 4-7 ON THE CE PANEL UPON PANEL UPON POWER CHECK. -------4 VDC GO TO MAP 0301. ENTRY POINT A. -5 VDC GO TO MAP 0302, ENTRY POINT A. +5 VDC GO TO MAP 0303, ENTRY POINT A. -----+6 VDC GO TO MAP 0304, ENTRY POINT A. +8.5 VDC GO TO MAP 0305, ENTRY POINT A. -12 VDC GO TO MAP 0306, ENTRY POINT A. ------+12 VDC GO TO MAP 0307, ENTRY POINT A. 1 7) REPLACE THE POWER SEQUENCE CARD. 8) TRY TO POWER ON AGAIN. IF FAILURE PEPSISTS. 9) REPLACE THE MULTI LEVEL FILTER ASM.

DUAL BAD COULD CAUSE AN OVER-VOLTAGE CONDITION IN THE

Α

MULTI. (EXAMPLE) ONE +24 RECTIFIER COULD BE BAD AND CAUSE THE 6.5 VOLTS TO PEAK AT OVER 10 VOLTS, WHICH WOULD CAUSE OVER VOLTAGE ON 8.5 INDICATING A BAD MULTI. THE +24 VOLTS WOULD EVENTUALLY BUILD UP TO +24 VOLTS SO NO INDICATION WOULD BE APPARENT ON THE DUAL.

> 30 DEC77 PN2594601

EC832050A PEC828777

MAP 0300-24

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A B
           POWER MAPS
W A
2 2
            SYSTEM 32
2 3
            PAGE 25 DF 35
  1
1
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  T
 117
1
1) SET MAIN LINE SWITCH TO "OFF".
  2) MARK THIS PLACE.
I.
 3) GG TO MAP C316, ENTRY POINT A.
  TO CHECK DUT SENSE LINE CABLING.
ANY PROBLEM FOUND IN SENSE LINES?
  Y N
Ł
  1
  118
1
  1 1) REPLACE SEQUENCE CARD.
1
  I IF PROBLEM NOT FOUND,
 2) REPLACE MULTI LEVEL FILTER
1
  I ASM.
1
1
1 119
 REPAIR OR REPLACE CABLES THAT
1
WERE FOUND TO BE BAD.
120
IS THE ERROR OVER VOLTAGE ON MULTI
(BIT 2 - OFF, BIT 3 -ON)?
Y N
 121
۱
 IS THE ERROR OVER VOLTAGE ON DUAL
1
(BIT 2 - ON, BIT 3 - ON)?
 Y N
t
1
  1
  122
1
  INCORRECT INDICATION HAS BEEN
1
  DETECTED.
1
  IF FAILURE PERSISTS.
 1) REPLACE THE POWER SEQUENCE
 CARD.
1
Ł
 -1
1 123
 IS MORE THAN ONE LEVEL OF A
1
 SUPPLY INDICATED (LIGHTS 4-7 ALL
I.
1
  ON) ?
  YN
L
  1
ł
Ł
  1 124
  ARE
        ANY VALID LEVELS INDICATED
ł
  (ANY LIGHTS 4-7 ON)?
   YN
  1 1
L
    | 125
  1
  1 1
Ŧ
  | | GO TO PAGE 27. STEP 144.
  I
    I ENTRY POINT G.
  1
  ł
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    1
  1
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  I
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  I
    1
ввв
CDE
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6 8 8 MAP 0300-25 CDE 1 1 1 | | 126 | | 1) TRY TO POWER UP AGAIN. | | IF FAILURE PERSISTS, 2) REPLACE THE DUAL LEVEL | | FILTER ASM. | | IF PROBLEM NOT FOUND, | | 3) REPLACE POWER SEQUENCE CARD. 1 1 | 127 | 1) TRY TO POWER UP AGAIN. IF FAILURE PERSISTS. 2) REPLACE THE DUAL LEVEL FILTER ASM. I IF PROBLEM NOT FOUND. 3) REPLACE POWER SEQUENCE CARD. 128 IS MORE THAN ONE LEVEL OF A SUPPLY INDICATED (LIGHTS 4-7 ALL ON)? Y N 129 ARE ANY VALID LEVELS INDICATED | (ANY LIGHTS 4-7 ON)? | Y N | | 130 i i | | GO TO PAGE 33, STEP 185, | ENTRY POINT H. i i 131 1) TRY TO POWER UP AGAIN. IF FAILURE PERSISTS. 2) EXIT TO THE APPROPRIATE CHART FOR THE VOLTAGE LEVEL DETECTED BY LIGHTS 4-7 ON THE CE PANEL UPON | POWER CHECK CONDITION. 11 \_\_\_\_ \_ 1 1 -4 VDC | GO TO MAP 0301. ENTRY POINT B. -5 VDC GO TO MAP 0302, ENTRY POINT B. --------+5 VDC GO TO MAP 0303, ENTRY POINT B. -----1 +6 VDC GO TO MAP 0304. ENTRY POINT B. | +8.5 VDC GO TO MAP 0305, ENTRY POINT B. -12 VDC GD TC MAP 0306, ENTRY POINT B. (STEP 131 CONTINUES) L Ł 30DEC77 PN2594601 2 EC832050A PEC828777 6 в F MAP 0300-25

A B POWER MAPS VF SYSTEM 32 2 2 2 5 PAGE 26 DF 35 L Ŧ | (STEP 131 CONTINUED) 1 1 +12 VDC 1 I GO TO MAP 0307, ENTRY POINT B. 3) REPLACE THE MULTI LEVEL 1 FILTER ASM. ł IF PROBLEM NOT FOUND. ۱ 4) REPLACE POWER SEQUENCE CARD. 1 1 1 132 1 1) TRY TO POWER UP AGAIN. IF FAILURE PERSISTS. t 2) REPLACE THE MULTI LEVEL FILTER ŧ ASM. IF PROBLEM NOT FOUND. 3) REPLACE POWER SEQUENCE CARD. L 133 IS THE ERROR UNDER VOLTAGE ON MULTI (BIT 2 - OFF, BIT 3 -ON)? YN ł 134 1 IS THE ERROR UNDER VOLTAGE ON 1 | DUAL (BIT 2 - ON, BIT 3 - ON)? YN 1 1 1 135 1 I INCORRECT INDICATION HAS BEEN | DETECTED. | IF FAILURE PERSISTS. | 1) REPLACE THE POWER SEQUENCE l t | CARD. ۱ 1 1 136 IS MORE THAN ONE LEVEL OF 1 SUPPLY INDICATED (LIGHTS 4-7 ALL ON)? Y N 1 1 1 137 i ۱ 1 I GO TO PAGE 27. STEP 144. 1 | ENTRY POINT G. ۱ ۱ 1 138 1 SET POWER ON' TO POFF LOCATION: SECOND FUSE TO THE RIGHT 1) OF MAIN LINE SWITCH. AC TO THE AC POWER BOARD (OPERATORS PANEL). 1 2) SET MAIN LINE SWITCH TO 'OFF'. 1 SUPPLIED THROUGH FUSE 102. 3) CHECK FUSE 102. 1 t 1 | FUSE 102 GOOD? Y N L 1 1 1 I 1 1 1 Ŧ T 1 ł 1 1.1 1 1 1 1 ١ 1 1 222 97 7 B B B

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30DEC77 PN2594601 EC832050A PEC828777

MAP 0300-26

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POWER MAPS в J SYSTEM 32 2 6 PAGE 27 OF 35 1 ł 139 1) REPLACE FUSE 102. 2) SET MAIN LINE SWITCH TO "ON". SET POWER ON TO 'ON' 3) (DPERATORS PANEL). ON. 4) SET POWER TO 'OFF' (OPERATORS PANEL). 5) SET MAIN LINE SWITCH TO "OFF". 6) CHECK FUSE 102. FUSE STILL GOOD? Y N L 1 140 | GO TO STEP 144. I ENTRY POINT GG. 141 1) SET MAIN LINE SWITCH TO 'ON'. 2) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). 3) FANS RUNNING. 4) DISK MOTOR RUNNING. 5) DISKETTE MOTOR TURNING. 6) LAMP TEST LIGHTS ALL LEDS. ARE STEPS 3, 4, 5 8 6 ABOVE CORRECT? Y N 1 1 142 1) MARK THIS PLACE. ł 2) FOR CHECKING OPERATING 1 VOLTAGES FOR I/O DEVICES, GO TO MAP 0310, ENTRY POINT A. ł 3) MARK THIS PLACE. \_\_\_\_\_ 4) FOR CHECKING OPERATING t VOLTAGES FOR I/O DEVICES, GO TO MAP 0318, ENTRY POINT A. 1 5) SET 'POWER ON' TO OFF! 1 (OPERATORS PANEL). 6) SET MAIN LINE SWITCH TO 'OFF'. t 7) CHECK ANY FANS NOT WORKING FOR DEFECTIVE MOTORS. 8) CHECK & REPAIR ANY DEFECTIVE CABLES TO THESE MOTORS. 1 9) REPLACE AC POWER BOARD. в

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MAP 0300-27 н к 2 6 1 L 1 143 1) IF NO FAILURE OCCURS, RERUN DIAGNOSTICS TO VERIFY SYSTEM | OPERATION. 1 2) IF ALL SYSTEM FUNCTIONS ARE CORRECT, RETURN THE SYSTEM TO THE CUST CMER. 144 1) SET MAIN LINE SWITCH TO "OFF". 2) TO CHECK OUT AC DUTPUTS, GO TO MAP 0310, ENTRY POINT A. 3) SET MAIN LINE SWITCH TO 'ON'. SET POWER ON 4) TO TON (OPERATORS PANEL). (ENTRY POINT G) \_\_\_\_\_ 1) MARK THIS PLACE. 2) GO TO MAP 0309, ENTRY POINT A. TO CHECK OUT +24 V LOADING. -------\_\_\_\_\_ (ENTRY POINT GG) ----------MANUALLY BRING UP THE MULTI LEVEL AND DUAL LEVEL FILTER ASM. 1) SET MAIN LINE SWITCH TO "OFF". DOES THIS MACHINE HAVE A BELT PRINTER? Y N | 145 | GO TO STEP 146, | ENTRY POINT GE. 1 146 1) FIND THE K1 RELAY IN THE PRINTER AND UNPLUG IT FOR THE DURATION OF THE MANUAL BRING UP PROCEDURE (+24V TO HAMMER DRIVERS BELT PRINTER DNLY UNPLUG AT THE SLIP CONNECTOR P6) (MLM 4.3.5 FOR PG LOCATION). (ENTRY POINT GE) 2) REMOVE THE POWER SEQUENCE CARD. 3) JUMPER MAPLE CONNECTOR TAB PINS TO GROUND: MAPLE--POS TO MAPLE--MOS TO PICK THE KI RELAY, FANS AND FERRO. 4) SET MAIN LINE SWITCH TO "ON". 5) MEASURE VOLTAGES AT THE POINTS LISTED BELOW: (STEP 146 CONTINUES) 30 DEC77 PN2594601

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EC832050A PEC828777

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POWER MAPS
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#### SYSTEM 32

#### PAGE 28 OF 35

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(STEP 146 CONTINUED)
48VAC -- DUAL FROM E20 TO E21
GROUND -- DUAL E6.E7
+24VDC -- DUAL E4.E3 (21.6 TO 26.4)
-24VDC -- DUAL E5
                   (21.6 TO 26.4)
1
DUAL
     LEVEL
              VOLTAGES
                         MEASURE
CORRECT?
Y N
147
1 1) SET MAIN LINE SWITCH TO "OFF".
2) REMOVE JUMPER TO MAPLE
 CONNECTOR TAE PINS:
 (MAPLE--POS TO MAPLE--MO8 TO PICK
 THE K1 RELAY, FANS AND FERRO.)
1
3) INSTALL THE POWER SEQUENCE
CARD.
4) REPLACE THE DUAL LEVEL FILTER
ASM.
1
148
1) MEASURE POINTS ON THE PWR SEG
CARD CONNECTOR TAE PINS (CALLED
MAPLE):
Ł
GROUND ----- MAPLE--MOB,POB,
                   --M09.P09
+24VDC ----- MAPLE--U13
-24 VDC ----- MAPLE--U06
1
ARE
     SENSE VOLTAGE REFERENCES
CORRECT?
YN
1
 149
L
 1) SET MAIN LINE SWITCH TD. "OFF".
 2) REMOVE JUMPER
                       TO MAPLE
 CONNECTOR TAB PINS:
L
 (MAPLE--POS TO MAPLE--MOS TO PICK
 THE K1 RELAY, FANS AND FERRD.)
1
 3) MARK THIS PLACE.
ł
t
 Ŧ
 ------
 4) TO CHECK OUT SENSE LINE
 CABLING (SKIP OVER ALL VCLTAGES
1
 EXCEPT + AND - 24V.)
 GO TO MAP 0316, ENTRY POINT A.
    ------
 (STEP 149 CONTINUES)
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L (STEP 149 CONTINUED) INSTALL THE POWER SEQUENCE 1 5) CARD. ł 6) REPLACE THE DUAL LEVEL FILTER ASM. 1 150 1) SET MAIN LINE SWITCH TO "OFF". 2) REMOVE JUMPER TO MAPLE CONNECTOR TAB PINS. MAPLE--POS TO MAPLE--MOS TO PICK THE KI RELAY, FANS AND FERRO. 3) INSTALL POWER SEQUENCE CARD. 4) REMOVE LOADS ON DUAL (E3, E4, E5, E20, E21). 5) SET MAIN LINE SWITCH TO 'ON'. SET POWER ON' TO ON' 6) (OPERATORS PANEL). 1 DOES SYSTEM FAIL TO POWER UP NORMAL WITH DUAL UNLOADED? YN 1 151 SE T • POWER DN. OFF. | 1) то (OPERATORS PANEL). 1 1 2) CONNECT E3, E4 (THE +24VDC LOAD). POWER ON . TO "ON" [ 3) SET (OPERATORS PANEL). 1 1 1 DOES SYSTEM FAIL TO POWER UP L I NORMAL? YN 1 1 | 152 1 (1) SET POWER ON то OFF! Ł (OPERATORS PANEL). L 2) CONNECT E5 (-24VDC LOAD). SET POWER ON' TO 'ON' 13) I (OPERATORS PANEL). 1 1 1 DOES SYSTEM FAIL TO POWER UP 1 1 NORMAL ? ł 1 Y N 1 t 1 1 1 T 1 1 ŧ 30DEC77 PN2594601 2 2 2 2 EC832050A PEC828777 9 9 9 9

MAP 0300-28

MAP 0300-28

в L

POWER MAPS в Q 2 SYSTEM 32 8 PAGE 29 OF 35 I 1 153 SET POWER ON! то IDEE! 1) (OPERATORS PANEL). 2) CONNECT DUAL E20-E21 (48VAC FOR SERIAL PRINTER). 3) SET POWER ON! то \* DN\* (OPERATORS PANEL). FAIL TO POWER UP DDES SYSTEM NORMAL 2 YN 1 154 SUSPECT INTERMITTENT POWER PROBLEMS 1 1) CYCLE POWER ON AND OFF SEVERAL TIMES AND TRY TO RECREATE | FAILURE. 2) IF NO FAILURE OCCURS, RERUN DIAGNOSTICS TO VER IFY SYSTEM I OPERATION. 3) IF ALL SYSTEM FUNCTIONS ARE CORRECT. RETURN THE SYSTEM TO THE I CUSTOMER. 1 155 1) SET POWER ON' TO OFF! (OPERATORS PANEL). 2) DISCONNECT THE 48VAC POWER CABLE FROM CONNECTOR AT THE SERIAL PRINTER. 3) PRESS SYSTEM RESET. POWER ON \*ON \* 4) SET то (OPERATORS PANEL). DOES THE SYSTEM FAIL TO POWER UP NORMAL? YN ŧ 1 156 1) SET POWER ON TO 'OFF' ( OPERATORS PANEL ). 2) CONNECT 48VAC POWER CABLE AT PRINTER. | \_\_\_\_\_\_ 3) TO ISOLATE THE 48VAC LOAD. GO TO MAP 0503. ENTRY POINT A. ------1 I 157 REPLACE AC POWER CABLE BETWEEN DUAL LEVEL FILTER ASM AND SERIAL PRINTER-

MAP 0300-29 BBBB GMNP 2 2 2 2 6888 ł 1 ł ł I. 1 158 1 | 1) CONNECT E20 AND E21 (48VAC) ł. 1 ----------| 2) FOR -24V LOAD ISOLATION. | GO TO MAP C308, | ENTRY POINT A. 1 ------1 1 ۱ - [ 159 ł 1) CONNECT E5 (-24VDC LDAD). 1 2) CONNECT E20 AND E21 (48VAC) | 3) FOR +24V LOAD ISOLATION. | GO TO MAP 0309, ENTRY POINT A. | | -----L 1 1 1 | 160 1) SET POWER (OPERATOR PANEL). POWER ON' TO OFF 2) SET MAIN LINE SWITCH TO "OFF". 3) REPLACE POWER SEQUENCE CARD (CONNECT ALL LEADS). | IF FAILURE PERSISTS, ( 4) REPLACE DUAL LEVEL FILTER ASM. VERIFY FIX BY RUNNING DIAGNOSTIC. 161 IS MORE THAN ONE LEVEL OF A SUPPLY INDICATED (LIGHTS 4-7 ALL ON)? Y N | 162 ARE ANY VALID LEVELS INDICATED (ANY LIGHTS 4-7 DN)? YN 1 - 1 163 1 11 | | GO TO PAGE 33, STEP 185, | | ENTRY POINT H. -11 A 164 | DUAL LEVEL FILTER ASM.) 1) SET POWER ON' TO OFF! (OPERATORS PANEL). 2) SET MAIN LINE SWITCH TO "OFF". Т DO YOU HAVE A BELT PRINTER? 1 Y N ł 1 1 1 1 Ł t I Ł L 1 I. 1 1 30 DEC77 PN2594601 3 3 3 200 EC832050A PEC828777 ввв RST MAP 0300-29

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B B
            POWER MAPS
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                                                                 MAP 0300-30
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 2 2
             SYSTEM 32
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             PAGE 30 OF
                        35
                                               1
 1 1
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                                              - 1
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 1 1
                                            1 1
                                                - 1
                                                170
 1
  165
                                            Ł
                                              1 1) SET MAIN LINE SWITCH TO
 1
                                             1
                                              | 'OFF '.
  GO TO STEP 166.
                                              2) PULL MAIN LINE CORD.
3) REMOVE JUMPER TO MAPLE
 | ENTRY POINT GD.
                                            1
 1
                                            1
                                              CONNECTOR TAB PINS.
 166
 1) FIND THE K1 RELAY IN THE PRINTER
                                              1 1
                                           1
                                            1
 AND UNPLUG IT FOR THE DURATION OF
                                                (MAPLE--PCS TO MAPLE--MOS TO
 THE MANUAL BRING UP PROCEDURE (+24V
                                              | PICK THE KI RELAY, FANS AND
                                            TO HAMMER DRIVERS BELT PRINTER
                                              | FERRO.)
                                             1
 ONLY).
                                             1
                                              4) INSTALL THE POWER SEQUENCE
 (UNPLUG AT THE SLIP CONNECTOR P6.)
                                            1
 (MLM SEC. 4.3.5 FOR P6 LOCATION)
                                            | CARD.
                                              5) REPLACE FERRO TRANSFORMER.
 -----
                 ____
                                            I.
                                           Ł
 (ENTRY POINT GD)
                                              - 1
                                           1
                                            1
                                              171
 2) REMOVE THE POWER SEQUENCE CARD.
 3) JUMPER MAPLE CONNECTOR TAB PINS
                                            | GO TO STEP 173,
                                           1
                                            | ENTRY POINT GH.
 TO GROUND:
 (MAPLE--POS TO MAPLE--MO8 TO PICK
                                           | 172
 THE K1 RELAY, FANS AND FERRO.)
                                           | GO TO STEP 173,
                                           ENTRY POINT GH.
 4) SET MAIN LINE SWITCH TO "ON".
 5) MEASURE VOLTAGE FOR THE LEVEL
 DETECTED IN THE PWR FAULT REGISTER:
                                          173
 1
                                           _____
  GROUND---PD-TB1-1.2.3.4.
                                           (ENTRY POINT GH)
  +12VDC---PD-TB2-5
                     (10.8 TO 13.2)
                                           __________
 +8.5VDC---PD-TB2-1,2 (7.65 TC 9.35)
                                          1
  +6VDC---PD-TB2-3 (5.4 TO 6.6)
                                          1) SET MAIN LINE SWITCH TO "OFF".
   +5VDC---PD-TB1-5,6,7 (4.5 TO 5.5)
                                          2) REMOVE JUMPER TO MAPLE CONNECTOR
  -12VDC---PD-TB2-6 (10.8 TO 13.2)
                                          TAB PINS:
   -5VDC---PD-TB1-8
                     (4.5 TO 5.5)
                                          (MAPLE--POS TO MAPLE--MOS TO PICK
   -4VDC---PD-TB2-4
                     (3.68 TO 4.32)
                                          THE K1 RELAY, FANS AND FERRD.)
 t
 VOLTAGE MEASURE CORRECT?
 YN
                                          3) INSTALL THE POWER SEQUENCE CARD.
                                          4) SET MAIN LINE SWITCH TO 'ON'.
                                          5) MARK THIS PLACE.
  167
 | IS +5V CORRECT?
                                          6) EXIT TO THE APPROPRIATE CHART
 1
  YN
                                          FOR THE VOLTAGE LEVEL DETECTED BY
  LIGHTS 4-7 ON THE CE PANEL UPON
 I.
   168
    ARE ANY CTHER MEASURED VOLTAGES
                                          POWER CHECK.
   1
 1
   I INCORRECT?
                                          1
    YN
                                          L
   1
     1
                                          -4 VDC
   1
   1
    1 169
                                          GO TO MAP 0301. ENTRY POINT A.
    1) CHECK FOR APPROXIMATELY
6.5 VAC BETWEEN (MULTI-LEVEL
                                           ______
   -5 VDC
 1
   t
     FILTER ASM) (MLM SEC. 8)
                                          GO TO MAP 0302, ENTRY POINT A.
    | TB2-1 TO TB2-2.
| ALSO, TB2-3 TO TB2-2.
                                           L
                                          +5 VDC
   1
    1 1
                                          GO TO MAP 0303, ENTRY POINT A.
     IS VOLTAGE CORRECT?
                                              1
                                          +6 VDC
 1
   1
     1
       Y N
     Ł
      1
        1
                                          GO TO MAP 0304, ENTRY POINT A.
   1
                                          (STEP 173 CONTINUES)
     1
 I
   1
         1
 1
   1
     1
       1
         1
     1
       1
         1
                                                        30DEC77
                                                                  PN2594601
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 1
8 8 8 8 8 8
UVWXY
                                                                 MAP 0300-30
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в
           POWER MAPS
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З
           SYSTEM 32
0
           PAGE 31 OF 35
(STEP 173 CONTINUED)
  _____
 +8.5 VDC
 GO TO MAP 0305, ENTRY POINT A.
L
       ------
 -12 VDC
 GC TC MAP 0306, ENTRY POINT A.
1
    -----
 +12 VDC
 GO TO MAP 0307, ENTRY POINT A.
I.
     ------
  1
 7) MARK THIS PLACE.
1
t
  8) TO CHECK ALL VOLTAGES THAT
L
WERE MISSING ON MANUAL BRING UP.
  GD TO MAP 0315, ENTRY POINT A.
9) REPAIR OR REPLACE SENSE CABLE
  (MULTI J2, J3).
IF FAILURE PERSISTS.
10) REPLACE THE MULTI LEVEL
  FILTER ASM.
174
1) MEASURE POINTS ON THE PWR SEQ
CARD CONNECTOR TAB PINS (CALLED
MAPLE):
L
GROUND--- MAPLE--MO8.PO8.
               --M09,P09
+12VDC---MAPLE--U12 (10.8 TC 13.2)
+8.5VDC---MAPLE--U09 (7.65 TO 9.35)
 +6 VDC---MAPLE--U10 (5.4 TO 6.6)
  +5VDC---MAPLE--U11
                    (4.5 TO 5.5)
 -12VDC---MAPLE--U05 (10.8 TO 13.2)
 -5VDC---MAPLE--U04 (4.5 TO 5.5)
-4VDC---MAPLE--U07 (3.62 TO 4.32)
t
ARE
    SENSE
            VOLTAGE
                      REFERENCES
CORPECT?
YN
 175
1
1) SET MAIN LINE SWITCH TO 'OFF'.
2) REMOVE JUMPER TO MAPLE
CONNECTOR TAE PINS:
 (MAPLE--POS TO MAPLE--MO8 TO PICK
 THE K1 RELAY, FANS AND FERRO.)
1
1
 3) MARK THIS PLACE.
١
Ł
 1
 4) TO CHECK OUT SENSE
                            LINE
E
 CABLING (SKIP OVER VOLTAGES NOT
  ENCODED IN THE FAULT REGISTER.),
 GD TO MAP 0316, ENTRY PDINT A.
 (STEP 175 CONTINUES)
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z (STEP 175 CONTINUED) INSTALL THE POWER SEQUENCE (5) CARD. 6) REPLACE THE MULTI LEVEL FILTER ASM. 1 176 1) SET MAIN LINE SWITCH TO 'OFF'. 2) REMOVE JUMPER TO MAPLE CONNECTOR TAB PINS. 3) INSTALL THE POWER SEQUENCE CARD. 4) SET MAIN LINE SWITCH TO 'ON'. 5) MARK THIS PLACE. ł. 6) EXIT TO THE APPROPRIATE CHART FOR THE VOLTAGE LEVEL DETECTED BY LIGHTS 4-7 ON THE CE PANEL UPON POWER CHECK. -4 VDC GO TO MAP 0301, ENTRY POINT A. -5 VDC GD TO MAP 0302, ENTRY POINT A. -----\_\_\_\_\_ +5 VDC GO TO MAP 0303, ENTRY POINT A. +6 VDC GO TO MAP 0304, ENTRY POINT A. +8.5 VDC GO TO MAP 0305, ENTRY POINT A. -12 VDC GO TO MAP 0306, ENTRY PDINT A. +12 VDC GO TO MAP 0307, ENTRY POINT A. -----1 7) REPLACE THE POWER SEQUENCE CARD. 8) TRY TO POWER UP AGAIN. IF FAILURE PERSISTS, 9) REPLACE THE MULTI LEVEL FILTER ASM.

MAP 0300-31

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30DEC77 PN2594601 EC832050A PEC828777

MAP 0300-31

B Z

сс в POWER MAPS R A B SYSTEM 32 2 9 PAGE 32 OF 35 1 1 ł 1 177 180 t 1) SET MAIN LINE SWITCH TO "OFF". 1) SET \* POWER ON! то I OFF! 2) SET 'POWER ON' TO 'OFF' (OPERATOF PANEL). CHECK (OPERATORS PANEL). (2) 2) SET MAIN LINE SWITCH TO "OFF". CONTINUITY ON THE PWP SEQ CARD K1 3) REMOVE COVER FROM THE AC POWER -BOARD. | DRIVER CABLES. 4) SET MAIN LINE SWITCH TO "ON". - 1 TO 'ON' 5) SET POWER ON -K1 DRIVER. (OPERATORS PANEL). 6) OBSERVE K1 AS POWER IS APPLIED. | FROM: MLM SEC. 8. | POWER SE-QUENCE CARD LOCATION: LARGE RELAY ON BOTTOM CONNECTOR LEFT OF AC POWER BOARD. | то: AC POWER 1 DOES K1 PICK OF PICK AND THEN DROP? BOARD Y N 1 1 3) IF PROBLEM FOUND, REPAIR OR ۱ 1 1 178 I REPLACE CABLE. TO 'OFF' 1) SET POWER ON 4) IF PROBLEM NOT FOUND, REPLACE L (OPERATORS PANEL). | SEQ CARD. 2) PROBE SC-TP-D03, (-PICK K1 5) IF PROBLEM NOT FOUND, REPLACE I RELAY). AC POWER BOARD. MLM SEC. 8. L 1 181 SET POWER t 1) PROBE GROUND IS ON SC-TP-BO8. FRAME CAN ALSO BE USED FOR PROBE (OPERATORS PANEL). 2) SET MAIN LINE SWITCH TO 'OFF'. GND. +5VDC PROBE POWER IS LOCATED DN AA1-E5-B02 OR GND . 3) CHECK FERRO TB1 PIN, (REF), TO PIN WITH AC VOLTAGE. AA1-C5-B02. 1 1 MLM SEC. 8. 3) PRESS RESET. 1 L 4) SET POWER (METER RANGE +500VAC.) ON . ON' то (OPERATORS PANEL). 5) OBSERVE PROBE AS 'POWER ON' 4) SET MAIN LINE SWITCH TO 'ON'. 1 SET POWER ON TO ON SWITCH IS SET TO "ON". 5) 1 (OPERATORS PANEL). IS LINE DOWN? 6) MEASURE LINE VOLTAGE ON FERRO t YN 1 TB1. Ł 1 179 1) REPLACE THE POWER SEQUENCE IS LINE VOLTAGE PRESENT WHEN "POWER ON" SWITCH IS SET TO "ON" 1 ON' SWITCH IS 1 | CARD. (OPERATORS PANEL)? Y N 1 ŧ 1 ſ I 1 f з ٦ 33 с с сс A B С D.

30DEC77 PN2594601

MAP 0300-32

PIN LOCATION

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MAPLE--P05

ACP-J1-805

ON'

то

OFF!

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с с POWER MAPS с D SYSTEM 32 3 З 2 2 PAGE 33 DF 35 ŧ 1 I. 1 182 SET POWER ON TO 'OFF' 1) (CPERATORS PANEL). 2) SET MAIN LINE SWITCH TO 'OFF'. 3) CHECK FUSE 102. Ì. MLM SEC. 8. 1 1 LOCATION: SECOND FUSE TO THE RIGHT OF THE MAIN LINE SWITCH. LOCATION: THE 1 AC VOLTAGE TO THE AC POWER BOARD I IS SUPPLIED THROUGH FUSE 102. FUSE 102 GCOD? YN 1 t ۱ 183 1) REPLACE FUSE. TRY TO POWER L ON AGAIN. IF FUSE BLOWS. ţ L 1 184 -----Ł AC VOLTAGE ISOLATE PROBLEMS, Ł GD TO MAP 0310, ENTRY POINT A. ------L 185 \_\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ . -----(ENTRY POINT H) \_\_\_\_ (MANUALLY BRING UP THE MULTI & DUAL LEVEL FILTER ASM.) Ł POWER ON' TO OFF! SET 1) (OPERATORS PANEL). 2) SET MAIN LINE SWITCH TO "OFF". DOES MACHINE HAVE A BELT PRINTER? Y N I Ł 186 GO TO STEP 187. 1 ENTRY POINT HA.

C

F

с MAP 0300-33 E ł 187 1) FIND THE K1 RELAY IN THE PRINTER AND UNPLUG IT FOR THE DURATION OF THE MANUAL BRING UP PROCEDURE (+24V TO HAMMER DRIVERS BELT PRINTER ONLY). (UNPLUG AT THE SLIP CONNECTOR P6) (MLM SEC. 4.3.5 FOR P6 LOCATION) -----(ENTRY POINT HA) 2) REMOVE THE POWER SEQUENCE CARD. 3) JUMPER MAPLE CONNECTOR TAB PINS TO GROUND: E (MAPLE--POS TO MAPLE--MOS TO PICK THE K1 RELAY, FANS AND INPUT TO FERRO.) 4) SET MAIN LINE SWITCH TO 'ON'. MEASURE VOLTAGES AT POINTS 5) LISTED BELOW: GROUND---PD-TB1-1.2.3.4. +12VDC---PD-TB2-5 (10.8 TO 13.2) +8.5VDC---PD-TB2-1,2 (7.65 TO 9.35) +6VDC---PD-TB2-3 (5.4 TO 6.6) +5VDC---PD-TB1-5,6,7 (4.5 TO 5.5) -12VDC---PD-TB2-6 (10.8 TO 13.2) -5VD C---PD-TB1-8 (4.5 TO 5.5) -4VDC---PD-TB2-4 (3.66 TD 4.32) MULTI LEVEL VOLTAGES MEASURE CORRECT? YN 1 ł. 188 IS ANY VOLTAGE PRESENT? YN 1 189 ł AC VOLTAGE ISOLATION CHART, L | GD TO MAP 0310. ENTRY POINT A. 1 1 1 ł 1 I 30 DEC77 PN2594601 33 EC832050A PEC828777 4 4 сс F MAP 0300-33 G

сс POWER MAPS FG 3 3 SYSTEM 32 33 PAGE 34 DF 35 1 1 1 1 190 1 1) SET MAIN LINE SWITCH TO 'OFF'. 1 REMOVE JUMPER TO MAPLE 2) CONNECTOR TAB PINS: 1 (MAPLE--POS TO MAPLE--MOS TO PICK 1 THE KI RELAY. FANS AND INPUT TO 1 FERRO.) 1 1 3) INSTALL THE POWER SEQUENCE CARD. 4) MARK THIS PLACE. \_\_\_\_\_ 5) TO CHECK OUT SENSE LINE | CABLING, GO TO MAP 0316, ENTRY POINT A. \_ \_ \_ \_ 6) REPLACE THE MULTI LEVEL FILTER ASM. IF FAILURE PERSISTS. Į. REPLACE FERRO E FERRO 7) | CAPACITOR. | (CAUTION: FERRO WEIGHS ABOUT 38 [ POUNDS.) 191 1) MEASURE POINTS ON THE PWR SEQ CARD CONNECTOR TAB PINS (CALLED MAPLE): GROUND---MAPLE--MO8,PO8, -- M09, P09 +12VDC---MAPLE--U12 (10.8 TO 13.2) +8.5VDC---MAPLE--U09 (7.65 TC 9.35) (5.4 TD 6.6) (4.5 TC 5.5) +6VDC---MAFLE--U10 +5VDC---MAPLE--U11 -12VDC---MAPLE--U05 (10.8 TO 13.2) (4.5 TO 5.5) -SVDC---MAFLE--U04 -4VDC---MAPLE--U07 (3.68 TO 4.32) L ARE SENSE VOLTAGE REFERENCES CORRECT? YN t ł 1 ł 1 Ł ł 1 сс нј

н ј ł 1 1 L L 1 1 192 1) SET MAIN LINE SWITCH TO "OFF". 2) REMOVE JUMPER TO MAPLE CONNECTOR TAB PINS: (MAPLE--POS TO MAPLE--MOS TO PICK THE KI RELAY, FANS AND INPUT TO | FERRO.) 1 1 3) MARK THIS PLACE. -----( 4) TO CHECK OUT SENSE LINE CABLING (CHECK OUT ONLY VOLTAGES COMING 1 FROM THE MULTI LEVEL FILTER ASM.). GO TO MAP 0316, ENTRY POINT A. ------1 1 1 5) INSTALL THE POWER SEQUENCE CARD. 6) REPLACE THE MULTI LEVEL FILTER ASM. 193 1) SET MAIN LINE SWITCH TO "OFF". 2) REMOVE JUMPER TO MAPLE CONNECTOR TAB PINS: (MAPLE--POS TO MAPLE--MOB TO PICK THE KI RELAY, FANS AND INPUT TO FERRD.) 3) MARK THIS PLACE. 1 4) TO CHECK OUT CONTROL LINE CABLING TO DUAL. GO TO MAP 0315, ENTRY POINT A. Ł IF PROBLEM NOT FOUND. 5) REPLACE POWER SEQUENCE CARD. 6) TRY TO POWER ON AGAIN. IF FAILURE PERSISTS. 7) REPLACE THE MULTI LEVEL FILTER ASM. 8) TRY TO POWER ON AGAIN. IF FAILURE PERSISTS. 9) REPLACE DUAL LEVEL FILTER ASM. (STEP 193 CONTINUES)

MAP 0300-34

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            POWER MAPS
33
            SYSTEM 32
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            PAGE 35 DF 35
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   (STEP 193 CONTINUED)
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  194
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 1) MARK THIS PLACE.
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1 2) TO CHECK OUT CONTROL VOLTAGES,
 GO TO MAP 0317, ENTRY POINT A.
1
T
  1 1
 3) SET MAIN LINE SWITCH TO "OFF".
١
  4) MARK THIS PLACE.
1
Ł
 E
5) TO CHECK OUT SENSE LINE
CAELING,
GO TO MAP 0316, ENTRY POINT A.
1
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1 1
6) REPLACE THE POWER SEQUENCE
 CARD.
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 IF FAILURE PERSISTS,
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7) REPLACE MULTI LEVEL FILTER
A SM.
L
1 95
BOTH PWR CHK AND TH CHK LED'S
SHOULD NOT BE ON AT THE SAME TIME
UNLESS LAMP TEST SWITCH IS PRESSED
ON THE CE PANEL. A LEGITIMATE
CHECK SHOULD LIGHT ONLY ONE OF
THESE LED'S.
1
         POWER ON' TO POFF
1) SET
(OPERATORS PANEL).
2) PRESS PESET.
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3)
GD TO PAGE 6, STEP 015,
ENTRY POINT C.
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A BAD DUAL COULD CAUSE AN DVER-VOLTAGE CONDITION IN THE MULTI.

(EXAMPLE) ONE +24 RECTIFIER COULD BE BAD AND CAUSE THE 8.5 VOLTS TO PEAK AT OVER 10 VOLTS, WHICH WOULD CAUSE OVER VOLTAGE ON 8.5 INDICATING A BAD MULTI. THE +24 VOLTS WOULD EVENTUALLY BUILD UP TO +24 VOLTS SO NO INDICATION WOULD BE APPARENT ON THE DUAL.

30DEC77 PN2594601

## EC832050A PEC828777

POWER MAPS

SYSTEM 32

PAGE 1 DF 5

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0300 0318		А В	1 4	001 015

## 001

(ENTRY POINT A) I I) SET 'POWER ON' TO 'OFF' (OPERATOR PANEL). 2) DISCONNECT LEADS FROM PD-TB2-4 (CABLE TO AA2 BOARD).

3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). 1 POWER CHECK? Y N

ł 002 11 SET 'POWER ON' τо 'OFF' (OPERATOR PANEL). L 2) CONNECT LEADS REMOVED FROM PD-TB2-4. Ł 3) REMOVE CABLE FROM AA2-A4 PLUG POSITION ON CARD SIDE OF BOARD (PIN BO6 CARRIES -4 VDC TO THE 1 | DISK). 4) SET POWER ON! ON . TO (OPERATOR PANEL). 1

POWER CHECK?

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MAP 0301-1

-4VDC LOAD ISOLATION ON MULTI LEVEL FILTER ASM.

PD-TB2-4 SUPPLIES -4VDC TO THE AA2 BOARD AND DISK. REFER TO MLM SEC. 8 FOR LOCATION OF TERMINAL BLOCK. LEADS TO BE REMOVED ARE ATTACHED TO BOTTOM SIDE OF THE TERMINAL BLOCK.

С POWER MAPS 1 SYSTEM 32 1 2 OF I PAGE 5 I ł 003 SET • OFF • 1) • POWER ON! тΟ (OPERATOR PANEL). 2) CONNECT CABLE REMOVED FROM AA2-A4 PLUG POSITION. 3) REMOVE LOGIC CARDS FROM DISK PLUG BOARD. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 1 004 SET POWER ON! TO POFF! 1 1) (OPERATOR PANEL). 2) INSTALL CARDS ONE AT A TIME FROM THE LAST HALF REMOVED. PRESS RESET AND POWER ON EACH TIME TO ISOLATE THE CARD CAUSING I THE POWER CHECK. AFTER CORRECTING THE PROBLEM. 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS. t 005 1) SET POWER ON! то \* OFF \* (OPERATOR PANEL). REMOVE END OF CABLE THAT PLUGS 21 INTO DISK AT PLUG POSITION 85. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). L POWER CHECK? Y N 1 006 1 1) SET POWER ON! TO POFF! (OPERATOR PANEL). 2) REPLACE DISK FRU. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND то THEIR L CABLES ORIGINAL I POSITIONS. > 007 1) SET • POWER ON\* TO 'OFF' (OPERATOR PANEL). 2) REPLACE THE CABLE. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS. AND

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LABEL EACH CARD AS IT IS REMOVED TO AVCID INSTALLING IN THE WRONG LOCATION.

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В POWER MAPS MAP 0301-3 1 SYSTEM 32 PAGE 3 OF 5 1 1 1 008 SHORT CAUSING THE PWR CHK INDICATION MAY BE IN THE AA2 BOARD, CARDS, OR CABLE FROM PD-TB2-4. ON. SET POWER 1) TO 'DEE' (OPERATOR PANEL). 2) REMOVE DNE-HALF OF THE CARDS LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG FROM THE AA2 BOARD. 3) PRESS RESET. LOCATION. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N l 009 | 1) SET POWER ON' то 10FF1 (OPERATOR PANEL). 1 2) INSTALL CARDS ONE AT A TIME FROM THE LAST HALF REMOVED. PRESS RESET AND POWER ON EACH TIME TO ISOLATE THE CARD CAUSING FROM I TIME THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES то THEIR ORIGINAL | POSITIONS. 010 LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG 1) SET POWER ON TO 'OFF' (OPERATOR PANEL). THE 2) REMOVE THE OTHER HALF OF THE CARDS FROM THE AA2 BOARD. LOCATION. 3) PRESS RESET. 4) SET "POWER ON" TO "ON" (OPERATOR PANEL). POWER CHECK? YN Ł 011 1 1) SET "POWER ON" то **'OFF'** L (OPERATOR PANEL). 1 2) INSTALL CARDS ONE AT A TIME 1 FROM THE LAST HALF REMOVED. PRESS RESET AND POWER ON EACH L 1 TIME TO ISOLATE THE CARD CAUSING THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND то CABLES THEIR ORIGINAL POSITIONS. 03SEP76 PN2594602 EC828777 PEC----4

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A D POWER MAPS 1 3 SYSTEM 32 ł ł PAGE 4 OF 5 L ł 1 ł 1 1 012 ł POWER ON' TO 'OFF' SET 1) (OPERATOR PANEL). 2) DISCONNECT MINI BUS CONNECTOR 1 FROM PIN SIDE OF BOARD AT LOCATION: AA2-B3-A14. 3) METER THIS POINT TO GROUND ON THE AA2 BUARD TO LOCATE SHORT. AA2 BOARD SHORTED? Y N 1 1 1 | 013 | 1) DISC | PD-TB2-4. FROM DISCONNECT LEAD 1 2) METER WIRE REMOVED FROM PD-TB2-4 TO GROUND TO LOCATE Ł I SHORT. | AFTER CORRECTING THE PROBLEM, | 3) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL | POSITIONS. L 1 014 1) REPLACE THE AAZ BOARD. AFTER CORRECTING THE PROBLEM. 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR DRIGINAL POSITIONS. 015 (ENTRY POINT B) 1 1) SET POWER ON . TO 'OFF' (OPERATOR PANEL). 2) CONNECT LEAD REMOVED FROM PD-TB2-4 (IF PREVIOUSLY REMOVED). MLM SEC. 8. 3) REMOVE LEAD AT PD-TB2-4 ON THE POWER SUPPLY (TOP) SIDE OF THE TERMINAL BLOCK. 4) DISCONNECT CABLE CONNECTOR MULTI-J1 ON MULTI LEVEL FILTER ASM. MULTI-J1-11, AND MULTI-J1-12 SUPPLY -4VDC TO PD-TB2-4. L 5) CHECK FOR SHORT TO GROUND ON CABLE REMOVED FROM PD-TB2-4, MULTI-J1-11, AND MULTI-J1-12. DOES CABLE SHOW SHORT TO GROUND? Y N Ł 1 L ł 1 1 1 5 5 EF

MAP 0301-4

PWR CHK INDICATION NOT CAUSED BY EXCESSIVE LOAD FROM PD-TB2-4 OUT TO THE I/O FUNCTION.

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EF POWER MAPS 4 4 SYSTEM 32 I 1 PAGE 5 OF 5 1 t 1 -1 ł 016 1 I CHECK CABLE FOR AN OPEN. 1 ł I IS CABLE OPEN? I Y N I | 017 1 I 017 I 1) CONNECT ALL CABLES I PREVIOUSLY REMOVED. I RETURN TO THE CALLING CHART, I PLACE OF LAST EXIT, NEXT I SEQUENTIAL COMMAND. Ł I 1 1 I 1 1 018 1) REPLACE CABLE.
AFTER CORRECTING THE PROBLEM,
2) INSTALL ALL REMOVED CARDS AND
CABLES TO THEIR ORIGINAL | POSITIONS. T 019 1) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

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POWER MAPS

SYSTEM 32

PAGE 1 DF 9

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0300 0318		А А	1	001 001

#### 001

(ENTRY POINT A) \_\_\_\_\_\_ 18 -----1 1) SET • POWER ON! то OFF! (OPERATOR PANEL). 2) FIND THE CABLE ON PD-TB1-8 THAT GOES TO BA1-U5-D12 (-5VDC). 3) DISCONNECT THAT CABLE ONLY FROM PD-T81-8. 4) FIND THE CABLE ON PD-TB2-2 THAT GOES TO BA1-U5-D11 (+8.5VDC). 5) DISCONNECT THAT CABLE ONLY FROM PD-TB2-2. 6) PRESS RESET.7) SET 'POWER ON' TO 'ON' (OPERATOR) PANEL ). POWER CHECK? Y N Ł 002 1) SET POWER ON ТΟ 'OFF' (OPERATOR PANEL). 1 2) CONNECT CABLE REMOVED FROM PD-TB1-8. CONNECT CABLE REMOVED 3) FROM PD-TB2-2. L (4) DISCONNECT CABLE FROM MODEM BA1-U5-D12 AND D11. 5) SET 'POWER ON' L 1 5) то ON! (OPERATOR PANEL). ï POWER CHECK? 1 Y N 1 1 1 t ł ł COPYRIGHT IBM CORP 1976 1 1 I I t 1 3 3 2 ABC

-5VDC LOAD ISOLATION ON MULTI LEVEL FILTER ASM.

A WORD OF CAUTION IN THIS MAP---, -5VDC MUST NOT BE REMOVED FROM FET CIRCUITS WITHOUT REMOVING +8.5VDC FIRST. DAMMAGE MAY OCCUR TO THE CHIPS IF DONE.

UNLOAD THE 2400 MODEM FEATURE IF INSTALLED. IF NOT INSTALLED, BYPASS THIS QUESTION BY ANSWERING 'YES'. -REF MLM SEC. 8 FOR LOCATION OF

-REF MLM SEC. 8 FOR LOCATION OF . TERMINAL BLOCK. LEADS TO BE REMOVED ARE ATTACHED TO THE BOTTOM SIDE OF THE TERMINAL BLOCK.

MAP 0302-1

С POWER MAPS 1 SYSTEM 32 1 2 OF PAGE 9 1 003 1) SET **POWER** ON! тο 'DFF' (OPERATOR PANEL). 2) CONNECT CABLE REMOVED FROM MODEM BA1-U5-D12 AND D11. 3) REMOVE ONE-HALF 0F THE CARDS FROM THE BA1 BOARD. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 004 SET 'POWER ON' тο 'OFF' (1)(OPERATOR PANEL). 2) INSTALL CARDS ONE AT A TIME LAST HALF REMOVED. AND POWER ON EACH FROM THE PRESS RESET TIME TO ISOLATE THE CARD CAUSING THE POWER CHECK. AFTER CORRECTING PROBLEM, 3) INSTALL ALL REMOVED CARDS AND то L CABLES THEIR ORIGINAL POSITIONS. 1 005 POWER 1) SET ON . TO 'OFF' (OPERATOR PANEL). 2) REMOVE THE OTHER HALF OF THE CARDS FROM THE BA1 BOARD. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 1 1 006 SET POWER ON. то 10FF1 1) (OPERATOR PANEL). 2) INSTALL CARDS ONE AT A TIME E FROM THE LAST HALF REMOVED. PRESS RESET AND POWER ON EAGH FROM TO ISOLATE THE CARD CAUSING TIME THE POWER CHECK. AFTER CORRECTING PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

3 D SHORT CAUSING THE PWR CHK INDICATION MAY BE IN BA1 BOARD, CARDS, OR CABLE FROM PD-TB2-2.

MAP 0302-2

LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

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MAP 0302-2

POWER MAPS ABD 1 1 2 SYSTEM 32 1 I PAGE 3 OF 9 ł I. I ł I 007 SET POWER ON' то 10FF1 L 11 I (OPERATOR PANEL). 1 DISCONNECT CABLE FROM MODEM ١ 2) AT LOCATION: BA1-U5-D12 AND 1 D11. 3) METER THIS POINT ТΟ GROUND ON THE CAL BOARD TO LOCATE ł SHORT. I ł BA1 BOARD SHORTED? 1 1 Y N 1 008 1 1 1) DISCONNECT LEADS FROM 1 | PD-TB1-8. 1 METER WIRES REMOVED TO 1 21 ł | GROUND TO LOCATE SHORT. | AFTER CORRECTING THE PROBLEM, 1 1 3) INSTALL ALL REMOVED CARDS 1 AND CABLES TO THEIR ORIGINAL 1 | POSITIONS. 1 009 1 1) REPLACE MODEM BOARD BAL 1 AFTER CORRECTING THE PROBLEM, L 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 1 010 1) SET 'POWER ON' ΤO 'OFF' (OPERATOR PANEL). 2) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS. 1 011 SET • POWER ON! 'OFF' ΤD 1) (OPERATOR PANEL). 2) DISCONNECT MINI BUS CONNECTORS FROM PIN SIDE OF THE BOARD BETWEEN LOCATIONS: AA2-U2,U3 AA2-U3,U4 AA2-U4.U5. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 1 ł 1 ł I 1 6 4 Е F

PIN A14 ON EACH CONNECTOR CARRIES -5VDC TO THE AA2 BOARD, DISKETTE, AND KEYBOARD.

PIN EO1 ON EACH CONNECTOR CARRIES +8.5VDC TO THE AA2 BOARD AND KEYBOARD.

> 03SEP76 PN2594603 EC828777 PEC-----

> > MAP 0302-3

F POWER MAPS 3 SYSTEM 32 PAGE 4 OF 9 012 SET POWER ON ' τn 10FF 1 11 (OPERATOR PANEL). BUS CONNECTORS 2) CONNECT MINI REMOVED BETWEEN LOCATIONS: AA2-U2,U3 AA2-U3,U4 AA2-U4,U5. 3) REMOVE CABLE FROM AA2-B2 PLUG POSITION ON CARD SIDE OF BOARD (PIN D11 CARRIES -5 VDC TO THE DISKETTE). 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 013 1 SET 'POWER ON' 10FF1 1) ΤO (OPERATOR PANEL). 2) CONNECT CABLE REMOVED FROM LOCATION: AA2-B2-3) REMOVE LOGIC CARD FROM DISKETTE PLUG BOARD. 4) SET 'POWER Ł ON\* то 'ON' (OPERATOR PANEL). 1 1 1 POWER CHECK? Y N 014 1 1) SET "POWER ON" TO "OFF" 1 (OPERATOR PANEL). 1 REPLACE LOGIC CARD WITH NEW 2) L LOGIC CARD. Ł AFTER CORRECTING PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL 1 L | POSITIONS. 015 1) SET POWER ON' TO "DFF" (OPERATOR PANEL). 2) REPLACE CABLE FROM AA2-B2 ΤO DISKETTE. AFTER CORRECTING PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

MAP 0302-4 G 016 SET POWER ON\* ΤC OFF! 1) (OPERATOR PANEL). 2) REMOVE CABLE FROM AA2-U3 PLUG POSITION ON PIN SIDE OF BOARD. -5VDC, PIN B11 (PIN BO6 CARRIES CARRIES +8.5VDC TO THE KEYBOARD.) 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 017 SET POWER ON' TO OFF 1) 1 (OPERATOR PANEL). I. 2) CONNECT CABLE REMOVED FROM LOCATION: 1 AA2-U3. 3) REMOVE FLAT CABLE AT KEYBOARD PRINTED CIRCUIT BOARD (KBD-PC). 1 4) SET 'POWER ON' TO 'ON' L (OPERATOR PANEL). POWER CHECK? L ΥN 018 1 1) SET 'POWER ON' TO 'OFF' (OPERATOR PANEL). 1 1 2) REPLACE KEYBOARD PRINTED I CIRCUIT BOARD. | AFTER CORRECTING PROBLEM, | 3) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL | POSITIONS. 019 ł 1) SET 1 POWER ON' ΤO '0FF' (OPERATOR PANEL). 2) REPLACE CABLE. AFTER CORRECTING PROBLEM, 3) INSTALL ALL REMOVED CARDS AND тс CABLES THEIR ORIGINAL POSITIONS. 03SEP76 PN2594603 1

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MAP 0302-4

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EC828777

POWER MAPS н MAP 0302-5 4 SYSTEM 32 PAGE 5 OF 9 020 SHORT CAUSING THE PWR CHK INDICATION MAY BE IN THE AA2 BOARD, CARDS OR CABLE FROM PD-TB1-8. POWER ON' τо 10FF1 SET 1) (OPERATOR PANEL). 2) REMOVE ONE-HALF OF THE CARDS LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG . FROM AA2 BOARD. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR LOCATION. PANEL). POWER CHECK? Y N 021 1 POWER ON SET то 10FF1 1 1) (OPERATOR PANEL). 2) INSTALL CARDS ONE AT A TIME FROM THE LAST HALF REMOVED. PRESS RESET AND POWER ON EACH I FROM TO ISOLATE THE CARD CAUSING I TIME 1 THE POWER CHECK. AFTER CORRECTING PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL CABLES POSITIONS. L L 022 LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG SET **POWER** ON. TO 'OFF' 1) (OPERATOR PANEL). 2) REMOVE THE OTHER HALF OF THE CARDS FROM THE AA2 BOARD. LOCATION. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 023 SET. POWER ON' TO 'OFF' 1 1) (OPERATOR PANEL). 1 2) INSTALL CARDS ONE AT A TIME L I FROM THE LAST HALF REMOVED. I PRESS RESET AND POWER ON EACH TIME TO ISOLATE THE CARD CAUSING THE POWER CHECK. AFTER CORRECTING PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES то THEIR ORIGINAL POSITIONS.

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MAP 0302-5

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SYSTEM 32 PAGE 6 OF 9 1 t 024 ł POWER \*0FF\* ON' тΟ 1) SET (OPERATOR PANEL). 2) DISCONNECT MINI BUS CONNECTORS SIDE OF FROM PIN BOARD AT LOCATIONS: AA2-U2-A14, U3-A14, U4-A14. 3) METER THESE POINTS TO GROUND ON THE AA2 BOARD TO LOCATE SHORT. AA2 BOARD SHORTED? ł Y N 1 1 025 DISCONNECT LEAD FROM 1 1) | PD-TB1-8. | 2) DISCONNECT MINI BUS CONNECTORS FROM PIN SIDE OF THE 1 BOARD AT LOCATION: AA1-U2-B06. 1 3) METER WIRE REMOVED FROM PD-T61-8 TO GROUND TO LOCATE 3) 1 1 SHORT IN CABLE. ł AFTER CORRECTING PROBLEM. 1 4) REPLACE ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL CARDS 1 | POSITIONS. 1 1 026 Ł 1) REPLACE THE AA2 BOARD. AFTER CORRECTING PROBLEM, 2) INSTALL ALL REMOVED CARDS CABLES TO THEIR ORIG AND ORIGINAL POSITIONS. I 027 POWER 1) SET ON \* то OFF! (OPERATOR PANEL). 2) CONNECT MINI BUS CONNECTORS. 3) DISCONNECT CABLE FROM PD-TB2-1. (PD-TB2-1 SUPPLIES +8.5 VDC TO THE AA1 BOARD. MLM SEC.8.) 4) DISCONNECT MINI BUS CONNECTORS FROM PIN SIDE OF THE BOARD AT LOCATION: AA1-U2-B06. (PIN B06 CARRIES -5VDC TO THE AA1 BOARD.) 5) PRESS RESET. 6) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N ł Ł 1 1 Ł ł ł 1 l 1 8 7

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## PN2594603

#### EC828777

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## MAP 0302-6

MAP 0302-7 POWER MAPS L 6 SYSTEM 32 I PAGE 7 OF 9 I 1 028 LABEL EACH CARD AS IT IS REMOVED TO • POWER TO 'OFF' SET ON . 11 INSTALLING IN THE WRONG (OPERATOR PANEL). AVOID 2) REPLACE ALL CABLES PREVIOUSLY LOCATION. REMOVED. 3) REMOVE ONE-HALF OF THE CARDS FROM THE AA1 BOARD. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). 1 POWER CHECK? Y N ١ 029 1 POWER ON' TO 'OFF' | 1) SET (OPERATOR PANEL). L 2) INSTALL CARDS ONE AT A TIME FROM THE LAST HALF REMOVED. PRESS RESET AND POWER ON EACH TIME TO ISOLATE THE CARD CAUSING THE POWER CHECK. 1 AFTER CORRECTING THE PROBLEM, 1 3) INSTALL ALL REMOVED CARDS AND CABLES то THEIR ORIGINAL | POSITIONS. 1 030 LABEL EACH CARD AS IT IS REMOVED TO 1) SET ON! то OFF! • POWER (OPERATOR PANEL). AVOID INSTALLING IN THE WRONG 2) REMOVE THE OTHER HALF OF THE LOCATION. CARDS FROM THE AA1 BOARD. 3) PRESS RESET 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 1 031 SET POWER ON' TO POFF! 1 1) (OPERATOR PANEL). ł 2) INSTALL CARDS ONE AT A TIME L AND POWER ON EACH FROM THE LAST PRESS RESET AN L i TIME TO ISOLATE THE CARD CAUSING 1 THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND ŤOĨ THEIR CABLES ORIGINAL POSITIONS.

> PN2594603 03SEP76 EC828777

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MAP 0302-7

8 м

POWER MAPS к м 67 SYSTEM 32 1 1 PAGE 8 OF 9 ł 1 ۱ ł ł 032 1) SET 'POWER ON' то 'OFF' Ł (OPERATOR PANEL). 2) DISCONNECT MINI BUS CONNECTOR FROM PIN SIDE OF THE BOARD AT L LOCATION: AA1-U2-B06. 3) METER THIS POINT TO GROUND ON THE AA1 BOARD TO LOCATE SHORT. AA1 BOARD SHORTED? 1 Y N L 1 033 1 DISCONNECT LEAD FROM ( 1) | PD-TB1-8 (BOTTOM LEAD). | 2) DISCONNECT MINI BUS | CONNECTORS FROM PIN SIDE OF THE ł | BOARD AT LOCATIONS: AA2-U2-A14, U3-A14, U4-A14. 3) METER WIRE REMOVED 1 FROM | PD-TB1-8 TO GROUND TO LIDCATE SHORT IN CABLE. | AFTER CORRECTING PROBLEM, 4) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL I AND CABLES L | POSITIONS. L - 1 034 L 1) REPLACE THE AA1 BOARD. | AFTER CORRECTING PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES то THEIR ORIGINAL L | POSITIONS. 035 1) SET 'POWER ON' TO OFF. 2) DISCONNECT AT PDTB1-8 (ONE THAT GDES TO AA1-U2-BO6). 3) PRESS RESET. 4) SET "POWER ON" TO ON. POWER CHECK? Y N 1 036 | REPAIR OR REPLACE CABLE (INSTALL ALL OTHER CABLES REMOVED.

MAP 0302-8

03SEP76 PN2594603 EC828777 PEC-----

9 N

MAP 0302-8

POWER MAPS Ν 8 SYSTEM 32 1 PAGE 9 OF . 1 9 1 L 037 (ENTRY POINT B) ---• POWER ON! то OFF! SET 1) (OPERATOR PANEL). 2) CONNECT ALL CABLES PREVIOUSLY REMOVED. 3) DISCONNECT CABLE CONNECTOR MULTI-JI FROM THE MULTI LEVEL SUPPLY AND AT PD-TB1-8 ON THE POWER SUPPLY SIDE OF THE TERMINAL BLOCK. MULTI J1-8 - PDTB1-8 -5VDC 4) CHECK CABLE REMOVED FOR SHORT TO GROUND. DOES CABLE SHOW SHORT TO GROUND? Y N I 038 I CHECK CABLE FOR AN OPEN. IS CABLE OPEN? Ł İYN L 1 1 039 Ł CONNECT | 1) ALL CABLES | PREVIOUSLY REMOVED. I RETURN TO THE CALLING CHART, I PLACE OF LAST EXIT, NEXT ł | SEQUENTIAL COMMAND. L . 1 - 1 040 1 1) REPLACE CABLES. AFTER CORRECTING THE PROBLEM 2) INSTALL ALL REMOVED CARDS CABLES TO THEIR ORIG AND ORIGINAL | POSITIONS. 041 1) REPLACE CABLE. AFTER CORRECTING PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

PWR CHK INDICATION NOT CAUSED BY EXCESSIVE LOAD FROM PD-TB1-8 OUT TO THE I/O FUNCTIONS.

> 03SEP76 PN2594603 EC828777 PEC-----

> > MAP 0302-9

MAP 0302-9

POWER MAPS

SYSTEM 32

PAGE 1 OF 10

ENTRY. POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0300		A B	 1 9	001 043

001

(ENTRY POINT A) 18 Ł 1) SET POWER ON то OFF! (OPERATOR PANEL). 2) DISCONNECT LEADS FROM PD-TB1-5 (CABLE TO AA2 BUARD).

MAP 0303-1

EXIT POINTS -----EXIT THIS MAP | TO

		-+-		
PAGE NUMBER	STEP NUMBER		MAP NUMBER	ENTRY POI NT
2	012	-+- 	0504	Δ

+5VDC LOAD ISOLATION ON MULTI LEVEL FILTER ASM.

8 FOR LOCATION REFER TO MLM SEC. OF TERMINAL BLOCK. LEADS TO BE REMOVED ARE ATTACHED TO THE BOTTOM SIDE OF THE TERMINAL BLOCK.

PD-TB1-5 SUPPLIES +5VDC TO THE AA2 BOARD, DISKETTE, AND KEYBOARD.

3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). 1 POWER CHECK? Y N 1 002 | 1) SET POWER ON' TO 'OFF' (OPERATOR PANEL).

2) CONNECT LEADS REMOVED FROM PD-TB1-5. | 3) REMOVE CABLE FROM AA2-B2 PLUG | POSITION ON CARD SIDE OF BOARD | (PIN DO3 CARRIES +5 VDC TO THE DISKETTE). 4) SET **POWER** ON' TO 'ON' (OPERATOR PANEL). Ł

POWER CHECK?

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MAP 0303-1

B C POWER MAPS 1 1 SYSTEM 32 1 1 PAGE 2 OF 10 t ł ł 1 003 POWER 1) SET **NN** ΤO OFF! ŧ (OPERATOR PANEL). 1 2) CONNECT CABLE REMOVED FROM 1 LOCATION AA2-B2. 1 REMOVE LOGIC 3) CARD FROM ł DISKETTE PLUG BOARD. POWER ON' ΤΩ 'ON' 4) SET I (OPERATOR PANEL). POWER CHECK? ł Y N Ł 004 1 1) SET POWER ON' TO POFE (OPERATOR PANEL). 2) REPLACE LOGIC CARD WITH NEW | LOGIC CARD. AFTER CORRECTING THE PROBLEM, | 3) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL | POSITIONS. t 1 005 1) SET POWER ON " ТО OFF! Ł (OPERATOR PANEL). 1 2) REPLACE CABLE FROM AA2-32 TO L REMOVABLE DISK. L AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND то THEIR CABLES ORIJINAL 1 POSITIONS. L 006 **POWER** ON . OFF ' 1) SET τn (OPERATOR PANEL). 2) DISCONNECT CABLE FROM A 12-U3 PLUG POSITION ON PIN SIDE OF BJARD. (PIN DO3 CARRIES +5 VDC T) THE KEYBOARD). 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPELATOR PANEL). POWER CHECK? Y N 1 DF

MAP 0303-2 DE 1 1 ł 1 l 1 007 1 SET 'POWER ON' то ( 1) 10FF1 (OPERATOR PANEL). I 2) CONNECT CABLE REMOVED FROM AA2-U3. 3) REMOVE FLAT CABLE AT KEYBOARD PRINTED CIRCUIT BOARD (KBD-PC). 1 l 4) SET 'POWER ON' TO 'ON' 1 (GPERATOR PANEL). t POWER CHECK? Y N ł 1 008 1  $\left\{ 1\right\}$ SET 'POWER ON' TO 'OFF' (OPERATOR PANEL). 2) REPLACE KEYBOARD PRINTED ł | CIRCUIT BOARD. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL Ł | POSITIONS. 009 L 1 1) SET POWER ON ТΟ 'OFF' (OPERATOR PANEL). ł 2) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES то THEIR ORIGINAL POSITIONS. 1 I 010 BELT PRINTER INSTALLED ΩN IS MACHINE? Y N 1 011 1 1) SET POWER ON' то IOFF! I (OPERATOR PANEL). 2) DISCONNECT CABLES FROM AA2-V2 AND AA2-V3. (PINS D11 AND D12 SUPPLY +5V TO SERIAL PRINTER). 3) PRESS RESET. 4) SET POWER **NN** тΩ 1 ON1 t (OPERATOR PANEL). POWER CHECK? 1 YN 1 1 ł 012 ł I CONNECT ALL CABLES REMOVED. ŧ I GO TO MAP 0504, ENTRY PDINT A. ł ł 013 1 GO TO PAGE 3, STEP 014, 1 ENTRY POINT C. 10DEC76 PN2594604 FC831962 PEC828777 3 F MAP 0303-2

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F POWER MAPS 2 SYSTEM 32 1 PAGE 3 OF 10 ł 014 (ENTRY POINT C) \_\_\_\_\_ 1) SET POWER ON то 'OFF' (OPERATOR PANEL). LOCATION. 2) REMOVE ONE-HALF OF THE CARDS FROM AA2 BOARD.
3) PRESS RESET.
4) SET 'POWER ON' TO 'ON' (OPERATOR) PANEL). POWER CHECK? YN 015 Ł SET POWER ON' TO 'OFF' 1 1 1 | (OPERATOR PANEL). 2) INSTALL CARDS ONE AT A TIME FROM THE CARDS JUST REMOVED. PRESS RESET AND POWER ON EACH TIME TO ISOLATE THE CARD CAUSING THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND то CABLES THEIR ORIGINAL | POSITIONS. 016 POWER SET ON 1 TO 'OFF' 1) (OPERATOR PANEL). 2) REMOVE THE OTHER HALF OF THE CARDS FROM THE AA2 BOARD. IDCATION. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 1 017 POWER ON' TO -1) SET 10FF1 (OPERATOR PANEL). L 2) INSTALL CARDS ONE AT A TIME FROM THE CARDS JUST REMOVED. PRESS RESET AND POWER ON EACH 1 L TIME TO ISOLATE THE CARD CAUSING THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND то THEIR CABLES ORIGINAL L POSITIONS.

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4 G MAP 0303-3

SHORT CAUSING THE PWR CHK INDICATION MAY BE IN AA2 ECARD, CARDS OR CABLE FROM PD-TB1-5. LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG

LABEL EACH CARD AS IT IS REMOVED TO AVDID REPLACING IN THE WRONG

> 10DEC76 PN2594604 EC831962 PEC828777

> > MAP 0303-3

POWER MAPS A G 1 3 SYSTEM 32 1 f 4 OF PAGE 10 1 1 1 Ŧ 1 1 018 | 1) SET • POWER ON! то OFF! (OPERATOR PANEL). ł 2) DISCONNECT MINI BUS CONNECTORS FROM PIN SIDE LOCATIONS: OF BDARD AT AA2-B2-A14, AA2-B4-E01, AA2-B5-A01, 1 AA2-U3-A01, AA2-U4-A01, AA2-U5-A01. 3) METER THESE POINTS TO GROUND ŧ ON THE AA2 BOARD TO LOCATE SHORT. AA2 BOARD SHORTED? 1 ΥN 1 019 1 1 DISCONNECT FROM ( 1) LEAD PD-TB1-5. 1 FROM 2) METER WIRE REMOVED 1 PD-TB1-5 TO GROUND TO LOCATE SHORT IN CABLE. AFTER CORRECTING THE PROBLEM, 1 1 3) INSTALL ALL REMOVED CARDS 1 AND CABLES TO THEIR ORIGINAL POSITIONS. 1 1 ł 020 1) SET POWER ON! то OFF! L (OPERATOR PANEL). AFTER CORRECTING THE PROBLEM. 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL 1 POSITIONS. 021 SET OFF! • POWER ON\* ТΟ (OPERATOR PANEL). CONNECT LEADS REMOVED FROM 2) PD-TB1-5. 3) DISCONNECT LEADS FROM PD-TB1-6 (CABLE TO AA1 BOARD). 4) PRESS RESET. 5) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N ŧ 1 1 I 1 1 1 1 1 ł 1 Í 8 5 ΗJ

REFER TO MLM SEC. 8 FOR LOCATION OF TERMINAL BLOCK. LEADS TO BE REMOVED ARE ATTACHEC TO THE BOTTOM SIDE OF THE TERMINAL BLOCK.

PD-TB1-6 SUPPLIES +5VDC TO THE AA1 BOARD, DISKETTE, AND KEYBCARD.

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10DEC76 PN2594604 EC831962 PEC828777

MAP 0303-4

J 4 SYSTEM 32 PAGE 5 OF 10 022 SET POWER ON! то OFF! 1) (OPERATOR PANEL). 2) CONNECT LEADS REMOVED FROM PD-TE1-6. 3) REMOVE CABLE FROM AA1-B4 PLUG POSITION ON CARD SIDE OF BOARD. 4) REMOVE CABLE FROM AA1-B5 PLUG POSITION ON CARD SIDE OF BOARD (PIN D04 CARRIES +5 VDC TO THE CE PANEL). 5) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? YN 023 SET POWER ON то OFF! ( 1) (OPERATOR PANEL). 2) CONNECT CABLE REMOVED FROM AA1-85. 3) REMOVE CE PANEL AND ATTACH TO SIDE OF FRAME SO THAT IT EXTENDS OUTWARD. 4) REMOVE CABLE AT PLUG POSITION CEP-Y2. 5) SET POWER ON! то \* ON\* L (OPERATOR PANEL). 1 1 POWER CHECK? 1 Y N I 1 024 1) REFER TO CE PANEL WIRING FE L ALD'S CE PAGES TO LOCATE SHORT. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL AND | POSITIONS. 1 1 1 025 SET POWER ON' το OFF! 1) L (OPERATOR PANEL). 2) REPLACE CABLE BETWEEN AA1-B5 AND CE PANEL Y2 CONNECTOR t (CEP-Y2). AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

Y2 IS CABLE PLUG AT LEFT WHEN LOOKING DOWN AT TOP OF CE PANEL FROM FRONT.

> 10DEC76 PN2594604 EC831962 PEC828777 MAP 0303-5

POWER MAPS

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POWER MAPS

SYSTEM 32

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MAP 0303-6

PAGE 6 OF 10 1 1 Ł 026 • POWER SET ON! тο 'OFF' 1) (OPERATOR PANEL). 2) CONNECT CABLES REMOVED FROM AA1-B4 AND AA1-B5. 3) REMOVE CABLE FROM AA1-B2 PLUG POSITION ON CARD SIDE OF BOARD (PIN DO3 CARRIES +5 VDC TO THE OPERATOR PANEL). 4) METER FOR SHORT (AA1-DO8 IS GROUND). 1 OPERATOR PANEL AND CABLE CORRECT (NOT GROUNDED)? Y N 027 1 1) REFER TO OPERATOR PANEL WIRING 1 I FE ALD'S OP PAGES TO LOCATE SHOR T. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES то THEIR ORIGINAL Ł | POSITIONS. 028 SET POWER ON . 1) тΟ '0FF' (OPERATOR PANEL). CONNECT CABLE REMOVED FROM 2) AA1-B2-3) REMOVE ONE-HALF OF THE CARDS FROM THE AA1 BOARD. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). 1 POWER CHECK? Y N 1 029 l 1) SET POWER ON' то 'OFF' 1 (OPERATOR PANEL). 1 | 2) INSTALL CARDS ONE AT A TIME | FROM THE CARDS JUST REMOVED. | PRESS RESET AND POWER ON EACH TO ISOLATE THE CARD CAUSING TIME THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 1 3) INSTALL ALL REMOVED CARDS AND CABLES то THEIR ORIGINAL POSITIONS.

THE PWR SHORT CAUSING СНК INDICATION MAY BE IN AA1 BOARD, CARDS, OR CABLE FROM PD-TE1-6, OR OPERATOR PANEL AND CABLE.

SHOR T CAUSING PWR THE CHK INDICATION MAY BE IN AA1 BOARD, CARDS OR CABLE FROM PD-TB1-6. LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

> 10DEC76 PN2594604

EC831962 PEC828777

MAP 0303-6

POWER MAPS

SYSTEM 32

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I PAGE 7 OF 10 I 1 030 POWER TO 'OFF' SET ON! 1) (OPERATOR PANEL). 2) REMOVE THE OTHER HALF OF THE CARDS FROM THE AA1 BOARD. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? YN 031 POWER ON' SET IOFE! 1 1) то (OPERATOR PANEL). 2) INSTALL CARDS ONE AT A TIME FROM THE LAST HALF REMOVED. PRESS RESET AND POWER ON EACH TIME TO ISOLATE THE CARD CAUSING 1 I THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS CABLES TO THEIR ORIG AND ORIGINAL CABLES | POSITIONS. 032 SET POWER ON 1 TO OFF! 1) (OPERATOR PANEL). 2) DISCONNECT MINI BUS CONNECTORS FROM PIN SIDE OF BOARD AT LOCATIONS: AA1-B3-A01, AA1-B4-A01, AA1-B5-A01. 3) IF 1255 ATTACHMENT MICR IS INSTALLED, ALSO DISCONNECT INSTALLED, AAI-U4-AOI AND AAI-U4-AOI. 4) METER THESE POINTS TO GROUND ON THE AAI BOARD TO LOCATE SHORT. 1 AA1 BOARD SHORTED? Y N 033 DISCONNECT 1) LEADS FROM | PD-TB1-6. 2) METER WIRES REMOVED FROM PD-TB1-6 TO GROUND TO LOCATE | SHORT IN CABLE. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL 1 | POSITIONS. 1 034 1) REPLACE THE AA1 BOARD. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND

CABLES TO THEIR ORIGINAL POSITIONS.

LABEL EACH CARD AS IT IS REMOVED TO AVCID INSTALLING IN THE WRONG LOCATION.

10DEC76 PN2594604

EC831962 PEC828777

MAP 0303-7

POWER MAPS MAP 0303-8 н 4 SYSTEM 32 PAGE 8 OF 10 1 035 1) SET POWER ON\* то OFF! REFER TO MLM SEC. 8 FOR LOCATION OF TERMINAL BLOCK. LEADS TO BE REMOVED ARE ATTACHED TO THE TOP (OPERATOR PANEL). CONNECT LEADS REMOVED FROM 21 PD-TB1-6. SIDE OF THE TERMINAL BLOCK (RED DISCONNECT LEAD FROM PD-TB1-7. 3) LEAD). (CABLE TO PRINTER). PD-T 81-7 SUPPLIES +5VDC TO 3) PRESS RESET. PRINTER (BELT PRINTER ONLY). 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 036 £ SET POWER то 1) ON' 10FF1 (OPERATOR PANEL). CONNECT LEAD REMOVED FROM 21 1 PD-TB1-7 (BELT PRINTER ONLY. 3) DISCONNECT LEAD AT PTR-TB1-14 (285 LPM PRINTER IS PTR-TB1-15) +5 VOLTS то (REFER MLM SEC. 4 FOR LOCATION OF PTR-TB1.) т 4) PRESS RESET. SET 5) **POWER** ON! ТО " ON" 1 (OPERATOR PANEL). POWER CHECK? 1 ΥN 037 I. POWER ON LABEL EACH CARD AS IT IS REMOVED TO SET TO IDEE! 1 11 (OPERATOR PANEL). AVCID INSTALLING IN THE WRONG 1 CONNECT LEAD AT PTR-TB1-14 2) LOCATION. 1 (285 LPM PRINTER IS PTR-TB1-15) +5 VOLTS TO ISOLATE THE BAD CARD, PULL CARDS ONE AT A TIME. SET 'POWER ON' TO 'OFF' PRESS RESET, AND SET 'POWER ON' TO ŧ "ON" AFTER EACH CARD REMOVAL UNTIL POWER CHECK INDICATION DOES NOT APPEAR. 1 ł IS POWER CHECK INDICATOR ON WITH ALL CARDS OUT? 1 Y N 1 038 I 1 POWER ON' TO OFF! SET 1) (OPERATOR PANEL). 2) REPLACE LAST CARD REMOVED ł 1 WITH A NEW CARD. AFTER CORRECTING THE PROBLEM, INSTALL ALL REMOVED CARDS 3) AND CABLES TO THEIR ORIGINAL POSITIONS. I 1 1 10DEC76 PN2594604 1

> EC831962 PEC828777

> > MAP 0303-8

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MNP POWER MAPS 888 SYSTEM 32 ł 9 OF 10 PAGE ł 1 1 1 ١ 039 | 1) SET POWER ON TO 'OFF' I (OPERATOR PANEL). 2) REMOVE CABLES AT PTR-TB2-14 ł. 1 (285 LPM PRINTER IN PTR-TB2-15) 3) CHECK PRINTER PLUG BOARD FOR SHORT. 1 1 I PRINTER PLUG BOARD SHORTED? 1 YN t | 040 | 1) CHECK ALL CABLES CARRYING 1 1 1 +5 VDC FOR SHORT 1 AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL 1 1 1 | | POSITIONS. Ŧ 041 | 1) REPLACE PRINTER PRINTED 1 | CIRCUIT BOARD. | AFTER CORRECTING THE PROBLEM, | 2) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL | POSITIONS. 1 ł 042 1) SET 'POWER ON' TO 'OFF' 1 | (OPERATOR PANEL). 2) REPLACE CABLE BETWEEN PTR-TB1-14 (285 LPM PRINTER IN PTR-TB2-15) AND PD-TB1-7. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND TO THEIR CABLES ORIGINAL 1 POSITIONS. 043 \_\_\_\_\_ (ENTRY POINT B) \_\_\_\_\_ 1) SET POWER ON ' ΤO 10FF1 (OPERATOR PANEL). 2) CONNECT LEADS REMOVED FROM PD-TE1-7 IF PREVIOUSLY REMOVED. 3) DISCONNECT CABLE FROM MULTI F1 OR E2 ON THE MULTI LEVEL FILTER ASM AND AT PD-TB1-6 (TOP SIDE OF TERMINAL BLOCK, POWER SUPPLY SIDE). 4) CHECK CABLE REMOVED FROM MULTI E1 OR E2 AND PD-TB1-6 FOR SHORT TO GROUNC. 5) CHECK CABLE FOR OPEN. (STEP 043 CONTINUES)

MAP 0303-9

# PWR CHK INDICATION NCT CAUSED EY EXCESSIVE LOAD FROM PD-TB1-5, 6, OR 7 GUT TO I/O FUNCTIONS.

10DEC76 PN2594604 EC831962 PEC828777

MAP 0303-9 .

### SYSTEM 32

## PAGE 10 OF 10

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(STEP 043 CONTINUED)
DOES CABLE SHOW AN OPEN OR SHORT TO
GROUND?
YN
1
044
1) DISCONNECT CABLE FROM MULTI E1
OR E2 ON THE MULTI LEVEL SUPPLY
AND AT PD-TB1-5 (TOP SIDE OF
TERMINAL BLOCK, POWER SUPPLY
  SIDE).
L
| 2) CHECK FOR SHORT TO GROUND.
I I
DDES CABLE
                         SHOW A SHORT
                                                ТО
GROUND?
Y N
L
   1
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  045
  | 1) CONNECT ALL CABLES
| PREVIOUSLY REMOVED.
| RETURN TO THE CALLING CHART,
| PLACE OF LAST EXIT, NEXT
                                            CABLES
1
I
ł
                                               NEXT
1
   I SEQUENTIAL COMMAND.
L
  1
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  046
ł
1) REPLACE THE CABLE.
AFTER CORRECTING THE PROBLEM,
| 2) INSTALL ALL REMOVED CARDS AND
| CABLES TO THEIR ORIGINAL
  CABLES
                           THEIR
| POSITIONS.
047
1) REPLACE CABLE.
AFTER CORRECTING THE PROBLEM,
2) INSTALL ALL REMOVED CARDS AND
CABLES TO THEIR ORIGINAL POSITIONS.
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10DEC76 PN2594604 EC831962 PEC828777 MAP 0303-10 POWER MAPS

SYSTEM 32

PAGE 1 OF 6

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0300	1	А	1	001
0318		В	5	019

001

522 ABC

(ENTRY POINT A) -----18 1 -1) SET **POWER** ON' ΤO 'OFF' (OPERATOR PANEL). 2) DISCONNECT LEADS FROM PD-TB2-3 (CABLES TO THE AA2 BOARD AND CRT). 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 002 SET POWER ON\* то OFF! 1) 1 (OPERATOR PANEL). | 2) FIND THE LEADS REMOVED FROM | PD-TB2-3 THAT GO TO THE AA2 BOARD | (MINI BUS CONNECTORS CARRY +6VDC TO THE AA2 BOARD AA2-B3-E01, AND AA2-B4-A01). 3) CONNECT THOSE LEADS ONLY AT PD-TB2-3. 4) SET 'POWER ON . • ON • то (OPERATOR PANEL). 1 1 POWER CHECK? Y N ł 1 1 I. 1 1 1 I 1 1 1 1 I 1 1 ł 1 I ł 1 ł ł COPYRIGHT IBM CORP 1976 ł 1 ł 1

03SEP76 PN2594605 EC828777 PEC-----

MAP 0304-1

+6VDC LOAD ISOLATION ON MULTI LEVEL FILTER ASM.

+6 VDC IS INTERNALLY REGULATED ON THE MULTI LEVEL FILTER ASM AND CAN BE UNLOADED COMPLETELY. REFER TO MLM SEC. 8 FOR LOCATION OF TERMINAL BLOCK. LEADS TO BE

REMOVED ARE ATTACHED TO BOTTOM SIDE OF TERMINAL BLOCK. PD-TB2-3 SUPPLIES +6VDC TO THE AA2 BOARD, DISK, AND CRT. 1 1

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2 OF PAGE 6 1 1 003 SET POWER ON! то OFF! ŧ 1) (OPERATOR PANEL). 2) CONNECT THE DISCRETE WIRF 2) I CABLE REMOVED FROM PD-TB2-3 THAT SUPPLIES CRT. 3) DISCONNECT CABLE FROM THE CRT PRINTED CIRCUIT BOARD (CRT-PC). ON . τn \* ON ! POWER 4) SET (OPERATOR PANEL). L 1 POWER CHECK? 1 Y N ł 1 ł 004 POWER ON' TO 'OFF' SET | 1) (OPERATOR PANEL). • .• . . 1 2) REPAIR OR REPLACE CRT. 1 AFTER CORRECTING PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 1 005 ŧ POWER ON' TO. OFF! 1) SET 1 (OPERATOR PANEL). . 2) REPLACE THE CABLE. AFTER CORRECTING PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES то THEIR ORIGINAL Ł POSITIONS. ł 006 SET POWER ON' TO OFF! 11 (OPERATOR PANEL). 2) DISCONNECT CABLE FROM AA2-A4 PLUG POSITION ON CARD SIDE OF BOARD (PIN B11 CARRIES +6 VDC TO THE DISK). 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). 1 POWER CHECK? Y N 1 1 ŧ 1 1 1 4 3

03SEP76 PN2594605 EC828777 PEC-----

MAP 0304-2

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MAP 0304-3
              POWER MAPS
Ε
2
              SYSTEM 32
1
              PAGE
                      3 OF
                              6
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007
                                                 LABEL EACH CARD AS IT IS REMOVED TO
                              то
                                   'OFF'
     SET
            POWER
                       ON .
1)
(OPERATOR PANEL).
                                                 AVOID INSTALLING IN
                                                                             THE
                                                                                   WRONG
                                                 LOCATION.
                 CABLE REMOVED
                                    FROM
2)
     CONNECT
A42-A4.
3) REMOVE LOGIC CARDS
                             FROM
                                    DISK
PLUG BOARD.
4) SET "POWER ON" TO "ON" (OPERATOR
PANEL).
POWER CHECK?
Y N
  800
Ł
      SET POWER ON*
                                   OFF!
                             тο
  1)
  (OPERATOR PANEL).
 2) INSTALL CARDS ONE AT A TIME
FROM THOSE JUST REMOVED. SET
'POWER ON' TO 'OFF', PRESS RESET
AND 'POWER ON' TO 'ON' EACH TIME
 TO ISOLATE THE CARD CAUSING THE
| POWER CHECK.
| AFTER CORRECTING PROBLEM,
 3) INSTALL ALL REMOVED CARDS
CABLES TO THEIR ORIG
                                     AND
                              ORIGINAL
I.
 POSITIONS.
Ł
1
009
     SET
            POWER
                       ON*
                              ТΟ
                                  +0FF+
1)
(OPERATOR PANEL).
2) DISCONNECT END OF CABLE THAT
                    DISK
PLUGS INTO THE
                            AT
                                    PLUG
POSITION B5.
3) PRESS RESET.
4) SET 'POWER ON' TO 'ON' (OPERATOR
PANEL).
POWER CHECK?
Y N
 010
t
           POWER ON
                                   10FF1
  1)
      SET
                             ΤO
(OPERATOR PANEL).
 2) REPLAÇE DISK FRU.
 AFTER CORRECTING PROBLEM,
3) INSTALL ALL REMOVED CARDS AND
             TO
                              ORIGINAL
                    THEIR
 CABLES
  POSITIONS.
I
011
1)
    SET
           POWER
                      ON'
                             то
                                   I OFF!
(OPERATOR PANEL).
2) REPLACE THE CABLE.
AFTER CORRECTING PROBLEM,
3) INSTALL ALL REMOVED CARDS AND
CABLES TO THEIR ORIGINAL POSITIONS.
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03SEP76 PN2594605

EC828777 PEC-----

MAP 0304-3

MAP 0304-4 D POWER MAPS 2 SYSTEM 32 PAGE 4 OF 6 1 012 СНК SET • POWER ON' TO 'OFF' SHORT CAUSING THE PWR 1) INDICATION MAY BE IN AA2 BOARD, CARDS, OR CABLE FROM PD-TB2-3. (OPERATOR PANEL). 2) REMOVE ONE-HALF OF THE CARDS LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG FROM AA2 BOARD. 3) PRESS RESET. 4) SET 'POWER ON' TO 'DN' (OPERATOR LOCATION. PANEL). POWER CHECK? Y N 1 013 1 SET POWER ON TO IOFF! 1 1) (OPERATOR PANEL). L 2) INSTALL CARDS ONE AT A TIME FROM THE CARDS JUST REMOVED. SET 1 'POWER ON' TO 'OFF'. PRESS RESET AND 'POWER ON' TO 'ON' EACH TIME I. TO ISOLATE THE CARD CAUSING THE POWER CHECK. AFTER CORRECTING PROBLEM, L 1 4) INSTALL ALL REMOVED CARDS AND L то CABLES THEIR DRIGINAL 1 1 POSITIONS. 1 014 LABEL EACH CARD AS IT IS REMOVED TO ON' TO OFF! 1) SET POWER (OPERATOR PANEL). AVOID INSTALLING IN THE WRONG 2) REMOVE THE OTHER HAL CARDS FROM THE AA2 BOARD. HALF OF THE LOCATION. 3) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 015 | 1) SET POWER ON тο OFF! (OPERATOR PANEL). ł 2) INSTALL CARDS ONE AT A TIME FROM THE LAST HALF REMOVED. SET 'POWER ON' TO 'OFF'. PRESS RESET AND 'POWER ON' TO 'ON' EACH TIME 1 TO ISOLATE THE CARD CAUSING THE ł POWER CHECK. AFTER CORRECTING PROBLEM, 4) INSTALL ALL REMOVED CARDS AND CABLES то THEIR ORIGINAL POSITIONS.

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MAP 0304-4

A F POWER MAPS 1 4 SYSTEM 32 1 1 PAGE 5 OF 1 1 6 1 I 1 1 016 ł 1) SET 'POWER ON' 1 тο 10FF1 (OPERATOR PANEL). 1 2) DISCONNECT MINI BUS CONNECTORS FROM PIN SIDE OF BOARD ΔT LOCATIONS: AA2-B3-E01, AA2-B4-A01. 3) METER THESE POINTS TO GROUND ON THE AA2 BOARD TO LOCATE SHORT. - 1 AA2 BOARD SHORTED? ł YN 1 | 017 DISCONNECT - LEAD 1 1) FROM PD-TB2-3. 2) METER WIRE REMOVED FROM PD-TB2-3 TO GROUND TO LOCATE 1 I SHORT. | AFTER CORRECTING PROBLEM, | 3) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL | POSITIONS. - 1 L 018 1 1) REPLACE THE AA2 BOARD. AFTER CORRECTING PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 019 (ENTRY POINT B) 1) SET **POWER** ON . TO OFF (OPERATOR PANEL). 2) CONNECT LEADS REMOVED FROM PD-TB2-3 IF PREVIOUSLY REMOVED. 3) REMOVE LEADS AT PD-TB2-3 ON THE POWER SUPPLY SIDE OF THE TERMINAL BLOCK. 4) DISCONNECT CABLE CONNECTOR MUL-JI ON MULTI LEVEL FILTER ASM. MLM SEC. 8. 5) CONTINUITY CHECK FOR SHORT TO GROUND ON CABLE (GROUND IS FRAME GROUND) FROM PD-TB2-3, MULTI-J1-9, AND MULTI-J1-10. DOES CABLE SHOW SHORT TO GROUND? Y N 1 1 1 I 1 1 1 1 1 L I 6 6 GH

PWR CHK INDICATION NOT CAUSED BY EXCESSIVE LOAD FROM PD-TB2-3 OUT TO I/O FUNCTION. MLM SEC. 8 REF FOR PLUG LOCATIONS.

03SEP76 PN2594605

EC828777

MAP 0304-5

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GН POWER MAPS 55 SYSTEM 32 t 1 L 1 PAGE 6 OF 6 1 1 ł L 020 ł CHECK CABLE FOR AN OPEN. 1 1 I IS CABLE OPEN? L ΥN ł 1 ł 021 | 1) CONNECT ALL CABLES | PREVIOUSLY REMOVED. RETURN TO | THE CALLING CHART, PLACE OF | LAST EXIT, NEXT SEQUENTIAL ł ŧ I COMMAND. ۱ 1 022 1) REPLACE THE CABLE. AFTER CORRECTING PROBLEM 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL L | POSITIONS. 1 023 1) REPLACE THE CABLE.

AFTER CORRECTING PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

03SEP76 PN2594605 EC828777

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MAP 0304-6

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POWER MAPS

SYSTEM 32

PAGE 1 OF 10

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0300 0318		A B	1 9	001 039

001

(ENTRY POINT A) 18 1 1) SET 'POWER ON' то OFF! (OPERATOR PANEL). 2) FIND THE CABLE ON PD-TB2-2 THAT GOES TO BA1-U5-D11 (+8.5VDC). 3) DISCONNECT THAT CABLE ONLY FROM PD-TB2-2. 4) PRESS RESET. 5) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 002 1 SET POWER ON' TO OFF ŧ 1) (OPERATOR PANEL). ł. CONNECT CABLE REMOVED FROM Ł 2) PD-TB2-2. t 3) DISCONNECT CABLE FROM 2400 ł. MODEM BA1-U5-D12. £ SET ON\* " ON " то 1 (OPERATOR PANEL). I ł POWER CHECK? L L Y N 1 1 003 1 L | 1) SET 'POWER ON' TO 'OFF' | (OPERATOR PANEL). | 2) CONNECT CABLE REMOVED FROM 1 | MODEM BA1-U5-D10. 1 3) REMOVE ONE-HALF OF THE CARDS 1 | FROM THE BA1 BOARD. 4) SET POWER ON TO 10N 1 (OPERATOR PANEL). I POWER CHECK? E Y N I 1 1 1 ĩ I 1 COPYRIGHT IBM CORP 1976 ł 1 1 1 L 1 3 3 2 2 BCD Δ

+8.5VDC LOAD ISOLATION ON MULTI LEVEL FILTER ASM. UNLOAD THE 2400 MODEM FEATURE IF INSTALLED. IF NOT INSTALLED, BYPASS THIS OUESTION BY ANSWERING 'YES'. REFER TO MLM SEC. 8 FOR LOCATION OF TERMINAL BLOCK. LEADS TO BE

OF TERMINAL BLOCK. LEADS TO BE REMOVED ARE ATTAINED TO BOTTOM SIDE OF TERMINAL BLOCK.

SHORT CAUSING THE PWR CHK INDICATION MAY BE IN BA1 BOARD, CARDS, OR CABLE FROM PD-TE2-6. LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

> 10DEC76 PN2594606 EC831962 PEC828777

C D POWER MAPS 1 1 SYSTEM 32 1 PAGE 2 OF I I 10 1 1 1 004 t SET POWER ON' тΩ 'OFF' 1 1) (OPERATOR PANEL). 1 2) INSTALL CARDS ONE AT A FROM THE CARDS JUST REMOVED. TIME I L SET POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO 'ON' EACH TIME TO ISOLATE THE CARD CAUSING 1 T t THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND Ľ CABLES то THEIR ORIGINAL ł POSITIONS. 1 005 SET **POWER** ON! TO OFF! 1) (OPERATOR PANEL). REMOVE THE OTHER HALF OF THE 2) CARDS FROM THE BA1 BOARD. 3) PRESS RESET. 4) SET "POWER ON" TO "ON" (OPERATOR PANEL). POWER CHECK? Y N 1 006 1 SET POWER ON' TO 10FF1 L 1) (OPERATOR PANEL). 2) INSTALL CARDS ONE ΑT А TIME FROM THE CARDS JUST REMOVED. SET 'POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO 'ON' EACH TIME TO ISOLATE THE CARD CAUSING I THE POWER CHECK. AFTER CORRECTING THE PROBLEM, INSTALL ALL REMOVED CARDS AND SLES TO THEIR ORIGINAL 3) 1 I CABLES | POSITIONS. 007 Set **POWER** ON! то 10FE1 1) (OPERATOR PANEL). 2) DISCONNECT CABLE FROM MODEM AT LOCATION: BA1-U5-D10. 3) METER THIS POINT TO GROUND ΩN THE CAL BOARD TO LOCATE SHORT. BA1 BOARD SHORTED? Y N L 1 1 1 1 ł t 1 1 1 1 1 1 1 1 L

33 ÈF MAP 0305-2

LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

10DEC76 PN2594606 EC831962 PEC828777

POWER MAPS ABEF 1 1 2 2 SYSTEM 32 1 ŧ 1 PAGE 3 OF 10 1 1 1 Ł 1 1 ۱ t T 1 C08 1 1 DISCONNECT | 1) LEAD FROM 1 | PD-TB2-2. 1 2) METER WIRE REMOVED FROM T Į 1 PD-TE2-2 TO GROUND TO LOCATE 1 | SHORT. | AFTER CORRECTING THE PROBLEM, T 1 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL 1 1 POSITIONS. 1 Ł t 1 009 1 1 1) REPLACE MODEM BOARD BA1. 1 | AFTER CORRECTING THE PROBLEM, | 2) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL 1 1 | POSITIONS. 010 Ł | 1) SET POWER ON 'OFF' ΤО (OPERATOR PANEL). 2) REPLACE CABLE. L AFTER CORRECTING THE PROBLEM. Ł 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 011 **POWER** ON . то OFF! SET 1) (OPERATOR PANEL). THE DISCONNECT WIRE FROM 21 PD-TB2-2 WHICH SUPPLIES +2.5 VDC TO THE AA2 EOARD (AA2-V3EO1) AND RECONNECT ANY WIRES PREVIOUSLY WIRES REMOVED (BOTTOM SIDE OF TERMINAL BLOCK). 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 1 012 1) SET 'POWER DN' 'OFF' то 1 (OPERATOR PANEL). 1 2) CONNECT CABLE REMOVED FROM PD-TB2-2. 1 3) REMOVE CABLE FROM AA2-U3 I PLUG | POSITION ON CARD SIDE OF BOARD (PIN B11 CARRIES +8.5 VDC TO THE 1 I KEYBOARD). 4) SET POWER ON . то 1 ON 1 (OPERATOR PANEL). 1 1 POWER CHECK? T Y N L 1 1 L 1 1 ſ 1 ł ł L ł 1 44 6 GHJ

PD-TB2-2 SUPPLIES +8.5VCC TO THE AA2 BOARD AND KEYBOARD.

10DEC76 PN2594606 EC831962 PEC828777 MAP 0305-3

нJ POWER MAPS 3 3 SYSTEM 32 ۱ 1 PAGE 4 OF 10 1 1 1 1 1 ł 013 1 POWER ON' SET IDFF! TO 1) (OPERATOR PANEL). 1 CONNECT CABLE REMOVED FROM 2) ł AA2-U3ł 3) REMOVE FLAT CABLE AT KEYBOARD 1 PRINTED CIRCUIT BOARD (KBD-PC). 1 τо 1 ON 4) SET POWER ON ۱ t (OPERATOR PANEL). 1 POWER CHECK? I ١ Y N I 014 | 1) SET 'POWER ON' TO 'OFF' (OPERATOR PANEL). 1 2) REPLACE KEYBOARD PRINTED I CIRCUIT BOARD. t AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL AND CABLES TO REMOVED CARDS THEIR ORIGINAL t | POSITIONS. ł 015 ł SET POWER ON' то OFF! f 1) (OPERATOR PANEL). 1 2) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, I ŧ 1 3) INSTALL ALL REMOVED CARDS AND то THEIR ORIGINAL CABLES L POSITIONS. 1 016 POWER SET ON ! то 10FF1 1) (OPERATOR PANEL). OF 2) REMOVE ONE-HALF THE CARDS FROM THE AA2 BOARD. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL ). POWER CHECK? YN 1 017 1 SET POWER ON' TO 10FF 1 T 1) (OPERATOR PANEL). 1 2) INSTALL CARDS ONE AT A TIME L FROM THE CARDS JUST REMOVED. SET 'POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO 'ON' EACH TIME TO ISOLATE THE CARD CAUSING THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

SHORT CAUSING THE C/C OR U/V INDICATION IS IN AA2 BOARD, CARDS, OR CABLE FROM PD-TB2-2. LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

> 10DEC76 PN2594606 EC831962 PEC828777

> > MAP 0305-4

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MAP 0305-5

THE WRONG

LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG

LOCATION.

к POWER MAPS 4 SYSTEM 32 ł PAGE 5 OF 10 1 018 SET **POWER** 1) ON ! TD OFF! (OPERATOR PANEL). 2) REMOVE THE OTHER H CARDS FROM THE AA2 BOARD. HALF OF THE 3) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 019 Ł POWER ON' TO 10FF1 SET ( 1) (OPERATOR PANEL). ł 2) INSTALL CARDS ONE AT A TIME I FROM THE CARDS JUST REMOVED. SET I 'POWER ON' TO 'OFF'. PRESS RESET I AND SET 'POWER ON' TO 'ON' EACH TIME TO ISOLATE THE CARD CAUSING L THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES то THEIR DRIGINAL | POSITIONS. 020 • POWER ON. OFF! SET тο 1) (OPERATOR PANEL). 2) DISCONNECT MINI BUS CONNECTORS FROM PIN SIDE 0F BOARD ΔΤ LOCATIONS: AA2-U3-E01, AA2-U4-E01, AA2-U5-E01. 3) METER THESE POINTS TO GROUND ON THE AA2 BOARD TO LOCATE SHORT. AA2 BOARD SHORTED? Y N 1 021 L 1) DISCONNECT LEAD FROM PD-TB2-2. 2) METER WIRE REMOVE PD-TB2-2 TO GROUND TO SHORT IN CABLE. WIRE REMOVED FROM LOCATE AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND 1 то CABLES THEIR ORIGINAL ł POSITIONS. 1 022 1) REPLACE THE AA2 BOARD. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND

CABLES TO THEIR ORIGINAL POSITIONS.

10DEC76 PN2594606 EC831962 PEC 828777

G POWER MAPS MAP 0305-6 3 SYSTEM 32 ł ł PAGE 6 OF 10 1 1 023 SET POWER **ON** TO 'OFF' PD-TB2-1 SUPPLIES +8.5VDC TO THE 1) (OPERATOR PANEL). AA1 BOARD. MLM SEC. 8. 2) CONNECT ALL CABLES PREVIOUSLY REMOVED. 3) DISCONNECT CABLE FROM PD-TB2-1. 4) PRESS RESET. 5) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 1 024 L SHORT CAUSING THE PWR CHK INDICATION MAY BE IN THE AA1 BOARD, CARDS, OR CABLE FROM PD-TB2-1. LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG POWER ON' TO OFF! 1) SET (OPERATOR PANEL). 1 2) CONNECT ALL CABLES PREVIOUSLY 1 I REMOVED. 3) REMOVE ONE-HALF OF THE CARDS 1 | FROM THE AA1 BOARD. | 4) SET "POWER LOCATION. POWER ON то 10N1 (OPERATOR PANEL). I I POWER CHECK? ł ١ Y N 1 Ł 025 I SET 'POWER ON' TO 'OFF' ( 1) L ( OPERATOR PANEL ). ł 2) INSTALL CARDS ONE AT A TIME | FROM THE CARDS JUST REMOVED. | SET SET 'POWER ON' TO 'OFF'. | PRESS RESET AND SET 'POWER ON' | TO 'ON' EACH TIME TO ISOLATE | THE CARD CAUSING THE POWER I CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL ۱ | POSITIONS. L Ł 1 026 L LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG 1) SET 'POWER ON' то OFF! L (OPERATOR PANEL). 1 2) REMOVE THE OTHER HALF OF THE CARDS FROM THE AA1 BOARD. LOCATION. 1 3) PRESS RESET. POWER ON' TO 'ON' (4) SET (OPERATOR PANEL). POWER CHECK? Y N 1 ł ł ł 1 ł 1 ł 1 1 1 ł ł 1 I I 10DEC76 PN2594606 t ł EC831962 PEC828777 7 7 7 M N L MAP 0305-6

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LMN POWER MAPS 666 SYSTEM 32 1 t PAGE 7 OF 10 1 ł 1 I 4 1 1 1 027 1 1) SET 'POWER ON' TO 'OFF' ł ( OPERATOR PANEL ). 2) INSTALL CARDS ONE AT A TIME FROM THE CARDS JUST REMOVED. ŧ 1 I SET 'POWER ON' TO 'OFF'. PRESS I RESET AND SET 'POWER ON' TO 'ON' EACH TIME TO ISOLATE THE I CARD CAUSING THE POWER CHECK. | AFTER CORRECTING THE PROBLEM, | 3) INSTALL ALL REMOVED CARDS | AND CAELES TO THEIR ORIGINAL | POSITIONS. I 028 L 1) SET 'POWER ON' TO 'OFF' (OPERATOR PANEL). 2) DISCONNECT MINI BUS CONNECTORS PIN SIDE OF BUARD AT LOCATIONS: L AA1-U2-B11,U3-B11, T2-B11,T3-B11, S2-B11, S3-B11, R2-B11,R3-B11, L Q2-B11,Q3-B11, Q4-B11,Q5-B11, 1 P2-B11,P3-B11,P4-B11,P5-B11. 3) METER THESE POINTS TO GROUND ON THE AA1 BOARD TO LOCATE SHORT. I I. £ AA1 BOARD SHORTED? L Y N I T 1 029 t 1) DISCONNECT 1 FAD FROM ١ 1 | PD-TB2-1. WIRE REMOVED FROM 2) METER WIRE REMUYED FROM PD-TB2-1 TO GROUND TO LOCATE ł | SHORT IN CABLE. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 1 030 1) REPLACE THE AA1 BOARD. Ł AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL 1 | POSITIONS. ł 031 THE 1255 ATTACHMENT (MICR) IS FEATURE INSTALLED ON THE SYSTEM? ΥN 1 032 I GO TO PAGE 9, STEP 039, ENTRY POINT B. 1 1 1

MAP 0305-7

# 10DEC76 PN2594606

EC831962 PEC828777

MAP 0305-7

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MAP 0305-8 Ρ POWER MAPS 7 SYSTEM 32 ۱ PAGE 8 OF 10 1 t 1 033 ONE OF THE WIRES FRCM PC-TB2-2 SUPPLIES +8.5 V TO THE 1255 ATTACHMENT CARDS IN AA1-E2 AND POWER OFF! SET ON 1 то 1) (OPERATOR PANEL). 2) DISCONNECT CABLE FROM PD-TB2-2 WHICH GOES TO AA1-E4B11 (BOTTOM SIDE OF TERMINAL BLOCK). AA1-F2. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL) POWER CHECK? Y N 1 1 034 LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IT IN THE WRONG SET **POWER** ON' TO 'OFF' | 1) (OPERATOR PANEL). 1 2) CONNECT ALL CABLES PREVIOUSLY LOCATION. | REMOVED. 3) REMOVE THE AA1-E2 AND AA1-F2 | CARDS. [ 4 ) SET POWER ON' TO 'ON' (OPERATOR PANEL) 1 POWER CHECK? I. Y N 1 1 ł 1 1 035 SET 'POWER ON' TO 'OFF' 1 1) I (OPERATOR PANEL). 2) INSTALL CARDS ONE AT A TIME 1 1 | FROM THE TWO JUST REMOVED. SET | 'POWER ON' TO 'ON' EACH TIME TO ł I ISOLATE THE CARD CAUSING THE 1 | POWER CHECK. 1 ONE OF THE TWO CARDS JUST REMOVED IS CAUSING THE POWER CHECK. í T 1 E 036 1) SET 'POWER ON' TO 1 '0FF' CHECK FOR BOARD SHORT TO GROUND. ŧ (OPERATOR PANEL). ł 2) DISCONNECT THE VOLTAGE 1 CONNECTORS ON THE PIN SIDE OF I BOARD AT LOCATIONS: ı AA1-E4B11 E5E11 F4B11 F5E11 ł 1 METER THESE POINTS TO GROUND 3) ł ON THE AA1 BOARD TO LOCATE SHORT. 1 1 AA1 BOARD SHORTED? Y N 1 1 I t I 1 1 1 1 1 1 1 1 1 10DEC 76 PN2594606 ł 1 1 1 EC831962 PEC828777 9 9 9 QRS MAP 0305-8

POWER MAPS QRS 8 8 8 SYSTEM 32 1 1 i PAGE 9 DF 10 1 1 1 1 ł 1 1 I. 037 D I SCONNECT | 1) LEAD FROM | PD-TB2-2 WHICH SUPPLIES MICR I | +B-FE22 WITCH SOFFETES WITCH
| +8-5 VOLTS.
| 2) METER WIRE REMOVED FROM
| PD-TB2-2 TO GROUND TO LOCATE
| SHORT IN CABLE.
| 3) AFTER CORRECTING THE
| PDOPLEM INSTALL | PROBLEM, INSTALL ALL REMOVED | CARDS AND CABLES TO THEIR | ORIGINAL POSITIONS. ł 038 1) REPLACE THE AA1 BOARD.
2) AFTER CORRECTING THE PROBLEM,
INSTALL ALL REMOVED CARDS AND
CABLES TO THEIR ORIGINAL POSITIONS. ł 1 039 (ENTRY POINT B) \_\_\_\_\_ 1) SET POWER ON' TO 'OFF' (OPERATOR PANEL). 2) CONNECT ALL CABLES PREVIOUSLY REMOVED. 3) DISCONNECT PD-TB2-1 AND PD-TB2-2 FROM POWER SUPPLY SIDE OF TERMINAL BLOCK-4) DISCONNECT CABLE FROM MULTI-E6 ON THE MULTI LEVEL FILTER ASM. 5) CHECK CABLE REMOVED FROM MULTI-E6, PD-TB2-1, AND PD-TB2-2 FOR SHORT TO GROUND. DOES CABLE SHOW SHORT TO GROUND? Y N 1 040 CHECK CABLE FOR AN OPEN. 1 1 I IS CABLE OPEN? 1 YN 1 041 | 1) CONNECT ALL CABLES | PREVIOUSLY REMOVED. I RETURN TO THE CALLING CHART, I PLACE OF LAST EXIT, NEXT | SEQUENTIAL COMMAND. 1 Ł 1 1 1 0 0 т U

CABLE MUST BE SHORTED.

PWR CHK INDICATION NOT CAUSED BY LOAD FROM PD-TE2-1 OR PD-TE2-2 OUT TO I/O FUNCTIONS.

> 10DEC76 PN2594606 EC831962 PEC828777

> > MAP 0305-9

τυ POWER MAPS 99 SYSTEM 32 1 1 PAGE 10 DF 10 I 1 11 1 1 042 1 1) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS | POSITIONS. I 043 1) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

10DEC76 PN2594606 EC831962 PEC828777 MAP 0305-10 POWER MAPS

SYSTEM 32

PAGE 1 OF 9

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP	1	ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0300	1	A	1	001
0318		B	9	041
2057		A	1	001

001

(ENTRY POINT A) 20 1 1) SET **POWER** TO 10FE1 ON I (OPERATOR PANEL). FIND THE CABLE ON PD-TB2-6 THAT GOES TO BA1-U5-D10. 2) DISCONNECT THAT CABLE ONLY FROM PD-TE2-6. 3) PRESS RESET. 4) SET "POWER ON" TO "ON" (OPERATOR PANEL). POWER CHECK? Y N 1 002 SET POWER ON' TO 'OFF' ( 1) (OPERATOR PANEL). t 2) CONNECT CABLE REMOVED FROM | PD-TB2-6. 3) DISCONNECT CABLE FROM MODEM L BA1-U5-D10. SET POWER ON' TO 'GN' 4) 1 (OPERATOR PANEL). 1 1 1 POWER CHECK? 1 Y N 1 L 003 1 1) SET 'POWER ON' TO 'OFF' 1 ( OPERATOR PANEL ). Ł 2) CONNECT CABLE REMOVED FROM MODEM BA1-U5-D1C. 3) REMOVE ONE-HALF OF THE CARDS T 1 FROM THE BAL BGARD. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). 1 POWER CHECK? I YN Ŧ 1 1 L 1 1 1 COPYRIGHT IBM CORP 1976 L ł ł l 1 I 3 3 2 2 ABCD

-12VDC LOAD ISOLATION ON MULTI LEVEL FILTER ASM. UNLOAD THE 2400 MODEM FEATURE IF INSTALLED. IF NOT INSTALLED, EYPASS THIS QUESTION BY ANSWERING 'YES'.

REFER TO MLM SEC. 8 FOR LOCATION OF TERMINAL BLOCK LEADS TO BE REMOVED ARE ATTACHED TO BETTOM SIDE OF THE TERMINAL BLOCK.

SHORT CAUSING THE PWR CHK INDICATION MAY BE IN BA1 BOARD, CARDS, OR CABLE FROM PD-TB2-6. LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

> 10DEC76 PN2594607 EC831962 PEC828777

СD POWER MAPS 1 1 SYSTEM 32 1 1 PAGE 2 OF 9 1 I 1 1 1 t 004 1) SET POWER ON' то 'OFF' I (OPERATOR PANEL). ł 2) INSTALL CARDS ONE AT A TIME | FROM THE CARDS JUST REMOVED. SET | POWER ON' TO 'OFF'. PRESS RESET | AND SET 'POWER ON' TO 'ON' EACH | TIME TO ISGLATE THE CARD CAUSING THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND TO CABLES THEIR ORIGINAL 1 POSITIONS. 1 1 005 SET **POWER** ON ' , TO 'OFF' 1) (OPERATOR PANEL). 2) REMOVE THE OTHER HALF OF THE CARDS FROM THE BA1 BOARD. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N ŧ 006 I POWER ON' TO '0FF' SET 1 1) (OPERATOR PANEL). 2) INSTALL CARDS ONE AT A I. TIME | FROM THE CARDS JUST REMOVED. SET | 'POWER ON' TO 'OFF'. PRESS RESET | AND SET 'POWER ON' TO 'ON' EACH | TIME TO ISOLATE THE CARD CAUSING I THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND то CABLES THEIR ORIGINAL ł POSITIONS. ł 007 • POWER 1) SET ON' TΟ 10FF1 (OPERATOR PANEL). DISCONNECT CABLE FROM MODEM AT 2) LOCATION: BA1-U5-D10. 3) METER THIS POINT TO GROUND ON THE BA1 BOARD TO LOCATE SHORT. f BA1 BOARD SHORTED? Y N 1 1 I ł ł f 1 ł 1 1 1 1 1 1 1 ł ł L 1 33

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LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

> 10DEC76 PN2594607 EC831962 PEC828777

POWER MAPS ABEF 1 122 SYSTEM 32 1 1 PAGE 3 OF 9 I L 1 ł. ł 1 008 ł 1 1 1) DISCONNECT LEAD FROM ł | PD-TB2-6. METER WIRE REMOVED FROM 2) L 1 | PD-TB2-6 TO GROUND TO LOCATE I | SHORT. | AFTER CORRECTING THE PROBLEM, ł INSTALL ALL REMOVED CARDS i 3) ł AND CABLES TO THEIR ORIGINAL | POSITIONS. 1 L - 1 009 1) REPLACE MODEM BOARD BA1. ٤ | AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 1 010 1 SET POWER ON' 'OFF' TO ( 1) (OPERATOR PANEL). 2) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES то THEIR ORIGINAL | POSITIONS. 011 SET POWER ON' тο OFF! (OPERATOR PANEL). 2) CONNECT ANY CABLES PREVIOUSLY REMOVED. FIND THE CABLE ON PD-TB2-6 THAT GDES TO CA1-E1-B11. 3) DISCONNECT THAT CABLE ONLY FROM PD-TB2-6. 4) PRESS RESET. 5) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? ΥN 012 1) SET POWER ON " TO 10FF (OPERATOR PANEL). CONNECT CABLE 21 REMOVED EROM I PD-TB2-6. Ŀ 3) DISCONNECT CABLE FROM MODEM L CA1-E1-B11. ON \* то ON' (OPERATOR PANEL). ۱ 1 1 POWER CHECK? ł 1 Y N 1 1 I 1 1 1 1 1 1 1 1 5 5 4 G нј

UNLOAD THE 1200 MODEM FEATURE IF INSTALLED. IF NOT INSTALLED, BYPASS THIS CUESTION BY ANSWERING 'YES'.

> 10DEC76 PN2594607 EC831962 PEC828777 MAP 0306-3

MAP 0306-4 J POWER MAPS 3 SYSTEM 32 1 4 OF PAGE 9 ł I ł 013 • POWER τо **'OFF'** SHOR T THE PWR СНК 1) SET ON ' CAUSING INDICATION MAY BE IN CAL BOARD, CARDS, OR CABLE FROM PD-TE2-6. (OPERATOR PANEL). 2) CONNECT CABLE REMOVED FROM MODEM LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG CA1-E1-B11. ONE-HALF OF THE 3) REMOVE CARDS LOCATION. FROM THE CA1 BOARD. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N ł 1 014 1) SET POWER ON то OFF! I. (OPERATOR PANEL). Ł 2) INSTALL CARDS ONE AT A TIME FROM THE CARDS JUST REMOVED. SET POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO 'ON' EACH TIME TO ISOLATE THE CARD CAUSING Ł | THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS. 015 1) SET POWER ON! TO 'OFF' LABEL EACH CARD AS IT IS REMOVED TO (OPERATOR PANEL). AVOID INSTALLING IN THE WRONG 2) REMOVE THE OTHER HALF OF THE LOCATION. CARDS FROM THE CA1 BOARD. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 016 POWER ON SET 10EE1 1 1) τn I (OPERATOR PANEL). ONE AT A TIME 2) INSTALL CARDS 1 | FROM THE LAST HALF REMOVED. SET POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO 'ON' EACH ŧ TIME TO ISOLATE THE CARD CAUSING THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND то CABLES THEIR ORIGINAL POSITIONS.

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5 K 10DEC76 PN2594607

EC831962 PEC828777

GHK POWER MAPS 334 SYSTEM 32 1 1 1 PAGE 5 OF 9 L 1 1 1 I ł 1 017 L I 1) SET POWER ON ΤD 'OFF' (OPERATOR PANEL). 1 1 2) DISCONNECT CABLE FROM MODEM 1 1 AT LOCATION: 1 CA1-E1-B11. 3) METER THIS POINT TO GROUND ON THE CA1 BOARD TO LOCATE i. 1 SHORT -1 1 | CA1 BOARD SHORTED? Ł Y N 1 1 018 1 | 1) DISCONNECT LEAD FROM Ł PD-TE2-6. 2) METER WIRE REMOVED FROM | PD-TB2-6 TO GROUND TO LOCATE L I SHORT. | AFTER CORRECTING THE PROBLEM, | 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 1 019 ł 1 1) REPLACE MODEM BOARD CA1. | AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. l 1 1 020 I SET 'POWER ON' TO \*0FF\* 1) Ł (OPERATOR PANEL). í. 2) REPLACE CABLE. 1 AFTER CORRECTING THE PROBLEM, 1 3) INSTALL ALL REMOVED CARDS AND то | CABLES THEIR ORIGINAL | POSITIONS. 1 021 1) SET GN 1 POWER TO OFF! (OPERATOR PANEL). 2) FIND THE CABLE GN PD-TB2-6 THAT GOES TO THE CRT (PIN DO2 CARRIES -12 VDC TO THE CRT). 3) DISCONNECT THAT CABLE ONLY FROM PD-TB2-6 (DISCRETE CABLE TO CRT). 4) PRESS RESET. 5) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 1 1 L i 1 ł L 

T ۱ 1 1 ł 1 022 ŧ (1) S ET POWER ON' TO 'OFF' (OPERATOR PANEL). 2) CONNECT CABLE REMOVED FROM | PD-TB2-6. 3) DISCONNECT FLAT CABLE FROM CRT I. | PRINTED CIRCUIT BOARD (CRT-PC). | 4) SET 'POWER ON' TO 'D 10N1 (OPERATOR PANEL). 1 | POWER CHECK? 1 Y N I. 1 023 | 1) SET 'POWER | (OPERATOR PANEL). SET 'POWER ON' то 10FF1 L ł | 2) REPAIR OR REPLACE THE CRT. | | AFTER CORRECTING THE PROBLEM, | | 3) INSTALL ALL REMOVED CARDS | | AND CABLES TO THEIR ORIGINAL | POSITIONS. 1 1 İ ł 024 SET POWER ON' TO OFF! | 1) (OPERATOR PANEL). 1 | 2) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS CABLES TO THEIR ORIG AND ORIGINAL | POSITIONS. 025 SET POWER 1) ON . TO 10FF1 (OPERATOR PANEL). 2) CONNECT ALL CABLES PREVIOUSLY REMOVED. 3) DISCONNECT CABLE FROM PD-TB2-6 (CABLE TO AA2 BOARD). 4) PRESS RESET. 5) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 1 1 1 t 10DEC 76 PN2594607 I EC831962 PEC828777 76 N P MAP 0306-5

MAP 0306-5

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Ρ POWER MAPS MAP 0306-2 5 SYSTEM 32 ۱ PAGE 6 DF 9 1 026 1) S ET • POWER ON ' то OFF! SHORT CAUSING THE PWR СНК INDICATION MAY BE IN AA2 BOARD, CARDS, OR CABLE FROM PD-TB2-6. (OPERATOR PANEL). 2) CONNECT CABLE REMOVED FROM LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG PD-TB2-6 THAT WENT TO THE **AA2** BOARD. 3) REMOVE ONE-HALF OF THE CARDS LOCATION. FROM THE AA2 BOARD. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). **POWER CHECK?** Y N ł 1 027 1 1) SET 'POWER ON' TO 'OFF' (OPERATOR PANEL). L 2) INSTALL CARDS ONE AT A TIME 1 FROM THE LAST HALF REMOVED. SET 'POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER GN' TO 'ON' EACH TIME TO ISOLATE THE CARD CAUSING 1 1 1 I THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND TO CABLES THEIR ORIGINAL | POSITIONS. 1 028 LABEL EACH CARD AS IT IS REMOVED TO **POWER** SET ON 1 ТО 'OFF' 1) (OPERATOR PANEL). AVOID INSTALLING IN THE WRONG 2) REMOVE THE OTHER HALF OF THE CARDS FROM THE AA2 BOARD. LOCATION. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? YN L Ł 029 ON' TO 10FF1 1) SET **POWER** (OPERATOR PANEL). (DFERATOR FANEL). 2) INSTALL CARDS ONE AT A TIME FROM THE LAST HALF REMOVED. SET 'POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO 'ON' EACH TIME TO ISOLATE THE CARD CAUSING THE BOWER CHECK L THE POWER CHECK. AFTER CORRECTING THE PROBLEM, I. 3) INSTALL ALL REMOVED CARDS CABLES TO THEIR ORIG ΔND ORIGINAL POSITIONS. 10DEC76 PN2594607

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7 Q EC831962 PEC828777
NQ POWER MAPS 56 SYSTEM 32 1 1 PAGE 7 OF 9 1 1 £ 1 1 030 1 POWER ON' SET то 10FF1 11) (OPERATOR PANEL). 2) DISCONNECT MINI BUS CONNECTOR FROM PIN SIDE OF BOARD AT LOCATION: | AA2-B3-A01. | 3) METER THIS POINT TO GROUND ON | THE AA2 BOARD TO LOCATE SHORT. 1 1 | AA2 BOARD SHORTED? Y N L I I. 031 1 CISCONNECT | 1) LEAD FROM ۱ PD-TB2-6. ł 2) METER WIRE REMOVED FROM PD-TB2-6 TO GROUND TO LOCATE ł I SHORT. AFTER CORRECTING THE PROBLEM, L 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL 1 | POSITIONS. 1 1 032 | 1) REPLACE THE AA2 BOARD. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR GRIGINAL | POSITIONS. 033 THE 1255 ATTACHMENT (MICR) IS FEATURE INSTALLED ON THE SYSTEM? Y N ŧ 034 | GO TO PAGE 9, STEP 041, | ENTRY POINT B. 035 1) SET 'POWER ON' TO OFF (DPERATOR PANEL). 2) DISCONNECT THE WIRE FROM PD-TB2-6 THAT GOES TO AA1-D4B13. RECONNECT ALL PREVIOUSLY REMOVED CABLES. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). ł POWER CHECK? Y N 1 1 1 ۱ 1 T 1 1 1 L 1 L 98 R S

UNLOAD THE MICR FEATURE -12 VOLTS.

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MAP 0306-7

S POWER MAPS MAP 0306-8 7 SYSTEM 32 ł PAGE 8 OF 1 9 ł I 036 SHORT CAUSING THE POWER CHECK IS IN 1) SET POWER ON " TO 'OFF' EITHER THE AA1-D2 CARD, THE AA1 BOARD OR THE CABLE PROVIDING THE -12 VOLTS TO IT. (OPERATOR PANEL). 2) CONNECT CABLE REMOVED FROM PD-TB2-6 THAT WENT TO AA1-D4B13. 3) REMOVE THE AA1-D2 CARD. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). 1 POWER CHECK? ΥN Ł 037 | REPLACE THE AA1-D2 CARD (1255 | DRIVER/RECEIVER/REGULATOR) 038 SHORT CAUSING POWER CHECK IS IN AA1 BOARD OR MICR CABLE. SET POWER ON' то 10FF1 1) (OPERATOR PANEL). 2) DISCONNECT VOLTAGE FROM PIN SIDE OF CONNECTOR SIDE BOARD AT AA1-D4B13. 3) METER THIS POINT TO GROUND ON THE AA1 BOARD TO LOCATE SHORT. IS THE AA1 BOARD SHORTED? Y N 039 DISCONNECT MICR LEAD FROM SHORT CAUSING POWER CHECK IS IN THE L 1) PD-TB2-6. CABLE CABLE PROVIDING -12 VOLTS TO 1 THE MICR FEATURE. METER 21 WIRE REMOVED FROM TO GROUND TO LOCATE | PD-TB2-6 CABLE SHORT. 1 31 AFTER CORRECTING PROBLEM, I INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 040 1) REPLACE THE AA1 BOARD. 2) AFTER CORRECTING THE PROBLEM, INSTALL ALL REMOVED CARDS AND CABLES TO THEIR GRIGINAL POSITIONS. SHORT CAUSING POWER CHECK IS IN AA1 BOARD.

10DEC76 PN2594607

EC831962 PEC828777

MAP 0306-8

POWER MAPS R 7 SYSTEM 32 1 PAGE 9 DF 9 1 I ł 041 \_\_\_\_\_ (ENTRY POINT B) \_\_\_\_\_ OFF! SET POWER ON! ТΟ 1) (OPERATOR PANEL). 2) CONNECT LEAD REMOVED FROM PD-TB2-6 IF PREVIOUSLY REMOVED. 3) REMOVE LEAD AT PD-TB2-6 ON THE POWER SUPPLY SIDE OF THE TERMINAL BLOCK. 4) DISCONNECT CABLE CONNECTOR MULTI-J1 FROM THE MULTI LEVEL FILTER ASM. 51 CHECK CABLE REMOVED FROM PD-TB2-6 AND MULTI-J1-7 FOR SHORT TO GROUND. 1 DOES CABLE SHOW SHORT TO GROUND? Y N ŧ 042 I CHECK CABLE FOR AN OPEN. | IS CABLE OPEN? I Y N ŧ 043 L 1 1) CONNECT AL PREVIOUSLY REMOVED. ALL CABLES L ł | RETURN TO THE CALLING CHART, | PLACE OF LAST EXIT, NEXT | SEQUENTIAL COMMAND. L L ł ŧ 044 1 1) REPLACE CABLE. | AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. ۱ 045 1) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

MAP 0306-9

PWR CHK INDICATION NCT CAUSED EY EXCESSIVE LOAD FROM PD-TB2-6 OUT TO I/O FUNCTION.

> 10DEC76 PN2594607 EC831962 PEC828777

> > MAP 0306-9

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POWER MAPS

SYSTEM 32

PAGE 1 DF 8

ENTRY POINTS

FROM	I	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0300		А	1	001
0318		В	8	035

## 001

(ENTRY POINT A) 18 \_\_\_\_\_ POWER ON! тο 'OFF' 1) SET (OPERATOR PANEL). FIND THE CABLE ON PD-TB2-5 THAT GOES TO BA1-U5-DO3 AND DO4. 2) DISCONNECT THAT CABLE ONLY FROM PD-TB2-5. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 002 L • POWER 1) SET ON! TO OFF! (OPERATOR PANEL). REMOVED 21 CONNECT CABLE FROM MODEM BA1-U5-D03 AND D04. 3) REMOVE ONE-HALF OF THE CARDS FROM THE BA1 BOARD. 4) SET POWER ON 1 тΠ I ON I (OPERATOR PANEL). POWER CHECK? t YN Ł 003 ł SET POWER ON то 10FF1 1) ł (OPERATOR PANEL). ł 2) CONNECT CABLE REMOVED FROM ł PD-TB2-5. 3) DISCONNECT CABLE FROM MODEM BAI-U5-DO3 AND DO4. ł POWER ON' 'ON' 4) SET ΤO ı (OPERATOR PANEL). ł 1 1 POWER CHECK? 1 Y N 1 1 ł ł 1 1 ł ł ł COPYRIGHT IBM CORP 1976 1 I 1 1 I 1 3222 ABCD

+12VDC LOAD ISOLATION ON MULTI LEVEL FILTER ASM. UNLOAD THE 2400 MODEM FEATURE IF INSTALLED. IF NOT INSTALLED, BYPASS THIS QUESTION BY ANSWERING 'YES'.

REFER TO MLM SEC. 8 FOR LOCATION OF TERMINAL BLOCKS. LEADS TO BE REMOVED ARE ATTACHED TO BOTTOM SIDE OF THE TERMINAL BLOCK.

SHORT CAUSING THE PWR CHK INDICATION MAY BE IN BA1 BOARD, CARDS, OR CABLE FROM PD-TB2-5. LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

> 03SEP76 PN2594608 EC828777 PEC-----

> > MAP 0307-1

BCD POWER MAPS 1 1 1 SYSTEM 32 PAGE 2 OF - 8 i 1 L 1 1 1 004 1) SET "POWER ON" то OFF! ļ (OPERATOR PANEL). 1 1 2) INSTALL CARDS ONE AT A TIME FROM THE CARDS JUST REMOVED. I SET 'POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO 'ON' EACH TIME TO ISOLATE THE 1 | CARD CAUSING THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. ł. -005 то OFF! SET POWER ON [ 1) (OPERATOR PANEL). 2) REPLACE CABLE. AFTER CORRECTING THE PROBLEM. 1 3) INSTALL ALL REMOVED CARDS AND THEIR ORIGINAL CABLES то POSITIONS. L 006 10FF1 SET POWER ON ' то 1) (OPERATOR PANEL). 2) REMOVE THE OTHER HALF OF THE CARDS FROM THE BA1 BOARD. 3) PRESS RESET. 4) SET "POWER ON" TO "ON" (OPERATOR PANEL). POWER CHECK? Y N 1 007 I POWER ON' TO OFF' SET (1) (OPERATOR PANEL). 1 2) INSTALL CARDS ONE AT A TIME FROM THE LAST HALF REMOVED. SET 'POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO 'ON' EACH Ł TIME TO ISOLATE THE CARD CAUSING Ŧ THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND 1 то THEIR ORIGINAL CABLES POSITIONS.

MAP 0307-2 -

LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

03SEP76

PN2594608

EC828777 PEC----

MAP 0307-2

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POWER MAPS A E 12 SYSTEM 32 ł 1 1 1 PAGE 3 OF 8 ŧ ۱ ŧ. 1 008 £ 1) SET POWER ON' TO 'OFF' 1 (OPERATOR PANEL). ł 2) DISCONNECT CABLE FROM MODEM AT LOCATION: BA1-U5-DO3 AND DO4. 3) METER THIS POINT TO GROUND ON 1 THE BA1 BOARD TO LOCATE SHORT. 1 BA1 BOARD SHORTED? ł Y N 1 Ł 009 ł 1 | 1) DISCONNECT LEAD FROM | PD-TB2-5. 1 2) METER WIRE REMOVED FROM PD-TB2-5 TO GROUND TO LOCATE I SHORT. L AFTER CORRECTING THE PROBLEM, | 3) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL 1 | | POSITIONS. 1 1 1 010 1) REPLACE MODEM BOARD BA1. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 1 011 • POWER 1) SET ON' Т9 10FF1 (OPERATOR PANEL). 2) CONNECT ANY CABLES PREVIDUSLY REMOVED. FIND THE CABLE ON PD-TB2-5 THAT GOES TO CA1-E1-B13. 3) DISCONNECT THAT CABLE ONLY FROM PD-TB2-5. 4) PRESS RESET. 5) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 1 - 1 Ł 1 I ł L 1 I 1 1 ł 1 I 1 1 I 1 I 1 1 ı I ı 5 - 4 F G

UNLOAD THE 1200 MODEM FEATURE IF INSTALLED. IF NOT INSTALLED, BYPASS THIS QUESTION BY ANSWERING 'YES'.

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MAP 0307-3

SYSTEM 32 PAGE 4 OF 8 012 то 10FF 1 • POWER ON\* SET (OPERATOR PANEL). CONNECT CABLE REMOVED FROM PD-TB2-5. DISCONNECT CABLE FROM MODEM CA1-E1-B13. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 013 PWR POWER ON' TO 'OFF' SHORT CAUSING THE SET 1) INDICATION MAY BE IN CAI BOARD, CARDS, OR CABLE FROM PD-TB2-5. (OPERATOR PANEL). 2) CONNECT CABLE REMOVED FROM LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG MODEM CA1-E1-B13. 3) REMOVE ONE-HALF OF THE CARDS FROM THE CA1 BOARD. LOCATION. POWER ON\* то " ON " SET 4) (OPERATOR PANEL). 1 POWER CHECK? Y N 014 TO 'OFF' I. 1) SET POWER ON (OPERATOR PANEL). 1 2) INSTALL CARDS ONE AT A TIME FROM THE LAST HALF REMOVED. SET 'POWER ON' TO 'OFF'. PRESS POWER ON' TO RESET AND SET L 'ON' EACH TIME TO ISOLATE THE I CARD CAUSING THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL REMOVED CARDS | POSITIONS. 015 LABEL EACH CARD AS IT IS REMOVED TO POWER ON IOFF! TO 1) SET AVOID INSTALLING IN THE WRONG (OPERATOR PANEL). 2) REMOVE THE OTHER HALF OF THE LOCATION. CARDS FROM THE CAL BOARD. 3) PRESS RESET. ON' TO 'ON' SET **POWER** 41 (OPERATOR PANEL). POWER CHECK? Y N I ł 1 03SEP76 PN2594608 1

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POWER MAPS

EC828777 PEC----

MAP 0307-4

MAP 0307-4

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POWER MAPS нјк 44 4 SYSTEM 32 1 PAGE 5 OF 8 1 i. 1 1 £ ł 1 016 I. 1 OFF! SET POWER ON' ТΟ 1 1 1) (OPERATOR PANEL) INSTALL CARDS ONE AT A TIME 2) JUST REMOVED. FROM THE CARDS 1 SET 'POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO 'ON' EACH TIME TO ISOLATE THE CARD CAUSING THE POWER CHECK. 1 AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL 3) POSITIONS. L 1 017 SET POWER ON' то OFF! 1) 1 (OPERATOR PANEL). 2) DISCONNECT CABLE FROM MODEM AT LOCATION: CA1-F1-B13. 3) METER THIS POINT TO GROUND ON THE CA1 BOARD TO LOCATE SHORT. CA1 BOARD SHORTED? Y N 1 1 018 DISCONNECT LEAD FROM 1) 1 PD-TB2-5. 1 2) METER WIRE REMOVED FROM PD-T82-5 TO GROUND TO LOCATE 1 SHORT. 1 AFTER CORRECTING THE PROBLEM, REMOVED CARDS 3) INSTALL ALL AND CABLES TO THEIR ORIGINAL POSITIONS. 1 1 019 1) REPLACE MODEM BOARD CA1. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES то THEIR ORIGINAL POSITIONS. Ł 020 SET **POWER** ON! τn IDEE! 11 (OPERATOR PANEL). 2) REPLACE CABLE. AFTER CORRECTING THE PROBLEM. 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

MAP 0307-5 F ٦ ł 1 1 021 SET • POWER ON ! то \*0FF\* 1) (OPERATOR PANEL). FIND THE CABLE ON PD-TB2-5 THAT 2) GOES TO THE CRT (PINS BO8, BO9, D09, & DIO ON THE CRT). 3) DISCONNECT THAT CABLE ONLY FROM PD-TB2-5 (DISCRETE CABLE TO CP.T). 4) PRESS RESET. 5) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 022 POWER ON' TO | 1) SET 10FF1 (OPERATOR PANEL). 2) CONNECT CABLE REMOVED FROM PD-TB2-5. 3) DISCONNECT FLAT CABLE FROM CRT | PRINTED CIRCUIT BOARD (CRT-PC). 4) SET \*POWER ON! TO 1 ON! (OPERATOR PANEL). POWER CHECK? L Y N 1 Ł L 023 SET POWER ON' TO OFF! 1 1) 1 (OPERATOR PANEL). 2) CONNECT FLAT CABLE REMOVED FROM CRT MLM SEC. 5 PRINTED L £ SEC. 5 PRINTED 1 Ł CIRCUIT BOARD (CRT-PC). 1 L 3) UNPLUG CONNECTOR ON CRT-PC ŧ BOARD THAT GOES TO 1 THE HIGH VOLTAGE CONVERTER. T ŧ 4) SET 'POWER ON' TO \* **NN** \* Ł (OPERATOR PANEL). 1 POWER CHECK? L Ł 1 Y N 1 1 024 L Ł 1) SET "POWER ON' TO OFF 1 (OPERATOR PANEL). REPLACE HIGH VOLTAGE I | 2) | CONVERTER ASSEMBLY. | AFTER CORRECTING THE PROBLEM, ł 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL 1 3) POSITIONS. 1 ł ł 1 I ł ł PN2594608 03SEP76 1 1 I. ł 1 EC828777 PEC-----6 6 6 M N MAP 0307-5 L

LMN POWER MAPS 55 5 SYSTEM 32 PAGE 6 OF 8 L 025 1 SET POWER ON' ΤO 'OFF' 1 1) (OPERATOR PANEL). t 2) REPAIR OR REPLACE THE CRT. AFTER CORRECTING THE PROBLEM, 1 L | 3) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL | POSITIONS. ł I 026 IOFF! SET POWER ON то 1) (OPERATOR PANEL). 2) REPLACE CABLE. AFTER CORRECTING THE PROBLEM. 3) INSTALL ALL REMOVED CARDS CABLES TO THEIR ORIG AND ORIGINAL PUSITIONS. ł 027 SET **POWER** ON! τо 'OFF' 1) (OPERATOR PANEL). 2) CONNECT ALL CABLES PREVIOUSLY REMOVED. 3) DISCONNECT REMAINING CABLE FROM PD-TB2-5 (CABLE TO AA2 BOARD). 4) PRESS RESET. 5) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N ł 028 L + OFF \* SET POWER ON' то 1) (OPERATOR PANEL). 2) REMOVE ONE-HALF OF CARDS THE | FROM THE AA2 BOARD. 3) PRESS RESET. 1 ON! тυ " ON " 4) SET POWER (OPERATOR PANEL). 1 1 POWER CHECK? ł Y N 1 1 1 1 029 SET 'POWER ON' TO 'OFF' 1) 1 (OPERATOR PANEL). 1 2) INSTALL CARDS ONE AT A TIME I FROM THE CARDS JUST REMOVED. SET 'POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO T 1 I EACH TIME TO ISOLATE THE 'ON' 1 CARD CAUSING THE POWER CHECK. AFTER CORRECTING THE PROBLEM, I. 1 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR DRIGINAL 1 POSITIONS. 1 ł

THE PWR СНК SHORT CAUSING INDICATION MAY BE IN AA2 BOARD, CARDS, OR CABLE FROM PD-TB2-5. LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

03SEP76

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EC828777

PEC-----MAP 0307-6

8 7 Þ Q Q 6 SYSTEM 32 1 PAGE 7 OF 8 1 1 030 ON' TO OFF! POWER 1) SET (OPERATOR PANEL). 2) REMOVE THE OTHER HALF OF THE CARDS FROM THE AA2 BOARD. 3) PRESS RESET. 4) SET POWER ON' TO 'ON' (OPERATOR PANEL). Į POWER CHECK? Y N ł 1 031 1 SET 'POWER ON' то 10551 (OPERATOR PANEL). 2) INSTALL CARDS ONE AT A TIME FROM THE LAST HALF REMOVED. SET POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO 'ON' EACH TIME TO ISOLATE THE CARD CAUSING THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND I CABLES TO THEIR ORIGINAL | POSITIONS. 032 1) SET **POWER** '0FF' ON' TO (OPERATOR PANEL). 2) DISCONNECT MINI BUS CONNECTOR FROM PIN SIDE OF BOARD AT LOCATION: AA2-63-A01. 3) METER THIS POINT то GROUND ON THE AA2 BOARD TO LOCATE SHORT. Ł AA2 BOARD SHORTED? Y N 1 033 1 1) DISCONNECT LEAD FROM PD-TB2-5. 2) METER WIRE REMOVED FROM PD-T82-5 TO GROUND TO LOCATE | SHORT. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND то **CABLES** THEIR ORIGINAL | POSITIONS. 034 1) REPLACE THE AA2 BOARD. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

LABEL EACH CARD AS IT IS REMOVED TO

AVOID INSTALLING IN THE WRONG

LOCATION.

03SEP76 PN2594608 EC828777 PEC-----

MAP 0307-7

POWER MAPS

Ρ POWER MAPS 6 SYSTEM 32 PAGE 8 OF 8 1 035 (ENTRY POINT B) • POWER SET ON . тο OFF! 11 (OPERATOR PANEL). 2) CONNECT LEAD REMOVED FROM PD-TB2-5 IF PREVIOUSLY REMOVED. 3) REMOVE LEAD AT PD-TB2-5 ON THE POWER SUPPLY SIDE OF THE TERMINAL BLOCK. DISCONNECT 4) CABLE CONNECTOR MULTI-J1 THE MULTI LEVEL FROM FILTER ASM. 5) CHECK CABLE REMOVED FROM PD-TB2-5 AND MULTI-J1-5 AND 6 SHORT TO GROUND. FOR DOES CABLE SHOW SHORT TO GROUND? Y N 1 1 036 CHECK CABLE FOR AN OPEN. ł ł IS CABLE OPEN? 1 Y N L 1 037 t CONNECT CABLES 1 1) ALL 1 | PREVIOUSLY REMOVED. RETURN TO | THE CALLING CHART, PLACE OF | LAST EXIT, NEXT SEQUENTIAL E ł COMMAND. Ł ŧ - 1 038 1) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, Ł 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 1 039 1) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

MAP 0307-8

PWR CHK INDICATION NOT CAUSED BY EXCESSIVE LOAD FROM PD-TB2-5 OUT TO I/O FUNCTION.

MLM SEC 8 REF FOR PLUG LOCATIONS.

03SEP76 PN2594608 EC828777 PEC----

MAP 0307-8

POWER MAPS

SYSTEM 32

PAGE 1 DF 6

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0300		А В	1 5	001 019

001

(E)	NTRY PO	INT A)				
						22
1						
1)	SET	* POWE	R O	N T	то	'OFF'
(0)	PERATOR	PANEL	).			
2)	CONNE	CT AL	L LE	ADS	PREVI	OUSLY
DIS	SCONNEC	TED.				
3)	DISCON	NECT	LEAD	FROM	PD-	TB2-7
(C)	ABLE TO	AA2 B	DARD)	•		
4)	PRESS	RESET.				
5)	SET P	OWER D	N' TO	ON'	(OPE	RATOR
PAN	NEL).					

POWER CHECK? Y N 002 POWER ON' TO OFF! SET | 1) (OPERATOR PANEL). 2) CONNECT LEADS REMOVED FROM PD-TB2-7. | 3) REMOVE CABLE FROM AA2-A4 PLUG | ON CARD SIDE OF BOARD (PIN B13 CARRIES -24 VDC TO THE DISK). 4) SET 'POWER ON' TO ł 'ON' L (OPERATOR PANEL). 1 1 POWER CHECK? L Y N ł ł 1 1 1 1

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MAP 0308-1

EXIT P	DINTS		
EXIT T	HIS MAP	Ι ΤΟ	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY PDINT
3	011	0900	A

-24VDC LOAD ISOLATION ON DUAL LEVEL FILTER ASM.

PD-TB2-7 SUPPLIES -24VDC TO THE AA2 BOARD AND DISK.

REFER TO MLM SEC 8 FOR LOCATION OF TERMINAL BLOCK. LEADS TO BE REMOVED ARE ATTACHED TO BOTTOM SIDE OF TERMINAL BLOCK.

AN UNDER VOLTAGE ON THE DUAL LEVEL FILTER ASM, -24V LEVEL, COULD BE CAUSED BY AN OVER LOAD ON THE 48VAC OUTPUT. IF UNDER VOLTAGE INDICATION OCCURED, REFER TO MAP 0300, ENTRY POINT G TO ISOLATE THE CAUSE OF THE PROBLEM.

> 03SEP76 PN2594609 EC828777 PEC-----

MAP 0308-2

1 SYSTEM 32 PAGE 2 OF 6 1 003 "OFF" 1) SET **POWER** ON' TO (OPERATOR PANEL). FROM 2) CONNECT CABLE REMOVED AA2-A4. 3) REMOVE LOGIC CARDS FROM DISK PLUG BOARD. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 004 1 POWER ON' TO 'OFF' | 1) SET 'POWER | (OPERATOR PANEL). 2) INSTALL CARDS ONE AT A TIME. SET 'POWER ON' TO 'OFF', RESET, SET 'POWER ON' TO 'ON'. EACH EACH TIME TO FIND THE CARD CAUSING THE 1 | POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. ł 005 1) SET • POWER ON. то 10FF \* (OPERATOR PANEL). 2) DISCONNECT END OF CABLE THAT PLUGS INTO THE DISK AT PLUG PLUGS POSITION 85. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 006 POWER ON' ΤO '0FF' 1 1) SET (OPERATOR PANEL). 2) REPLACE DISK FRU. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL 1 | POSITIONS. 1 007 POWER ON . TO 'OFF' SET 1) (OPERATOR PANEL). 2) REPLACE THE CABLE. AFTER CORRECTING THE PROBLEM. 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

POWER MAPS

C

LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

03SEP76 PN2594609

EC828777

MAP 0308-2

PEC----

В POWER MAPS ì SYSTEM 32 I PAGE 3 OF 1 6 1 1 800 IS THE 5321 MCU INSTALLED? Y N 009 1 GO TO STEP 012, ł. | ENTRY POINT C. ł 010 SET POWER ON' τQ •OFF • 1) (OPERATOR PANEL). 2) REMOVE CABLE FROM AA2-U4 PLUG ON CARD SIDE OF BOARD (PIN IN CABLE CARRIES -24 VDC TO THE 5321 MCU). 3) SET 'PGWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? YN. 011 SET POWER ON' TO 'OFF' 11) (OPERATOR PANEL). 2) CONNECT CABLE REMOVED FROM AA2-A4. 3) CONNECT CABLE REMOVED FROM AA2-U4. Ł | (-24 V DC PROBLEM IN 5321 MCU.) | GO TO MAP 0900, ENTRY POINT A. L : 012 \_\_\_\_\_ (ENTRY POINT C) Ł SHORT CAUSING THE PWR CHK INDICATION MAY BE IN AA2 BOARD, CARDS OR CABLE FROM PD-TB2-7. • POWER SET ON . TO 'OFF' 1) (OPERATOR PANEL). 2) REMOVE ONE-HALF OF THE CARDS FROM THE AA2 BOARD. LABEL EACH CARD AS IT IS REMOVED TO 3) PRESS RESET. AVOID 4) SET "POWER ON" TO "ON" (OPERATOR LOCATION. PANEL). POWER CHECK? ΥN ł 1 1 ł ł 1 ł I 

4 - 4 D E 03SEP76 PN2594609 EC 82 8777 PEC-----

INSTALLING IN

MAP 0308-3

СНК

WRONG

THE

DE POWER MAPS 3 3 SYSTEM 32 I PAGE 4 OF 6 1 1 1 I 013 SET POWER ON \*OFF\* τn 1) (OPERATOR PANEL). 2) INSTALL CARDS ONE AT A TIME 1 FROM THE LAST HALF REMOVED. SET 'POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO 'ON' EACH TIME TO ISOLATE THE CARD CAUSING Ł I THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL 1 POSITIONS. 1 014 OFF! 1) SET \* POWER ON! тο (OPERATOR PANEL). 2) REMOVE THE OTHER HALF OF THE CARDS FROM THE AA2 BOARD. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 1 015 POWER ON! TO "OFF" SET 1 1) | (OPERATOR PANEL). | 2) INSTALL CARDS ONE AT A | FROM THE LAST HALF REMOVED. A TIME SET POWER ON' TO 'OFF'. PRESS RESET AND SET 'POWER ON' TO 'ON' EACH 1 TIME TO ISOLATE THE CARD CAUSING I THE POWER CHECK. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES τu THEIR ORIGINAL POSITIONS. 016 • POWER ON . то '0FF' SET 1) (OPERATOR PANEL). 2) DISCONNECT MINI BUS CONNECTOR FROM PIN SIDE OF BOARD AT LOCATION: AA2-B4-A14. 3) METER THIS POINT TO GROUND ON THE AA2 BOARD TO LOCATE SHORT. AA2 BOARD SHORTED? Y N I 4 ł 5 5 F G

LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

# 03SEP76

#### PN2594609

#### EC828777

PEC-----

144 SYSTEM 32 1 PAGE 5 OF 6 I 1 t 1 1 1 l 1 ł 017 I FROM DISCONNECT LEAD 1 11 Í PD-TB2-7. 1 2) METER WIRE REMOVED FROM PD-TB2-7 TO GROUND TO LOCATE FROM 1 SHORT. | AFTER CORRECTING THE PROBLEM, | 3) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL L 1 | POSITIONS. ŧ 1 1 018 1) REPLACE THE AA2 BOARD. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 1 019 (ENTRY POINT B) 1 ON TO 'OFF' 1} SET • POWER (OPERATOR PANEL). REMOVED CONNECT LEAD FROM 21 PD-TB2-7 IF PREVIOUSLY REMOVED. 3) REMOVE LEAD AT PD-TB2-7 ON THE POWER SUPPLY SIDE OF THE TERMINAL BLOCK. 4) DISCONNECT CABLE CONNECTOR DUAL E5 ON DUAL LEVEL FILTER ASM. 5) CHECK CABLE DUAL-E5 FOR SHORT TO GND. DOES CABLE SHOW SHORT TO GROUND? Y N 020 . CHECK CABLE FOR AN OPEN. Ł IS CABLE OPEN? Ł YN I - 1 021 t | 1) CONNECT ALL CABLES ŧ | PREVIOUSLY REMOVED. RETURN TO I THE POWER PROBLEM ENTRY CHART, | PLACE OF LAST EXIT, NEXT LAST EXIT, NEXT I SEQUENTIAL COMMAND. ł 1 022 t 1) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS CABLES TO THEIR ORIGI I AND ORIGINAL POSITIONS.

POWER MAPS

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PWR CHK INDICATION NOT CAUSED BY EXCESSIVE LOAD FROM PD-TB2-7 OUT TO THE I/O FUNCTION.

MLM SEC. 8 REF FOR PLUG LOCATIONS.

03SEP76	PN2594609
EC828777	PEC

H POWER MAPS

SYSTEM 32

I PAGE 6 OF 6

I 023 1) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

03SEP76	PN2594609
EC828777	PEC

#### POWER MAPS

SYSTEM 32

PAGE 1 OF 12

## ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0300		A	1	001
0318		B	5	018
0318		C	11	044

001

(ENTRY POINT A)

DOES THIS MACHINE HAVE A

21

BELT

+24VDC LOAD ISOLATION ON DUAL LEVEL FILTER ASM.

DUAL-E3 OR E4 SUPPLIES +24 VDC TO THE PRINTER DIRECTLY AND DOES NOT GO THROUGH THE POWER DISTRIBUTION TERMINAL BLOCK, PD-TB2.

REFER TO MLM SEC. 8 FOR LOCATION OF TERMINAL BLOCKS. LEADS TO BE REMOVED ARE ATTACHED TO BOTTOM SIDE OF THE TERMINAL ELOCK.

PRINTER? Y N L 1 002 | GO TO PAGE 6, STEP 023, I ENTRY POINT BA. 1 003 1) SET POWER ON . то 'OFF' (OPERATOR PANEL). 2) CONNECT ANY LEADS PREVIOUSLY DISCONNECTED. 3) DISCONNECT LEAD FROM DUAL LEVEL FILTER ASM TO PRINTER AT DUAL-E3 OR E4 (LARGE WIRE). 4) PRESS RESET. 5) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N Ł 1 1 I 1 1

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10DEC76 PN2594610

EC831962 PEC828777

MAP 0309-1

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MAP 0309-2 В POWER MAPS 1 SYSTEM 32 1 PAGE 2 OF I 12 1 1 004 SET • POWER ON! τо OFF! 1) (OPERATOR PANEL). 2) CONNECT LEAD REMOVED FROM DUAL-E3 OR E4. 3) DISCONNECT LEAD FROM PRINTER TERMINAL BLOCK, PTR-TE1-11 OR -12 (285 LPM PRINTER PTR-TB1-18) (WIRE THAT COMES FROM DUAL-E3 OR E4). 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL ) -POWER CHECK? Y N 005 POWER ON' TO C5 CAPACITOR IS LOCATED ON BELT PRINTER TERMINAL BOARD (MLM SEC. | 1) 10FF1 SET (OPERATOR PANEL). 1 2) CONNECT LEAD REMOVED FROM PTR-TB1-11 OR -12 (285 LPM 4.3.4). PRINTER PTR-TB1-18) L 3) DISCONNECT POSITIVE LEAD TO | LARGE CAPACITOR C5 (#10 HEAVY WIRE). 4) SET POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Ł Y N 1 006 I. 1 1) SET POWER ON 10FF1 то Ł | AFTER CORRECTING THE PROBLEM, | 3) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL | POSITIONS. 007 L 1 1) SET POWER ON' TO 10FF1 (OPERATOR PANEL). 21 CONNECT LEAD REMOVED FROM 1 LARGE CAPACITOR. 3) DISCONNECT REMAINING LEADS ONE | AT A TIME FROM PTR-TB1-11 AND 12 ( (205 LPM PRINTER PTR-TB1-18)
( 4) SET 'POWER CN' TO 'OFF, RESET,
) SET 'POWER ON' TO 'ON', EACH TIME
[ UNTIL POWER CHECK DOES NOT APPEAR
] UNTIL POWER CHECK DOES NOT APPEAR IN ORDER TO IDENTIFY THE SHORTED | LEAD. Ł ł IS LEAD CAUSING PROBLEM GOING TO THE PTR-K1 +24V CONTACTOR POINTS (#10 HEAVY WIRE)? 1 ł Y N 1 ŧ 1 L 1 I 1 1 10DEC76 1 PN2594610 ۱ 1 1 1 EC831962 PEC 828777 533 CDE MAP 0309-2

POWER MAPS DE 2 2 SYSTEM 32 1 3 OF PAGE 12 1 1 I 1 1 008 1 LEAD CAUSING PROBLEM GOING TO ΙS L THE PTR-K1 +24V CONTACTOR PICK 1 COIL (#10 HEAVY WIRES)? Y N 1 ł 1 009 Ł '0FF' POWER ON' ( 1) SET ΤO (OPERATOR PANEL). 1 1 2) REFER TO PRINTER LOGICS FOR | FURTHER PROBLEM ISOLATION (DQ -| DX LOGIC PAGES) | AFTER CORRECTING THE PROBLEM, INSTALL ALL REMOVED CARDS CABLES TO THEIR ORIGINAL | 3) AND CABLES 1 1 | POSITIONS. 1 010 1) SET 'POWER ON' то 'OFF' (OPERATOR PANEL). 2) CHECK CONTACTOR PTR-K1. REPLACE IF NECESSARY. IF PROBLEM NOT CONTACTOR, 3) REFER TO PRINTER LOGICS FOR | FURTHER PROBLEM ISOLATION (DQ -| DX LOGIC PAGES). AFTER CORRECTING THE PROBLEM, 4) INSTALL ALL REMOVED CARDS CABLES TO THEIR ORIG AND DRIGINAL | POSITIONS. 011 SET **POWER** ON \* то 'OFF' 1) (OPERATOR PANEL). REMOVED FROM LEAD 2) CONNECT PTR-TB1-11 OR -12 (285 LPM PRINTER PTR-TB1-18) (#10 HEAVY WIRE). TO ISOLATE THE +24V CONTACTOR, 3) DISCONNECT LEAD COMING FROM THE +24V CONTACTOR (#10 HEAVY WIRE) AT 285 LPM PRINTER PTR-TB1-10 OR 11 OR 12. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). ł POWER CHECK? Y N 1 1 1 1 1 1 1 ł ł L Ŧ Ł t t ł ł 1 ł I 1 ł 4 4 F G

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MAP 0309-3

10DEC76 PN2594610 FC831962 PFC828777 MAP 0309-3

F POWER MAPS G 3 3 SYSTEM 32 1 1 PAGE 4 OF 12 1 1 I 1 1 1 ł 012 1) SET POWER ON тΟ 'OFF' 1 (OPERATOR PANEL). L 2) CHECK CONTACTOR PTR-K1. CHECK I FOR GROUNDED OR FAULTY CONTACTS. REPLACE IF NECESSARY. IF PROBLEM NOT CONTACTOR, 3) CHECK CABLING TO AND FROM CONTACTOR FOR SHORT. | 3) AFTER CORRECTING THE PROBLEM, 1 4) INSTALL ALL REMOVED CARDS AND TO CABLES THEIR ORIGINAL 1 ۱ POSITIONS. ł 013 • .• SET POWER ON! , TO 'OFF' 1) (OPERATOR PANEL). 2) RECONNECT LEAD REMOVED FROM PTR-TB1-8,9, OR 10 (285 LPM PRINTER 10, 11 OR 12) TO ISOLATE ANY POSSIBLE BAD CARDS, PULL CARDS ONE AT A TIME. SET 'POWER ON' TO 'OFF' PRESS RESET, AND SET 'POWER ON' TO 'ON' AFTER EACH CARD REMOVAL UNTIL POWER CHECK INDICATION DOES NOT APPEAR (CARDS ARE LOCATED ON PRINTER). I POWER CHECK INDICATION WITH ALL CARDS OUT? Y N | 014 SET POWER ON' то OFF! | 1) (OPERATOR PANEL). Ł 2) REPLACE LAST CARD REMOVED WITH A NEW CARD. AFTER CORRECTING THE PROBLEM, 1 3) INSTALL ALL REMOVED CARDS AND то I CABLES THEIR ORIGINAL POSITIONS. 015 ON! SET TO IDEE! 1) • POWER (OPERATOR PANEL). DISCONNECT CABLES FROM THE 2) PRINTER PLUG BOARD. 3) CONTINUITY CHECK BOARD FOR SHORT (CHECK BETWEEN EACH POSITION TO GROUND EACH VOLTAGE TO EACH OTHER). PRINTER PLUG BOARD SHORTED? Y N 1 1 ł 1 1 I 1 1 ł 1 1 1 I 5 5 . н .1

LABEL EACH CARD AS IT IS REMOVED TO AVCID INSTALLING IN WRONG LOCATION.

10DEC76 PN2594610 . PEC828777

EC831962

MAP 0309-4

POWER MAPS СНЈ 244 SYSTEM 32 1 1 PAGE 5 OF 12 1 1 1 ł 1 1 1 016 L 1 CHECK ALL CABLES CARRYING 1) 1 | +24 VDC FROM PTR-TB1-8,9, OR 10 | FOR SHORT. | (285 LPM PRINTER PTR-TB1-10, 11 1 1 OR 12) 1 1 USE POINTS LISTED BELOW FOR ł 1 ISOLATION (MLM SEC. 4). +24V 1 PIN LOCATION 1 1 \*\*\*\* ۱ 1 FROM: PRINTER PTR-T81-8,9, 1 TERM BLOCK AND -10 1 (285 LPM PRINTER PTR-TB1-10, 11 OR 12) TO: PRINTER PLUG BOARD, HAMMER DRIVERS 1 1 AL SO 1 1 TO: PRINTER PTR-TB1-2,3 TERM BLOCK 1 THEN t TO: +24V CLAMP I 1 1 AND HAMMER DRIVERS | AFTER CORRECTING THE PROBLEM, | 2) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL 1 I | POSITIONS. I 017 1) REPLACE PRINTER PLUG BOARD. 1 AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES то THEIR ORIGINAL | POSITIONS. 018 \_\_\_\_ (ENTRY POINT B) 1 1) SET POWER ON! то OFF! (OPERATOR PANEL). 2) CONNECT ALL CABLES PREVIOUSLY REMOVED. DISCONNECT CABLE CONNECTOR 3) DUAL-E3 OR E4 FROM THE DUAL LEVEL FILTER ASM. 4) CHECK CABLE REMOVED FROM DUAL-E3 E4 AND PTR-TB1-11 OR -12 FOR 0R SHORT TO GROUND. (285 LPM PRINTER THIS POINT IS PTR-TB1-18). (STEP 018 CONTINUES)

MAP 0309-5

PWR CHK INDICATION NOT CAUSED EY EXCESSIVE LOAD FROM PTR-TB1-11 OR -12 OUT TO THE PRINTER (MLM - SEC. 8) 285 LPM PRINTER IS PTR-TB1-18.

 10DEC76
 PN2594610

 EC831962
 PEC828777

POWER MAPS Δ 1 SYSTEM 32 1 PAGE 6 OF 12 ł (STEP 018 CONTINUED) 1 DOES CABLE SHOW SHORT TO GROUND? 1 IYN ł L 1 019 Ł I CHECK CABLE FOR AN OPEN. t ł 1 I IS CABLE OPEN? Í. Y N 1 1 1 020 1 ł CONNECT ALL CABLES | | 1) 1 | | PREVIOUSLY REMOVED. | | RETURN TO THE CALLING CHART, | | PLACE OF LAST EXIT, NEXT | | SEQUENTIAL COMMAND. 11 | 021 ł | 1) REPLACE CABLE.
| AFTER CORRECTING THE PROBLEM,
| 2) INSTALL ALL REMOVED CARDS
| AND CABLES TO THEIR ORIGINAL Ł | POSITIONS. 11 022 1) REPLACE CABLE. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 023 (ENTRY POINT BA) 1) SET \*POWER ON' TO \*0FF \* (OPERATOR PANEL). 2) DISCONNECT LEAD FROM DUAL LEVEL FILTER ASM AT DUAL-E3 OR E4 TO PD-TB2-8 (SMALL LEAD). 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). 1 POWER CHECK? Y N -1 ł L 1 1 1 1 1 1 1 1 1 ۱ 1 ł 1 1 ì ł 1 ł 1 1 1 l ſ 1 2 7 κL

CUAL-E3 OR E4 SUPPLIES +24VDC TO THE AA2 BOARD, DISK, AND DISKETTE (MLM SEC. 8).

10DEC76	PN2594610
EC831962	PEC828777

POWER MAPS L 6 SYSTEM 32 L 7 OF 1 PAGE 12 l f 024 SET POWER ON! TO (OFE) 1) (OPERATOR PANEL). 2) CONNECT LEAD REMOVED FROM DUAL LEVEL FILTER ASM AT DUAL-E3 OR E4 THAT WENT TO PD-T62-8. 3) DISCONNECT LEAD FROM PD-T82-8 (CABLE TO THE AA2 BOARD). 4) PRESS RESET. 5) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? ΥN t 025 POWER ON' TO "OFF" SET 1) ł (OPERATOR PANEL). 1 CONNECT LEAD REMOVED FROM 21 1 PD-TB2-8. PLUG 3) REMOVE CABLE FROM AA2-A3 POSITION OF CARD SIDE OF BOARD Ł (PIN BO5 CARRIES +24 VDC TO THE 1 | DISK). 4) SET POWER ON " то 'ON' (OPERATOR PANEL). L POWER CHECK? 1 Y N ŧ. 1 026 L 1 1) SET 'POWER ON' TO 'OFF' ۱ | (OPERATOR PANEL). 21 CONNECT CABLE REMOVED FROM I 1 442-43. 3) REMOVE LOGIC CARDS FROM DISK 1 ł I PLUG BOARD. ł 4) SET POWER ON ΤD I ON 1 1 (OPERATOR PANEL). 1 1 | POWER CHECK? 1 1 1 Y N 1 1 1 027 1 1 14) SET 'POWER ON' TO 'OFF' ł (OPERATOR PANEL). 1 ONE AT 2) INSTALL CARDS ONE AT A TIME FROM THOSE JUST REMOVED 1 AND SET 'POWER ON' TO 'OFF', | RESET, SET 'POWER ON' TO ON' ł I EACH TIME TO FIND THE CARD L 1 CAUSING THE POWER CHECK. I IF TROUBLE NOT FOUND, 3) REPLACE THE DISK FRU. ł AFTER CORRECTING THE PROBLEM, 1 1 4) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL ł POSITIONS. 1 1 1 1 ŧ 1 1 1 I 1 1 1 -1 1 9 8 NP м

MAP 0309-7

LEADS TO BE REMOVED ARE ATTACHED TO BOTTOM SIDE OF THE TERMINAL BLOCK.

LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

> 10DEC76 PN2594610 EC831962 PEC828777

P POWER MAPS 7 SYSTEM 32 ۱ PAGE 8 OF 12 ł 1 028 ON. OFF! SET POWER тΟ 1) (OPERATOR PANEL). 2) DISCONNECT END OF CABLE THAT PLUGS INTO THE DISK AT PLUG POSITION A1. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? YN 1 029 | 1) SET POWER ON' TO 'OFF' (OPERATOR PANEL). | 2) REPLACE DISK FRU. I AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND то I CABLES THEIR ORIGINAL | POSITIONS. 1 030 1) SET POWER DN . TO 'OFF' (OPERATOR PANEL). 2) DISCONNECT CABLE AT DISK FRAME, DISK-TB-6. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? Y N 1 031 1) SET 'POWER ON' (OPERATOR PANEL). 10FF1 TO 2) CHECK THE DISK BRAKE **DR** REPLACE THE DISK FRU. 1 3) INSTALL ALL REMOVED CARDS AND то | CABLES THEIR ORIGINAL | POSITIONS. 032 1) SET POWER ON! то 10FF1 (OPERATOR PANEL). 2) REPLACE THE CABLE. AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS.

MAP 0309-8

10DEC76 PN2594610 EC831962 PEC828777

POWER MAPS N 7 SYSTEM 32 1 PAGE 9 OF 12 t 1 I 033 DN \* тΟ OFF! 1) SET **POWER** (OPERATOR PANEL). 2) DISCONNECT CABLE FROM AA2-E2 PLUG (PIN DIO CARRIES +24 VDC TO THE DISKETTE). 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). POWER CHECK? YN 1 034 POWER ON' TO OFF! SET | 1) (OPERATOR PANEL). 2) CONNECT CABLE REMOVED FROM LOCATION AA2-B2. 3) REMOVE LOGIC 3) CARD FROM | DISKETTE PLUG BOARD. | 4) SET 'POWER ON' ТΟ ON' (OPERATOR PANEL). | POWER CHECK? Y N 1 L 035 1 (1) SE T POWER ON TO OFF t (OPERATOR PANEL). L 2) REPLACE LOGIC CARD WITH NEW ł | LOGIC CARD. AFTER CORRECTING THE PROBLEM, 1 | 3) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL I | POSITIONS. 1 1 1 036 1) SET 'POWER ON' то I DEE! (OPERATOR PANEL). 1 2) REPLACE CABLE FROM AA2-B2 TO I DISKETTE. AFTER CORRECTING THE PROBLEM, 1 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL POSITIONS. L t 037 SET • POWER ON! ΤO 'OFF' 1) (OPERATOR PANEL). 2) REMOVE ONE-HALF **NF** THE CARDS FROM THE AA2 BOARD. 3) PRESS RESET. 4) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). L POWER CHECK? Y N 1 1 ł 1 1 1 1 1 1 0 0 Q R

SHORT CAUSING THE PWR CHK INDICATION MAY BE IN AA2 BOARD, CARDS OR CABLE FROM PD-TE2-8. L'ABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

10DEC76PN2594610EC831962PEC828777

QR POWER MAPS 9 9 SYSTEM 32 1 T PAGE 10 OF 12 t 1 038 L SET POWER ON ТО 'OFF' ( 1) (OPERATOR PANEL). 1 2) INSTALL CARDS ONE AT A TIME FROM THE CARDS JUST REMOVED AND SET 'POWER ON' TO 'OFF', RESET, I SET 'POWER ON' TO 'OFF', RE I SET 'POWER ON' TO ON' EACH TIME I TO ISOLATE THE CARD CAUSING THE POWER CHECK AFTER CORRECTING THE PROBLEM, 3) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL | POSITIONS. 1 039 . 1) SET 'POWER ON' . TO 'OFF' (OPERATOR PANEL). 2) REMOVE THE OTHER HALF OF THE CARDS FROM THE AA2 BOARD. 3) PRESS RESET. 4) SET "POWER ON" TO "ON" (OPERATOR PANEL). POWER CHECK? YN ſ 040 | 1) SET POWER ON то OFF! (OPERATOR PANEL). 2) INSTALL CARDS ONE AT A TIME FROM THE LAST HALF REMOVED AND SET 'POWER ON' TO 'OFF', RESET, I SET 'POWER ON' TO ON' EACH TIME ISOLATE THE CARD CAUSING THE I TO ISOLATE POWER CHECK. AFTER CORRECTING THE PROBLEM, | 3) INSTALL ALL REMOVED CARDS | CABLES TO THEIR ORIG AND ORIGINAL | POSITIONS. 041 1) SET POWER ON . TO 'OFF' (OPERATOR PANEL). 2) DISCONNECT MINI BUS CONNECTOR FROM PIN SIDE OF BOARD AT LOCATION: AA2-B5-E01. 3) METER THIS POINT TO GROUND ON THE AA2 BOARD TO LOCATE SHORT. 1 AA2 BOARD SHORTED? ΥN 1 1 1 1 1 1 1 1 1 1 ſ 1 I 1 1 1 1 1 1 T S

LABEL EACH CARD AS IT IS REMOVED TO AVOID INSTALLING IN THE WRONG LOCATION.

10DEC76 PN2594610

EC831962 PEC828777

MST POWER MAPS 7 1 1 SYSTEM 32 0 0 PAGE 11 GF 12 Т ł t 1 1 1 t Ł 042 DISCONNECT LEAD FROM ( 1) | PD-TB2-8. 2) METER LEAD REMOVED FROM ł I PD-TB2-8 TO GROUND TO LOCATE Ł I SHORT. AFTER CORRECTING THE PROBLEM, | 3) INSTALL ALL REMOVED CARDS | AND CABLES TO THEIR ORIGINAL Ł | POSITIONS. I 1 043 1 1) REPLACE AA2 BOARD. AFTER CORRECTING THE PROBLEM, 2) INSTALL ALL REMOVED CARDS AND CABLES TO THEIR ORIGINAL 1 1 CABLES POSITIONS. 044 (ENTRY POINT C) \_\_\_\_\_ ----------1 1) SET **POWER** ON \* TO 'OFF' (OPERATOR PANEL). LEAD REMOVED FROM 2) CONNECT PD-TB2-8. 3) REMOVE LEAD AT PD-TB2-8 ON THE POWER SUPPLY SIDE OF THE TERMINAL BLOCK . DISCONNECT CABLE CONNECTOR 4) DUAL-E3 OR E4 FROM THE DUAL LEVEL FILTER ASM. 5) CHECK CABLE REMOVED FROM DUAL-E3 OR E4 AND PD-TB2-8 FOR SHORT TO GROUND. DOES CABLE SHOW SHORT TO GROUND? Y N L 1 045 I CHECK CABLE FOR AN OPEN. IS CABLE OPEN? Y N I L | 046 | 1) CONNECT AL ALL CABLES I RETURN TO THE CALLING CHART. LAST EXIT, NEXT PLACE OF I SEQUENTIAL COMMAND. 1 I 1 1 1 2 2 υv

PWR CHK INDICATION NOT CAUSED BY EXCESSIVE LOAD FROM PD-TB2-8 OUT TO I/O FUNCTION.

> 10DEC76 PN2594610 EC831962 PEC828777 MAP 0309-11

**Κ U V** POWER MAPS 6 1.1 1 1 SYSTEM 32 ł. 11 PAGE 12 OF 12 1 11 1 1 - 1 1 047 L | | 1) REPLACE CABLE. | | AFTER CORRECTING THE PROBLEM, | 2) INSTALL ALL REMOVED CARDS | | AND CABLES TO THEIR ORIGINAL | | POSITIONS. 1 048 | 048 | 1) REPLACE CABLE. | AFTER CORRECTING THE PROBLEM, | 2) INSTALL ALL REMOVED CARDS AND | CABLES TO THEIR ORIGINAL | POSITIONS. ł 049 1) CONNECT ALL CABLES PREVIOUSLY REMOVED.

RETURN TO THE CALLING CHART, PLACE OF LAST EXIT, NEXT SEQUENTIAL COMMAND.

> 10DEC76 PN2594610 EC831962 PEC828777 MAP 0309-12

POWER MAPS

SYSTEM 32

PAGE 1 OF 11

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0105	1	۵	1	001
0300		۵	1	001
0635		۵	1	001

## 001

(ENTRY POINT A) ------21 I. POWER ON' TO SET IDFF! 1) (OPERATORS PANEL). 2) SET MAIN LINE SWITCH TO "ON". 3) PRESS RESET. 4) SET 'POW **POWER** ON тΟ ' ON ' 4) SEI 'PUWER (OPERATORS PANEL). 5) CHECK ALL FANS AND THE DISKETTE MOTOR. (IF THIS MACHINE HAS A SERIAL PRINTER, BE SURE TO CHECK THE SMALL FAN WITHIN THE PRINTER ENCLOSURE.) IS A BELT PRINTER ON THIS SYSTEM? YN L i 002 · | DO ALL COOLING FANS RUN EXCEPT I THE SERIAL PRINTER? Í. Y N 1 1 003 1 | GO TO PAGE 2, STEP 011, 1 ENTRY POINT B. 1 1 004 1 MEASURE 40-60V AC FROM DUAL-20 TO ł. DUAL-21. 1 IS 40-60V AC PRESENT? Y N Ł i ł 1 ł t ł COPYRIGHT IBM CORP 1976 1 ł 1 1 1 1 2 2 2 ABC

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EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
11	053	0300	B

AC VOLTAGE PROBLEM ISOLATION CHART.

1) POWER SUPPLY FAN. 2) PRINTER FAN.
 3) FAN OVER DISK. 4) DISKETTE MOTOR. 5) DISK MOTOR. 6) FERRO.

> 03SEP76 PN2594611 EC828777

PEC-----

MAP 0310-1

POWER MAPS ABC 1 1 1 SYSTEM 32 1 PAGE 2 OF 11 1 1 1 I. 1 ł T 1 005 Ł 1 1) MEASURE 208-230V AC ON | FERRO, TB1-1 TO TB1-4 OR 5 | DEPENDING ON WHAT VOLTAGE THE | MACHINE IS WIRED TO) (UPPER | LEFT HAND CORNER OF POWER | COMPARTMENT). Ł 1 1 1 ł | IS 208-230V AC PRESENT? I Y N 1 ł İ 006 1 т | GO TO STEP 011, | ENTRY POINT B. 1 1 1 1 007 1 1) REPLACE DUAL LEVEL FILTER ASM. 1 2) REPLACE FERRO & FERRO CAP OR | CABLES TO FERRO. | (CAUTION: FERRO WEIGHS ABOUT 38 ł | POUNDS1 t 1 008 FAN IS VOLTAGE PRESENT AT I CONNECTOR? Y N 1 1 009 1 I REPLACE CABLE (AC POWER CABLE | TO SERIAL PRINTER). 1 -1 010 Ł REPLACE FAN. 1 1 011 ----\_\_\_\_\_ \_\_\_\_\_\_ (ENTRY POINT B) WHEN 'POWER ON' SWITCH IS SET TO 'ON' POSITION: 1) COOLING FANS RUNNING. 2) DISKETTE MOTOR TURNING 3) 40 - 60 VAC PRESENT ON DUAL E20 - E21 DO ABOVE INDICATIONS EXIST? ΥN 012 1) COOLING FANS RUNNING. 2) DISKETTE MOTOR TURNING 3) 40 - 60 VAC PRESENT 1 MORE OF THESE DOES ONE OR CONDITIONS EXIST? 1 Y N 1 1 1 1 Ł ł. 1 ł 1 1 1 1 1

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03SEP76 PN2594611 EC828777 PEC-----

MAP 0310-2

POWER MAPS F 2 SYSTEM 32 PAGE 3 OF 11 1 013 • POWER • OFF • SET ON! тΩ 1) (OPERATORS PANEL). 2) CHECK FUSE 101 & 102 MLM SEC 8. ARE FUSES GOOD? Y N 1 ŧ 014 REPLACE FUSE. CHECK SYSTEM OUT AGAIN 1 015 1) SET MAIN LINE SWITCH TO 'DFF'. (METER RANGE ON 500VAC SCALE.) MEASURE INPUT AC ON THE AC-TB1 2) BLOCK. (ATTACH METER LEADS WITH MAIN LINE SWITCH OFF.) FROM ACP-E9 AC-TB1-5 (FANS COM) <----AND AC-T81-6 208/230 1 V AC L L ACP-E11 TO AC-TB1-7 (FANS) <---/ AND AC-TB1-8 3) SET MAIN LINE SWITCH TO 'ON'. SET POWER то \* ON \* ON . 4) (OPERATORS PANEL). ARE THE AC VOLTAGES NORMAL ON THE AC TERMINALS WHEN 'POWER ON' SWITCH IS SET TO 'ON' POSITION? Y N 1 i 016 1) SET 'POWER ON' ΤО 10661 (OPERATORS PANEL). 1 2) SET MAIN LINE SWITCH TO "OFF". 3) MEASURE AC ON THE AC POWER BOARD ACROSS THE TERMINALS. Ł (ATTACH METER LEADS WITH MAIN LINE SWITCH 'OFF'.) Ł 1 1 FROM ACP-E9 Ł (FANS COM) <---1 t | 208/230 (FERRO COM) I V AC то ACP-E11 1 (FANS) <----1 (FERRO) 1 1 4) SET MAIN LINE SWITCH TO 'ON'. SET 'POWER ON' TO ON! 5) (OPERATORS PANEL). 1 (STEP 016 CONTINUES) Í

208/230 VAC IS ROUTED TO AC TERMINAL BLOCK, (AC-TB1, LOCATED JUST UNDER THE POWER SEQUENCE CARD), THROUGH K1 AND K2 RELAYS ON THE AC POWER BOARD.

THE POINTS BELOW SHOW THE AC DISTRIBUTION FROM THE AC POWER BOARD TO AC-TB1.

ALL FANS, THE DISKETTE MOTOR, AND FERRO RECEIVE INPUT AC FROM AC-TB1-5 OR -6, AND AC-TB1-7 OR -8 CONTROLLED BY THE K1 RELAY ON THE AC POWER BOARD.

AC VOLTAGE IS SUPPLIED FROM CUSTOMER OUTLET INTO LINE CORD THROUGH LINE FILTER ASM, THEN TO THE MAIN LINE SWITCH, THROUGH FUSE 101 & 102 TO THE AC BOARD FROM AC BOARD TO AC POWER DISTRIBUTION 'TO THE AC FANS, ETC.

SEE MLM SEC. 8

03SEP76 PN25946I1

EC828777 PEC-----

MAP 0310-3

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## POWER MAPS

#### SYSTEM 32

#### PAGE 4 OF 11

(STEP 016 CONTINUED) 1 THE AC VOLTAGES PRESENT ON THE ARE AC BOARD TERMINALS WHEN "POWER ON" IS SET TO THE "ON POSITION? Y N ł 017 i SET 'POWER ON' то OFF! 1) (OPERATORS PANEL). JUMPER SC-TP-DO3 TO SC-TP-B08 2) 1 (GND) ON SEQ CARD. 3) OBSERVE K1 FOR MOTION. 1 i DOES K1 PICK AND THE FANS RUN? ł Y N Ł 1 1 018 I 1) SET MAIN LINE SWITCH то 1 Ł OFF. ŧ REMOVE JUMPER SC-TP-DO3 TO 2) ł SC-TP-B08. THE CABLE AC REMOVE ΔT 31 BOARD, ACP-J1. JUMPER ACP-J1-B05 то 41 ł ACP-J1-B08,(GND). 5) SET MAIN LINE SWITCH TO 'ON'. ł 6) DBSERVE K1 FOR MOTION. 1 DOES K1 PICK? 1 I YN 1 019 I REMOVE JUMPER ACP-J1-B05 TO I | ACP-J1-B08. ł ł I REPLACE AC POWER BOARD. 1 ł 020 Ł 1 MAIN LINE SWITCH TO SET ł 1) OFF. REMOVE JUMPER ACP-J1-B05 TO 2) ł ACP-J1-B08. L 3) CHECK FOR SHORT TO GROUND. ł 4) REMOVE POWER SEQ CARD. 1 1 -PICK K1. 1 ł PIN LOCATION \*\*\*\*\* 1 FROM: ł ł MAPLE--P05 POWER SEQUENCE CARD CONNECTOR 1 TO: AC POWER ACP-J1-B05 REMOVED CABLE NOT PLUG BOARD 1 ł (STEP 020 CONTINUES) ł 1 I

K1 IS LARGE RELAY ON BOTTOM LEFT OF AC POWER BOARD.

THE FANS SHOULD ALL OPERATE WHEN K1 IS PICKED.

DANGER: THERE IS LINE VOLTAGE ON THE AC BOARD, SO TAKE CARE WHEN JUMPERING.

K1 IS LARGE RELAY ON BOTTOM LEFT OF AC POWER BOARD. REFER TO MLM SEC. 8

THE FANS SHOULD ALL OPERATE WHEN K1 IS PICKED.

03SEP76 PN2594611 EC828777 PEC-----

MAP 0310-4

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             POWER MAPS
                                                                         MAP 0310-5
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             SYSTEM 32
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             PAGE 5 OF 11
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1
  (STEP 020 CONTINUED)
I
                                                   1
                                                     1 1
  LINE CORRECT (NOT SHORTED TO
                                                     1 030
I
                                                   1
  GROUND)?
                                                  I REPAIR OR REPLACE CABLING
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                                                  I FROM THE AC POWER BOARD TO
  Y N
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                                                   I I THE AC TERMINAL BLOCK.
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  1 021
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ļ
  | REPAIR OR REPLACE KI CABLING.
                                                  I 031
I RETURN TO THE POWER PROBLEM
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                                                1
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                                                  I ENTRY CHART, PLACE OF LAST
I EXIT, NEXT SEQUENTIAL COMMAND.
  022
                                                L
L
  CHECK CABLE FOR OPEN.
                                                I.
                                                032
  IS CABLE CORRECT?
I.
                                                1 1) REPAIR OR REPLACE DEFECTIVE
FAN OR CABLE TO FAN WHICH WAS
OBSERVED TO BE INOPERATIVE.
  Y N
  1 023
Ł
  | REPAIR OR REPLACE K1 CABLING.
                                                1
t
                                                2) REPAIR OR REPLACE DEFECTIVE
t
 024
                                                | DISKETTE MOTOR OR CABLE TO MOTOR.
i
                                                | 3) REPAIR OR REPLACE DEFECTIVE
| FERRO & FERRO CAP OR CABLE TO
 1) INSTALL ACP-J1 CABLE.
2) REMOVE FUSE 102.
L
                                                | FERRO.
  3) CHECK FOR SHORT TO GROUND FROM
  SIDE OF FUSE HOLDER #102 TO AC
                                                | (CAUTION: FERRO WEIGHS ABOUT
                                                                                      38
  POWER BOARD E4.
                                                | POUNDS)
                                                I.
 LINE CORRECT (NOT SHORTED TO
                                                033
1
                                                1) SET
                                                           POWER ON'
ł
  GROUND)?
                                                                             TO
                                                                                   10FF1
  YN
                                                (OPERATORS PANEL).
Ł
                                                2) PRESS RESET.
  ł
                                                            POWER
  1 025
                                                3)
                                                    SET
                                                                       DN*
                                                                              τn
                                                                                    1 ON1
  | 1) INSTALL FUSE 102.
                                                (OPERATORS PANEL).
  | 2) REPAIR OR REPLACE CABLING.
L
                                                DOES THE DISK MOTOR TURN

"POWER ON" IS SET TO THE
                                                                                    WHEN
 026
L
                                                                                    10N1
 CHECK CABLE FOR OPEN.
                                                POSITION?
Ł
                                                ΥN
 IS CABLE CORRECT?
                                                L
1
 Y N
                                                034
1
                                                  1) SET
                                                              POWER ON' TO 'OFF'
                                                1
                                                (OPERATORS PANEL).
  1 027
  | 1) INSTALL FUSE 102.
| 2) REPAIR OR REPLACE CABLING.
                                                2)
                                                        INSTALL CABLE EXTENDER
                                                1
                                                                                     AT
                                                | DISK-B5 PLUG POSITION ON THE
| DISK- MLM SEC. 2.0.0
| 3) SET 'POWER ON' TO 'ON'
Ł
 - 1
 028
  1) INSTALL FUSE 102.
Ł
  2) REPLACE THE POWER SEQUENCE
                                                | (OPERATORS PANEL).
L
  CARD.
  IF FAILURE PERSISTS
                                                  4) MEASURE -4 VDC TO THE DISK.
3) REPLACE AC POWER BOARD.
                                                -(3.68-4.32 VDC)
                                                  1
                                                                    DISK-B5-B06
029
                                                  f
                                                       DISK
(REMOVE JUMPER FROM SC-TP-DO3 TO
                                                      CIRCUIT BOARD
                                                 ŧ.
                                                  1
SC-TP-BO8).
RETURN TO THE POWER PROBLEM ENTRY
                                                | 5) MEASURE +6 VDC TO THE DISK.
CHART, PLACE OF LAST EXIT, NEXT
                                                  +(5.4-6.6 VDC)
                                                 Ł
SEQUENTIAL COMMAND.
                                                  1
                                                       DISK
                                                                    DISK-85-811
                                                  I.
                                                Ł
                                                       CIRCUIT BOARD
                                                 t
                                                  1
                                                  6) MEASURE -24 VDC TO THE DISK.
                                                 ۱
                                                  (STEP 034 CONTINUES)
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                                                                EC828777 PEC----
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                                                                           MAP 0310-5
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POWER MAPS

MAP 0310-6

SYSTEM 32 PAGE 6 OF 11 (STEP 034 CONTINUED) -(21.6-26.4 VDC) DISK DISK-85-813 ł CIRCUIT BOARD 1 SET **POWER** ON' TO 'OFF' 71 (OPERATORS PANEL). 8) INSTALL CABLE AT THE DISK-85 PLUG POSITION ON THE DISK. EXTENDER INSTALL CABLE AT 9) DISK-AL PLUG POSITION ON THE DISK. MLM SEC. 2. 10) SET 'POWER ON' TO 'ON' (OPERATORS PANEL). 11) MEASURE +24 VDC TO THE DISK. +(21.6-26.4 VDC) DISK DISK-A1-B02 CIRCUIT BOARD ALSO: DISK DETB1-6 TERM BLOCK (DISK BRAKE) VOLTAGES CORRECT TO THE DISK? Y N 1 035 1 USING INFORMATION IN THE LISTS | BELOW, ISOLATE TO THE FAILING | FIELD REPLACEABLE UNIT FOR THE VOLTAGE THAT WAS MISSING. 1) MISSING -4 VDC TO THE DISK. USE SIGNAL POINTS LISTED BELOW: (3.68-4.32 VDC) PIN LOCATION ŧ 1 \*\*\*\*\* FROM: PWR DISTRIBUTION PD-TB2-4 TERM BLOCK TO: I/O BOARD AA2-B3-A14 I/O BOARD AA2-A4-B08 DISK DISK-85-806 CIRCUIT BOARD 1 2) MISSING +6 VDC TO THE DISK. USE SIGNAL POINTS LISTED BELOW: +(5.4-6.6 VDC) PIN LOCATION 1 Ł \*\*\*\* FROM: (STEP 035 CONTINUES)

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(STEP 035 CONTINUED) PWR DISTRIBUTION PD-TB2-3 TERM BLOCK T0: I/O BOARD AA2-B3-F01. -B4-A01 I/O BOARD AA2-A4-B11 1 DISK DISK-B5-B11 1 CIRCUIT BOARD 1 3) MISSING -24 VDC TO THE DISK. USE SIGNAL POINTS LISTED BELCW: -(21.6-26.4 VDC) PIN LOCATION \*\*\*\* FROM: PWR DISTRIBUTION PD-T82-7 TERM BLOCK TO: I/O BOARD AA2-B4-A14 I/O BOARD AA2-A4-B13 ł DISK-85-813 DISK CIRCUIT BOARD 1 4) MISSING +24 VDC TO THE DISK. USE SIGNAL POINTS LISTED BELOW: +24 VDC. +(21.6-26.4 VDC) PIN LOCATION \*\*\*\*\* FROM: PWR DISTRIBUTION PD-TB2-8 ł TERM BLOCK TO: I/O BOARD AA2-85-E01 I/O BOARD AA2-A3-B02, -803DISK DISK-A1-B02 CIRCUIT BOARD ALSO TO: DISK DISK-TB1-6 TERM BLOCK (DISK BRAKE)

> 03SEP76 PN2594611 EC828777 PEC-----

> > MAP 0310-6

POWER MAPS L MAP 0310-7 6 SYSTEM 32 ł PAGE 7 OF 11 I I 036 POWER PROBE GROUND IS SET ON! ΤD OFF! ΟN SC-TP-BO8. 1) FRAME CAN ALSO BE USED FOR PROBE GND. +5VDC PROBE POWER IS LOCATED (OPERATORS PANEL). 2) PROBE SC-TP-B03, (-PICK К2 ON AA1-B5-B02 OR AA1-C5-B02. LINE). 3) PRESS RESET. 4) SET 'POW POWER ON' то 1 ON 1 (OPERATORS PANEL). 5) DESERVE PROBE AS POWER SWITCH IS TURNED ON. DOES THE LINE GO TO 'DOWN' POSITION AFTER THE 'POWER ON' SWITCH IS SET TO THE 'ON' POSITION? Y N 037 PROBE GROUND IS ON SC-TP-BO8. FRAME CAN ALSO BE USED FOR PROBE GND. +5VDC PROBE POWER IS LOCATED POWER ON 1) SET TO 'OFF' L (OPERATORS PANEL). 1 2) PROBE SC-TP-B11, (+DISK ł BRAKE ON AA1-85-802 OR AA1-C5-802. FAULT). 3) PRESS RESET. ŧ. \* POWER 4) SET ON! TO 1 DN 1 (OPERATORS PANEL). OBSERVE PROBE AS POWER SWITCH 5) ŧ IS TURNED ON. IS THE LINE DOWN AFTER SHORT FLUCTUATION WHEN 'POWER ON' L ł SWITCH IS SET то THE 1 ON 1 L POSITION? ł Y N ł 1 I 1 038 SET POWER ON 1) TO OFF! THIS INDICATES AN OPEN CIRCUIT FROM 1 (OPERATORS PANEL). THE +DISK BRAKE FAULT LINE. 1 SET MAIN LINE SWITCH TO 2) 1 1 'OFF'. 1 3) REMOVE THE POWER SEQUENCE I CARD. L 4) REMOVE CARDS FROM GATE ł AT AA2-D4, AA2-E2, AND AA2-G2. 1 1 1 1 1 5) CHECK CONTINUITY AND FOR | SHORT TO GROUND. ł +DISK BRAKE FAULT. 1 PIN LOCATI 1 1 \*\*\*\*\* ł 1 FROM: 1 1 POWER MAPLE--D06 ł 1 1 SEQUENCE CARD 1 ł MLM SEC. 8 CONNECTOR 1 ł 1 TO: Ł AA2 BOARD AA2-D4-B08 ł í AND TO: 1 1 (STEP 038 CONTINUES) ۱ 1 ł 1 03SEP76 PN2594611 ł ł EC828777 PEC----8 8 M N MAP 0310-7
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#### SYSTEM 32

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PAGE 8 OF 11 (STEP 038 CONTINUED) AA2 BOARD AA2-E2-D06 AND TO: AA2 BOARD AA2-G2-D06 1 DOES LINE SHOW CONTINUITY? Υ N 1 039 1 THE PROBLEM TO THE ISOLATE 1 FAILING FIELD REPLACEABLE UNIT. 1) USE THE POINTS LISTED BELOW: +DISK BRAKE FAULT. PIN LOCATION \*\*\*\* FROM: AA2 BOARD AA2-D4-B08 (DRIGINATES) TO: AA2-E2-D06 AA2 BOARD AA2-G2-D06 AA2 BOARD 1 AA2-J1-D11 AA2 BOARD EDGE CONNECTOR THEN THROUGH EDGE CONNECTOR τn AA1 BOARD t TO: ł AA1 BOARD AA1-J6-D02 EDGE CONNECTOR AA1 BOARD AA1-A2-D06 1 CABLE CONNECTOR MAPLE--D06 POWER I SEQUENCE CARD CONNECTOR 1 040 1) REPLACE THE POWER SEQUENCE | CARD. 2) REPLACE THE CARD AT AA2-AA2-E2, OR AA2-G2 AS REQUIRED. AA2-D4, Ł 041 OFF! SET **POWER** ON! ТΩ 1) (OPERATORS PANEL). 2) PRESS RESET. CHART, PLACE OF LAST EXIT, NEXT SEQUENTIAL COMMAND.

7 042 208/230 VAC IS ROUTED TO AC TERMINAL BLOCK, (AC-TB1, LOCATED JUST UNDER THE POWER SEQUENCE CARD), THROUGH K1 AND K2 RELAYS ON THE AC POWER BOARD. THE POINTS BELOW SHOW T DISTRIBUTION FROM THE AC AC тне POWER BOARD TO AC-TB1. THE DISK MOTOR RECIEVES INPUT AC FROM AC-TB1-1, AND AC-TB1-2 CONTROLLED BY THE K2 RELAY ON THE AC POWER BOARD. **POWER** ON! TO 10FF1 1) SET (OPERATORS PANEL). 2) SET MAIN LINE SWITCH TO 'OFF'. (METER RANGE ON 500VAC SCALE.) 3) MEASURE INPUT AC ON THE AC-TB1 BLOCK-(ATTACH METER LEADS WITH MAIN LINE SWITCH 'OFF'.) ONE LEAD TO 'MOTORS COM', THE OTHER TO 'MOTORS'. AC-TB1-1 (MOTORS COM) <----208/230 1 V AC AC-TB1-2 (MOTORS) <---/ 4) SET MAIN LINE SWITCH TO 'ON'. SET POWER ON! ON! то 5) (OPERATORS PANEL). 1 ARE THE AC VOLTAGES NORMAL ON THE AC TERMINAL BLOCK AS ATTEMPT MADE TO POWER ON? Y N 03SEP76 PN2594611 EC828777 PEC-----1 9 1 P Q MAP 0310-8

Q POWER MAPS MAP 0310-9 -8 SYSTEM 32 9 OF PAGE 11 ł 043 **POWER** SET ON\* TO 'OFF' 1) (OPERATORS PANEL). 2) SET MAIN LINE SWITCH TO 'OFF'. 3) MEASURE AC ON THE AC POWER BOARD ACROSS THE TERMINALS LISTED BELOW: ATTACH METER LEADS WITH MAIN LINE SWITCH OFF. ONE LEAD TO 'MOTORS COM', THE OTHER TO 'MOTORS'. ACP-E16 1 (MOTORS COM) <----L | 208/230 | I V AC 1 1 1 ACP-E15 1 1 ł (MOTORS) <-----1 4) SET MAIN LINE SWITCH TO 'ON'. 5) SET 'POWER ON' TO 'ON' (OPERATORS PANEL). F ARE THE AC VOLTAGES NORMAL ON THE AC BOARD TERMINALS AS ATTEMPT IS MADE TO POWER ON? Y N 1 044 1) SET 'POWER ON' K2 IS THE MIDDLE RELAY ON BOTTOM OF AC POWER BOARD (MLM SEC. 8) ΤΩ 10FF1 (OPERATORS PANEL). 21 PRESS RESET. 3) JUMPER SC-TP-BO3 TO SC-TP-BO8 LISTEN FOR AUDIBLE CLICKS OF K2 AS (GND). IT PICKS AND OBSERVE K2 FOR MOTION. Ł 1 1 4) OPERATE K2 BY TOUCHING THIS JUMPER TO GROUND. 1 DOES K2 PICK? ΥŇ 1 1 ł t ł 1 I ł I 1 03SEP76 PN2594611 1 1 1 EC828777 PEC----10 1 RST MAP 0310-9

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#### SYSTEM 32

### PAGE 10 OF 11

۱ 045 1) SET MAIN LINE SWITCH TO "OFF". 2) REMOVE THE CABLE AT AC BOARD, ACP-J1. 3) SET MAIN LINE SWITCH TO 'ON'. (DANGER: THERE IS LINE VOLTAGE ON THE AC BOARD, SO TAKE CARE WHEN JUMPERING.) JUMPER ACP-J1-D05 τо 4) ACP-J1-B08,(GND). 5) WHEN JUMPER IS PUT TO GROUND, WHEN REMOVED RELAY SHOULD PICK. FROM GROUND RELAY SHOULD DROP. (K2 IS THE MIDDLE RELAY ON BOTTOM OF AC POWER BOARD.) (LISTEN FOR AUDIBLE CLICKS OF K2 AS IT PICKS AND OBSERVE K2 FOR MOTION. DOES K2 PICK? Y N ł 046 L REPLACE AC POWER BOARD. 047 1) SET MAIN LINE SWITCH TO 'OFF'. 2) CHECK CABLE CONTINUITY AND FOR SHORT TO GROUND BETWEEN MAPLE--M05 AND ACP-J1-D05. CABLING CORRECT (NOT OPEN OR SHORTED TO GND)? Y N 1 048 THE PROBLEM ISOLATE TO THE ł FAILING FIELD REPLACEABLE UNIT. 1) USE THE POINTS LISTED BELOW: ۱ -PICK K2 1 PIN LOCATION \*\*\*\* FROM: 1 POWER MAPLE--M05 SEQUENCE CARD CONNECTOR TO: AC POWER ACP-J1-D05 I BOARD 049

REPLACE THE POWER SEQUENCE CARD.

UNPLUG CABLE AT AC BOARD WHEN MEASURING FOR SHORT TO GROUNC.

03SEP76	PN2594611

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MAP 0310-10

KPRS POWER MAPS 5899 SYSTEM 32 1 PAGE 11 OF 11 1 1 1 1 1 1 L i 1 ł ł L t 050 1 1) CHECK AC WIRING ON AC 1 BOARD AND TO AC TERMINAL 1 t 1 | | BLOCK. | | IF CABLES ARE CORRECT, | | 2) REPLACE THE AC | | BOARD. ł L POWER I i i ł 051 1) REPAIR OR REPLACE CABLING FROM THE AC POWER BOARD TO THE Ł | AC TERMINAL BLOCK. 1 1 052 1 1) CHECK AC TO DISK MOTOR.
2) RESET THE OVERLOAD BUTTON ON
1 DISK MOTOR. | 3) REPLACE THE DISK MOTOR. 1 053 POWER 1) SET ON • TO 'OFF' (OPERATORS PANEL). 2) PRESS RESET.

RETURN TO THE POWER PROBLEM ENTRY CHART, PLACE OF LAST EXIT, NEXT SEQUENTIAL COMMAND. (IF PLACE OF LAST EXIT IS OTHER THAN POWER MAPS, THEN GU TO MAP 03CO, ENTRY POINT B. MAP 0310-11 -

03SEP76 PN2594611 EC828777 PEC-----

MAP 0310-11

SYSTEM 32

PAGE 1 OF 3

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0300	1	A	1	001

## 001

2 A

(ENTRY POINT A)	
	10
I) CHECK GROUND	CIRCUIT CONTINUITY.
GROUND.	
	PIN LOCATION *****
FROM:	
SWITCH ON CE	LAMP TEST SW
PANEL	PIN 6, COM
το:	
POWER SE-	SC-TP-808
DIENCE CARD.	MEASURE THIS
TEST DOINT	DOINT WITH SEO
TEST FUINT	CADD INCTALLED)
	CARD INSTALLEDI
1	

L] Y	NE N	COR	REC	т (	NOT	OPE	EN } 1	?			
	002 BEL CON CIR REP INF	DW INEC LAC DRM	I TIO T. EAB	S N L E D N.	A LIS ISO U	T C LATE NIT	P0] )F 1	INT TH FO JS 1	T-TC HE A ING	)— P GR F	OINT COUND IELD THIS
	GRC	UNE	•			₽I ★ <b></b>	N 1	- 00	CATI ****	0N	ł
	FRC SWI PAN	M: TCH	ON	CE		LA PI	MP N 6	TE 5,	EST Com	SW	I
	TO: Y2 CPU CPU POW (ST	CON BO BO ER EP	INEC IARD IARD SE- 002	TOR CO	NTI	CE AA MA NUES	P-1 1-6 1-7	(2- 35- 42-	-D08 -D08 -D08 -D08		
1				со	PYR	IGHT	IE	3 M	COR	P	1976

LAMP TEST. CONTROL LINE CHECKOUT FOR OPEN OR SHORTED SIGNAL LINES.

THIS MAP CONTAINS LISTS OF POINT TO POINT CONNECTIONS. SIGNAL LINE NAME IS GIVEN AT THE TOP OF EACH LIST. GROUND CIRCUIT LIST IS INCLUDED FIRST FOR LATER PROBING REFERENCE.

IN GENERAL: 1) SET 'POWER ON' TO 'OFF' (OPERATOR PANEL). 2) SET MAIN LINE SWITCH TO 'OFF'. 3) REMOVE POWER SEQUENCE CARD FOR ALL MEASUREMENTS, EXCEPT WHERE GTHERWISE NOTED. THIS OPENS SIGNAL PATHS.

IF AN OPEN OR SHORT IS FOUND, ISOLATE TO A FIELD REPLACEABLE UNIT USING THE INFORMATION IN THE LIST.

LAMP TEST SWITCH LOCATION 7.2.10

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MAP 0311-1

MAP 0311-2 Δ POWER MAPS В 1 SYSTEM 32 PAGE 2 OF 3 (STEP 002 CONTINUED) Ł 1 QUENCE CARD 005 CONNECTOR 1) CHECK CONTINUITY AND FOR SHORT POWER SE-SC-TP-BO8 TO GROUND. QUENCE CARD, (MEASURE THIS -DISPLAY POWER CHECK DEVELOPED FROM -LAMP TEST POINT POINT WITH SEQ DOTTED IS CARD INSTALLED) TEST ON THE POWER SEQUENCE CARD. PIN LOCATION 003 1) CHECK CONTINUITY AND FOR SHORT \*\*\*\*\* FROM: TO GROUND. POWER MAPLE--B07 -LAMP TEST. SEQUENCE CARD PIN LOCATION CONNECTOR \*\*\*\*\* FROM: TO: LAMP TEST SW DISCRETE POWER CHECK SWITCH ON CE CABLE TO OP LED, SHORT PANEL PIN 8, N/O PANEL LED LEG то: LINE CORRECT (NOT OPEN OR SHORTED MAPLE--B08 POWER SE-QUENCE CARD TO GROUND)? CONNECTOR Y N LINE CORRECT (NOT OPEN OR SHORTED 006 L BELOW IS A POINT-TO-POINT CONNECTION LIST OF THE DISPLAY CIRCUIT. ISOLATE TO A FIELD TO GROUND)? í. Y N REPLACEABLE 004 UNIT USING THIS BELOW POINT-TO-POINT INFORMATION. IS Δ 1 LIST OF THE LAMP TEST CONNECTION ISOLATE TO A FIELD 1) CHECK CONTINUITY AND FOR SHORT CIRCUIT. 1 TO GROUND. REPLACEABLE UNIT USING THIS L INFORMATION. | -DISPLAY POWER CHECK DOTTED IS | DEVELOPED FROM -LAMP TEST ON THE -LAMP TEST. PIN LOCATION POWER SEQUENCE CARD. L \*\*\*\*\* PIN LOCATION FROM: \*\*\*\*\* t SWITCH ON CE LAMP TEST SW | FROM: L PIN 8, N/D PANEL MAPLE--B07 I POWER 1 I SEQUENCE CARD TO: I CONNECTOR Т FLAT CABLE CEP-Y2-B09 CPU BOARD AA1-85-809 TO: CPU BOARD AA1-A2-B08 | CPU BOARD AA1-A2-B07 POWER SE-QUENCE CARD CPU BOARD AA1-B2-D13 MAPLE--B08 DISCRETE POWER CHECK CABLE TO OP PANEL LED CONNECTOR LED, SHORT LEG 1975 - 1997 - 19 

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MAP 0311-2

PN2594612

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EC828777

С POWER MAPS D MAP 0311-3 2 SYSTEM 32 1 3 OF PAGE 3 007 009 CHECK CONTINUITY AND FOR SHORT CHECK CONTINUITY AND FOR SHORT TO 1) GROUND. TO GROUND. -DISPLAY THERMAL CHECK DOTTED -PREV POWER FAULT DISPLAY. DEVELOPED FROM -LAMP PIN LOCATION ON THE TEST POWER SEQUENCE CARD. \*\*\*\* PIN LOCATION FROM: \*\*\*\* SWITCH ON CE PREV PWR FAULT FROM: PIN 8, N/O PANEL POWER MAPLE--B06 SEQUENCE CARD TO: POWER SE-QUENCE CARD CONNECTOR MAPLE-B09 CONNECTOR TO: DISCRETE TH CHK CABLE TO OP PANEL LED LINE CORRECT (NOT OPEN OR LED, SHORT SHORTED TO GROUND)? LEG Y N LINE CORRECT (NOT OPEN OR SHORTED I TO GROUND)? 1 010 BELOW IS A POINT-TO-POINT CONNECTION LIST OF THE CIRCUIT. Y N | BELOW I. ISOLATE TO A FIELD REPLACEABLE UNIT USING THIS INFORMATION. 008 1 Ł BELOW IS Α POINT-TO-POINT LIST OF THE DISPLAY CONNECTION ISOLATE TO A FIELD -PREV POWER FAULT DISPLAY. CIRCUIT. REPLACEABLE UNIT USING THIS PIN LOCATION INFORMATION. \*\*\*\*\* | FROM: 1) CHECK CONTINUITY AND FOR SHORT SWITCH ON CE PREV PWR FAULT L TO GROUND. PANEL PIN 8, N/O -DISPLAY THERMAL CHECK DOTTED DEVELOPED FROM -LAMP TEST ON THE -DISPLAY TO: Y2 CONNECTOR CEP-Y2-D11 1 CPU BOARD CPU BOARD POWER SEQUENCE CARD. AA1-85-D11 Ł PIN LOCATION AA1-A2-B09 POWER SE-\*\*\*\* MAPLE-B09 FROM: L I CONNECTOR POWER MAPLE--B06 SEQUENCE CARD CONNECTOR 011 INSTALL POWER SEQUENCE CARD REMOVED. RETURN TO THE POWER PROBLEM ENTRY CHART, PLACE OF LAST RETURN TO THE TO: t CPU BOARD AA1-A2-806 I CPU BOARD AA1-B2-B13 . EXIT, NEXT SEQUENTIAL COMMAND. DISCRETE ТН СНК 1 CABLE TO OP PANEL LED LED, SHORT LEG

> 03SEP76 PN2594612 EC828777 PEC-----

> > MAP 0311-3

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SYSTEM 32

PAGE 1 OF 2

ENTRY POINTS

FROM	I	ENTER	THIS MAP	
MAP NUMBER	   	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0300		Α	1	001

001

(ENTRY POINT A) 18 . \_\_\_\_ 1) CHECK GROUND CIRCUIT CONTINUITY. GROUND. PIN LOCATION \*\*\*\* FROM: SWITCH ON COMMON ON SW OPERATOR PANEL IS GROUND (#5 POSITION, CENTER) TO: POWER SE-SC-TP-B08 QUENCE CARD, (MEASURE THIS TEST POINT POINT WITH SEQ CARD INSTALLED) LINE CORRECT (NOT OPEN)? Y N 1 002 F BELOW IS A POINT-TO-POINT CONNECTION LIST OF THE GROUND CIRCUIT. ISOLATE TO A FIELD REPLACEABLE UNIT USING THE INFORMATION IN THE LIST. 1 ł Ł Ł I CHECK GROUND CIRCUIT 1 1) | CONTINUITY. L 1 GROUND. PIN LOCATION \*\*\*\*\* FROM: 1 SWITCH ON ł. COMMON ON SW OPERATOR PANEL IS GROUND (#5 POSITION, CENTER) TO: t (STEP 002 CONTINUES) 1 COPYRIGHT IBM CORP 1976 ł

CONSOLE POWER ON. CONTROL LINE CHECKOUT FOR OPEN OR SHORTED SIGNAL LINES.

THIS MAP CONTAINS LISTS OF POINT TO POINT CONNECTIONS. SIGNAL LINE NAME IS GIVEN AT THE TOP OF EACH LIST. GROUND CIRCUIT LIST IS GIVEN FIRST FOR LATER PROBING REFERENCE.

IN GENERAL: 1) SET 'POWER ON' TO 'OFF' (OPERATOR PANEL) 2) SET MAIN LINE SWITCH TO 'OFF'. 3) REMOVE POWER SEQUENCE CARD FOR ALL MEASUREMENTS, EXCEPT WHERE OTHERWISE NOTED. THIS OPENS SIGNAL PATHS.

IF AN OPEN OR SHORT IS FOUND, ISOLATE TO A FIELD REPLACEABLE UNIT USING THE INFORMATION IN THE LIST.

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MAP 0312-1

2 A A POWER MAPS 1 SYSTEM 32 2 OF PAGE 2 1 (STEP 002 CONTINUED) ŧ AA1-B2-D04 AA1-B2-D08 CPU BOARD CPU BOARD T MAPLE--MO8, POWER SE--P08, QUENCE CARD -M09, CONNECTOR -P09. POWER SE-SC-TP-808 (MEASURE THIS QUENCE CARD, POINT WITH SEQ TEST PIN ŧ CARD INSTALLED) 1 1 003 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. 'POWER ON' SWITCH. PIN LOCATION \*\*\*\*\* FROM: POWER ON' SWITCH ON SWITCH OPERATOR PANEL N/O CONTACT (#4 POSITION) TO: POWER SE-MAPLE--B04 QUENCE CARD CONNECTOR CORRECT (NOT OPEN OR SHORTED LINE TO GROUND)? Y N 1 004 BELOW IS Α POINT-TO-POINT CONNECTION LIST OF THE CIRCUIT. ISOLATE TO A FIELD REPLACEABLE 1 UNIT USING THE INFORMATION IN THE LIST. ł 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. í 1 POWER ON' SWITCH. PIN LOCATION \*\*\*\*\* FROM: SWITCH ON POWER ON' SWITCH OPERATOR PANEL N/O CONTACT (#4 POSITION) TO: CPU BOARD AA1-82-803 CPU BOARD AA1-A2-B04 POWER SE-MAPLE--B04 QUENCE CARD CONNECTOR

В

005 INSTALL THE POWER SEQUENCE CARD REMOVED. RETURN TO THE POWER PROBLEM ENTRY CHART, PLACE OF LAST EXIT, NEXT SEQUENTIAL COMMAND.

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03SEP76 PN2594613 EC828777 PEC-----

MAP 0312-2

SYSTEM 32

PAGE 1 OF 2

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER	I	ENTRY PCINT	PAGE NUMBER	STEP NUMBER
0300	1	Α	1	001

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001	
(ENTRY POINT A)	10
1	
1) CHECK GROUND C	IRCUIT CONTINUITY.
GROUND.	
	PIN LOCATION *****
FROM:	
SWITCH ON	COMMON ON SW
TO:	IS GROUND (#5 POSITION.
	CENTER)
TO:	
POWER SE-	SC-TP-B08
QUENCE CARD,	(MEASURE THIS
IEST PUINT	CARD INSTALLED)
LINE CORRECT (NOT Y N 1 1 002	OPEN)?
CONNECTION LIS	T OF THE GROUND
CIRCUIT. ISOL.	ATE TO A FIELD
I REPLACEABLE	UNIT USING
1) CHECK (	GROUND CIRCUIT
GROUND.	
	****
FROM:	
I SWITCH UN I OPERATOR PANEL	LUMMUN UN SW
	(#5 POSITION;
	CENTER)
1	
I (STEP 002 CONTIN	NUES)
COPYRI	GHT IBM CORP 1976
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CONSOLE POWER OFF. CONTROL LINE CHECKOUT FOR OPEN OR SHORTED SIGNAL LINES.

THIS MAP CONTAINS LISTS OF POINT TO POINT CONNECTIONS. SIGNAL LINE NAME IS GIVEN AT THE TOP OF EACH LIST. GROUND CIRCUIT LIST IS GIVEN FIRST FOR LATER PROBING REFERENCE.

IN GENERAL: 1) SET 'POWER ON' TO 'OFF' (OPERATOR PANEL). 2) SET MAIN LINE SWITCH TO 'OFF'. 3) REMOVE POWER SEQUENCE CARD FOR ALL MEASUREMENTS, EXCEPT WHERE OTHERWISE NOTED. THIS OPENS SIGNAL PATHS.

IF AN OPEN OR SHORT IS FOUND, ISOLATE TO A FIELD REPLACEABLE UNIT USING THE INFORMATION IN THE LIST.

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MAP 0313-1

POWER NAPS Α 1 SYSTEM 32 1 2 OF PAGE 2 I (STEP 002 CONTINUED) 1 CPU BOARD AA1-B2-D04 ł CPU BOARD AA1-B2-D08 MAPLE--MO8 POWER SE-I QUENCE CARD -P08, ł -M09, CONNECTOR L -P09. SC-TP-B08 | POWER SE-QUENCE CARD, (MEASURE THIS TEST POINT POINT WITH SEQ 1 CARD INSTALLED) 1 1 003 CHECK CONTINUITY AND FOR SHORT 1) TO GROUND. **\*POWER ON\* SWITCH.** PIN LOCATION \*\*\*\* FROM: SWITCH ON POWER ON' SWITCH N/C CONTACT OPERATOR PANEL (#6 POSITION) MAPLE--D03 TO: POWER SE-QUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? Y N 1 004 1 BELOW IS A POINT-TO-POINT CONNECTION LIST OF THE CIRCUIT. ISOLATE TO A FIELD REPLACEABLE UNIT USING INFORMATION IN THE BELOW 1 t ł ł LIST. 1 1 1) CHECK CONTINUITY AND FOR SHORT Ł ł TO GROUND. **POWER ON' SWITCH** 1 PIN LOCATION \*\*\*\* 1 FROM: 1 POWER ON\* SWITCH ON t SWITCH 1 OPERATOR PANEL N/C CONTACT 1 (#6 POSITION) T0: 1 CPU BOARD AA1-B2-D02 Ł CPU BOARD AA1-A2-B02 L POWER SE-QUENCE CARD MAPLE--D03 £ CONNECTOR 1 1

MAP 0313-2 INSTALL THE POWER SEQUENCE CARD REMOVED. RETURN TO THE POWER PROBLEM ENTRY CHART, PLACE OF LAST

EXIT, NEXT SEQUENTIAL COMMAND.

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MAP 0313-2

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SYSTEM 32

PAGE 1 OF 2

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0300	1	A	1	001

## 001

(ENTRY POINT A)		
		18
I) CHECK GROUND	CIRCUIT	CONTINUITY.
CONTROL GROUND.		
	PINLUC	ATION
	*****	***
FROM:		
AC POWER	ACP-J2-	-5
BOARD		
то:		

DUAL LEVEL DUAL J4-3 FILTER ASM I

LINE CORRECT (NOT OPEN)? Y N | | 002 | IF ERROR WAS ISOLATED TO A CABLE, | REPAIR OR REPLACE. IF OTHER, | REPLACE AS REQUIRED. START/STOP DUAL LEVEL FILTER ASM. CONTROL LINE CHECKOUT FOR OPEN OR SHORTED SIGNAL LINES.

THIS MAP CONTAINS LISTS OF POINT TO POINT CONNECTIONS. SIGNAL LINE NAME IS GIVEN AT THE TOP OF EACH LIST. GROUND CIRCUIT LIST IS GIVEN FIRST FOR LATER PROBING REFERENCE.

IN GENERAL: 1) SET 'POWER ON' TO 'OFF' (OPERATOR PANEL) 2) SET MAIN LINE SWITCH TO 'OFF'. 3) REMOVE POWER SEQUENCE CARD FOR ALL MEASUREMENTS, EXCEPT WHEN OTHERWISE NOTED. THIS OPENS SIGNAL PATHS.

IF AN OPEN OR SHORT IS FOUND, ISCLATE TO A FIELD REPLACEABLE UNIT USING THE INFORMATION IN THE LIST. IF NO PROBLEM FOUND, CONTINUE TO NEXT LIST.

MLM SEC. 8

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MAP C315-1

2 A

POWER MAPS 1 SYSTEM 32 1 PAGE 2 OF 2 1 003 CHECK CONTINUITY AND FOR SHORT 13 TO GROUND. UNPLUG DUAL J4 CABLE FROM SUPPLY WHEN CHECKING FOR SHORT TO GROUND. +PICK K1 DUAL. PIN LOCATION \*\*\*\*\* FROM: POWER MAPLE--S03 SEQUENCE CARD CONNECTOR TO: DUAL LEVEL DUAL J4-1 J4 CONNECTOR CABLE LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? Y N 004 I IF ERROR WAS ISOLATED TO A CABLE, REPAIR OR REPLACE. REPLACE AS REQUIRED. IF OTHER, 005 1) CONNECT CABLE UNPLUGGED IN PREVIOUS STEP. 2) SET MAIN LINE SWITCH TO 'ON'. MEASURE POINTS LISTED BELOW. USE GROUND LIST PREVIOUSLY GIVEN IN STEP 1 FOR GROUND REFERENCE. DANGER: LINE VOLTAGE IS PRESENT ON THE AC BOARD. 1 +24 VDC CONTROL SUP (21.6 TO 26.4). PIN LOCATION \*\*\* FROM: AC POWER ACP-J1-B13, BOARD D13 TO: GROUND ALSO FROM: POWER SE-MAPLE--M13, QUENCE CARD P13 CONNECTOR ALSO FROM: AC POWER ACP-12-6 BOARD ALSO FROM: (STEP 005 CONTINUES)

Δ

(STEP 005 CONTINUED) DUAL LEVEL DUAL J4-5 CONTROL +24V CORRECT? Y N ł 1.006 I IF ERROR WAS ISOLATED TO A CABLE. REPAIR OR REPLACE. IF OTHER, | REPLACE AS REQUIRED. t 007 SET MAIN LINE SWITCH TG 'OFF'.
 INSTALL POWER SEQUENCE CARD.
 SET MAIN LINE SWITCH TO 'ON'. RETURN TO THE POWER PROBLEM ENTRY CHART, PLACE OF LAST EXIT, NEXT SEQUENTIAL COMMAND.

### 03SEP76 PN2594615 EC828777 PEC-----

MAP 0315-2

MAP 0316-1 -

POWER MAPS

SYSTEM 32

PAGE 1 DF 12

ENTRY POINTS

FROM	I	ENTER	THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0300	1	Α	1	001

001

(ENTRY POINT A)

L

18

SENSE LINE CHECKOUT FOR OPEN OR SHORTED SIGNAL LINES.

THIS MAP CONTAINS LISTS OF POINT TO POINT CONNECTIONS. SIGNAL NAME IS GIVEN AT THE TOP OF SIGNAL LINE EACH LIST. GROUND CIRCUIT IS GIVEN AS FRAME GROUND FOR ALL PROBING **REFERENCE**.

IN GENERAL: 1) SET 'POWER ON! TO OFF! (OPERATORS PANEL). 2) SET MAIN LINE SWITCH TO 'OFF'. 3) REMOVE POWER SEQUENCE CARD FOR ALL MEASUREMENTS, EXCEPT WHERE OTHERWISE NOTED. THIS OPENS SIGNAL PATHS. LEAVE ALL J CONNECTORS CONNECTED

UNLESS DIRECTED OTHERWISE.

NOTE: WHEN CHECKING THE OVER CURRENT SENSE LINE CABLES FOR SHORT TO GROUND, THE CABLE SHOULD BE DISCONNECTED FROM THE POWER SUPPLY.

IF AN OPEN OR SHORT IS FOUND, ISOLATE TO A FIELD REPLACEABLE UNIT USING THE INFORMATION IN THE INDEX.

IF NO PROBLEM FOUND, CONTINUE TO NEXT ITEM IN THE INDEX UNLESS INSTRUCTIONS WERE GIVEN IN THE CALLING MAP TO CHECK ONLY LINES FOR VOLTAGES ENCODED IN THE FAULT REGISTER. IN THIS CASE, CONTINUE AT STEP 004.

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WERE CHECK	YOU	PREVIOUSLY	DIRECTED TO
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EC828777 PEC----

MAP 0316-1

SYSTEM 32

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PAGE 2 OF 12

002 AT THIS POINT YOU MAY USE THE INDEX LISTED BELOW TO CHECK OUT SENSE LINES SUSPECTED AS BEING PERTINENT TO THE PROBLEM. POWER ON' TO '0FF' SET 1) (OPERATORS PANEL). 2) REMOVE THE POWER SEQUENCE CARD. 3) USE THE INDEX BELOW TO CHECK SENSE LINE CONTINUITY AND FOR SHORT TO GROUND FOR A PARTICULAR VOLTAGE LEVEL. (AS INDICATED BY POWER FAULT . INDICATORS) -4 V O/V AND U/V SENSE LINE GO TO PAGE 3. STEP 004, ENTRY POINT B. -4 V O/C SENSE LINE GO TO PAGE 3, STEP 008, ENTRY POINT C. -5 V O/V AND U/V SENSE LINE GO TO PAGE 4, STEP 010, ENTRY POINT D. -5 V D/C SENSE LINE GO TO PAGE 4, STEP 014, ENTRY POINT E. +5 V 0/V AND U/V SENSE LINE GG TO PAGE 5, STEP 016, ENTRY POINT F. +5 V D/C SENSE LINE GO TO PAGE 5, STEP 020, ENTRY POINT G. +6 V D/V AND U/V SENSE LINE GO TO PAGE 6, STEP 022, ENTRY POINT H. +6 V D/C SENSE LINE GO TO PAGE 6, STEP 026, ENTRY POINT J. +8.5 V O/V AND U/V SENSE LINE GD TO PAGE 7, STEP 028,

ENTRY POINT K.

+8.5 V O/C SENSE LINE (STEP 002 CONTINUES)

(STEP 002 CONTINUED) GO TO PAGE 7, STEP 032, ENTRY POINT L. -12 V O/V AND U/V SENSE LINE GO TO PAGE 8, STEP 034, ENTRY POINT M. -12 V D/C SENSE LINE GO TO PAGE 8, STEP 038, ENTRY POINT N. +12 V D/V AND U/V SENSE LINE GO TO PAGE 9, STEP 040, ENTRY POINT P. +12 V D/C SENSE LINE GO TO PAGE 9, STEP 044, ENTRY POINT Q. -24 V O/V AND U/V SENSE LINE GO TO PAGE 10, STEP 046, ENTRY POINT R. -24 V O/C SENSE LINE GO TO PAGE 10, STEP 050, ENTRY POINT S. +24 V O/V AND U/V SENSE LINE GO TO PAGE 11, STEP 052, ENTRY POINT T. +24 V D/C SENSE LINE GB TO PAGE 12, STEP 056, ENTRY POINT V. - 1 4) INSTALL THE POWER SEQUENCE CARD. 5) INSTALL ALL CABLES REMOVED IN THIS MAP.,

THIS MAP., 6) RETURN TO THE POWER PROBLEM ENTRY CHART, PLACE OF LAST EXIT, NEXT SEQUENTIAL COMMAND.

03SEP76 PN2594616

EC828777 PEC-----

MAP 0316-2

POWER MAPS Δ 1 SYSTEM 32 I PAGE 3 OF 12 ł L 003 CHECK CONTINUITY AND FOR SHORT 1) TO GROUND. 1 -4V SENSE LINE. PIN LOCATION \*\*\*\* FROM: MULTI LEVEL MULTI-J2-6 FILTER ASM J2 CONNECTOR TO: POWER MAPLE--U07 SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND12 Y N 1 004 1 1) USE FEALDS YA014 & YA160 TO HELP ISOLATE PROBLEM. 2) ISOLATE TO A FIELD REPLACEABLE UNIT AND REPLACE. (ENTRY POINT B) 1 1) CHECK CONTINUITY AND FOR SHORT 1 то USE SIGNAL POINTS GROUND. I I. LISTED BELOW: 1 1 -4V SENSE LINE. ł PIN LOCATION ł \*\*\*\* ţ EROM: L 1 MULTI LEVEL MULTI-J2-6 FILTER ASM 1 J2 CONNECTOR TO: Ł POWER MAPLE---U07 ł SEQUENCE CARD Ł CONNECTOR 1 LINE CORRECT (NOT OPEN OR SHORTED L TO GROUND1? 1 Y N 1 L i 005 1 USE FEALDS YA014 & YA160 TO 1 1) HELP ISOLATE PROBLEM. 2) IF PROBLEM WAS ISOLATED, I THE FAILING FIELD REPLACE 1 REPLACEABLE UNIT. OTHERWISE, IF USING THE INDEX TO CHECK OUT I ŧ 1 SENSE LINES. Ł 1 t 1 L 1 C D

C D MAP 0316-3 İ 1 ł 1 1 I L 1 006 Ł RETURN TO THE INDEX, PAGE 0316-2. Ŧ 007 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. -O/C SENSE LINE -4V. PIN LOCATION \*\*\*\*\* FROM: MULTI LEVEL MULTI-J2-8 FILTER ASM J2 CONNECTOR REMOVED TO: POWER MAPLE--S07 SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? Y N 1 008 1 1) ISOLATE TO A FIELD REPLACEABLE 1 UNIT AND REPLACE (USE YA014 TO HELP ISOLATE PROBLEM). 1 (ENTRY POINT C) L ł 1) CHECK CONTINUITY AND FOR SHORT USE SIGNAL POINTS TO GROUND. LISTED BELOW: 1 t -O/C SENSE LINE -4V. 1 PIN LOCATION 1 ł \*\*\*\*\* FROM: | MULTI LEVEL MULTI-12-8 FILTER ASM 1 J2 CONNECTOR REMOVED L TO: POWER MAPLE--S07 E SEQUENCE CARD CONNECTOR Ł 2) USE YA014 TO HELP ISOLATE PROBLEM. L 3) IF PROBLEM REPLACE THE 1 WAS ISOLATED, FAILING USING THE INDEX TO CHECK OUT 1 THE FIELD I FOUND. | RETURN TO THE INDEX, PAGE 0316-2. 03SEP76 PN2594616 ł EC828777 PEC-----4 MAP 0316-3 Ε

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Е POWER MAPS 3 SYSTEM 32 ł PAGE 4 DF 1 12 1 009 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. -5V SENSE LINE. PIN LOCATION \*\*\*\*\*\*\* FROM: MULTI LEVEL MUH TI-.12-1 FILTER ASM J2 CONNECTOR TO: POWER MAPLE--U04 SEQUENCE CARD CONNECTOR I LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? Y N ł L 010 1) USE FEALDS YA014 & YA160 TO L HELP ISOLATE PROBLEM. I 2) ISOLATE TO A FIELD REPLACEABLE I UNIT AND REPLACE. (ENTRY POINT D) ۱ GROUND. USE SIGNAL POINTS 1 ١ 1 ł -5V SENSE LINE. ŧ PIN LOCATION ł ۱ \*\*\*\* t FROM: MULTI LEVEL MULTI-J2-1 L FILTER ASM 1 J2 CONNECTOR ł TO: ۱ POWER MAPLE---U04 SEQUENCE CARD Ł I CONNECTOR 1 LINE CORRECT (NOT OPEN OR SHORTED 1 TO GROUND)? ł 1 Y N ł 1 011 USE FEALDS YA014 & YA160 TO 1) | HELP ISOLATE PROBLEM. | 2) IF PROBLEM WAS ISOLATED, | REPLACE THE FAILING FIELD ł REPLACEABLE UNIT. OTHERWISE, í 1 I IF USING THE INDEX TO CHECK OUT SENSE LINES. ł 1 1

FG

FG MAP 0316-4 ł L L 1 1 1 1 1 1 012 I | RETURN TO THE INDEX, PAGE C316-2. 013 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. -O/C SENSE LINE -5V. PIN LOCATION \*\*\*\* FROM: MULTI LEVEL MULTI-J2-3 FILTER ASM J2 CONNECTOR REMOVED TO: POWER MAPLE--S04 SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? Y N 1 014 1) ISOLATE TO A FIELD REPLACEABLE L UNIT AND REPLACE (USE YA014 то HELP ISOLATE PROBLEM). 1 (ENTRY POINT E) ł I 1) CHECK CONTINUITY AND FOR SHORT 1 USE SIGNAL POINTS TO GROUND. I. LISTED BELOW: 1 - E -O/C SENSE LINE -5V. 1 PIN LOCATION \*\*\*\*\* t FROM: MULTI LEVEL MULTI-J2-3 FILTER ASM L **J2 CONNECTOR** τη: POWER MAPLE--S04 I. SEQUENCE CARD CONNECTOR 2) USE YA014 TO HELP ISOLATE PROBLEM. Ł 3) IF PROBLEM REPLACE THE WAS ISGLATED, FAILING FIELD ł REPLACEABLE UNIT. OTHERWISE, IF USING THE INDEX TO CHECK OUT SENSE LINES AND NO PROBLEM WAS ŧ 1 FOUND, RETURN TO THE INDEX, PAGE 0316-2. 03SEP76 PN2594616 I. EC828777 PEC-----5 MAP 0316-4 н

н POWER MAPS 4 SYSTEM 32 1 5 OF PAGE 12 ł 015 CHECK CONTINUITY AND FOR SHORT 1) TO GROUND. +5V SENSE LINE. PIN LOCATION \*\*\*\* FROM: MULTI LEVEL MULTI-J3-4 FILTER ASM **J3 CONNECTOR** TO: POWER MAPLE---U11 SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? Y N 016 1 1) USE FEALDS YA014 & YA160 TO L HELP ISOLATE PROBLEM. 2) ISOLATE TO A FIELD REPLACEABLE UNIT AND REPLACE. ł (ENTRY POINT E) 1 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. USE SIGNAL POINTS 1 LISTED BELOW: 1 1 +5V SENSE LINE. PIN LOCATION \*\*\*\* FR OM: MULTI LEVEL MULTI-J3-4 1 FILTER ASM 1 **J3 CONNECTOR** 1 TO: POWER MAPLE--U11 L SEQUENCE CARD ł CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED 1 TO GROUND)? l Y N 1 ł ł 017 1 Ł 1) USE FEALDS YA014 & YA160 TO 1 HELP ISOLATE PROBLEM. 1 2) IF PROBLEM WAS ISOLATED, REPLACE THE FAILING FIELD E I REPLACEABLE UNIT. OTHERWISE, I IF USING THE INDEX TO CHECK OUT t SENSE LINES. 1 Į 1 I I. 1 JK

JΚ MAP 0316-5 Ł ŧ ŧ 1 1 1 1 ł 1 018 RETURN TO THE INDEX, PAGE 0316-2. ł 019 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. +0/C SENSE LINE +5V. PIN LOCATION \*\*\*\*\*\* FROM: MULTI LEVEL MULTI-J3-1 FILTER ASM **J3 CONNECTOR REMOVED** TO: POWER MAPLE--S11 SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? Y N 020 1) ISOLATE TO A FIELD REPLACEABLE UNIT AND REPLACE (USE YA014 TO ł HELP ISOLATE PROBLEM). (ENTRY POINT G) 1 I 1) CHECK CONTINUITY AND FOR SHORT I. GROUND. USE SIGNAL POINTS ł тΩ LISTED BELOW: ł L 1 1 +O/C SENSE LINE +5V. PIN LOCATION \*\*\*\*\* ł FROM: ł MULTI LEVEL MULTI-J3-1 1 FILTER ASM 1 **J3 CONNECTOR REMOVED** 1 **TO:** POWER MAPLE--S11 SEQUENCE CARD CONNECTOR t 2) USE YA014 TO HELP ISOLATE ł PROBLEM. 1 3) IF PROBLEM ISOLATED, ł WAS REPLACE THE FAILING t FIELD REPLACEABLE UNIT. OTHERWISE, IF USING THE INDEX TO CHECK OUT SENSE LINES AND NO PROBLEM WAS L I 1 FOUND. RETURN TO THE INDEX, PAGE 0316-2. 03SEP76 PN2594616 ł EC828777 PEC-----6

MAP 0316-5

L

POWER MAPS L 5 SYSTEM 32 1 PAGE 6 OF 12 1 I 021 CHECK CONTINUITY AND FOR SHORT 1) TO GROUND. +6V SENSE LINE. PIN LOCATION \*\*\*\* FROM: MULTI LEVEL MULTI-J2-4 FILTER ASM J2 CONNECTOR TO: POWER MAPLE--U10 SEQUENCE CARD CONNECTOR ł LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? Y N t 022 1 1) USE FEALDS YA014 & YA160 TO HELP ISOLATE PROBLEM. 2) ISOLATE TO A FIELD REPLACEABLE E UNIT AND REPLACE. (ENTRY POINT H) 1) CHECK CONTINUITY AND FOR SHORT 1 TO GROUND. USE SIGNAL POINTS 1 LISTED BELOW: 1 1 +6V SENSE LINE. L PIN LOCATION 1 \*\*\*\* 1 I FROM: MULTI LEVEL MULTI-J2-4 1 I. FILTER ASM J2 CONNECTOR 1 TO: 1 1 POWER MAPLE--U10 SEQUENCE CARD CONNECTOR ł 1 LINE CORRECT (NOT OPEN OR SHORTED ł TO GROUND)? 1 1 YN ł 023 I 1 1) USE FEALDS YA014 & YA160 TO 1 1 | HELP ISOLATE PROBLEM. | 2) IF PROBLEM WAS ISOLATED, | REPLACE THE FAILING FIELD REPLACEABLE UNIT. OTHERWISE, 1 IF USING THE INDEX TO CHECK OUT L SENSE LINES. 1 ł 1 1 1 MN

MN MAP 0316-6 ---L 1 1 1 1 1 1 024 | RETURN TO THE INDEX, PAGE 0316-2. 025 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. +O/C SENSE LINE +6V. PIN LOCATION \*\*\*\* FROM: MULTI LEVEL MULTI-J2-5 FILTER ASM J2 CONNECTOR REMOVED TO: POWER MAPLE--S10 SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? Y N 026 1 1) ISOLATE TO A FIELD REPLACEABLE I UNIT AND REPLACE (USE YA014 TO HELP ISOLATE PROBLEM). -----(ENTRY POINT J) 1 ł 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. USE SIGNAL POINTS 1 LISTED BELOW: 1 +O/C SENSE LINE +6V. 1. PIN LOCATION \*\*\*\*\* 1 L FROM: MULTI LEVEL MULTI-J2-5 | FILTER ASM J2 CONNECTOR REMOVED Ł TO: POWER MAPLE--S10 Ł SEQUENCE CARD ı CONNECTOR ł 2) USE FEALDS YA014 & 1 YA160 TO HELP ISOLATE PROBLEM. 3) IF PROBLEM WAS ſ ISULATED, REPLACE FAILING FIELD Ł THE REPLACEABLE UNIT. OTHERWISE, IF USING THE INDEX TO CHECK OUT SENSE LINES AND NO PROBLEM WAS ł 1 L FOUND, | RETURN TO THE INDEX, PAGE 0316-2. 03SEP76 PN2594616 I EC828777 PEC----7 P MAP 0316-6

Ρ POWER MAPS 6 SYSTEM 32 ł PAGE 7 CF 12 027 CHECK CONTINUITY AND FOR SHORT 1) TO GROUND. +8.5V SENSE LINE. PIN LOCATION \*\*\*\*\* FROM: MULTI LEVEL MULTI-J3-5 FILTER ASM **J3 CONNECTOR** TO: POWER MAPLE---U09 SEQUENCE 'CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? Y N 1 028 USE FEALDS YA014 & YA160 TO Ł 1) HELP ISOLATE PROBLEM. 2) ISOLATE TO A FIELD REPLACEABLE Ł UNIT AND REPLACE. (ENTRY POINT K) L 1) CHECK CONTINUITY AND FOR SHORT USE SIGNAL POINTS GROUND. то LISTED BELOW: 1 ł +8.5V SENSE LINE. 1 PIN LOCATION \*\*\*\*\* ł FROM: I MULTI LEVEL MULTI-J3-5 FILTER ASM **J3 CONNECTOR** TO: 1 MAPLE--U09 POWER SEQUENCE CARD CONNECTOR ł ł LINE CORRECT (NOT OPEN OR SHORTED 1 TO GROUND)? 1 I Y N 1 ł 1 029 1) USE FEALDS YA014 & YA160 TO HELP ISOLATE PROBLEM. 1 ł 2) IF PROBLEM WAS ISOLATED, REPLACE THE FAILING FIELD L FIELD REPLACEABLE UNIT. OTHERWISE, 1 1 IF USING THE INDEX TO CHECK OUT Ł SENSE LINES. 1 1

Q R

MAP 0316-7 \*\*\* Q R 1 ŧ 1 1 ŧ 1 030 RETURN TO THE INDEX, PAGE 0316-2. ŧ 031 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. +O/C SENSE LINE +8.5V. PIN LOCATION \*\*\*\* FROM: MULTI LEVEL MULTI-J3-6 FILTER ASM **J3 CONNECTOR REMOVED** TO: POWER MAPLE--S09 SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? Y N 032 1) ISOLATE TO A FIELD REPLACEABLE UNIT AND REPLACE (USE YA014 TO HELP ISOLATE PROBLEM). (ENTRY POINT L) ł 1) CHECK CONTINUITY AND FOR SHORT ł TO GROUND. USE SIGNAL POINTS ł LISTED BELOW: 1 ł +O/C SENSE LINE +8.5V. ł PIN LOCATION \*\*\*\*\*\* FROM: ł MULTI LEVEL f MULTI-J3-6 FILTER ASM **J3 CONNECTOR REMOVED** TO: POWER MAPLE--S09 SEQUENCE CARD 1 CONNECTOR L 1 1 2) USE YAO14 TO HELP ISOLATE PROBLEM. 3) IF PROBLEM REPLACE THE L WAS ISCLATED, FAILING FIELD REPLACEABLE UNIT. OTHERWISE, IF USING THE INDEX TO CHECK DUT L USING THE INDEX SENSE LINES AND ł PROBLEM NO WAS 1 FOUND. Ł | RETURN TO THE INDEX, PAGE 0316-2. 03SEP76 PN2594616 EC828777 PEC----8 MAP 0316-7 S

S POWER MAPS 7 SYSTEM 32 I PAGE 8 OF 12 I ţ 1 033 CHECK CONTINUITY AND FOR SHORT 1) TO GROUND. -12V SENSE LINE. PIN LOCATION \*\*\*\*\* FROM: MULTI LEVEL MULTI-J3-8 FILTER ASM **J3 CONNECTOR** TO: POWER MAPLE---U05 SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN SHORTED OR TO GROUND)? Y N ł 034 1 L 1) USE FEALDS YA014 & YA162 TO HELP ISOLATE PROBLEM. Ł 2) ISOLATE TO A FIELD REPLACEABLE ł UNIT AND REPLACE. ł (ENTRY POINT M) I 1 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. USE SIGNAL POINTS 1 1 I LISTED BELOW: ł -12V SENSE LINE. 1 PIN LOCATION \*\*\*\* 1 FROM: 1 MULTI LEVEL MULTI-J3-8 L FILTER ASM 1 **J3 CONNECTOR** TO: POWER MAPLE--U05 Ł SEQUENCE CARD 1 CONNECTOR 1 1 LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? 1 Y N 1 ۱ 1 035 1 1 1) USE FEALDS YA014 & YA162 TO 1 HELP ISOLATE PROBLEM. ł 2) IF PROBLEM WAS ISOLATED, REPLACE THE FAILING FIELD 1 THE FAILING FIELD 1 REPLACEABLE UNIT. 1 OTHERWISE, IF USING THE INDEX TO CHECK OUT t SENSE LINES. t 1 τυ

τυ MAP 0316-8 1 L 1 1 Ł 1 1 1 036 L RETURN TO THE INDEX, PAGE 0316-2. 1 037 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. -O/C SENSE LINE -12V. PIN LOCATION \*\*\*\*\* ERDM: MULTI LEVEL MULTI-J3-7 FILTER ASM **J3 CONNECTOR REMOVED** το: POWER MAPLE--S05 SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? YN 1 038 L 1) ISOLATE TO A FIELD REPLACEABLE UNIT AND REPLACE (USE YA014 TO HELP ISOLATE PROBLEM). (ENTRY POINT N) t 1 1) CHECK CONTINUITY AND FOR SHORT 1 TO GROUND. USE SIGNAL POINTS ł LISTED BELOW: F. 1 1 -O/C SENSE LINE -12V. 1 PIN LOCATION L \*\*\*\*\* FROM: I. MULTI LEVEL 1 MULTI-J3-7 | FILTER ASM J3 CONNECTOR REMOVED -1 TO: POWER L MAPLE--S05 SEQUENCE CARD 1 CONNECTOR 1 1 USE YA014 TO HELP 21 ISOLATE PROBLEM. L 3) IF PROBLEM REPLACE THE WAS ISOLATED, 1 L THE FAILING FIELD REPLACEABLE UNIT. OTHERWISE, IF Ł USING THE INDEX TO CHECK SENSE LINES AND NO PROBLEM TO CHECK 1 OUT WAS FOUND, L RETURN TO THE INDEX, PAGE 0316-2. 1 03SEP76 PN2594616 ł EC828777 PEC---q v

MAP 0316-8

POWER MAPS ٧ 8 SYSTEM 32 1 PAGE 9 OF 12 ł 1 I 039 CHECK CONTINUITY AND FOR SHORT 1) TO GROUND. +12V SENSE LINE. PIN LOCATION \*\*\*\*\* FROM: MULTI LEVEL MULTI-J3-11 FILTER ASM **J3 CONNECTOR** TO: MAPLE--U12 POWER SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? Y N ł 040 USE FEALDS YA014 & YA162 TO 1 1) HELP ISOLATE PROBLEM. 2) ISOLATE TO A FIELD REPLACEABLE Ł UNIT AND REPLACE. (ENTRY POINT P) 1) CHECK CONTINUITY AND FOR SHORT 1 TO GROUND. USE SIGNAL POINTS Ł LISTED BELOW: 1 ł +12V SENSE LINE. 1 PIN LOCATION 1 \*\*\*\* FROM: Ł MULTI LEVEL MULTI-J3-11 I. FILTER ASM **J3 CONNECTOR** E TO: 1 POWER MAPLE--U12 1 SEQUENCE CARD CONNECTOR 1 LINE CORRECT (NOT OPEN OR SHORTED 1 I. TO GROUND)? Y N L L 041 1 USE FEALDS YA014 & YA162 TO 1 1) 1 | HELP ISOLATE PROBLEM. | 2) IF PROBLEM WAS ISOLATED, | REPLACE THE FAILING FIELD £ FAILING FIELD L REPLACEABLE UNIT. OTHERWISE, ł IF USING THE INDEX TO CHECK OUT Ł 1 SENSE LINES. 1 ŧ 1 1 1 Ł L 1 W X

MAP 0316-9 -W X 1 ł 1 Ł 1 1 1 1 1 Ł 042 | RETURN TO THE INDEX, PAGE 0316-2. 043 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. +0/C SENSE LINE +12V. PIN LOCATION \*\*\*\* FROM: MULTI LEVEL MULTI-J3-12 FILTER ASM **J3 CONNECTOR REMOVED** TO: MAPLE--S12 POWER SEQUENCE CARD CONNECTOR CORRECT (NOT OPEN OR SHORTED LINE TO GROUND1? Y N | 044 1) ISOLATE TO A FIELD REPLACEABLE UNIT AND REPLACE (USE YAC14 TO HELP ISOLATE PROBLEM). (ENTRY POINT Q) 1) CHECK CONTINUITY AND FOR SHORT TO GROUND. USE SIGNAL POINTS 1 LISTED BELOW: Ł +D/C SENSE LINE +12V. PIN LOCATION \*\*\*\* FROM: I MULTI LEVEL MULTI-J3-12 L FILTER ASM **J3 CUNNECTOR REMOVED** TO: POWER MAPLE--S12 1 SEQUENCE CARD CONNECTOR ŧ ł 2) USE YA014 TO HELP ISOLATE ł PROBLEM. 3) IF PROBLEM REPLACE THE WAS ISOLATED, FAILING FIELD 1 | REPLACEABLE UNIT. OTHERWISE, IF | USING THE INDEX TO CHECK OUT | SENSE LINES AND NO PROBLEM WAS | FOUND, | RETURN TO THE INDEX, PAGE 0316-2. 1 03SEP76 PN2594616 ۱ 1 EC828777 PEC----0 MAP 0316-9 Y

Ý POWER MAPS 9 SYSTEM 32 I PAGE 10 OF 12 1 ł 045 CHECK CONTINUITY AND FOR SHORT 1) TO GROUND. -24V SENSE LINE. PIN LOCATION \*\*\*\*\* FROM: DUAL FILTER ASM DUAL J5-7 J5 CONNECTOR TO: POWER MAPLE---U06 SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND1? Y N I 046 1) USE FEALDS YA014 & YA162 TO L HELP ISOLATE PROBLEM. 2) ISOLATE TO A FIELD REPLACEABLE UNIT AND REPLACE. (ENTRY POINT R) 1) CHECK CONTINUITY AND FOR SHORT L TO GROUND. USE SIGNAL POINTS ł LISTED BELOW: ł -24V SENSE LINE. PIN LOCATION \*\*\*\* FROM: DUAL FILTER ASM DUAL J5-7 J5 CONNECTOR TO: POWER MAPLE--U06 SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED I TO GROUND)? ŧ Y N 1 1 1 047 1) USE FEALDS YA014 & YA162 TO 1 HELP ISOLATE PROBLEM. 2) IF PROBLEM WAS ISOLATED, REPLACE THE FAILING FIELD ۱ 1 I. REPLACEABLE UNIT. OTHERWISE, IF USING THE INDEX TO CHECK OUT OTHERWISE, 1 ł SENSE LINES AND NO PROBLEM WAS 1 FOUND 1 RETURN TO INDEX, PAGE 316-2. 1 I. I Δ 7 Δ

ΖA MAP 0316-10 --A 1 ł 1 ۱ 1 í 1 048 I | RETURN TO THE INDEX, PAGE C316-2. 049 1) CHECK COMMON GROUND CIRCUIT FOR OPEN. O/C GROUND REFERENCE. PIN LOCATION \*\*\*\* FROM: DUAL FILTER ASM DUAL J5-4 J5 CONNECTOR TO: POWER MAPLE--SO8 SEQUENCE CARD CONNECTOR 1 2) CHECK CONTINUITY AND FOR SHORT TO GROUND. i -D/C SENSE LINE -24V. PIN LOCATION \*\*\*\*\* FROM: DUAL FILTER ASM DUAL J5-8 J5 CONNECTOR REMOVED TO: POWER MAPLE--S06 SEQUENCE CARD CONNECTOR LINE CORRECT (NOT OPEN OR SHORTED TO GROUND)? YN I 050 1 1) ISOLATE TO A FIELD REPLACEABLE Ł UNIT AND REPLACE (USE YA014 TO HELP ISOLATE PROBLEM). (ENTRY POINT S) (STEP 050 CONTINUES) I 03SEP76 PN2594616 1 1 EC828777 PEC-----Å R MAP 0316-10

A POWER MAPS В SYSTEM 32 1 0 PAGE 11 OF 12 (STEP 050 CONTINUED) 1 1) CHECK CONTINUITY. USE SIGNAL POINTS LISTED BELOW: O/C GROUND REFERENCE. PIN LOCATION \*\*\*\* FR OM: DUAL FILTER ASM DUAL J5-4 ł J5 CONNECTOR TO: POWER MAPLE--S08 SEQUENCE CARD CONNECTOR 2) CHECK CONTINUITY AND FOR SHORT TO GROUND. L 1 -O/C SENSE LINE -24V. ۱ PIN LOCATION \*\*\*\*\* ۱ FROM: 1 DUAL FILTER ASM DUAL J5-8 J5 CONNECTOR REMOVED 1 1 TO: I POWER MAPLE--S06 SEQUENCE CARD L CONNECTOR USE YA014 TO HELP ISOLATE 31 1 PROBLEM. 41 IF PROBLEM WAS ISOLATED, 1 FAILING REPLACE THE FIELD REPLACEABLE UNIT. OTHERWISE, IF USING THE INDEX TO CHECK OUT ł THE INDEX TO CHECK OUT LINES AND NO PROBLEM WAS SENSE FOUND. RETURN TO THE INDEX, PAGE 0316-2. 1 051 1) CHECK COMMON GROUND CIRCUIT FOR OPEN. +24V SENSE LINE. PIN LOCATION \*\*\*\*\* FROM: DUAL FILTER ASM DUAL J5-6 J5 CONNECTOR TO: MAPLE--U13 POWER SEQUENCE CARD CONNECTOR (STEP 051 CONTINUES)

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(STEP 051 CONTINUED)
LINE CORRECT (NOT OPEN OR SHORTED
TO GROUND)?
Y N
052
1) USE FEALDS YA014 & YA162
                                 то
HELP ISOLATE PROBLEM.
 2) ISOLATE TO A FIELD REPLACEABLE
 UNIT AND REPLACE.
 (ENTRY POINT T)
 1) CHECK CONTINUITY AND FOR SHORT
t.
 TO GROUND.
 USE SIGNAL POINTS LISTED BELOW:
Ł
 1
 +24V SENSE LINE.
                   PIN LOCATION
                   ******
 FROM:
L
 DUAL FILTER ASM
                   DUAL J5-6
1
 J5 CONNECTOR
 TO:
                   POWER
1
 SEQUENCE CARD
1
 CONNECTOR
 LINE CORRECT (NOT OPEN OR SHORTED
 TO GROUND)?
t
 Y N
1
  I
L
  053
  1) USE FEALDS YA014 & YA162 TO
 HELP ISOLATE PROBLEM.
 2) IF PROBLEM WAS
REPLACE THE FAILT
                         ISOLATED,
1
            THE
                   FAILING FIELD
  | REPLACEABLE UNIT.
 054
 RETURN TO THE INDEX, PAGE 0316-2.
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MAP 0316-11

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MAP 0316-11

POWER MAPS MAP 0316-12 A Δ С D SYSTEM 32 1 1 1 PAGE 12 OF 12 1 1 (STEP 056 CONTINUED) 1) CHECK CONTINUITY. 1 ł 055 1 1) CHECK COMMON GROUND CIRCUIT FOR USE SIGNAL POINTS LISTED BELOW: 1 OPEN-I 1 CONTROL GROUND. CONTROL GROUND. PIN LOCATION ł PIN LOCATION \*\*\*\*\* \*\*\*\*\* FROM: I FROM: L DUAL LEVEL DUAL J5-4 DUAL FILTER ASM DUAL J5-4 | FILTER ASM J5 CONNECTOR **J5 CONNECTOR** ł TO: TO: í MAPLE--SO8 POWER POWER ł MAPLE--SO8 SEQUENCE CARD SEQUENCE CARD ŧ CONNECTOR CONNECTOR 2) CHECK CONTINUITY AND FOR SHORT 2) CHECK CONTINUITY AND FOR SHORT I TO GROUND. TO GROUND. ł. 1 +O/C SENSE LINE +24V. +D/C SENSE LINE +24V. I PIN LOCATION PIN LOCATION \*\*\*\*\* \*\*\*\*\* ł FROM: FROM: DUAL LEVEL DUAL J5-5 L DUAL LEVEL DUAL J5-5 FILTER ASM FILTER ASM L J5 CONNECTOR REMOVED **J5 CONNECTOR REMOVED** TO: TO: t POWER MAPLE--S13 1 POWER MAPLE--S13 SEQUENCE CARD SEQUENCE CARD I CONNECTOR CONNECTOR 1 LINE CORRECT (NOT OPEN OR SHORTED 3) USE YA014 TO HELP ISOLATE 1 TO GROUND)? PROBLEM. YN 4) IF PROBLEM WAS ISOLATED, REPLACE THE. FAILING ۱ FIELD REPLACEABLE UNIT. OTHERWISE, IF USING THE INDEX TO CHECK OUT SENSE LINES AND NO PROBLEM WAS 056 L 1) ISOLATE TO A FIELD REPLACEABLE UNIT AND REPLACE (USE YA014 10 HELP ISOLATE PROBLEM). | FOUND, | RETURN TO THE INDEX, PAGE 0316-3. (ENTRY POINT V) ł 057 (STEP 056 CONTINUES) INSTALL THE POWER SEQUENCE CARD. RETURN TO THE POWER PROBLEM ENTRY CHART, PLACE OF LAST EXIT, NEXT SEQUENTIAL COMMAND.

> 03SEP76 PN2594616 EC828777 PEC-----

> > MAP 0316-12

A D SYSTEM 32

PAGE 1 OF 9

ENTRY POINTS FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER C300 | A 1 001 0300 | B 2 003

001

------(ENTRY POINT A) 21 ------4 1) SET MAIN LINE SWITCH TO "OFF". 2) INSTALL POWER SEQ CARD (IF PREVIOUSLY REMOVED). 3) SET MAIN LINE SWITCH 'ON'. 1 MEASURE VOLTAGES AT THE FOLLOWING PDINTS ON THE POWER SEQUENCE CARD: 1 GROUND---- SC-TP-B08 +24VDC---- SC-TP-B04 (21.6 TO 31.2) +6VDC---- SC-TP-B05 (5.85 TO 6.15) +5VDC---- SC-TP-D05 (4.75 TO 5.5) -24VDC---- SC-TP-D04 (21.6 TO 31.2) -6VDC---- SC-TP-B02 (5.7 TO 6.3) L ARE ALL CONTROL VOLTAGES NORMAL AT THE SEQUENCE CARD TEST POINTS? Y N 002 ARE ALL CONTROL VOLTAGES PRESENT ١ | BUT BOTH +24V AND -24V DEFINITELY | LOWER THAN THE 21.6 (LOWER -TOLERANCE LIMIT )? L Y N t L 1 1 L 1 1 1 I L COPYRIGHT IBM CORP 1976 ł 1 - 1 l 1 T 992 АВС

CONTROL VOLTAGES PROBLEM ISOLATION CHART.

+6 VDC CONTROL VOLTAGE ON SEQUENCE CARD TEST POINT, SC-TP-BC5 IS A 2.5% TOLERANCE VOLTAGE THAT CAN BE USED AS A REFERENCE FOR CE METER ACCURACY CHECK.

IF ALL CONTROL VOLTAGE MEASUREMENTS ARE SLIGHTLY LOW OR HIGH, CHANCES ARE THAT THE CE METER IS AT FAULT. ASSUME THE +6 VOLT REFERENCE GIVEN IS ACCURATE AND TAKE THE OTHER READINGS INTO CONSIDERATION BEFORE CHANGING THE AC BOARD.

USE MLM SEC. 8 FOR REFERENCE

30DEC77 PN2594617 EC832050A PEC828777

с POWER MAPS 1 SYSTEM 32 1 PAGE 2 OF ł 9 1 1 003 (ENTRY POINT B) Ł 1) SET MAIN LINE SWITCH TO "OFF". 2) REMOVE POWER SEQUENCE CARD. 3) REPLACE FUSE 101, IF NECESSARY.4) SET MAIN LINE SWITCH TO 'ON'. 5) MEASURE POINTS ON THE POWER SEQ CARD CONNECTOR TAB PINS (CALLED MAPLE): 1 GROUND ----- MAPLE--MO8, PO8, -- M09, P09 +24 VDC CNTR SUP -- (21.6 TO 31.2) -- MAPLE--M13,P13 +6VDC CNTR SUP --- (5.85 TD 6.15) -- MAPLE--M12 +5VDC CNTR SUP --- (4.75 TD 5.5) -- MAPLE--M02.P02. -- M07, P07 -24VDC CNTR SUP -- (21.6 TO 31.2) -- MAPLE--M10 -6VDC CNTR SUP --- (5.75 TO 6.3) -- MAPLE--P12 L ARE CONTROL VOLTAGES CORRECT AT THE CONNECTOR? Y N 1 1 t ۱ ł ١ 1 ł t 1 ł ł ł 1 1 1 ł ł 1 ł 63 DE

CONTROL VOLTAGES LOAD ISOLATION ENTRY POINT.

A CONTROL VOLTAGE LEVEL BEING OVERLOADED WILL CAUSE FUSE 101 TO BLOW. IF THE PROBLEM IS AN OVER-LOAD. THE FOLLOWING PROCEDURE SHOULD ISOLATE THE PROBLEM AREA.

THIS PROCEDURE USES FUSE 101 AS A DETECTOR SHOWING WHEN THE OVERLOAD CONDITION HAS BEEN REMOVED.

THIS PROCEDURE MAY COST SEVERAL 0.4 AMP FUSES, SO BE PREPARED.

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POWER MAPS
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2
            SYSTEM 32
1
            PAGE
                 3 OF
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I
1
1
004
1) SET MAIN LINE SWITCH TO 'DFF'.
2) REMOVE COVER TO AC POWER BOARD.
3) DISCONNECT FLAT CABLE AT ACP-J1.
4) REPLACE FUSE 101, IF NECESSARY.
5) SET MAIN LINE SWITCH TO "CN".
6) MEASURE POINTS ON THE AC POWER
BOARD TAB PINS:
1
(DANGER: LINE VOLTAGE IS PRESENT ON
THE AC BDARD.)
1
GRBUND ----- ACP-J1-B08,008,
                  --809,D09
+24 VDC CNTR SUP -- (21.6 TC 31.2)
           -- ACP-J1-B13,D13
+6VDC CNTR SUP --- (5.85 TO 6.15)
           -- ACP-J1-D12
+5VDC CNTR SUP --- (4.75 TO 5.5)
           -- ACP-J1-B02,D02,
                   --B07,D07
-24VDC CNTR SUP -- (21.6 TO 31.2)
           -- ACP-J1-D10
-6VDC CNTL SUP --- (5.7 TO 6.3)
           -- ACP-J1-812
Ŧ
ARE CONTROL VOLTAGES CORRECT?
YN
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005
1 1) SET MAIN LINE SWITCH TO 'DFF'.
 2) DISCONNECT CABLE AT ACP-J2.
       RÉPLACE
                  FUSE
                                 IF.
1 3)
                          101.
NECESSARY.
 4) SET MAIN LINE SWITCH TO 'ON'.
1
  5) MEASURE POINTS ON THE AC POWER
1
  BOARD TAB PINS:
ł
1
  (DANGER: LINE VOLTAGE IS PRESENT
1
 ON THE AC BOARD . )
L
DO NOT USE ACP-J1 FOR REFERENCE
 (STEP 005 CONTINUES)
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### SYSTEM 32

#### PAGE 4 OF 9

(STEP 005 CONTINUED) WHEN MAKING MEASUREMENTS ACP-J2 (USE FRAME GROUND) WITH CABLE REMOVED. 1 FRAME GROUND +24VDC CNTR SUP -- (21.6 TO 31.2) -- ACP-J1-B13,D13 +6VDC CNTR SUP --- (5.85 TD 6.15) -- ACP-J1-D12 +5VDC CNTR SUP --- (4.75 TO 5.5) -- ACP-J1-B02,D02, --B07,D07 -24VDC CNTR SUP -- (21.6 TO 31.2) -- ACP-J1-D10 -6VDC CNTL SUP --- (5.7 TD 6.3) -- ACP-J1-812 1 ARE CONTROL VOLTAGES CORRECT ON AC POWER BOARD? YN ł 1 006 REPLACE AC POWER BOARD. 007 (ENTRY POINT C) ------1) SET MAIN LINE SWITCH TO "OFF". 2) CONNECT CABLE AT ACP-J2 ON AC BOARD (IF PREVIOUSLY REMOVED). 3) DISCONNECT CABLE AT DUAL J4 ON DUAL LEVEL FILTER ASM. 4) MEASURE COMMON GROUND TO THE DUAL LEVEL (CONTINUITY CHECK). CONTROL GROUND PIN LOCATION \*\*\*\*\*\*

## FROM:

# FRAME GROUND

(STEP 007 CONTINUES)

+24V CONTROL VOLTAGE PROBLEM ISOLATION.

30DEC77 PN2594617

## EC832050A PEC828777

### MAP 0317-4

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POWER MAPS
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                                                                   MAP 0317-5
            SYSTEM 32
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                                            L
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            PAGE 5 DF
                          9
                                            1
                                              1
                                            4
                                              1
(STEP 007 CONTINUED)
                                             1
                                            1
                                            012
TO:
                                            1) SET MAIN LINE SWITCH TO "OFF".
DUAL LEVEL
                 DUAL J4-3
FILTER ASM
                 (CABLE)
                                            2) CHECK CONTINUITY FROM ACP-J2-6
IS LINE CORRECT?
                                              TO DUAL J4-5.
                                            Ĩ.
Y N
                                              IS LINE CORRECT?
۱
                                            1
                                             YN
1 008
                                            1
                                            İΕ
 CONTINUITY
               CHECK FROM
                               FRAME
1
 GROUND TO ACP-J2-5.
                                            | | 013
1
                                            | REPLACE CABLE ASSEMBLY FROM
| | ACP-J2 TO DUAL J4.
1
IS LINE CORRECT?
 YN
                                            1 1
1
 E
                                            014
1
  009
                                            REPLACE AC BOARD.
١
 | REPLACE AC BOARD.
L
                                            015
1) SET MAIN LINE SWITCH TO "OFF".
1
 010
REPAIR OF REPLACE CABLE FROM
                                            2) CONNECT CABLE AT DUAL J4 ON DUAL
ACP-J2-5 TO DUAL J4-3.
                                            LEVEL FILTER ASM.
                                            3) DISCONNECT CABLE AT MULTI-J3 ON
1
                                            MULTI LEVEL FILTER ASM.
4) MEASURE COMMON GROUND TO THE
011
1) SET MAIN LINE SWITCH TO 'ON'.
                                            MULTI.
2) MEASURE POINTS LISTED BELOW:
                                            CONTINUITY CHECK)
(USE THE GROUND LIST ABOVE FOR
                                            1
                                            CONTROL GROUND
REF.)
                                                              PIN LOCATION
1
(DANGER: LINE VOLTAGE IS PRESENT ON
                                                              *****
THE AC BDARD.)
                                            FROM:
                                            AC POWER
                                                              ACP-J2-4
+24 VDC CNTR SUP (21.6 TO 31.2).
                                            BO AR D
                 PIN LOCATION
                                            TD:
                                            MULTI LEVEL
                                                              MULTI-J3-10
                  *******
                  DUAL J4-5
                                            FILTER ASM
DUAL LEVEL
                                                              (CABLE)
FILTER ASM
                  (CABLE)
                                            J3 CONNECTOR
1
                                            LINE CORRECT?
CONTROL +24V CORRECT?
YN
                                            YN
I.
  1
                                            1
t
  I
                                            016
                                            REPLACE CABLE ASM FROM ACP-J2-4
L
  1
                                            TO MULTI-J3.
L
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              POWER MAPS
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              SYSTEM 32
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              PAGE 6 DF
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     ١
  017
  (1) INSTALL J3 CABLE.
(2) RETURN TO THE POWER PROBLEM
l
۱
  | ENTRY CHAPT, PLACE OF LAST
1
  | EXIT, NEXT SEQUENTIAL COMMAND.
۱
۱
  1
018
| REPLACE CABLE FROM ACP-J1 TO
MAPLE--M.P.
1
019
1) SET MAIN LINE SWITCH TO "OFF".
2) INSTALL THE POWER SEQUENCE CARD.
3) DISCONNECT CABLE AT MAPLE--B.D
POSITION.
4) SET MAIN LINE SWITCH TO 'DN'.
5) MEASURE VOLTAGES AT THE
FOLLOWING POINTS ON THE POWER
SEQUENCE CARD:
GROUND---- SC-TP-B08
+24VDC---- SC-TP-B04 (21.6 TO 31.2)
+6VDC----- SC-TP-805 (5.85 TO 6.15)
+5VDC----- SC-TP-D05 (4.75 TC 5.5)
-24VDC---- SC-TP-D04 (21.6 TO 31.2)
-6VDC---- SC-TP-B02 (5.7 TD 6.3)
Į.
ARE CONTROL VELTAGES CORRECT ON
POWER SEQ CARD?
Y N
1
020
REPLACE THE POWER SEQUENCE CARD
AND/OR THE AC BOARD.
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7 K 30DEC77 PN2594617 EC832050A PEC828777 MAP 0317-6

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POWER MAPS
                                                                             MAP 0317-7
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6
              SYSTEM 32
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              PAGE 7 DF 9
l
1
t
021
1) SET MAIN LINE SWITCH TO 'OFF'.
                                                  +5V CONTROL
                                                                      VOLTAGE
                                                                                   PROBLEM
2) CONNECT THE POWER STATUS CABLE
                                                 ISOLATION.
AT MAPLE--B.D.
3) DISCONNECT CABLE AT AA1-A2.
4) SET MAIN LINE SWITCH TO "ON".
5) MEASURE VOLTAGE AT THE FOLLOWING
POINTS ON THE CABLE JUST REMOVED:
GPOUND ----- AA1-A2-D08
+5VDC ------ (4.75 TD 5.5)
                -- AA1-A2-E03,C02
1
1
IS CONTROL +5V CORRECT ON THE
CABLE?
Y N
                                              · · · · · · · ·
1
022
| REPLACE CABLE FROM MAPLE--B.D TO
AA1-A2.
1
023
1) SET MAIN LINE SWITCH TO 'OFF'.
2) INSTALL CABLE AT AA1-A2.
3) DISCONNECT CABLE AT AA1-B2.
4) SET MAIN LINE SWITCH TO 'ON'.
5) MEASURE VOLTAGE AT THE FOLLOWING
POINTS ON THE AA1 BOARD:
  GROUND ----- AA1-A2-D08
+5VDC ----- (4.75 TO 5.5)
t
                -- AA1-A2-B03,D02
L
1
IS CONTROL +5V CORRECT? .
YN
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м POWEP MAPS L 7 7 SYSTEM 32 1 1 PAGE 8 OF · 1 Q (STEP 026 CONTINUED) I 024 REF.) 1) SET MAIN LINE SWITCH TO "OFF". 1 1 2) DISCONNECT CABLE AT AA1-85. (POWER +5 VDC 3) REPLACE FUSE 101. IF NECESSARY. 4) SET MAIN LINE SWITCH TO 'ON'. 1 1 5) MEASURE VOLTAGE AT THE FOLLOWING 1 - 1 POINTS ON THE AA1 BOARD: FROM: CPU BOARD GPOUND ----- AA1-A2-D08 1 - 1 +5VDC ----- (4.75 TO 5.5) ۱ I то: -- AA1-A2-B03,D02 CPU BOARD 1 1 CE PANEL 1 IS CONTROL +5V CORRECT? Y2 CONNECTOR YN DPLY PWR CHK - 1 1 1 SWITCH 025 ł 1 | REPLACE AA1 I/O BCARD. LED PC BDARD Ł L 1 026 PROBLEM ISOLATED? 1 1) SET MAIN LINE SWITCH TO "OFF". YN Ł 2) CONNECT CABLE AT AA1-85. 1 - 1 3) REMOVE CE PANEL AND ATTACH TO CPU FRAME SO THAT IT EXTENDS 1 027 1 1 OUTWARD. 1 1 4) MEASURE COMMON GROUND TO THE CE 028 REPLACE PANEL. | REPLACEABLE UNIT. CONTROL GROUND. 1 PIN LOCATION 029 \*\*\*\*\* FROM: I CABLE CORRECT? CPU BOARD AA1-85-002. -D08 YN TO: 1 CE PANEL CEP-Y2-802. 030 Y2 CONNECTOR - B08 REPLACE CABLE. 5) MEASURE CONTROL +5 VDC ON THE CE 031

PANEL. USE SIGNAL POINTS LISTED BELOW TO ISOLATE THE PROBLEM: Т

(USE THE GROUND LIST ABOVE FOR (STEP 026 CONTINUES)

то CE PANEL | SWITCHES AND LED'S.) PIN LOCATION \*\*\*\*\* AA1-A2-B03. D02. AA1-85-803 CEP-Y2-D02 N/0 J CONNECTOR ON CEP-J1-5 | REPLACE AC POWER BOARD. DEFECTIVE FIELD CHECK +5V AT LEDS ON OP PANEL (LEADS THAT ARE COMMON TOGETHER). REPLACE LEDS.

MAP 0317-8

30DEC77 PN2594617

EC832050A PEC828777

A 5 POWER MAPS MAP 0317-9 1 1 SYSTEM 32 1 ł PAGE 9 DF 9 ł 1 I 1 1 032 ŧ POWER ON' 10FF 1 1) SET τn (OPERATOR PANEL). I DANGER: LINE VOLTAGE PRESENT ON MACHINE AFTER POWER OFF. 1 ١ THE INDICATION APPEARS TO BE: LOW OUTPUT FROM THE FERRO-REGULATOR. AND +6V ALL CIRCUIT N -6V, +5V, HAVE INTRIGATED VOL TAGE REGULATORS SO THEY MAY NOT SHOW UP AS BEING LOW. THE NEXT STEP IS TO CHECK THE CONTROL CAPACITOR (C4). THE MACHINE BEFORE CHECKING. ------------- 2) SET MAIN LINE SWITCH TO "OFF". Ł 3) UNPLUG THE MACHINE FROM CUSTOMER POWER. 1 4) CHECK WIRES LEADING TO THE FERRO RESONANT CONTROL CAPACITOR (C4) FOR OPEN OR SHORT. 5) CHECK THE CONTROL CAPACITOR (C4) FOR SHORT OR OPEN. IF DEFECTIVE, REPLACE. 1 A) SET CE METER TO HIGHEST 1 DHM RANGE. B) OBSERVE METER WHILE CONNECTING LEADS TO C4. 1 NEEDLE SHOULD DEFLECT UP SCALE THEN DECLINE TO ZERD. L IF DEFECTIVE, REPLACE. 1 6) REPLACE THE AC POWER BOARD. 1 1 033 GO TO PAGE 4, STEP 007, ENTRY POINT C.

> 30DEC77 PN2594617 EC832050A PEC828777

SYSTEM 32

PAGE 1 DF 10

ENTRY POINTS

	NTER THI	S MAP	
MAP   E	NTRY PA	GE	STEP
NUMBER   P		MBER	NUMBER
01 09	А	1	001
0300	А	1	001
1705	А	1	001

INTS			
IS MAP	1	то	
STEP NUMBER		MAP NUMBER	ENTRY
016	1	0300	~
010	1	0300	G
002	1	0301	в
002		0302	B
002	1	EOEO	в
002	١	0304	в
002	1	0305	8
002	1	0306	в
002	1	0307	8
004	1	0308	в
004	L	0309	в
004	I	0309	с
	INTS IS MAP STEP NUMBER 016 002 002 002 002 002 002 002 002 002 00	INTS IS MAP   STEP   NUMBER   002   004	INTS IS MAP   TO STEP   MAP NUMBER   NUMBER 016   0300 002   0301 002   0302 002   0302 002   0304 002   0305 002   0306 002   0306 002   0306 002   0308 004   0309 004   0309

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OPERATING VOLTAGES FOR 1/0 DEVICES

001 ---------(ENTRY POINT A) ------18 I. (OPERATING VOLTAGE CHECKDUT.) 1 1) MEASURE VOLTAGES ΑT PCINTS LISTED BELOW. USE PD-TB1-1,2,3,0R 4 FOR GROUND REFERENCE WHEN MEASURING VOLTAGES ON PD-TB'S. 1 GROUND--PD-TB1-1,2,3,4. +12 VDC--PD-TB2-5 (10.8 TD 13.2) +8.5 VDC--PD-TB2-1,2 (7.65 TO 9.35) +6 VDC--PD-TB2-3 (5.4 TO 6.6) +5 VDC--PD-TB1-5.6.7 (4.5 TO 5.5) -12 VDC--PD-TE2-6 (10.8 TC 13.2) -5 VDC--PD-TB1-8 (4.5 TC 5.5) -4 VDC--PD-TB2-4 (3.68 TO 4.32) 1 ARE MULTI LEVEL VOLTAGES CORRECT AT PD-TB'S? Y N 1 ۱ 1 ۱ I I 1 ŧ 1 t I ŧ 1 1 1 t 1 ł ł L 1 ł 1 COPYRIGHT IBM CORP 1976 1 L 1 2 2 A B

30DEC77 PN2594618

EC832050A PEC828777

MAP 0318-1

POWER MAPS A B 1 1 SYSTEM 32 1 1 PAGE 2 OF 10 1 1 1 Ł 1 002 1 SET POWER ON' TO 'OFF' 1) (OPERATOR PANEL). 1 2) SET MAIN LINE SWITCH TO "OFF". 3) MARK THIS PLACE. -1 4) EXIT TO THE APPROPRIATE CHART 1 FOR THE VOLTAGE LEVEL DETECTED AS BEING BAD: 1 1 ----4 VDC GO TO MAP 0301 . ENTRY POINT E. -5 VDC GO TO MAP 0302, ENTRY POINT B. -----ŧ +5 VDC ۰ GO TO MAP 0303, ENTRY POINT B. 1 +6 VDC | GO TO MAP 0304, ENTRY POINT B. -----1 1 +8.5 VDC GO TO MAP 0305, ENTRY POINT B. -------12 VDC GO TO MAP 0306, ENTRY POINT B. +12 VDC GO TO MAP 0307. ENTRY POINT B. 5) REPLACE THE MULTI LEVEL FILTER I ASM. 003 1) MEASURE VOLTAGES AT THE POINTS LISTED BELOW. USE PD-TB1-1,2,3,0R 4 FOR GROUND REFERENCE WHEN MEASURING VOLTAGES ON PD-TB'S. 1 GROUND---PD-TE1-1, 2, 3, 4 +24 VDC---PD-TB2-8 (21.6 TD 26.4) -24 VDC---PD-TB2-7 (21.6 TD 26.4) APE DUAL LEVEL VOLTAGES CORRECT AT PD-TE'S? Y N 1 1 Ŧ 1 ŧ 1 1 l ł 1 1 1 1 t C D

1 1 1 1 004 | 1) SET POWER ON то OFF . (OPERATOR PANEL). | 2) SET MAIN LINE SWITCH TO "OFF". 3) MARK THIS PLACE. 1 1 4) EXIT TO THE APPROPRIATE CHART FOR THE VOLTAGE LEVEL DETECTED AS 1 1 BEING BAD: 1 1 1 | -24 VDC GO TO MAP 0308, ENTRY POINT B. Ł +24 VDC GO TO MAP 0309, ENTRY PDINT C. 1 IF PROBLEM NOT FOUND UPON RETURN FROM TAKING ENTRY POINT C ABOVE. GO TO MAP 0309, ENTRY POINT B. 1 5) REPLACE THE DUAL LEVEL FILTER ASM. 005 DO YOU WISH TO CHECK ALL VOLTAGES ON ALL DEVICES? YN 006 AT THIS POINT YOU MAY USE THE MATRIX LISTED BELOW TO CHECK DPERATING VOLTAGES то Δ PARTICULAR DEVICE. DO YOU SUSPECT A PROBLEM WITH THAT DEVICE? YN 1 1 007 | GO TO PAGE 3. STEP 008. ENTRY POINT AA. ł 30 DEC77 PN2594618 EC832050A PEC828777 3 3 EE MAP 0318-2

MAP 0318-2

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F POWER MAPS 2 SYSTEM 32 ŧ PAGE 3 OF 10 Ł 1 008 1) USE THE MATRIX BELOW TO CHECK FOR MISSING VOLTAGES. 1 +5 V ------L +6 V ----- | | | -24 V ----- | | | | | 11 1 2 3 4 5 6 7 8 9 KEYBOARD ---> - -- - 5 -7 A -GO TO STEP 010. ENTRY POINT B. ------CRT -----> - - 3 4 - 6 - - -GO TO PAGE 4. STEP 012. ENTRY POINT C. ----PRINTER ----> 1 - - - - 7 - -GO TO PAGE 5, STEP 018, ENTRY POINT D. \_\_\_\_\_ 33FD -----> 1 - - - - 7 8 -GO TO PAGE 6. STEP 020. ENTRY POINT E. DISK -----> 1 2 - - - 6 - - 9 GD TO PAGE 7. STEP 022. ENTRY POINT F. 1200 MODEM -> - - 3 4 - - - -GO TO PAGE 9. STEP 026. ENTRY POINT G. \_\_\_\_\_ 2400 MODEM -> - - 3 4 5 - - 8 -GO TO PAGE 10, STEP 030, ENTRY POINT H. \_\_\_\_\_ \_\_\_\_\_ (ENTRY POINT AA) 2) RETURN TO THE POWER FROBLEM ENTRY CHART, PLACE OF LAST EXIT, NEXT SEQUENTIAL COMMAND.

Ε MAP 0318-3 2 1 1 009 1) MEASURE -5 VDC TO THE KEYBOARD (REF MLM SEC. 6). (4.5 TO 5.5) KEYBOARD PRINTED KBD-PC-B06 CIRCUIT BOARD 2) MEASURE +5 VDC TO THE KEYBOARD. (4.5 TO 5.5) KEYBOARD PRINTED KBD-PC-D03 CIRCUIT BOARD 3) MEASURE +8.5 VDC TO THE KEYBOARD. (7.65 TO 9.35) KEYBOARD PRINTED KBD-PC-B11 CIRCUIT BOARD VOLTAGES CORRECT AT KEYBDARD? Y N | 010 \_\_\_\_\_ (ENTRY POINT B) ISOLATE PROBLEM ACCORDING TO THE VOLTAGE THAT APPEARS MISSING | (REF MLM SEC. 6 & 8). 1 1 MEASURE ( 1) -5 VDC то THE KEYBOARD. USE SIGNAL POINTS LISTED BELOW: 1 1 -5 VDC. (4.5 TO 5.5) 1 PIN LOCATION \*\*\*\*\* FROM: PWR DISTRIBUTION PD-TB1-8 1 TERMINAL BLOCK 1 1 TO: I/O BOARD AA2-U2-A14. -U3-A14, -U4-A14 I I/O BOARD AA2-U3-B06 KEYBOARD PRINTED KBD-PC-B06 CIRCUIT BOARD 1 MEASURE +5 VDC то 2) THE 1 KEYBOARD. L (STEP 010 CONTINUES) 30 DEC 77 PN2594618 Ŀ EC832050A PEC828777 4 G MAP 0318-3

POWER MAPS SYSTEM 32 PAGE 4 DF 10 (STEP 010 CONTINUED) USE SIGNAL POINTS LISTED BELCW: I +5 VDC. (4.5 TO 5.5) PIN LOCATION \* \* \* \* \* \* \* \* \* \* \* \* FROM: PWR DISTRIBUTION PD-TB1-5 TERMINAL BLOCK то: I/O BOARD AA2-82-A14, -84-E01, -85-A01, -U3-A01. -U4-A01. -U5-A01 I/O BOARD AA2-U3-D03 KEYBOARD PRINTED KBD-PC-D03 CIRCUIT BOARD 1 3) MEASURE +8.5 VDC то THE KEYBOARD. USE SIGNAL POINTS LISTED BELOW: +8.5 VDC. (7.65 TD 9.35) PIN LOCATION \*\*\*\*\*\* FROM: PWR DISTRIBUTION PD-TB2-2 TERMINAL BLOCK TO: I/O BOARD AA2-U3-E01. -U4-E01, -U5-E01 TZO BOARD AA2-U3-E11 KEYBOARD PRINTED KBD-PC-B11 CIRCUIT BOARD 1 USING THE MATRIX TO CHECK OUT IF VOLTAGES AND ND VOLTAGE WAS MISSING, RETURN TO THE MATRIX, PAGE 0318-3.

G MAP 0318-4 3 I 1 011 1) MEASURE +6 VDC TO THE CRT (REF MLM SEC. 5). (4.5 TO 5.5) CRT-PC-B12. CRT CIRCUIT BOARD B13 2) MEASURE -12 VDC TO THE CRT. (10.8 TO 13.2) CRT CRT-PC-D02 CIRCUIT BOARD 3) MEASURE +12 VDC TO THE CRT. (10.8 TO 13.2) CRT CRT-PC-B08, CIRCUIT BOARD B09, D09. D10 VOLTAGES CORRECT AT CRT? Y N 012 I ------(ENTRY POINT C) --------I \_\_\_\_\_ L ISOLATE PROBLEM ACCORDING TO THE I VOLTAGE THAT APPEARS MISSING 1 (REF MLM SEC. 5 & 8). ł 1) MEASURE +6 VDC TO THE CRT. 1 USE SIGNAL POINTS LISTED BELOW: L +6 VDC. (5.4 TD 6.6) I PIN LOCATION I \*\*\*\*\*\* 1 FROM: ł PWR DISTRIBUTION PD-TB2-3 1 TERMINAL BLOCK TO: ł CRT CRT-PC-B12, I CIRCUIT BOARD B13 t 2) MEASURE -12 VDC TO THE CRT. USE SIGNAL POINTS LISTED BELOW: Ł I ۱ -12 VDC. (10.8 TO 13.2) PIN LOCATION 1 \*\*\*\*\*\* ŧ FROM: PWR DISTRIBUTION PD-TB2-6 I. (STEP 012 CONTINUES) ł 30DEC77 PN2594618 L 1 EC832050A PEC828777 5 н MAP 0318-4

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POWER MAPS
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4
            SYSTEM 32
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            PAGE 5 OF 10
1
 (STEP 012 CONTINUED)
1
TERMINAL BLOCK
ł
1
 TO:
                   CRT-PC-DC2.
1
 CRT
 CIRCUIT BOARD
L
ţ
 3) MEASURE +12 VDC TO THE CRT.
 USE SIGNAL PCINTS LISTED BELOW:
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  Ŧ
  +12 VDC. (10.8 TO 13.2)
                   PIN LOCATION
1
                   ****
I
FROM:
 PWR DISTRIBUTION PD-TB2-5
TERMINAL BLOCK
I TO:
                   CRT-PC-B08,
I CRT
 CIRCUIT BOARD
                          B09.
1
                          D09.
                          D1 0
t
 1
 IF USING THE MATRIX TO CHECK DUT
Ł
 VOLTAGES AND NO VOLTAGE WAS
1
  MISSING,
          TO THE
                      MATRIX, PAGE
 RETURN
L
 0318-3.
1
013
IS THERE A BELT PRINTER ON THIS
SYSTEM?
YN
I
 014
 IS THE SERIAL PRINTER THE ONLY
L
 DEVICE NOT WORKING?
1
۲
  Y N
 L
  015
1
  | GD TD PAGE 6, STEP 019.
L
I
 | ENTRY POINT J.
  1
 016
1
 1) MEASURE 48VAC FROM DUAL
                                 TO
 PPINTER.
                    PIN LOCATION
                    ******
 FROM: DUAL
                    E20 & E21
ł
 TO: PRINTEP
I
                    J1
 2)
ł
 GD TO MAP 0300, ENTRY PDINT G.
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t
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1
017
  USE PRINTER GROUND, PRT-TB1-7
1)
FOR GROUND REFERENCE WHEN MEASURING
ON THE PRINTER
(REF MLM SEC.
              4).
1) MEASURE +5 VDC TO THE PRINTER.
(4.5 TO 5.5)
PRINTER
               PRT-TB1-14,
TERMINAL BLOCK
2) MEASURE +24 VDC TO THE PRINTER.
(21.6 TO 26.4)
PRINTER
                PRT-TB1-12
TERMINAL BLOCK
VOLTAGES CORRECT AT PRINTER?
Y N
1
018
  -----
1
(ENTRY POINT D)
  I ISOLATE PROBLEM ACCORDING TO THE
 VOLTAGE THAT APPEARS MISSING.
L
 (REF MLM SEC. 4 & 8).
L
1 1
 1) MEASURE +5 VDC TO THE PRINTER.
1
USE SIGNAL POINTS LISTED BELOW:
1
  +5 VDC. (4.5 TO 5.5)
                 PIN LOCATION
T
                  ****
FROM:
PWR DISTRIBUTION PD-TB1-7
 TERMINAL BLOCK
1
 то:
PRINTER
                 PRT-TB1-14.
  TERMINAL BLOCK
1
2)
    MEASURE +24 VDC TO THE
 PRINTER.
Ł
 USE SIGNAL POINTS LISTED BELOW:
1
1 1
L
 +24 VDC. (21.6 TD 26.4)
                 PIN LOCATION
                  *****
 FROM:
Ł
Ł
 DUAL LEVEL
                 DUAL-E3
 POWER SUPPLY
 то:
1
 (STEP 018 CONTINUES)
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             30DEC77
                      PN2594618
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             EC832050A PEC828777
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                     MAP 0318-5
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MAP 0318-5

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POWER MAPS

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SYSTEM 32
            PAGE 6 OF 10
 (STEP 018 CONTINUED)
                  PRT-TB1-12
  PRINTER
                                         020
  TERMINAL BLOCK
  IF USING THE MATRIX TO CHECK OUT
  VOLTAGES
            AND NO VOLTAGE WAS
 MISSING,
 RETURN
          TO THE MATRIX, PAGE
 0318-3.
019
(ENTRY POINT J)
POWER
                         TO POFF!
1)
    SET
                  ON*
(OPERATOR PANEL).
2) INSTALL CABLE EXTENDER AT
                               J/G
PLUG POSITION ON THE DISKETTE.
3) SET 'POWER ON' TO 'ON' (OPERATOR
PANEL).
                                         то:
4) MEASURE -5 VDC TO THE DISKETTE
(REF MLM SEC. 3).
(4.5 TO 5.5)
DISKETTE
               DI SKETTE---J11
CIRCUIT BOARD
5) MEASURE +5 VDC TO THE DISKETTE.
(4.5 TO 5.5)
                                         ł
DISKETTE
               DI SKETTE---J03
CIRCUIT BOARD
6) MEASURE +24 VDC TO THE DISKETTE.
(21.6 TO 26.4)
DISKETTE
               DISKETTE---J10
CIRCUIT BOARD
                                        TO:
VOLTAGES CORRECT AT CISKETTE?
Y N
  1
  1
L M
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(ENTRY POINT E) ISOLATE PROBLEM ACCORDING TO THE VOLTAGE THAT APPEARS MISSING (REF MLM SEC. 3 & 8). 1) MEASURE -5 VDC TO THE DISKETTE. USE SIGNAL POINTS LISTED BELOW: -5 VDC. (4.5 TD 5.5) PIN LOCATION \*\*\*\*\* FROM: PWR DISTRIBUTION PD-TB1-8 TERMINAL BLOCK I/O BOARD AA2-U2-A14, -U3-A14, -U4-A14 I/O BOARD AA2-B2-D11 DISKETTE DISKETTE---J11 CIRCUIT BOARD 2) MEASURE +5 VDC TO THE DISKETTE. USE SIGNAL POINTS LISTED BELOW: +5 VDC. (4.5 TO 5.5) PIN LOCATION \*\*\*\*\* FROM: PWR DISTRIBUTION PD-TB1-6 TERMINAL BLOCK I/O BOARD AA2-B2-A14, -B4-E01, -85-A01. -U3-A01, -U4-A01, -U5-A01 I/O BOARD AA2-B2-D03 DISKETTE DI SKETTE---J03 CIRCUIT BOARD 3) MEASURE +24 VDC TO THE DISKETTE. USE SIGNAL POINTS LISTED BELOW: +24 VDC. (21.6 TO 26.4) PIN LOCATION \*\*\*\*\*\* (STEP 020 CONTINUES) 30DEC 77 PN2594618 · EC83205CA PEC828777

MAP 0318-6

L 6 POWER MAPS

MAP 0318-7

SYSTEM 32 1 PAGE 7 OF 10 1 ( STEP 020 CONTINUED) FROM: PWR DISTRIBUTION PD-TB2-8 TERMINAL BLOCK 1 TO: I/O BOARD AA 2-85-E01 I /O BOARD AA2-82-010 1 1 DISKETTE DISKETTE---J10 CIRCUIT BOARD Ł 1 1 IF USING THE MATRIX TO CHECK DUT VOLTAGES AND NO VOLTAGE WAS MISSING. RETURN TO THE MATRIX. PAGE 0318-3. 1 021 SET POWER ON . τn IOFE! 1) (OPERATOR PANEL). 2) REINSTALL CABLE AT THE J/G PLUG POSITION ON THE DISKETTE. 3) INSTALL CABLE EXTENDER AT DISK-B5 PLUG. 4) SET 'POWER DN' TO 'DN' (OPERATOR PANEL). 5) MEASURE -4 VDC TO THE DISK (REF MLM SEC. 2). (3.68 TO 4.32) DISK DI 5K-85-806 CIRCUIT BOARD 6) MEASURE +6 VDC TO THE DISK. (5.4 TD 6.6) DISK-85-811 DISK CIRCUIT BOARD 7) MEASURE -24 VDC TO THE DISK. (21.6 TO 26.4) DISK-85-813 DISK CIRCUIT BOARD POWER ON . TO .OFF. 8) SET (OPERATOR PANEL). 9) REINSTALL CABLE AT THE DISK-B5 PLUG. 10) INSTALL CABLE EXTENDER AT DISK-A1 PLUG, 11) SET • POWER ON' TO \* ON \* (OPERATOR PANEL). 12) MEASURE +24 VDC TO THE DISK. (21.6 TO 26.4) DISK DISK-A1-802 CIRCUIT BOARD (STEP 021 CONTINUES)

(STEP 021 CONTINUED) AL SO : DISK DISK-TB1-6 TERMINAL BLOCK (DISK BRAKE) VOLTAGES CORRECT? YN. 1 022 1. (ENTRY POINT F) -----------------1 I SOLATE PROBLEM ACCORDING TO THE VOLTAGE THAT APPEARS MISSING (REF MLM SEC. 2 & 8). 1) MEASURE -4 VDC TO THE DISK. USE SIGNAL POINTS LISTED BELDW: 1 -4 VDC. (3.68 TO 4.32) ł USE FRAME GND AS REF) PIN LOCATION \*\*\*\*\* | SIGNAL FROM: PWR DISTRIBUTION PD-TB2-4 TERMINAL BLOCK Ł I/O BOARD AA2-B3-A14 1 DISK DISK-85-806 | CIRCUIT BOARD - 1 2) MEASURE +6 VDC TO THE DISK . USE SIGNAL POINTS LISTED BELOW: +6 VDC. (5.4 TD 6.6) USE FRAME GND AS REF PIN LOCATION \*\*\*\*\* SIGNAL FROM: PWR DISTRIBUTION PD-TB2-3 I TERMINAL BLOCK I I/O BOARD AA2-B3-E01 -B4-A01 I I/O BOARD AA2-A4-B11 DISK DISK-B5-B11 I CIRCUIT BOARD 3) MEASURE -24 VDC TO THE DISK. USE SIGNAL POINTS LISTED BELOW: -24 VDC. (21.6 TD 26.4) ŧ USE FRAME GND AS REF PIN LOCATION \*\*\*\*\*\*\*\* ł SIGNAL FROM: | PWR DISTRIBUTION PD-TB2-7 1 (STEP 022 CONTINUES) 30 DEC77 PN2594618 T EC832050A PEC828777

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SYSTEM 32 PAGE 8 OF 10 (STEP 022 CONTINUED) TERMINAL BLOCK I/O BOARD AA2-84-A14 I /O BOARD AA2-A4-B13 DISK DISK-85-813 CIRCUIT BOARD - 1 4) MEASURE +24 VDC TO THE DISK. USE SIGNAL POINTS LISTED BELOW: 1 +24 VDC. (21.6 TO 26.4) USE FRAME GND AS REF PIN LOCATION \*\*\*\* SIGNAL FROM: PWR DISTRIBUTION PD-TE2-8 TERMINAL BLOCK AA2-85-801 I I/O BOARD I/O BOARD AA2-A3-802 - B0 3 DISK DISK-A1-B02 CIRCUIT BOARD ALSO DISK-TB1-6 DISK TERMINAL BLOCK (DISK BRAKE) 1 IF USING THE MATRIX TO CHECK OUT VOLTAGES AND NO VOLTAGE WAS MISSING, RETURN TO THE MATRIX, PAGE 0318-3. 023 IS A 1200 MODEM FEATURE ON MACHINE? Y N 024 GO TO PAGE 9. STEP 027. ENTRY POINT GG.

30DEC77 PN2594618 EC832050A PEC828777

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MAP 0318-8
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POWER MAPS MAP 0318-9 Ρ Q 8 SYSTEM 32 1 PAGE 9 DF 10 1 1 (STEP 026 CONTINUED) ł | IF USING THE MATRIX TO CHECK OUT 025 VOLTAGES AND NO VOLTAGE WAS MEASURE -12 VDC TO THE 1200 1) MISSING. RETURN TO THE MATRIX, PAGE MODEM 1 (REF MLM SEC. 10). | 0318-3. ł (10.8 TO 13.2) 027 1200 MODEM CA1-E1-B11 \_\_\_\_\_ (ENTRY POINT GG) CIRCUIT BOARD \_\_\_\_\_ 2) MEASURE +12 VDC TO THE 1200 1 MODEM . IS A 2400 MODEM FEATURE ON MACHINE? YN (10.8 TO 13.2) 1200 MODEM CA1-E1-B13 028 CIRCUIT BOARD | GO TO PAGE 10, STEP 031, VOLTAGES CORRECT? | ENTRY POINT HH. Y N 1 029 026 1 1) MEASURE -5 VDC TO THE 2400 MODEM Ł ----(ENTRY PDINT G) (REF MLM SEC. 10). | ------(4.5 TO 5.5) I ISOLATE PROBLEM ACCORDING TO THE VOLTAGE THAT APPEARS MISSING 2400 MODEM BA1-U5-D12 (REF MLM SEC. 8 & 10). CIRCUIT BOARD 1 1 1) MEASURE -12 VDC TO THE 1200 2) MEASURE +8.5 VDC TO THE 2400 1 MODEM: MODEM. ł (7.65 TO 9.35) USE SIGNAL PCINTS LISTED BELOW: t ۱ 1 -12 VDC (10.8 TO 13.2) 1 2400 MODEM BA1-U5-D11 USE FRAME GND AS REF CIRCUIT BOARD ١ - PIN LOCATION 3) MEASURE -12 VDC TO THE 2400 \*\*\*\* SIGNAL FROM: MODE M. PWR DISTRIBUTION PD-TB2-6 L TERMINAL BLOCK (10.8 TO 13.2) L 1200 MDDEM CA1-E1-B11 2400 MODEM BA1-U5-D10 L CIRCUIT BOARD CIRCUIT BOARD ۱ MEASURE +12 VDC TO THE 1200 4) MEASURE +12 VDC TO THE 2400 2) 1 MODEM. MODEM. USE SIGNAL POINTS LISTED BELOW: ł +12 VDC (10.8 TO 13.2) USE FRAME GND AS REF (10.8 TO 13.2) T PIN LOCATION 2400 MODEM BA1-U5-D03, CIRCUIT BOARD \*\*\*\* -004 1 SIGNAL FROM: 1 PWR DISTRIBUTION PD-TE2-5 VOLTAGES CORRECT? TERMINAL BLOCK Y N L 1 1200 MODEM CA1-E1-B13 1 1 ł 1 CIRCUIT BOARD Ł 1 ŧ 1 1 T (STEP 026 CONTINUES) 1 t 1 ł 30 DEC77 1 PN2594618 ł ł 1 EC832050A PEC828777 1 1 0 0 Q R S MAP 0318-9

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S
           POWER MAPS
9
           SYSTEM 32
1
           PAGE 10 OF 10
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1
1
030
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(ENTRY POINT H)
ISOLATE PROBLEM ACCORDING TO THE
VOLTAGE THAT APPEARS MISSING
(REF MLM SEC. 8 & 10).
1) MEASURE -5 VDC TO THE 2400
MODEM.
USE SIGNAL POINTS LISTED BELOW:
1
-5 VDC (4.5 TO 5.5)
USE FRAME GND AS REF
               PIN LOCATION
                ******
SIGNAL FROM:
PWR DISTRIBUTION PD-TE1-8
TERMINAL BLOCK
AL SO:
2400 MODEM
              BA1-U5-D12
CIRCUIT BOARD
2) MEASURE +8.5 VDC TO THE 2400
MODEM.
USE SIGNAL POINTS LISTED BELOW:
+8.5 VDC (7.65 TO 9.35)
USE FRAME GND AS REF
               PIN LOCATION
               ******
SIGNAL FROM:
PWR DISTRIBUTION PD-TB2-2
TERMINAL BLOCK
AL SO:
2400 MODEM
              EA1-U5-D11
CIRCUIT BOARD
3) MEASURE -12 VDC TO THE 2400
MODEM.
USE SIGNAL POINTS LISTED BELDW:
1
-12 VDC. (10.8 TO 13.2)
USE FRAME GND AS REF
               PIN LOCATION
               *****
SIGNAL FROM:
PWR DISTRIBUTION PD-TB2-6
TERMINAL BLOCK
ALSO:
2400 MODEM
               EA1-05-D10
CIRCUIT BOARD
4) MEASURE +12 VDC TO THE 2400
MODEM.
(STEP 030 CONTINUES)
```

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9
( STEP 030 CONTINUED)
USE SIGNAL POINTS LISTED BELOW:
1 1
 +12 VDC. (10.8 TO 13.2)
USE FRAME GND AS REF
                PIN LOCATION
                ****
| SIGNAL FROM:
PWR DISTRIBUTION PD-TB2-5
 TERMINAL BLOCK
1
AL SO:
               BA1-U5-D03
2400 MODEM
CIRCUIT BOARD
                    -D04
1 1
IF USING THE MATRIX TO CHECK OUT
          AND NO VOLTAGE WAS
VOLTAGES
MISSING,
            THE MATRIX, PAGE
RETURN
         то
0318-3.
031
(ENTRY POINT HH)
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R

MAP 0318-10

RETURN TO THE POWER PROBLEM ENTRY CHART, PLACE OF LAST EXIT, NEXT SEQUENTIAL COMMAND.

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MAP 0318-10

POWER MAPS

SYSTEM 32

PAGE 1 OF 4

001 (ENTRY POINT A) 18 1 'OFF' 1) SET POWER ON! ΤO (OPERATOR PANEL). 2) PROBE AA1-A2-D05, (-CHANNEL DATA PROTECT). PROBE GROUND IS ON AA1-A2-D08. FRAME CAN ALSO BE USED FOR PROBE GND. +5VDC PROBE POWER IS LOCATED ON AA1-85-802 OR AA1-C5-802. 3) OBSERVE PROBE, SET 'POWER ON' TO **'ON' (OPERATOR PANEL).** THE LINE SHOULD BE DOWN. THE LINE SHOULD GO UP AFTER APPROXIMATELY 40 SECONDS DELAY. 1 DOES THE LINE GO UI REASONABLE POWER ON DELAY? UP AFTER Y N 002 DOES DOWN LEVEL GO AWAY AND PROBE READ NEITHER UP NOR DOWN? 1 Y N t 1 003 | DOES LINE STAY DOWN? L IYN 1 1 004 1 RETURN TO THE TOP OF THIS 1 E | CHART AND RECHECK STEPS. Ł 1 1 | 005 | 1) SET 'POWER ON' TO 'OFF' ł (OPERATOR PANEL). 1 2) DISCONNECT EDGE CONNECTOR ł | FROM AA1-Z3 PLUG POSITION. 1 PLUG LIES ACROSS H, J, K CABLE 1 I PLUG COLUMN ON BOTTOM OF AA1 I BOARD. 1 3) SET POWER ON то ' ON ' t (OPERATOR PANEL). Ł 1 DOES LINE STAY DOWN? t Ł Y N 1 1 ł 1 ł ł 1 1 ł 1 COPYRIGHT IBM CORP 1976 1 1 1 ł Ł 1 1 4 322 ABCD

MAP 0319-1

CHANNEL DATA PROTECT OR LINE FAULT PROBLEM.

SYMPTOMS: 1) BOTH DISK AND DISKETTE MOTOR TURNS. 2) CAN IMPL AND IPL DISKETTE BUT NOT WRITE ON IT. 3) CAN NOT IMPL OR IPL DISK BECAUSE IT IS NOT READY.

THIS INDICATES THE -CHANNEL DATA PROTECT LINE IS DOWN. THIS LINE IS ALSO CALLED -PRIMARY POWER FAULT IN SOME LOGICS FOR THE DEVICES. THIS LINE IS DROPPED TO GROUND BY K5 RELAY WHEN THERE IS A POWER FAULT. ALSO IT IS DROPPED BY A DOT-OR ON THE DISK ATTACHMENT CARD AT AA2-F2-M04 UNTIL DISK IS READY.

MLM SEC. 8

03SEP76 PN2594619

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MAP 0319-1

C D POWER MAPS 1 1 SYSTEM 32 1 PAGE 2 OF 4 1 1 (STEP 007 CONTINUED) 1 1 006 ATTACHMENT CARDS ARE HOLDING THE (THIS SHOULD PICK THE PRIMARY POWER 1 FAULT RELAY, K5, AND CE METER SHOULD MEASURE FIRST SHORT, THEN LINE DOWN OR THERE IS A SHORT IN 1 THE AA1 BOARD. 1 OPEN WHEN K5 PICKS.) L 1) ISOLATE THE PROBLEM USING THE L INFORMATION GIVEN BELOW: DOES LINE GO FROM SHORT TO OPEN 1 CIRCUIT? +CHANNEL DATA PROTECT. Y N PIN LOCATION \*\*\*\*\* 008 1 FROM: SET \* POWER ON' TO ł 1 1) EDGE CONNECTOR AA1-J6-C02 (OPERATOR PANEL). E 2) SET MAIN LINE SWITCH TO 'OFF'. TO: 1 | 3) DISCONNECT CABLE AT AC | | BOARD, ACP-J1 PLUG POSITION. | 4) INSTALL CABLE EXTENDER EDGE CONNECTOR AA2-J1-C11 PRINTER CARD AA2-Q2-J12 PLUG 1 ALSO TO: 1 ACP-J1 POSITION MEASURING CONVENIENCE. | DISKETTE CARD AA2-K2-P04 TO 5) ATTACH METER CONTINUITY ACROSS ALSO TO: TWO I DISK STORAGE CARD AA2-E2-U02 | LISTED BELOW: 1 1 | ALSO (HERE THE LINE IS DOT-ORED) PIN LOCATION \*\*\*\* TO: FROM: DISK STORAGE CARD AA2-F2-M04 2) REPAIR OR REPLACE CABLE. | GROUND (FRAME GROUND WILL DO). AC POWER ACP-J1-B08,D08 | BUARD 3) INSTALL ALL CABLES, CONNECTORS AND CARDS. 1 TO: -CHANNEL DATA PROTECT. 007 AC POWER ACP-J1-D06 TO . 'OFF' 1) SET **POWER** UN . | BOARD (OPERATOR PANEL). 2) SET MAIN LINE SWITCH TO 'OFF'. 1 1 | 6) SET MAIN LINE SWITCH TO 'ON'. 7) JUMPER ACP-J1-BO4 (-PICK K5) 3) REMOVE POWER SEQUENCE CARD. 4) INSTALL EDGE CONNECTOR AA1-Z3. 5) INSTALL CABLE EXTENDER AT MAPLE ACP-J1-B08, D08, B09, DR D09 I TO (GROUND), (FRAME GROUND WILL DO). CONNECTOR MAPLE--M, P PLUG POSITION THIS SHOULD PICK THE PRIMARY POWER FAULT RELAY, K5, AND CE METER SHOULD MEASURE FIRST SHORT, FOR MEASURING CONVENIENCE. 6) ATTACH METER TO CHECK CONTINUITY ACROSS TWO POINTS LISTED BELOW: THEN OPEN WHEN K5 PICKS. 1 PIN LOCATION \*\*\*\* | DOES LINE GO FROM SHORT TO OPEN | CIRCUIT? FROM: GROUND. (FRAME GROUND WILL DO) Y N PWR SEQ CARD MAPLE--MO8,PO8 -1 CONNECTOR --M09,P09 1 009 TO: 1 1) REPLACE AC POWER BOARD. 1 -CHANNEL DATA PROTECT. 1 2) INSTALL ALL CABLES & CARDS I TO ORIGINAL POSITIONS. PWR SEQ CARD MAPLE--MO6 L. CONNECTOR - 1 | 010 1) REPLACE CABLE FROM AC BOARD TO 7) SET MAIN LINE SWITCH TO "ON". 1 8) JUMPER MAPLE--PO4 (-PICK K5) TO | MAPLE BLOCK CONNECTOR. | 2) INSTALL ALL CABLES & CARDS TO MAPLE--M08, P08, M09, DR D P09 (GROUND), (FRAME GROUND WILL DO). (STEP 007 CONTINUES) ORIGINAL POSITIONS. 03SEP76 ۱

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MAP 0319-2

PN2594619

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POWER

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FOR

CHECK

POINTS

-B09,D09

POWER MAPS 8 E 1 2 SYSTEM 32 ł 1 PAGE 3 OF 4 1 1 1 1 1 011 L SET POWER ON' TO 'OFF' 1) 1 (OPERATOR PANEL). 2) REMOVE PROBE FROM AA1 BOARD. L 3) CONTINUITY CHECK MAPLE-D05 1 CHANNEL PROTECT) ΤO (-DATA Ł MAPLE-MOE OR FRAME GROUND. L | DOES LINE SHOW OPEN CIRCUIT? ΥN 1 ł Ł L 1 012 I THERE IS A SHORT IN THE AAL BOARD OR CABLE TO THE POWER SEQUENCE CARD. 1 ł 1 1) ISOLATE THE PROBLEM USING THE INFORMATION GIVEN BELOW: Ł 1 ÷. | -CHANNEL DATA PROTECT. PIN LOCATION 1 \*\*\*\* 1 | FROM: ł I POWER SEQUENCE MAPLE--D05 I CARD CONNECTOR | TO: AA1 BOARD AA1 BOARD AA1-A2-D05 ł AA1-J6-C02 L | EDGE CONNECTOR | | 2) REPAIR OR REPLACE CABLE. | | 3) INSTALL ALL CABLES & CARDS | | TO ORIGINAL POSITION. 1 1 013 1) REPLACE THE POWER SEQUENCE | CARD. 2) INSTALL ALL CABLES TO ORIGINAL 1 POSITION. 1 014 THERE IS AN OPEN LINE AT THE ATTACHMENT CARD OR DISTRIBUTION TO THE ATTACHMENT CARD. 1) ISOLATE THE PROBLEM USING THE INFORMATION GIVEN BELOW: i. -CHANNEL DATA PROTECT. PIN LOCATION \*\*\*\* FROM: EDGE CONNECTOR AA1-J6-C02 TO: EDGE CONNECTOR AA2-J1-C11 PRINTER CARD AA2-Q2-J12 ALSO TO: DISKETTE CARD AA2-K2-P04 (STEP 014 CONTINUES)

LINE SHOULD BE FLOATING WITH CROSSOVER CONNECTOR FROM AA1 TO AA2 BOARD DISCONNECTED.

03SEP76	PN2594619

EC828777 PEC-----

MAP 0319-3

# MAP 0319-3

Δ POWER MAPS 1 SYSTEM 32 1 PAGE: 4 OF 4 1 (STEP 014 CONTINUED) i. ALSO TO: 1 DISK CARD AA2-E2-U02 1 1 ALSO (HERE THE LINE IS DOT-ORED) E то: I DISK CARD AA2-F2-M04 015 SET **POWER** ON! INFE! 1) ТΟ (OPERATOR PANEL). 2) SET MAIN LINE SWITCH TO "OFF". 3) INSTALL CABLE EXTENDER AT ACP-J1 PLUG POSITION. 4) PROBE AT ACP-J1-D06, (-CHANNEL DATA PROTECT). 5) SET MAIN LINE SWITCH TO 'ON'. 6) SET 'POWER ON' TO 'ON' (OPERATOR PANEL). 7) FORCE A LINE FAULT AT THE AC POWER BOARD BY MOMENTARILY SHORTING THE -24V\* AC POWER SENSING LINE AT ACP-J1-B04 TO +5V CONTROL VOLTAGE, ACP-J1-B02, OR D02. DDES LINE GO FROM UP IMMEDIATELY? то DOWN Y N 1 016 1 1) REPLACE THE POWER SEQUENCE CARD. 1 2) INSTALL ALL CABLES TO ORIGINAL | POSITION. 017 1) INSTALL ALL CABLES TO ORIGINAL POSITION. 2) RETURN TO MAP 113, ENTRY POINT Α.

MAP 0319-4

THIS SHOULD CAUSE NO HARM BECAUSE THE -24V\* SENSE LINE HAS A SERIES RESISTOR IN ITS PATH AT THIS POINT. THE CPU SHOULD POWER OFF IMMEDIATELY AND THE POWER CHECK INDICATIONS WILL BE ERRATIC BUT THE -CHANNEL DATA PROTECT SHOULD GO DOWN IMMEDIATELY.

> 03SEP76 PN2594619 EC828777 PEC-----

> > MAP 0319-4

PRINTER SYMPTOM INDEX

SYSTEM 32

PAGE 1 DF 4

CHOOSE FROM THE FOLLOWING SYMPTOMS:	
**************************************	**************************************
**************************************	***   *********************************
<ul> <li>DESCRIPTION OF PRINTOUT FROM</li> <li>PROGRAM ID PRINTER3, COMMONLY</li> <li>CALLED FUNCTION TESTS.</li> </ul>	* 0400-3* *
<pre>* BELT WILL NOT RUN * SPEED CHECK, SYNC CHECK, BINDS *</pre>	+   0401-1*
* HAMMER UNIT FAILURE * MISSING PRINT	*
<ul> <li>* PFINT QUALITY PROBLEM</li> <li>* MLM HAS SAMPLES</li> <li>* SMUDGE PRINTING</li> <li>* HOR IZONTAL CUTOFF</li> <li>* VERTICAL REGISTRATION</li> <li>* VEPTICAL CUTOFF</li> <li>* HORIZONTAL REGISTRATION</li> <li>* DENSITY PROBLEM (END TO END)</li> <li>* (ACROSS ENTIRE PAGE)</li> </ul>	
* RIBBON FAILURES, RIBBON SMUDGE * PFINT QUALITY BAD OR GOOD	
<ul> <li>FORMS MOVEMENT PROBLEM</li> <li>INCORPECT MOVEMENT OR PAPER JAM</li> <li>MOVEMENT PROBLEM(HALF INDEX ONLY</li> </ul>	*  0405-1* )  0408-1*
* FORMS JAM DETECTION PROBLEM * FALSE OR FAILURE TO DETECT JAM	*  0405-1*
* INTERLOCK PROBLEM * FAILURE TO OPEN OR CLOSE	*
<pre>* HALF INDEX PROBLEMS * - CONTINUOUS HALF INDEXING * - DOES NOT HALF INDEX *</pre>	0408-1* *
	*

NOTE 1: FOR ALL PRINTER TESTS EXCEPT HALF INDEX TESTS, REMOVE CARD AA2-J4 AND ADD JUMPER FROM AA2-J4B02 TO AA2-J4B09.

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# 30DEC77 PN2547550

EC832050A PEC830357

SYSTEM 32

PAGE 2 OF 4

IF THE PROBLEM IS SUSPECTED TO BE INTERMITTENT, RUN ERAP TO HELP ISOLATE THE FAILING FUNCTION. RESEAT ALL ATTACHMENT CARDS AA2-02 CONTROL CARD HAMMER SELECT CARD AA2-R2 DUTY CYCLE LIMIT CARD 4A2-T2 • HALF INDEX CARD(FEATURE) AA2-J4 • RESEAT ALL ATTACHMENT CABLES 442-V2 HAMMERS 1-22 AA2 -V3 CONTROL CABLE ٠ AA 2-V4 HAMMERS 23-44 . 4A2-V5 HAMMERS 45-66 RESEAT ALL PRINTER PLANAR CARDS PTR-13A BELT/CARRIAGE CONTROL CARD PTR-13E STEPPER DRIVE CARD PTR-23G FORMS JAM DETECTION CARD -PTR-23A HAMMER DRIVER 1-22 HAMMER DRIVER 23-44 PTR-23C ٠ HAMMER CRIVER 45-66 PTR-23E • RESEAT ALL PRINTER PLANAR CABLES PTR-13C CONTROL CABLE PTR-23F HAMMERS 1-22 HAMMERS 23-44 PTR-23D • PTR-23E HAMMERS 45-66 CHECK TIGHTNESS OF CONNECTIONS ON PTR-TH CHECK ZENER DIODE AS PER MLM

- INTERMITTENT BELT SPEED CHECK 1) RIBBON EXIT TENSION TOO HIGH-CHANGE RIBBON
- 2) RIBBON DRIVE TOO TIGHT
- 3) BAD BELT DRIVE STEPPER MOTOR.
- 4) CHECK TRANSDUCER AIR GAP
- INTERMITTENT PRINTER ERRORS
- 1) THROAT INTERLOCK SWITCH.
- 2) END OF FORMS SWITCH.
- 3) COVER INTERLOCK SWITCH.
- 4) 2 CHADS (CHIPS) INSUCCESSION NOT COMPLETELY PUNCHED OUT OF PAPER FEED HOLES.

30DEC77 PN2547550 EC832050A PEC830357

PRINTER SYMPTON INDEX

SYSTEM 32

PAGE 3 DF 4

FUNCTION TESTS PRINTED BY PRCGRAM ID PRINTER3 (SEE NOTE 1, PAGE 0400-1)

### ONE HAMMER PRINT TEST----TU67

PROGRAM FIRES 1 HAMMER PER LINE AND SPACES TILL EACH PRINT POSITION CONTAINS AN -X-. THIS WILL SHOW UP HAMMERS NOT PRINTING OR LIGHT PRINTING. THE PROGRAM PRINTS AND SPACES 132 LINES. ALL NOT READY AND CHECK CONDITIONS WILL BE DISPLAYED BY THE DCP PRINT ROUTINE.

# H PATTERN PRINT TEST----TU60

PROGRAM PRINTS LINES OF H'S FOR THE CE TO BE ABLE TO VISUALLY CHECK PRINT QUALITY BY CHECKING THE HORIZONTAL AND VERTICAL RELATIONSHIP OF THE H'S WITH EACHOTHER. THE PROGRAM PRINTS AND SPACES 25 LINES. ALL NOT READY AND CHECK CONDITIONS WILL BE DISPLAYED BY THE DCP PRINT ROUTINE.

### T PATTERN PRINT TEST----TUE1

PROGRAM PRINTS LINES OF T'S FOR THE CE TO BE ABLE TO VISUALLY CHECK PRINT QUALITY BY CHECKING THE HORIZONTAL AND VERTICAL RELATIONSHIP OF THE T'S WITH EACHCTHER. THE PROGRAM PRINTS AND SPACES 25 LINES. ALL NOT READY AND CHECK CONDITIONS WILL BE DISPLAYED BY THE DCP PRINT ROUTINE.

### RIPPLE PRINT TEST----TU62

PROGRAM PRINTS LINES OF THE EELT IMAGE FOR THE CE TO VISUALLY CHECK QUALITY OF THE PRINT BELT, AN INSPECTION OF EACH CHARACTER, IN EACH SET, SHOULD BE MADE TO DETERMINE IF THE BELT NEEDS CLEANING OR REPLACING. THE PROGRAM PRINTS AND SPACES AS MANY LINES AS IS THE CHARACTER SET SIZE. THE PRINTING IS INCREMENTED ONE POSITION FROM HOME FOR EACH LINE OF PRINT. ALL NOT READY AND CHECK CONDITIONS WILL BE DISPLAYED BY THE DCP PRINT ROUTINE.

#### WORST PROBABILITY PRINT TEST----TU64

PROGRAM FILLS THE PRINT BUFFER WITH ONE OF FIVE STANDARD WORST PROBABILITY PATTERNS, TO CAUSE WORST PROBABILITY PRINT PATTERNS TO BE PRINTED. THE PROGRAM PRINTS FIVE LINES OF EACH OF THE FIVE STANDARD PATTERNS, SPACING ONCE AFTER EACH LINE FOR A TOTAL OF 25 LINES. THE PROGRAM IS DESIGNED TO SHOW UP INTERMITTENT HAMMER CHECKS AND POSSIBLY 24V POWER PROBLEMS, HAMMER CHECKS OR SOME LIGHT PRINTING WOULD OCCUR. ALL NOT READY AND CHECK CONDITIONS WILL BE DISPLAYED BY THE DCP PRINT ROUTINE.

### CARRIAGE SPACE/SKIP TEST----TU65

PROGRAM PRINTS NUMBER OF LINES THAT IT IS GOING TO SPACE OR SKIP THEN DOES IT. THE PROGRAM SPACES OR SKIPS THE FOLLOWING COMBINATION OF LINES: 2,7,4,9,5,3,1,1,1,1,3,3,3,7,1. THE PRINTED DUTPUT SHOULD BE CHECKED TO INSURE THAT THE PROPER NUMBER OF SPACES OR SKIPS WERE TAKEN. ALL NOT READY AND CHECK CONDITIONS WILL BE DISPLAYED BY THE DCP PRINT ROUTINE.

# FUNCTION TESTS CONTINUED ON NEXT PAGE

30DEC77 PN2547550

EC832050A PEC830357

SYSTEM 32

PAGE 4 OF 4

#### FUNCTION TESTS CONTINUED

### PAPER SETTLING TEST ---- TU66

PROGRAM ISSUES CURRENT SPACE/SKIP AND AS SOON AS CARRIAGE BUSY DROPS, FIVE HAMMERS IN THE ODD PRINT POSITIONS, PER EACH OF THREE SUBSCANS ARE FIRED. THEN WHEN 'EVEN' PRINT TIME COMES, '-'S ARE PRINTED IN THE EVEN POSITIONS BETWEEN THE ALREADY PRINTED CHARACTERS(WHATEVER THEY MIGHT BE). THE PROGRAM SPACES OR SKIPS THE FOLLOWING COMBINATION OF LINES: 3,4,5,7,1,3,10,2,9,2,1,2,5. THE PURPOSE OF THE PROGRAM IS TO CHECK THE PAPER SETTLING TIME. THIS IS DONE BY INSPECTING THE OUTPUT AND CHECKING THAT THE CHARACTERS PRINTED IN THE ODD POSITION ARE NOT MIS-ALIGNED WITH THE CHARACTERS IN THE EVEN POSITIONS. ALL NOT READY AND CHECK CONDITIONS WILL BE DISPLAYED BY THE DCP PRINT ROUTINE.

### HALF INDEX CARRIAGE TIMING TEST----PRT10

THIS TEST CHECKS THE CARRIAGE ADVANCE TIMINGS(SIMILAR TO TU31) DURING HALF INDEX OPERATION. THE TEST ALSO CHECKS THE UDT TO INSURE THAT THE SYSTEM IS CONFIGURED FOR HALF INDEX FEATURE. THE ABILITY TO SET/RESET HALF INDEX MODE IS TESTED AS IS THE PRESENCE OF THE HALF INDEX COMPLETE INDICATOR.

### HALF INDEX PRINT TEST---PRT11

PROGRAM PERFORMS THE SAME FUNCTION AS TUG7(PREVIOUSLY DESCRIBED), EXCEPT THAT THE LINE SPACING IS 12 LINES PER INCH. THE CHARACTERS PRINTED BY THIS PROGRAM WOULD OVERLAP IF PRINTED IN THE SAME POSITION ON ADJACENT LINES(SEE MLM SECTION FOR EXAMPLE OF CORRECT PRINTING).

30DEC77 PN2547550

## EC832050A PEC830357

MAP 0401-1 TYPE BELT NOT TURNING Е 1 SYSTEM 32 1. PAGE 1 DF 4 1 ENTRY POINTS 005 CPEN FRONT COVER AND EYPASS COVER \_\_\_\_\_ INTERLOCK. REFER TO MLM SECTION 4. ROTATE TYPE BELT PULLEY COUNTERCLOCKWISE, AS DESCRIBED IN STATIC TEST FOR BELT BINDS (MLM | ENTER THIS MAP FROM \_\_\_\_\_ -+------MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER SECTION 4). \_\_\_\_\_ -------THE TYPE BELT SHOULD REQUIRE NO MORE THAN 150 GRAMS OF FORCE TO MOVE IT AT A CONSTANT VELOCITY FOR 001 0451 | A 1 1 REVELUTION. 001 DOES TYPE BELT MOVE AS DESCRIBED? (ENTRY POINT A) \*\*\*\* Y N \* TYPE BELT NOT TURNING \* 1 \* SPEED CHECKS 莁 \*\*\*\*\* 1 A BELT SPEED CHECK IS DETECTED IF THE TYPE BELT: -FAILS TO GET UP TO SPEED WITHIN 2 SECONDS. -HAS A 10% REDUCTION IN SPEED AFTER GETTING UP TO SPEED. IF A SPEED CHECK IS DETECTED ONLY WHEN PRINTING: -HEAVY PAPER MAY BE BINDING THE TYPE BELT. -VIBRATION CAUSED BY EITHER THE PAPER CLAMP OR THE PRINT HAMMERS MAY CAUSE A MISADJUSTED COVER INTERLOCK SWITCH TO OPEN INTERMITTANTLY, STOPPING THE PRINTER. FAILURE OCCUR ONLY WHEN DOES PRINTING? YN 1 002 DOES TYPE BELT APPEAR TO BE BOUND 1 UP? Y N 1 1 003 IF THE BELT STARTS UP BUT DOES NOT CONTINUE RUNNING, FAILURE MAY BE IN THE THE L BELT | MOTION DETECTION HARDWARE. IF NOT SURE, ANSWER NO TO THE 1 | FOLLOWING QUESTION. | DOES TYPE BELT START(AT LEAST 1 | REVELUTION), THEN STOP? 1 Y N 1 I 004 ł 1 I DOES THE MOTOR DETENT 1 AND I LOCK UP WITHOUT A SOUND? L Y N 1 1 T 1 1 L 1 1 L 1 1 1 ł COPYRIGHT IBM CORP 1975 I 220CT76 PN2547551 ł 1 1 1 I 1 t 1 t 1 PEC828692 EC830357 4 4 2 4 - 4 1 2 ABCDE MAP 0401-1 G

TYPE BELT NOT TURNING G 1 SYSTEM 32 PAGE 2 OF 4 ł Ŧ 006 FOLLOWING CAN CAUSE EXCESSIVE THE DRAG: - RIBBON DRIVE BELT TOO RUBBING ON THE MOTOR TIGHT OR MOUNTING PLATE. - HIGH RIBBON EXIT TENSION. - RIBBON SHIELD INTERFERENCE. - CONTAMINANTS ON THE TYPE BELT AND PLATEN. RIBBON DRIVE BELT RUBBING ON THE RIBBON CARTRIDGE MOUNTING BAR. SEE MLM SECTION 4 FOR ADJUSTMENT. - PULLEY PIVET BEARING MAY BIND. - PULLEY TOPOUT. IF THE FREE FLOATING PULLEY RIDES UP TOO HIGH AND COMES IN CONTACT WITH THE COVER, THE BELT WILL GO DOWN PUTTING EXCESSIVE FORCE ON THE TWO FRONT BEARINGS. - A DEFECTIVE PLATEN CAN CAUSE EXCESSIVE DRAG ON THE BELT. THIS CAN BE DIAGNOSED BY PLACING A STRIP OF PAPER BETWEEN THE BELT AND THE PLATEN. IF THE EXCESSIVE DRAG IS ELIMINATED, THE BELT OR THE PLATEN MAY BE DEFECTIVE. IF AN OSCILLOSCOPE IS AVAILABLE USE THE FOLLOWING DYNAMIC TEST TO AID IN FAULT ISOLATION. (ENTRY POINT B) SEE DYNAMIC TEST FOR TYPE BELT BINDS(MLM SECTION 4). TO EXERCISE THE TYPE BELT DRIVE MOTOR FOR SCOPING: 1) REMOVE THE TYPE BELT AND THE RIBBON CARTRIDGE. 2) IMPL DIAG O1 DISKETTE. 3) TIE DOWN THE '- BELT GO' SIGNAL BY JUMPERING A-A2V3D04 TO ANY DO8 PIN(THIS SHOULD CAUSE THE MOTOR TO START AND TO KEEP RUNNING). SCOPE THE SIGNALS AS DESCRIBED IN THE MLM DYNAMIC TEST AND COMPARE THE SCOPE TRACE TO THE PICTURES IN THE MLM. IF THE TRACE IS AS SHOWN FOR A GOOD MACHINE, EXCESSIVE DRAG ON THE TYPE BELT OR THE RIBBON IS THE CAUSE OF FAILURE. (CONTINUED, NEXT COL)

1 (CONTINUED) I IF THE TRACE IS NOT AS SHOWN FOR A GOOD MACHINE, THE RIBBON DRIVE OR THE TYPE BELT MOTOR IS THE CAUSE OF FAILURE. 007 (ENTRY POINT C) POWER UP. IMPL DIAG 01. LOAD PROGRAM ID PRT7. DEPRESS ENTER. DOES BELT TURN ΔT LEAST 1 **REVOLUTION?** Y N 800 I A LOOSE DRIVE PULLEY FLYWHEEL CAN I CAUSE A FAILURE. CHECK DRIVE I PULLEY FLYWHEEL FOR A LOOSE | MOUNTING SCREW. I THE WASHER UNDER THE MOUNTING I SCREW MAY BE BOWED WITH THE DOWN, I CENTER DUE тΟ | OVERTIGHTENING IS THE WASHER BOWED? Y N 1 009 CABLE PTR-13E SWAP WITH 1 | PTR-13F. DEPRESS ENTER. I DOES BELT TURN AT LEAST 1 REVOLUTION? 1 I Y N 1 ł 1 010 I DEPRESS ENTER FOR EACH PROBE: | | PROBE PTR-13B-72, (-BELT A | | NOT) PROBE PTR-13B-52, (-BELT | | A) PROBE PTR-13E-62, (-EELT B | | NOT) PROBE PTR-13B-42. (-BELT 1 8) I ALL LINES PULSING? 1 I Y N 1 1 | | 011 | | PROBE PTR-13A-73, (-EELT 1 1 601 1 | | LINE UP? 1 1 YN 1 1 1 012 | DEFECTIVE CARD 1 1 PTR-13A (BELT CARRIAGE CONTROL 1 1 1 1 1 I CARD). 1 1 L Т 1 t 2200176 1 T PN2547551 1 1 1 T 1 EC830357 PEC828692 3 3 3 3 HJKLM MAP 04C1-2

MAP 0401-2

F

TYPE BELT NOT. TURNING .1 KLM 2222 SYSTEM 32 ł 1 1 PAGE 3 OF 4 1 Ł 1 ł ł 1 1 L 1 013 ł L PROBE PTR-13A-73, (-BELT GO) 1 DEPRESS ENTER. Ł | LINE UP, CHANGE DOWN? I Y N 1 1 014 1 PROBE AA2-Q2-P11, (-BELT 1 1 1 GO) | LINE UP? 1 ΥN 1 1 1 1 015 Ŧ FROM | | DEFECTIVE CABLE 1 ŧ | AA2-V3 TO PTR-13C. 1 1 1 | | 016 | DEFECTIVE CARD AT AA2-Q2, 1 (PRINTER CONTROL CARD). 1 1 1 1 1 017 1 | DEFECTIVE CARD PTR-13A, (BELT | CARRIAGE CONTROL CARD). 1 1 018 1 PERFORM BELT MOTOR CHECKOUT PROCEDURE AS OUTLINED IN THE PERFORM ł 1 | MLM SECTION 4. Ł I REPLACE THE FOLLOWING DEFECTIVE COMPONENTS AS NECESSARY. L 1. BELT MOTOR. 1 RESISTORS R2 AND R3. 1 2. CAPACITORS C3 AND C4. 3. ł IF FAILURE IS NOT ISOLATED GD TO PAGE 2, STEP 006, ENTRY Ł | POINT B. ł | 019 DEFECTIVE CARD PTR-13E, (BELT | CARRIAGE DRIVE CARD). 020 IF THE WASHER IS SILVER IN COLOR IT IS SOFT AND SUBJECT TO BOWING UNDER STRESS. A HARDENED WASHER, A COMPATABLE FLYWHEEEL AND PLATE MAY OBTAINED BY ORDERING A NEW BE FLYWHEEL.

MAP 0401-3 н 2 1 021 DEPRESS RESET. DEPRESS CE START. DEPRESS ENTER. PROBE A42-Q2-S10, (-BELT MOTION) LINE UP? Y N 1 022 | DEFECTIVE CARD AT AA2-Q2 (PRINTER | CONTROL CARD). 1 023 PROBE AA2-Q2-S10, (-BELT MOTION) DEPRESS ENTER. LINE UP, CHANGE DOWN? Y N 1 1 024 | PROBE PTR-13A-45, (-BELT MOTION) | LINE UP? 1 Y N 1 1 | 025 | DEFECTIVE CABLE FROM AA2-V3 TO | | PTR-13C. 1 1 026 | CHECK BELT FOR KINKS, SCRATCHES, I DR DAMMAGED TEETH. | BELT DAMAGED? I Y N 11 027 1 I | PERFORM TRANSDUCER SERVICE | CHECK(MLM SECTION 4): I 1.ADJUST AIR GAP IF NECESSARY. 1 | | 2.REPLACE IF RESISTANCE CHECK IS BAD. 1 TRANSDUCER OK? 1 1 IYN 1 1 1 028 1 | CORRECT TRANSDUCER FAILURE. 1 1 | | 029 | | DEFECTIVE CARD PTR-13A, (BELT | CARRIAGE CONTROL CARD). I. 1 ł Т 030 | DEFECTIVE BELT 1 031 DEFECTIVE CARD AT AA2-Q2, (PRINTER CONTROL CARD).

> 220CT76 PN2547551 EC830357 PEC828692

> > MAP 0401-3 .

TYPE BELT NOT TURNING ABCD 1 1 1 1 SYSTEM 32 1 1 I ł PAGE 4 OF L 1 1 1 - 4 1 1 1 ł 111 1 | | 032 1 GBSERVE AA2-Q2-P11, (-BELT I T | | GO) DURING IMPL FROM DISK. | | GOS LINE GO DOWN | | | APPROXIMATELY 2 SECONDS? 1 FOR 1 t IIYN 1 1 1 033 f ł I I I THE COVER INTERLOCK SWITCH I I IS NOT FUNCTIONING ŧ NGT L 111 L | | 034 | | DEFECTIVE CARD PTR-13A, (BELT ŧ L | | | CARRIAGE CONTROL CARD). 11 L | | 035 i i | GO TO PAGE 2, STEP 007, ENTRY L POINT C. Ł ł L | 036 THE TYPE BELT AND PLATEN ARE 1 CONTAMINATED. 1 037 CHECK THE PAPER PATH CLEARANCE AND THE PAPER THICKNESS. CHECK THE COVER INTERLOCK ADJUSTMENT(MLM SECTION 4).

> 220CT76 PN2547551 EC830357 PEC828692

> > MAP 04C1-4

HAMMER UNIT FAILURES

SYSTEM 32

PAGE 1 OF 1

ENTRY P	<u>o</u>	INTS		
FROM	1	ENTER	THIS MAP	
M AP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0403	1	A	1	001

001

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A

(ENTRY POINT A) \* HAMMER UNIT FAILURES \* \*\*\*\*\* DETERMINE THE FAILING HAMMER FROM INSPECTING THE PRINTED OUTPUT. TURN POWER OFF. REMOVE THE MACHINE COVERS. REMOVE THE FRONT PAPER GUIDE FROM THE FRONT OF THE HAMMERS. POSSIBLE BINDING HAMMER: COMPARE MOVEMENT OF SUSPECTED WITH HAMMERS THAT PRINT HAMMER CORRECTLY. IS SUSPECTED HAMMER FREE? YN L 002 | HAMMER IS BINDING. CHECK THE | FOLLOWING: INTERFERENCE WITH PLASTIC EUMPER BETWEEN HAMMER AND FLIGHT TIME SCREW. REFERENCE MLM SECTION 4 FOR DETAIL. IS BUMPER POSITIONED CORRECTLY? 1 YN 1 L 003 Ł | REPOSITION PLASTIC BUMPER AND | TEST. Ł 1 1 I 1 004 REMOVE SUSPECTED HAMMER I CHECK THE FOLLOWING: 1. DIRT IN COME BAR. I 2. EINDING HAMMER PIVOT. 3. INTERFERENCE WITH COIL. 4. DEFECTIVE HAMMER. ł REPAIR OR REPLACE FAILING UNIT AND TEST

0.05 POSSIBLE SHORTED HAMMER COIL. A SHORTED HAMMER COIL USUALLY IS DISCOLORED. CHECK FOR A SHORTED HAMMER COIL: COMPARE SUSPECTED COIL WITH GOOD COILS: A SHORTED COIL WILL APPEAR BURNED, AND MAY CAUSE THE HAMMER TO BIND INSIDE THE COIL. DOES SUSPECTED COIL LOOK GOOD? Y N 006 | COIL LODKS BURNED OR OVERHEATED. | REPLACE COIL, REFERENCE MLM | SECTION 4 . IF OTHER POSITIONS | ARE FAILING, CHECK EACH SUSPECTED COIL. 1 007 POSSIBLE HAMMER RETURN SPRING PROBLEM. MOVE SUSPECTED HAMMER AND COMPARE ITS MOTION WITH A GOOD HAMMER. THE HAMMER SHOULD RETURN TO ITS BACK POSITION WITH SOME FORCE. DOES SUSPECTED HAMMER RETURN PROPERLY? YN T 008 CORRECT HAMMER RETURN PROBLEM. REFERENCE MLM SECTION 4 . PROBABLE CAUSE OF FAILURE IS A BROKEN HAMMER RETURN SPRING. 009 REPLACE APPROPRIATE HAMMER DRIVER HAMMERS 1-22 PTR-23A HAMMERS 23-44 PTR-23C HAMMERS 45-66 PTR-23E

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EC828518 PEC825412

MAP 0402-1

PRINT QUALITY SYSTEM 32

PAGE 1 OF 7

ENTRY POINTS

FROM	I ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
NO E	ENTRIES	IN THIS T	ABLE

EV	TТ	DO	т	NT	c
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EXIT TH	IS MAP	ΤΟ	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY
44 5 2 3	039 042 049 008 035	0402 0402 0404 0404 0404 0405	A A A A A

001 CATAGORIZE YOUR PRINT QUALIT PROBLEM INTO ONE OF THE FOLLOWING REFERENCE MLM SECTION 4 SMUDGE PRINTING HORIZONTAL CUTOFF VERTICAL REGISTRATION VERTICAL CUTOFF HORIZONTAL REGISTRATION DENSITY PROBLEM (ACROSS ENTIRE LINE) (END TO END DENSITY) SMUDGE PRINTING PROBLEM?	Y
002 HORIZONTAL CHARACTER CUTOF PROBLEM? Y N	F
VERTICAL REGISTRATION PROBLEM?	
004 VERTICAL CHARACTER CUTOF PROBLEM? V N	F
005 HORIZONTAL REGISTRATIO PROBLEM? Y N	N
COPYRIGHT IBM CORP 197	5
4 4 3 2 2 2 A B C D E F	

23JAN76 PN2547553 EC828692 PEC828518 MAP 0403-1

E F PRINT QUALITY	D G H J MAP 0403-2 1 2 2 2
SYSTEM 32	111
PAGE 2 UF 1	
006 DENSITY PROBLEM? Y N	REPLACE CARD AA2-Q2. (PRIN CONTROL)
007 REDEFINE, IF POSSIBLE, YOUR SYMPTOM INTO ONE OF THE	014 CLOSE CLAMPS WITH PRIL, PR
FOLLOWING: REFERENCE MLM SECTION 4	PTR-13E-63, (-ACTIVATE PA
HORIZONTAL CHARACTER CUTOFF	
VERTICAL CHARACTER CUTOFF     HORIZONTAL REGISTRATION	REPLACE CABLE FROM AA2-V3
RESTART AT THE BEGINNING OF	
	016   SWAP CABLES PTR-13E W
PERFORM PLATEN GAP ADJUSTMENT, REFERENCE MLM SECTION 4 . IF	UITH PRTI- DID CLAMP/CLAMPS MOVE?
PLATEN GAP IS CORRECT, THE PROBLEM IS RIBBON FAILURES.	
	ADJUST CLAMPS IF POSSIB
)09 ≭★★★★★★★★★★★★★★★★★★★★★★★★★ ↓ ↓ ↓ ↓ ↓ ↓ ↓	REFERENCE MLM SECTION 4
ROBLEMS ARE A RESULT OF HORIZONTAL	CARRIAGE DRIVE)
HÖRİZONTAL CUTOFF. Do Characters print without cutoff?	019 USING PRT1, PERFORM LOWER PA
	CLAMP ADJÚSTMENT, REFERENCE SECTION 4
RESTART PRINT QUALITY MAPS.	020
011 LOAD PROGRAM ID PRT1, OPEN AND	**************************************
Y N	PROBABLE RIBBON TROUBLE.
012 CLOSE CLAMPS WITH PRT1, PROBE	INSERI MULII-PARI FURMS RUN PRINTER3
AA2-Q2-P12, (-ACTIVATE PAPER CLAMP)	DOES LAST COPY HAVE CUTOFF? Y N
Y N I Y N	
	23JAN76 PN25475
222	EC828692 PEC8285
G Ĥ J	KL MAP 0403-2

PRINT QUALITY K L 2 2 C 1 SYSTEM 32 PAGE 3 OF 7 1 021 THE RIBBON MOVING UP OR DOWN CAN BE CAUSED BY: 1. WORN RIBBON. 2. WORN GUIDES. 3. FORMS INTERFERENCE WITH RIBBON. 4. RIBBON. PATH OBSTRUCTION. 5. BENT OR BROKEN MYLAR RIBBON SHIELD. 6. INTERFERENCE WITH TYPE BELT. REPAIR OR REPLACE ANY FAILING PART. REFERENCE MLM SECTION 4 022 USING PRT1, PERFORM LOWER PAPER CLAMP ADJUSTMENT, REFERENCE MLM SECTION 4 THE TYPE BELT MAY BE TRACKING INCORRECTLY ON THE POSITIONING ROLLERS. REMOVE THE TYPE BELT CHECK FOR KINKS, SPLITS, OR DIRT ON THE BELT. CHECK FOR DIRT ON. BELT PULLEYS. ARE THE TYPE BELT AND PULLEYS OK? Y N 024 CLEAN OR REPLACE THE TYPE BELT AND TEST THE MACHINE. 025 CHECK THE TYPE BELT POSITIONING ROLLERS FOR BINDS OR WEAR. ARE THE ROLLERS OK? Y N 026 REPLACE BOTH POSITIONING ROLLERS REFERENCE MLM SECTION 4

3

M MAP 0403-3
027 CHECK FOR WEAR IN THE TYPE BELT DRIVE PULLEY BEARINGS AND TYPE BELT IDLER PULLEY BEARINGS. CHECK FOR BROKEN OR BINDING IDLER PULLEY SPRING. ARE THE CHECKS OK? Y N
028 REPLACE THE PARTS AS REQUIRED REFERENCE MLM SECTION 4
I 029 POSSIBLE BELT SPEED VARIATION. LOAD PROGRAM ID PRT3, SELECT OPTION 1 TO DISPLAY PSS TIMING. PSS TIMING SHOULD BE 710 +-10% USEC IS THE BELT SPEED CORRECT? Y N
030 REPLACE CARD PTR-13A (BELT CARRIAGE CONTROL)
I 031 USING PRT1 AND REFERENCE MLM SECTION 4 CHECK ADJUSTMENT OF LOWER PAPER CLAMP PAPER CLAMP DK? Y N
032 DID LOWER CLAMP ENERGIZE DURING CHECK? Y N
033 RESTART MAP ON PAGE 0403-1. USE HORIZONTAL REGISTRATION AS YOUR SYMPTOM.
ADJUST OR REPLACE DEFECTIVE COMPONENTS. REFERENCE MLM SECTION
I 035 CARRIAGE MOVEMENT PROBLEM. GO TO MAP 0405, ENTRY POINT A.

23JAN76 PN2547553 EC828692 PEC828518 MAP 0403-3

B PRINT QUALITY	A N MAP 0403-4
SYSTEM 32	
PAGE 4 OF 7	
A DOBAGE STATE OF THE STATE OF	I 040 1.PERFORM PRINT UNIT SERVICE CHECK, REFERENCE MLM SECTION 4, FIX AS REQUIRED. 2.PERFORM TRANSDUCER SERVICE CHECK AND TRANSDUCER POSITION ADJUSTMENT PROCEDURE, REFERENCE MLM SECTION 4. DO ANY POSITIONS DISPLAY HORIZONTAL CUTOFF? Y N 041 041 END DE CALL
ANDOM POSITIONS CUTOFF. CHECK HAMMER IN FAILING POSITION FOR A BIND. IS HAMMER FREE? Y N 038 HAMMER IS BINDING. REMOVE FRONT PAPER GUIDE FROM FRONT OF HAMMERS. REFERENCE MLM SECTION 4 REMOVE HAMMER RETAINING PLATE FROM SUSPECTED HAMMER	042 042 PERFORM HAMMER FLIGHT TIME ADJUSTMENT ON THE HAMMERS DISPLAYING CUTOFF. REFERENCE MLM SECTION 4. IF CUTOFF PERSISTS, THERE ARE HAMMER UNIT FAILURES. GO TO MAP 0402, ENTRY POINT A. 043
BLOCK.   CHECK THE FOLLOWING BIND AREAS:	**************************************
ARGUND HAMMER. 2. HAMMER AND COIL. 3. HAMMER PIVOT. 4. HAMMER AND COMB BAR. 5. HAMMER AND BUMPER. REPLACE ANY FAILING UNITS. REPLACE RETAINING PLATE AND TEST.	DETERMINE IF SMUDGE WAS CAUSED BY RIBBON OR PRINT MECHANICS: INSTALL MULTI-PART PAPER AND SET FORMS THICKNESS CONTROL. RERUN PRINTER3. COMPARE THE PRINT ON THE FIRST AND SECOND PARTS. DO BOTH PARTS HAVE SMUDGED PRINTING? Y N
039 PERFORM HAMMER FLIGHT TIME ADJUSTMENT ON THE HAMMERS DISPLAYING CUTOFF. REFERENCE MLM SECTION 4 IF CUTOFF PERSISTS, THERE ARE HAMMER UNIT FAILURES. GO TO MAP 0402, ENTRY POINT A.	044 ONLY FRONT PART HAS SMUDGE. PROBABLE RIBBON TROUBLE. POWER DOWN PRINTER. ROTATE TYPE BELT DRIVE PULLEY COUNTERCLOCKWISE AND OBSERVE RIBBON FEEDING AT PRINT LINE. BE SURE RIBBON IS NOT CURLED OVER OR TWISTED. (RIBBON HAS ONE TWIST BETWEEN CASSETTE AND RIGHT GUIDE.) DDES RIBBON APPEAR GOOD? Y N
	045 REPLACE RIBBON CASSETTE.
	22 14N74 DN2547552
	ECR28692 DECR29519
4 N	5 5 P Q MAP 0403-4

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PRINT QUALITY P Q 4 4 SYSTEM 32 5 OF 7 PAGE CONTINUE ROTATING THE BELT PULLEY, OBSERVING RIBBON FEED. DOES THE RIBBON FEED CORRECTLY? 047 CHECK THE FOLLOWING: 1. RIBBON SHIELD DAMAGED. 2. RIBBON GUIDES. 3. RIBBON FEED PATH. 048 LOAD PROGRAM ID PRT7, DEPRESS ENTER KEY. THIS ACTION CAUSES THE BELT TO TURN BUT NOT THE RIBBON. IS RIBBON IDLE? 049 RIBBON IS FEEDING WITH TYPE BELT RUNNING. RIBBON CLUTCH SHOULD KEEP RIBBON FROM FEEDING UNTIL AFTER PRINTING STARTS. RIBBON PROBLEM. GO TO MAP 0404, ENTRY POINT A. 050 RIBBON NOT FEEDING WITH TYPE BELT RUNNING. THIS IS NORMAL. PAPER MAY BE TOO CLOSE TO RIBBON. CHECK THE FOLLOWING: 1. RIBBON SHIELD 2. PAPER FEEDING AT PRINT LINE 3. PLATEN GAP Ó51 DO ALL HAMMERS FAIL? (EVERY OTHER POSITION)

6 6 8 5 THE RIBBON SHOULD FEED EVENLY BETWEEN THE RIGHT AND LEFT GUIDES, APPROXIMATELY .025 INCH (0,635 MM) ABOVE THE TYPE BELT, AND REMAIN IN BACK OF THE TYPE BELT AND IN FRONT OF THE RIBBON SHIELD.

> 23JAN76 PN2547553 EC828692 PEC828518 MAP 0403-5

R S PRINT QUALITY 5 5 SYSTEM 32	T 6	MAP 0403-6
PAGE 6 OF 7 052 RANDOM POSITIONS FAIL. POSSIBLE BINDING HAMMER. CHECK HAMMER IN FAILING POSITION FOR A BIND. IS HAMMER FREE? Y N 053 HAMMER IS BINDING. REMOVE FRONT PAPER GUIDE FROM FRONT OF HAMMERS. REMOVE HAMMER RETAINING PLATE FROM SUSPECTED HAMMER BLOCK. CHECK THE FOLLOWING BIND AREAS: 1. DIRT OR FOREIGN MATERIAL AROUND HAMMER. 2. HAMMER AND COIL. 3. HAMMER AND COMB BAR. 4. HAMMER AND COMB BAR.	059 IMPRESSION HAMMER FIRE LOAD PROGRA 2 TO DISP THE FORMS C AVERAGE IM INTO THE FO SETTINGS 16 SETTING 3 SETTING  SETTING 3 SETO 3 SETTING 3 SETTING 3 SETI	CONTROL, WHICH AFFECTS TIME, MAY BE INCORRECT. M ID PRT3. SELECT OPTION LAY IMPSS TIMINGS. VARY ONTROL FROM 1 TO 6. THE PSS TIMINGS SHOULD FALL LLOWING RANGES: 2 221 TO 287 327 TO 361 5&6 427 TO 443 NCE BETWEEN THE HI AND PSS TIMES SHOULD NOT BE N 10. ORRECT?
REPLACE ANY FAILING UNITS. REPLACE RETAINING PLATE AND TEST. DOES SUSPECTED POSITION PRINT CORRECTLY?	ADJUST REFERENCE CAN TIMI LIMITS? Y N	TIMING USING PRT3, MLM SECTION 4 NG BE ADJUSTED WITHIN
Y N 054 PERFORM FLIGHT TIME ADJUSTMENT. REFERENCE MLM SECTION 4 055 END OF CALL	061 USE RESISTA CONNECT TERMINA VARY F CONTROL TO 6. RESISTA Y N	CE METER, MEASURE NCE OF IMPSS POT BY ING ACROSS PLUG LS. RESISTANCE SHOULD ROM O TO 5K AS FORMS SETTING IS MOVED FROM 1 NCE OK?
056 PERFORM FLIGHT TIME ADJUSTMENT REFERENCE MLM SECTION 4	062 REPLA MLM S	CE IMPSS POT. REFERENCE ECTION 4
057 PLATEN GAP MAY BE INCORRECT. CHECK PLATEN GAP, REFERENCE MLM IS PLATEN GAP CORRECT?	063 REPLACE CARRIAG	CARD PTR-13A (BELT E CONTROL)
058 ADJUST PLATEN GAP. REFERENCE MLM SECTION 4	END OF CA	LL
6	7 U	23JAN76 PN2547553 EC828692 PEC828518 MAP 0403-6

U PRINT QUALITY 6 SYSTEM 32 PAGE 7 DF 7 065 REDEFINE, IF POSSIBLE, YOUR SYMPTOM INTO ONE OF THE FOLLOWING: REFERENCE MLM SECTION 4 SMUDGE PRINTING HORIZONTAL CHARACTER CUTOFF VERTICAL REGISTRATION VERTICAL CHARACTER CUTOFF HORIZONTAL REGISTRATION DENSITY PROBLEM RESTART AT THE BEGINING OF THESE PRINT QUALITY CHARTS.

> 23JAN76 PN2547553 EC828692 PEC828518 MAP 0403-7

MAP 0404-1 PIBBON FAILURES BCD 1 1 1 SYSTEM 32 1 PAGE 1 OF 2 1 1 1 1 ENTRY POINTS Ł 006 | DRIVE PULLEY UNDER TYPE BELT | PULLEY IS NOT DRIVING RIBBON FROM | ENTER THIS MAP Ł BELT. CHECK PULLEY. REPLACE, -+-| | REPAIR, OR ADJUST AS NECESSARY. MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER | REFERENCE MLM SECTION 4 1 - 1 0403 | A 001 1 1 1 1 007 DOES RIBBON SHAFT FAIL TO TURN? 0.01 1 Y N (ENTRY POINT A) 008 | | RIBBON SHAFT TURNING; ROLLS DO | | NOT. REPLACE, REPAIR, OR ADJUST \* RIBEON FAILURES \* AS NECESSARY. REFERENCE MLM THE RIBBON SHOULD FEED EVENLY BETWEEN THE RIGHT AND LEFT GUIDES | | SECTION 4 APPROXIMATELY .025 INCH (0.635MM) AEOVE THE TYPE BELT. THE RIBBON MUST BE IN BACK OF THE BELT AND IN 1 1 009 | POSSIBLE RIBBON CLUTCH OR DRIVE FRONT OF THE RIBBON SHIELD. THE RIBBON SHOULD FEED ONLY WHEN THE MACHINE PRINTS. BE SURE TO USE A MECHANISM FAILURE. -CHECK THE DRIVE MECHANISM; REFERENCE MLM SECTION 4 GOOD RIBBON. POWER OFF. ROTATE LEFT TYPE BELT PULLEY COUNTERCLOCKWISE AND DESERVE RIBBON. 010 DRIVE ROLLS TURN, BUT RIBBON DOES DCES RIBBON FEED? NOT FEED. POSSIBLE RIBBON JAM. CHECK FOR RIBBON JAM. PULL ABOUT THREE INCHES OF RIBBON SLACK FROM YN 1 002 DO RIBBON DRIVE ROLLS TURN? THE LEFT RIBBON GUIDE. ROTATE THE LEFT TYPE BELT PULLEY TO FEED THE YN RIBBON. T 1 1 003 DOES THE SLACK RIBBON FEED INTO ۱ MECHANICAL TROUBLE IN RIBBON CASSETTE? L YN L DRIVE. | DOES RIBBON DRIVE BELT TURN? ۰ YN 011 1 THE FOLLOWING: JAM IN 1 1 CHECK CASSETTE ENTRY. ROLLERS NOT CONTACTING EACH OTHER. REFERENCE 1 004 | CHECK FOR BROKEN, WORN, OR 1 LOOSE BELT. MLM SECTION 4 I IS BELT OK? YN I. 012 1 1 RIBBON HAS HEAVY DRAG OR BIND IN PATH AROUND CASSETTE EXIT, PRINT 1 005 REPLACE BELT IF WORN OR BROKEN. ADJUST BELT 1 1 LINE, OR RIBBON GUIDES. CHECK THE ABOVE AREAS IN THE RIBBON PATH TO BELT REFERENCE TENSION. ML M DETERMINE CAUSE OF BIND. CLEAN, Adjust, Repair, or Replace failing SECTION 4 1 PARTS. REFERENCE MLM SECTION 4 1 1 1 1 COPYRIGHT IBM CORP 1975 01APR75 PN2547554 t EC828518 PEC825412 2 1 1 1 ABCD MAP 0404-1 **.** .

RIBBON FAILURES A 1 SYSTEM 32 t PAGE 2 OF 2 1 ł ł 013 POSSIBLE RIBBON CLUTCH FAILURE. THE SHOULD FEED (SOLENDID RIEBON DE-ENERGIZED) WHEN PRINTING, AND STOP FEEDING (SOLENOID ENERGIZED) DURING IDLE PEROIDS. RIBBON CLUTCH IS NORMALLY ENGAGED WITH NO POWER CN. DESERVE RIBBON SOLENDID. IS IT DE-ENERGIZED? YN L 014 1 REPLACE PTR-13E (BELT CARD CARRIAGE DRIVE) T ł 015 LOAD PROGRAM ID PRT7. DEPRESS ENTER TO START BELT. DESERVE RIBBON SCLENDID. IS IT ENERGIZED? YN 1 016 PROBE AA2-Q2-G13 (-STOP RIBBON) 1 | LINE DOWN? 1 YN 1 017 1 REPLACE CARD AA2-02 (PRINTER I. ( CONTROL) ۱ ŧ 1 1 1 018 1 PROBE PTR-13F-46 (-STOP RIBBON) I LINE DOWN? Ł YN 1 1 1 019 1 PEPLACE CABLE FROM AA2-V3 TO | PTR-13C t 1 1 ł Ł 020 MEASURE RESISTANCE OF RIBBON 1 SOLENGID, SHOULD BE APPROX 470 OHMS. Ł SOLENOID OK7 I Y N 1 1 1 1 021 1 L REPLACE RIBBON SOLENDID. REFERENCE MLM SECTION 4 L ł 1 L 1 Ŧ 1 Į ١ t 2 2 Е F

EF MAP 0404-2 2 2 ١ ١ 1 1 1 1 ۱ 022 t | REPLACE CARD PTR-13E (BELT | CARRIAGE DRIVE) DR CONNECTOR [ PTR-13F AND P1 023 IS RIEBON IDLE? Y N 024 MECHANICAL TROUBLE IN RIBBON MECHANICAL CLUTCH. CHECK | OPERATION OF SOLENOID AND CLUTCH. REFERENCE MLM SECTION 4 · ADJUST, REPAIR, OR REPLACE ANY FAILING COMPONENT . L E 1 025 THE RIBBON OPERATION APPEARS GOOD. IF A PROBLEM STILL EXISTS REPLACE RIBBON. END OF CALL

01 APR75	PN2547554
EC828518	PEC825412

MAP 0404-2

### PAPER TRANSPORT

SYSTEM 32

PAGE 1 OF 2

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0403	1	A	1	001
0452		A	1	001

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001

NOTE:

IF FORMS MOVEMENT PROBLEMS OCCUR ONLY WHEN USING HALF INDEX FEATURE, GO TO MAP 0408 ENTRY POINT A. IS PAPER JAMMING OR RIPPING PAPER? YN L 002 I POWER DOWN, TURN FORMS ADVANCE I KNOB. DOES FORMS ADVANCE KNOB TURN | EASILY? 1 Y N Ł - 1 1 003 I. | MECHANICAL PROBLEM | REPAIR THE FOLLOWING AS ł | NECESSARY. 1. WORN OR BROKEN TRACTORS 1 2. BELT, PULLEY, OR MOTOR 1 BINDING L 1 1 004 Ł DO TRACTORS AND CARRIAGE MOTOR TURN PROPERLY WHEN FORMS ADVANCE I KNOB IS TURNED? L Y N ł Ł 1 005 ł MECHANICAL PROBLEM REPAIR THE FOLLOWING AS Ŧ NECESSARY. 1. CARRIAGE DRIVE BELT t BROKEN PULLEYS 1 2. ł з. VERNIER FAILURE 1 1 COPYRIGHT IBM CORP 1976 1 1 1

2 1 A B MAP 0405-1

L L 006 \*\*\*\*\* \* ELECTRICAL PROBLEM \* \*\*\*\* SWAP CABLE PTR-13E WITH PTR-13F, POWER UP, IMPL DIAG 01. LOAD PROGRAM ID PRT3. SELECT OPTION 5 TO POWER UP, DISPLAY CARRIAGE ADVANCE PULSE TIMINGS. DO TRACTORS TURN PROPERLY? Y N E 007 | WITH PROGRAM PRT3 RUNNING, | PROBE PTR-13B-51, | (-CARRIAGE A) | PROBE PTR-13B-70, | (-CARRIAGE A NOT) | PROBE PTR-13B-53, | (-CARRIAGE B) | PROBE PTR-13B-73, | (-CARRIAGE B NDT) ALL LINES PULSING? I Y N 11 | | 008 | | REPLACE CARD PTR-13A, (BELT | | CARRIAGE CONTROL) 1 009 1 | PERFORM CARRIAGE MOTOR CHECKOUT | PROCEDURE AS OUTLINED IN THE MLM | SECTION 4. REPLACE THE FOLLOWING DEFECTIVE COMPONENTS AS | NECESSARY: 1. CARRIAGE MOTOR. t 2. RESISTORS R1 AND R4. 3. CAPACITORS C1 AND C2. 010 REPLACE CARD PTR-13E, (BELT CARRIAGE DRIVE)

B 1

1

220CT76	PN2547555

EC830357 PEC828518

MAP 0405-1

Α PAPER TRANSPORT 1 SYSTEM 32 . • PAGE 2 OF 2 1 011 \*\*\*\*\*\* ¥ PAPER JAMMING OR \* \* RIPPING PROBLEM \* \*\*\*\* POWER DOWN. SWAP CABLE PTR-13E WITH PTR-13F. POWER UP. IMPL DIAG 01 AND DEPRESS START. USING THE PAGE/LINE KEY TO MOVE FORMS, DDES THE JAM OR RIP APPEAR AS BEFORE? Y N 1 012 I REPLACE CARD PTR-13E, (BELT | CARRIAGE DRIVE) 013 IS JAMMING OR RIPPING ABOVE THE PRINT LINE? Y N 1 014 ł | PAPER JAMMING OR RIPPING BELOW THE PRINT LINE. CHECK THE FOLLOWING IN LOWER T FORMS PATH: L 1. COVER INTERFERENCE WITH PAPER. 2. DEBRIS IN FORMS CHUTE. 3. LOWER PAPER CLAMP 4. FORMS DRAG FINGERS 5. END OF FORMS SWITCH CHECK THE FOLLOWING AREAS THAT I COULD CAUSE INTERFERENCE. PLATEN GAP
 RIBBON SHIELD. 1 1 3. PAPER DEBRIS IN PAPER PATH. -REPAIR, ADJUST, OR REPLACE FAILING UNITS. L -TEST MACHINE OPERATION. 1 015 JAMMING OR RIPPING IS ABOVE THE PRINT LINE. DOES JAMMING OR RIPPING OCCUR AFTER THE TRACTORS? Y N f I 1 I 1 2 C 2 D

ł 1 1 ł ł ł 016 1 JAMS OR RIPS AT TRACTORS. ł THE FOLLOWING, REFERENCE CHECK Ł MLM SECTION 4. 1. TRACTOR DOOR PROBLEMS. 2. PAPER GUIDE ON UPPER PAPER CLAMP. 3. PERFORM FORMS DRAG SERVICE CHECK. REPAIR, ADJUST, OR REPLACE FAILING UNITS ł I. TEST OPERATION. 017 JAMS OR RIPS AFTER TRACTORS -CHECK THE FOLLOWING, REFERENCE MLM SECTION 4 1. UPPER PAPER CLAMP 2. INTERFERENCE WITH UPPER FORM CHUTE OR COVER.

C D

2 2

REPAIR AND TEST OPERATION.

2200176	PN2547555
EC830357	PEC828518

MAP 0405-2

FORM JAM DETECTION FEATURE SYSTEM 32 PAGE 1 OF 1 ENTRY POINTS FROM ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER \_\_\_\_\_ 0452 A 1 001 001 (ENTRY POINT A) \* FORN JAM DETECTION FEATURE \* \*\*\*\* 1 COVER THE LED ASSEMBLY WITH PAPER. PROBE PTR-23G-67, (-HOLE SENSED). LINE UP? YN 1 002 L JUMPER PTR-23G-42 TO PTR-23G-62, PROBE PTR-23G-67, (-HOLE SENSED). LINE UP? YN 1 I. ŧ 1 003 WITH POWER UP, UNPLUG PTR-23G. 1 PROBE PTR-23G-67. (-HOLE | SENSED). | LINE UP? I Y N t 1 1 L 1 004 REPLACE CARD PTR-13A. 1 (BELT | CARRIAGE CONTROL CARD) 1 L ŧ 1 1 L 1 005 ł | REPLACE CARD PTP-23G, (FORMS | MOVEMENT AMPLIFIER CARD) ł Ţ ł ł 1 ł 1 006 | REPLACE LED ASSEMBLY OR CARD | PTR-23G (FORMS MOVEMENT AMPLIFIER ( CARD) REFERENCE MLM SECTION 4 Ł 007 PROBE PTR-23G-67, (-HOLE SENSED), REMOVE PAPER FROM COVERING LED ASSEMBLY. LINE UP PULSE DOWN? Y N L I L 1 1 1 ł I COPYRIGHT IBM CORP 1975 1 1 ł 1 1 1 A B

MAP 0406-1 AB 1 1 1 1 1 1 1 1 008 L UNPLUG CONNECTOR P9, PROBE | PTR-23G-67, (-HOLE SENSED). LINE DOWN? 1 Y N 1 009 I. | REPLACE CARD PTR-23G, | MOVEMENT AMPLIFIER CARD) 1 (FORMS 1 010 REPLACE LED ASSEMBLY. REFERENCE MLM SECTION 4 011 PROBE PTR-13A-64, (-FORMS JAM). LINE UP? YN 1 012 REPLACE CABLE FROM AA2-V3 то PTR-13C. 013 REPLACE CARD PTR-13A, (BELT CARRIAGE CONTROL CARD)

01APR75 PN2547556

EC828518 PEC825412

MAP 0406-1

TINTERLOCK PROBLEM CHART MAP 0407-1 BCD 1 1 1 SYSTEM 32 PAGE 1 OF З L 1 ENTRY POINTS 004 | JUMPER FROM AA2-Q2-U08 TO S09. | | DOES COVER INTERLOCK SWITCH FROM | ENTER THIS MAP INDICATE CLOSED? \_\_\_\_\_ MAP ENTRY PAGE STEP 1 1 Y N NUMBER | POINT NUMBER NUMBER 1 1 1 \_\_\_\_\_ 1 005 1 Ł 0451 A 1 E REPLACE CARD AA2-Q2 (PRINTER 001 1 CONTROL CARD) 001 L - 1 (ENTRY POINT A) 006 d. 11 REPLACE CABLE FROM AA2-V3 TO \*\*\*\*\* L Ł \* THERE ARE THREE INTERLOCK \* | | PTR-13C OR WIRE FROM SWITCH TO SWITCHES IN THE PRINTER. | | PTR-13C. \* \* COVER INTERLOCK \* \* 1 ł × THRDAT INTERLOCK - 1 \* L END OF FORMS INTERLOCK \* 1 007 \* \* ALL OF THESE SWITCHES ARE MEASURE WITH THE CE METER (+) \* 1 ON \* OF THE HALL EFFECT TYPE AND\* THE COVER INTERLOCK SWITCH RED | LEAD AND (-) DN THE BLACK LEAD. \* REQUIRE THREE LEADS TO THEM\* GROUND \* BL ACK \* 1 DID YOU MEASURE APPROXIMATELY 5 +5 VOLTS I VOLTS? \* RED \* \* YELLOW SIGNAL \* YN 1 \* REMOVE ALL PREVIDUSLY \* \* INSTALLED JUMPERS. 1 008 \* LOAD PROGRAM ID PRT2, THIS \* | MEASURE WITH THE CE METER (+) ON PTR-TB1-1 AND (-) \* PROGRAM WILL DISPLAY THE \* ON 1 \* STATUS OF THESE THREE | | PTR-TB1-7. \* | | DID YOU MEASURE APPROXIMATELY 5 \* PRINTER INTERLOCK SWITCHES \* \* ON THE CRT. VOLTS? Y N \* REFER TO THIS STATUS TO \* 1 L \* ANSWER THE FOLLOWING \* 1 \* QUESTIONS. \* 1 009 E CABLE FROM PTR-13A ł ТΟ 1 PTR-TB1-1 OR CARD PTR-13A \* \* \* DDES COVER INTERLOCK INDICATE (BELT/CARRIAGE CONTROL) t T CLOSED? Ŧ YN 1 010 I CABLE FROM PTR-TB1-1 (+5 VOLTS) 1 002 OPEN THE COVER AND MANUALLY CLOSE I OR PTR-TB1-7 (GROUND) TO THE INTERLOCK SWITCH. DDES COVER INTERLOCK SWITCH. 1 I SWITCH INDICATE CLOSED? 1 YN 1 011 | REPLACE COVER INTERLOCK SWITCH | AND ADJUST IT USING PROGRAM ID 1 003 JUMPER THE YELLOW SIGNAL CABLE PRT2, REFERENCE MLM SECTION 4 T ON THE COVER INTERLOCK SWITCH TO FRAME GROUND. • | DDES COVER INTERLOCK SWITCH 012 ł ADJUST THE COVER INTERLOCK SWITCH INDICATE CLOSED? USING PROGRAM ID PRT2, REFERENCE Y N 1 1 MLM SECTION 4 ŧ ł 1 I 1 1 ł t 1 COPYRIGHT IBM CORP 1975 01APR75 1 1 1 PN2547557 1 1 1 EC828518 PEC825412 2 1 1 1 вср MAP 0407-1 Δ

INTERLOCK PROBLEM CHART А 1 SYSTEM 32 1 PAGE 2 OF 3 1 013 THROAT INTERLOCK SWITCH DITES INDICATE CLOSED? Y N 1 014 THE THROAT AND MANUALLY OPEN CLOSE THE INTERLOCK SWITCH. Ł DOES THROAT INTERLOCK SWITCH 1 INDICATE CLOSED? 1 YN 1 1 1 015 JUMPER THE YELLOW SIGNAL CABLE Ł ON THE THROAT INTERLOCK SWITCH L TO FRAME GROUND. 1.DOES THROAT INTERLOCK SWITCH L INDICATE CLOSED? YN ۱ 1 1 016 I 1 JUMPER FROM AA2-Q2-U08 тο 1 Ł 1 009. L I DOES THROAT INTERLOCK SWITCH .1 1 INDICATE CLOSED? ł 1 Y N 11 ł 1 ۱ 1 017 REPLACE CARD AA2-02 1 I T (PRINTER CONTROL CARD) L 1 ł 1 1 018 1 1 REPLACE CABLE FROM AA2-V3 TO 1 PTR-13C OR WIRE FROM SWITCH 1 TO PTR-13C. I 019 1 MEASURE WITH THE CE METER (+) ON THE THROAT INTERLOCK SWITCH 1 RED LEAD AND (-) ON THE BLACK LEAD. DID YOU MEASURE APPROXIMATELY 5 1 VOLTS? ١ Y N ŧ 1 020 1 FROM PTR-TB1-1 I CABLE (+5VOLTS) OR PTR-TB1-7 ( GROUND ) TO SWITCH. 1 1 021 REPLACE THROAT INTERLOCK SWITCH AND ADJUST IT USING PROGRAM ID ŧ 1 PRT2, REFERENCE MLM SECTION 4 I

2 2

EF

MAP 0407-2 EF 2 2 1 ł 1 ł ł ł 022 1 ADJUST THE THROAT INTERLOCK ADJUST THE THROAT INTERLOCK SWITCH USING PROGRAM ID PRT2. REFERENCE MLM SECTION 4 1 023 DOES THE END OF FORMS INTERLOCK SWITCH INDICATE CLOSED? Y N 1 024 | REMOVE COVER, REMOVE FORMS, SWING UP PRINTER LOGIC GATE. MANUALLY I CLOSE THE END OF FORMS INTERLOCK | SWITCH. 1 DOES THE END OF FORMS INTERLOCK SWITCH INDICATE CLOSED? YN Ł 1 1 025 L I. JUMPER THE YELLOW SIGNAL CABLE ON THE END OF FORMS INTERLOCK ţ. SWITCH TO FRAME GROUND. 1 1 | | SWITCH INDICATE CLOSED? YN 1 I 1 026 1 - 1 JUMPER FROM AA2-Q2-U08 то 1 ĺ 1 S03. THE END OF 1 DOES FORMS L 1 INTERLOCK SWITCH INDICATE 1 I. CLOSED? L YN 1 1 1 L 027 REPLACE CARD AA2-Q2 1 Т | | (PRINTER CONTROL CARD) 1 1 1 1 028 REPLACE CABLE FROM AA2-V3 TO L PTR-13C OR WIRE FROM SWITCH 1 1 TO PTR-13C. 1 - 1 029 MEASURE WITH THE CE METER (+) 1 1 I ON THE END OF FORMS INTERLOCK | SWITCH RED LEAD AND (-) ON THE 1 BLACK LEAD. DID YOU MEASURE APPROXIMATELY 5 1 VOL TS? Y N ł ł 1 1 1 1 1-I t I ł 1 ł ł 1 01APR75 PN2547557 I ţ I T I EC828518 PEC825412 3 3 3 3 GHJK MAP 0407-2

GHJK INTERLOCK PROBLEM CHART 2 2 2 2 SYSTEM 32 1 PAGE 3 OF з t ŧ 1 ł ł Ł ł 1 1 1 030 ۱ 1 FROM PTR-T81-1 (+5 Ŧ 1 CABLE VOLTS) OR PTR-TB1-7 (GROUND) 1 | TO SWITCH. 1 t 1 1 1 1 ł 1 031 1 REPLACE THE END OF FORMS ł INTERLOCK SWITCH AND ADJUST IT ł ID USING PROGRAM PRT2. I REFERENCE MLM SECTION 4 ł 1 1 032 T ADJUST THE END OF FORMS INTERLOCK 1 SWITCH USING PROGRAM ID PRT2. REFERENCE MLM SECTION 4 ł 033 PROBLEM IS THAT A SWITCH INDICATES CLOSED ALL OF THE TIME. 1 1 OPEN THE FAILING SWITCH BY OPENING THE COVER, OR OPENING THE THROAT OR REMOVING FORMS. DOES FAILING SWITCH MECHANICALLY OPEN? Y N Ŧ 034 ADJUST OR REPLACE FAILING L I INTERLOCK SWITCH. ADJUST IT USING PROGRAM ID PRT2, REFERENCE MLM SECTION 4 035 REMOVE THREE WIRE CONNECTOR FROM FAILING SWITCH. DDES THE FAILING SWITCH INDICATE OPEN? YN T 1 036 REPLACE CARD AA2-Q2 (PRINTER CONTROL CARD) I 037 MEASURE WITH THE CE METER (+) ON THE FAILING INTERLOCK SWITCH RED LEAD AND (-) ON THE BLACK LEAD. DID YOU MEASURE APPROXIMATELY 5 VOLTS? Y N 1 1 1 1 ł ļ ŧ 1 L 1 3 3 L M

LM MAP 0407-3 3 3 1 1 L 1 L 1 1 1 L 038 MEASURE WITH THE CE METER (+) ON PTR-TB1-1 AND (-) ON PTR-TB1-7. DID YOU MEASURE APPROXIMATELY 5 VOLTS? Ł Y N 1 1 | 039 | CABLE FROM PTR-13A TO PTR-TB1-1 L OR CARD PTR-13A (BELT/CARRIAGE L ( CONTROL) L L 1 040 ١. | CABLE FROM PTR-TB1-1 (+5 VOLTS) | OR PTR-TB1-7 (GROUND) TO SWITCH. 041 REPLACE FAILING INTERLOCK SWITCH AND ADJUST IT USING PROGRAM ID PRT2, REFERENCE MLM SECTION 4

01 APR 75	PN2547557
EC828518	PEC825412

MAP 0407-3
MAP 0600-1

# PAGE 1 DF 5

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0101 0102 0103 0105 0112 0633		А А А А А	2 2 2 2 2 2 2	001 001 001 001 001 001

	EX.	IT	P01	[ N T	۰s
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EXIT TH	IS MAP	TO	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
4	034	0601	А
3	004	300	А
2	002	318	А

001			
AVDID	USE	OF PROBE EX	TENDER
*×USE	OF I	PROBE EXTEND	DERS**
≭WHIL	E PR	DBING 62GV S	IGNAL*
#≠LIN	ES C.	AN CAUSE THE	*****
*≠SYS	тем '	TO HANG UP≭≭	*****
****	****	****	*****
TITL	E	PN	MAP #
MAIN	ENTI	RY 2547586	0600
62GV	20	2547587	0601
62GV	100	2547544	0602
62GV	103	2547545	0603
62GV	104	2547546	0604
62GV	105	2547547	0605
62GV	106	2547548	0606
62GV	107	2547549	0607
62GV	108	2547558	0608
62GV	111	2547559	0609
62GV	·112	2547585	0610
62GV	113	2547609	0611
62GV	114	2547627	0612
62GV	115	2547628	0613
62GV	116	2547629	0614
62GV	117	2547630	0615
62GV	121	2547631	0616
62GV	122	2547632	0617
62GV	123	2547633	0618
62GV	126	2547634	0619
62GV	127	2547635	0620
62GV	128	2547636	0621
62GV	133	2547637	0622
(STEP	001	CONTINUES)	

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100CT77 PN2547586 EC832050 PEC830358A

MAP 0600-1

		PAGE	2	OF	5
(STEP 62GV 62GV 62GV 62GV 62GV 62GV 62GV 62GV	001 C 210 220 230 240 250 260 270 280 FAIL FAIL FAIL FAIL SEADY	ONT I N 254 254 254 254 254 254 254 254 254 254	UED) 7593 7594 7595 7596 7597 7598 7599 7603 7603 7605 7605 7607 7608 7783	062 062 062 062 062 062 062 062 063 063 063 063 063	23 24 25 26 27 28 29 00 11 22 33 44 55
****	*****	****	****	*****	* *
(ENTRY 1.POWE 2.RESE DW1- 4.POWE 5.WAIT 6.CVDL +24 VCL +24 VCL +24 VCL +24 VCL NOTE-R VOLT. ARE A WITHIN 1 002 1 GO T 1	POIN R OFF AT CA B1, D A2, A A2-A AT CA C2, D A3, A C2, D C3, A C2, D C3, A C2, C C3, A C2, C C3, A C2, C C3, A C2, C C3, A C2, C C3, A C2, C C3	T A) BLES W1-B5 52-A3 FDS A 4, C4 ND DW ECOND TAGES RAKE) CAP TALL C 7 318,	DW1-4 , DW1 , AA2 , E2 , E2 , 1-A5 S AA2- AA2- AA2- AA2- AA2- WHILE CAP WHILE CAP CLTAC ENTF	-C2-G1 -C2-G1 -C4-B0 -A3-B0 -A3-B0 -A3-B0 -A3-B0 -A3-B0 -A3-B0 -A3-B0 -A3-B0 -A3-B0 -A3-B0 -A3-B0 -A3-B0 -A3-B0 -A4-B1 -A3-B0 -A4-B1 -A3-B0 -A4-B1 -A	1 6 2 3 5 URING -A3-B05. CORRECT NT A.

3 A

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100CT77	P1	12547586
EC832050	P	EC830358A
	MAP	0600-2

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Α 62GV MAIN ENTRY BCD MAP 0600-3 2 1 ł I 1 PAGE 3 OF 5 1 ł t ł 1 1 I Ł 003 1 013 1 | | GO TO STEP 017, MEASURE +8.5V AT AA2-F2-G11 IS VOLTAGE CORRECT WITHIN 10%? | ENTRY POINT B. ł Y N I. 1 | 014 GO TO STEP 017, 1 004 GD TO MAP 300, ENTRY POINT A. ENTRY POINT B. 005 015 MEASURE +8.5V AT AA2-F2-B11 AND PROBE AA2-F2-U02 (FCU DC RESET). DEPRESS CE RESET. PROBE AA2-F2-U06 (RESET FCU CHECK S11 IS VOLTAGE CORRECT WITHIN 10%? Y N TRGRS). DEPRESS CE RESET. 1 DO LINES PULSE DOWN? 006 I RESEAT CARD AA2-F2 Y N MEASURE +8.5V AT AA2-F2-B11 AND 1 | S11 016 I IS VOLTAGE CORRECT WITHIN 10%? | REPLACE CARD AA2-F2 Î Y N 1 1 017 1 007 (ENTRY POINT B) I I REPLACE CARD AA2-F2 \*LOAD THE '62GV' PROGRAM BY THE FOLLOWING STEPS: 1.SET DATA SWITCHES TO FFOO. 2.SET MODE SELECTOR SWITCH 1 1 008 | GO TO STEP 017, TO PROC RUN. 3.SET THE IMPL AND IPL | ENTRY POINT B. SWITCHES TO THE UP POSIT-IGN AND ALL OTHER TOGGLE SWITCHES TO THE DOWN 009 PROBE AA2-E2-D02(-FCU READY) IS LINE DOWN? Y N POSITION. 4.INSERT THE DIAG 01 I | 010 DISKETTE AND CLOSE | PROBE AA2-F2-U02(-FCU DC RESET) THE DODR. IS LINE DOWN? 5. DEPRESS THE LOAD KEY. (WAIT FOR THE CRT DISPLAY) DID 33FD FAIL TO IMPL? 1 1 (CRT DISPLAY WITHIN 45 SECONDS) L | 011 I PROBE AA2-E2-S13(+ DATA Y N Ł UNSAFE) I. 1 1 | IS LINE DOWN? 1 L 1 IYN 1 Ŧ 1 1 1 - 1 1 012 Ł 1 T I REPLACE CARD AA2-F2 1 L 1 1 ł 1 1 L ١ 1 ł 1 L t - { Ŧ 1000777 PN2547586 1 L 1 I 1 EC832050 PEC830358A 1 4 54 BCD EF MAP 0600-3

3 1 PAGE 4 DF 5 1 018 (ENTRY POINT C) 1. DEPRESS THE START KEY. 2. DEPRESS THE INQ KEY. 3. ENTER PROGRAM ID BY TYPING IN 62GV. 4. DEPRESS THE ENTER KEY. \*\*\*\*\*\* \*NOTE\* THE INDIVIDUAL TESTS NORMALLY RUN IN A FEW SEC-ONDS AT MOST. TROUBLES MAY CAUSE CERTAIN TESTS TO RUN LONGER AND EVEN HANG UP. IF ANY TEST IS DISPLAYED FOR MORE THAN ONE MINUTE ASSUME A PROGRAM HANGUP HAS OCCURRED. DID A PROCESS CHECK OCCUR? Y N ł 019 | DID A PROGRAM HANGUP OCCUR? I Y N 1 020 | FOLLOW INSTRUCTIONS ON CRT Т 1 021 TU50 DISPLAYED THE WAS ON SCREEN? Y N E 1 1 1 022 | REPLACE CARDS AA2-F2, G2 AND I | E2 I. 1 1 023 PROBE AA2-G2-P09 1 (-1F READ CLOCK) 1 IS LINE PULSING? I Y N | | 024 | REPLACE CARDS AA2-E2 AND D4 1 Ł 1 1

62GV MAIN ENTRY

I 1 L 1 1 Ł 1 1 1 025 PROBE AA2-G2-M03 (-STANDARDIZED DATA) 1 IS LINE PULSING? - 1 1 026 | REPLACE CARDS AA2-E2 AND D4 1 027 | PROBE AA2-G2-P12 | (+1F WRITE CLOCK) IS LINE PULSING? - 1 1 028 I | REPLACE CARDS AA2-E2 AND D4 1 029 I REPLACE CARDS AA2-F2, G2, AND 1 E2. 030 WAS TU50 DISPLAYED ON CRT? Y N 1 031 I POWER DFF. POWER ON. I DIAG 01 AS SOON AS THE I LIGHT COMES ON. IMPL STOP | DID PROCESS CHECK OCCUR? Y N - 1 I. 1 032 1 | REPLACE CARDS AA2-F2 G2 AND | | E2 1 1 033 | REPLACE CARDS AA1-H2, AA1-J2, AND AA2-G2 034 GO TO MAP 0601, ENTRY POINT A.

> 100CT77 PN2547586 EC832050 PEC830358A MAP 0600-4

# GН

1 1

1 1

F

MAP 0600-4

Е З 1 i PAGE 5 OF 5 I. L 035 POWER OFF.POWER ON. IMPL DIAG 01 AS SOON AS THE STOP LIGHT COMES DID 33FD FAIL TO IMPL ? Y N ON. 1 | C36 | GD TD PAGE 4, STEP 018, | ENTRY POINT C. 1 037 REPLACE CARDS AA2-F2 G2 AND E2

62GV MAIN ENTRY

1000777	PN2547586
EC 832050	PEC 830358A
	MAP 0600-5

MAP 0601-1

62GV 20

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SYSTEM 32

PAGE 1 OF 1

ENTRY	20	INTS		
FROM	1	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0600		A	1	001
0648		A	1	001
0649		A	1	001

001 CO1 (ENTRY POINT A) DEPRESS INQ KEY. LOAD PROGRAM ID TUSELCT. SELECT DEVICE 62GV. SELECT TUO1. SELECT OPTION 1. PROBE AA2-G2-P11(+FILE FAST SYNC). IS LINE PULSING? YN L 002 REPLACE CARD AA2-G2. ŧ. L 003 . a GO TO MAP 0631, ENTRY POINT A.

EXIT POINTS

	TC MAD		
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
1	003	0631	A

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EC828518 PEC825412

MAP 0601-1

62GV 100 MAP

SYSTEM 32

PAGE 1 OF 3

ENTRY POINTS

001

FROM	1	ENTER	THIS MAP	· · · · · · · · · · · · · · · · · · ·
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0 64 4 0 64 7		А А	1 1	001

EXIL PUINIS	ΕX	IΤ	POI	NTS
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EXIT TH	IS MAP	1	то	
PAGE NUMBER	STEP NUMBER		MAP NUMBER	ENTRY POINT
3	032	1	0605	A
3	028		0605	А
3	027	1	0605	Α
3	031		0606	Α
2	017	1	0635	Q
2	016	1	0635	Q
2	013	1	0635	Q
2	012	Ł	0635	Q

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		0 1 0 Y	03 S R N	B G	R	٩K	E	G	DR O	۱ F I	4C =	B	o U	R RM	4 1 /	10 N	T G	T S	D	E۱	T _ L	01 ?	JCI	Н
			( ] }		94 	10	T	OF	۱. ۱	Tł	ΗE	R	м	AL	-	в	UT	т	0	N	C	001	r?	
					00 19 10 Y	55 500 N	S	MC	ידנ ס	O F R	R B	T	E	N S K E	S I E N	0	N ] (	I N	IG E I	E	5 F M	R:	[N( 4)	5
																							·	
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3 A	2 B	2 C	2	2	2 E	2 F																		

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EC830357	PEC828518

MAP 06C2-1

EF 62GV 100 MAP E C D MAP 06C2-2 1 1 1 1 1 SYSTEM 32 1 1 1 PAGE 2 OF ł 1 3 L 1 1 1 1 1 1 1 Ŧ 1 - 1 1 ł Ł 006 ł 016 I GO TO MAP 0635, ENTRY POINT Q. IS ACTUATOR LOCKOUT LEVER IN LOCK 1 1 ON POSITION.? 1 1 L I Y N | 017 1 GO TO MAP 0635, ENTRY POINT Q. I. L 1 007 POWER ON. IMPL DIAGO1 AS SOON AS STOP LIGHT COMES ON. BE SURE 018 Ł IS BRAKE OR MOTOR HOT TO TOUCH OR 1 GIVING OFF BURNING SMELL? I THAT GENERAL LOGIC PROBE IS SET то NONE. PROBE Y N 1 L | AA2-E2-B04(+SPEED OK). t Ł 1 IS LINE PULSING? | 019 ٠I Y N IS MOTOR THERMAL BUTTON OUT? ÷ YN 1 1 1 1 1 800 1 IS LINE DOWN? 1 020 I. 1 I IS MOTOR TENSIONING SPRING LODSE OR BROKEN? (SEE MLM) IYN i 1 1 1 L 1 009 IYN 1 1 Ł METER VOLTAGE 1 1 1 1 1 1 AA2-C4-B09 L +12V L 021 AA2-C4-J12 I I IS ACTUATOR LOCKOUT LEVER IN | -12V i. Ł 1 I LOCK ON POSITION.? ŧ 1 L 11 Ł ARE VOLTAGES OUTSIDE RANGE OF 11 TO 13 VOLTS? Ł 1 1 ł. YN 1 1 1 1 022 | POWER GN. IMPL DIAGO1 AS 1 3 1 Ţ 1 I 1 

 I SOON AS
 STOP
 LIGHT
 COMES

 I ON.
 BE
 SURE
 THAT
 GENERAL

 I LOGIC
 PROBE
 IS
 SET
 TG
 NONE.

 I PROBE
 AA2-E2-B04 (+SPEED

 | | 010 1 1 1 1 1 1 | LOAD PROGRAM ID 62TMSNS 1 ł 1 | 011 1 T 1 L I REPLACE CARD 1 1 AA2-C4 1 I I OK). ŧ Ł (SOURCE) I IS LINE PULSING? 1 1 Ł | AA2-C2 CARD (LOAD1) | AA2-D4 CARD (LOAD2) Y N 1 ł 1 1 1 ł 1 1 1 1 I ł 1 1 1 I 1 012 L 1 1 | GO TO MAP 0635, ENTRY POINT 1 1 1 Ŧ 1 t ŧ 1 1 0. ł 1 - 1 1 1 1 013 1 1 | GO TO MAP 0635, ENTRY POINT Q. I ł | 014 I MOVE LOCKOUT LEVER ΤO OFF ł POSITION 1 015 REPLACE MOTOR TENSION SPRING 1 1 ł 1 1 1 1 1 1 1 1 ł 1 1 1 ŧ I ł I 1 1 I 1 ł 1 1 18AUG76 PN2547544 1 I 1

1

1 1

3 3 3 3 3 3 GHJKLM EC830357 PEC828518 MAP 0602-2

JKLM 22222 62GV 100 MAP SYSTEM 32 Í 1 1 PAGE 3 OF I 3 1 ł 1 1 l 1 1 1 1 1 023 ١ ł | IS LINE DOWN? 1 I Y N 1 1 ţ 1 L 1 024 1 I I METER VOLTAGE 1 1 +12V AA2-C4-B09 -12V AA2-C4-J12 I ł 111 ARE VOLTAGES DUTSIDE RANGE 1 ł IYN ł 1 1 1 L - 1 1 | | 025 I I LOAD PROGRAM ID 62GVSNS 1 ł 1 1 1 026 ł REPLACE AA2-C4 CARD Ł 1 1 (SOURCE) | AA2-C2 CARD (LOAD1) I 1 1 1 | | AA2-D4 CARD (LOAD2) ł L 1 1 1 027 I GO TO MAP 0605, ENTRY POINT i. | | A. 1 1 028 GO TO MAP 0605, ENTRY POINT A. 1 1 029 MOVE LOCKOUT LEVER TO OFF | POSITION. 1 030 REPLACE MOTOR TENSION SPRING

AGH MAP 0602-3 1 2 2 1 1 1 l t 1 1 L - 1 1 1 I. | 031 L I GO TO MAP 0606, ENTRY POINT A. 1 1 | 032 | GG TO MAP 0605, ENTRY POINT A. 1 033 REPAIR OBVIOUS PROBLEMS. CHECK PULLEYS AND TENSION SPRING BEFORE CHECK

REPLACING BELT

18AUG76	PN2547544
EC830357	PEC828518

MAP 0602-3

SYSTEM 32

PAGE 1 OF 1

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY PCINT	PAGE NUMBER	STEP NUMBER
0605 0651		А А	1 1	001

001 (ENTRY POINT A) PROBE AA2-C4-J02(+VFD FAST SYNC) IS LINE UP? YN 1 002 POWER OFF. REMOVE AA2-C4 CARD. METER RESISTANCE OF ACTUATOR COLL AA2-A3-B04 TD AA2-A3-B02. IS RESISTANCE BETWEEN 40 AND 100 | DHMS? 1 YN 1 1 003 ł I CHECK CONTINUITY OF CABLE IN 1 D-WIAL SEE CABLE CHECKING T CHART PAGE 0634-2 I IS CABLE OK? YN 1 1 £ 1 004 L | | REPLACE CABLE. REINSTALL CARD AA2-C4 ł 11 Т ł 005 1 REPLACE DE UNIT. SEE MLM. | REINSTALL CARD AA2-C4 1 1 1 1 ł 006 PEINSTALL CARD AA2-C4. POWER ON. WAIT 45 SECONDS. AA2-C4-J13 TO J08. JUMPER IS ACTUATOR ARM BEHIND HOME? YN 1 ÷ 1 007 REMOVE JUMPER. PROBE 1 AA2-D4-B12(+TOD FAST) IS LINE DOWN I Y N 1 ŧ 1 1 008 1 I REPLACE CARD AA2-D4 L 1 t . 1 1 1 - 1 COPYRIGHT IBM CORP 1975 I 1 L T 1

1 1 1 A B C

АВС MAP 0603-1 1 1 1 I ١ 1 ł 1 1 ł ł Ŧ ł L ł 009 | REPLACE CARD AA2-E2 1 1 1 010 | REPLACE CARD AA2-C4 1 011 REPLACE CARD AA2-E2

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EC828518 PEC825412

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MAP 0603-1

SYSTEM 32

PAGE 1 OF 1

ENTRY POINTS

	-			
FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0651	1	A	1	001

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001
(ENTRY POINT A)
PROBE AA2-E2-B13(+OUT)
LINE DOWN?
YN
1
002
DBSERVE ACTUATOR ARM (SEE NOTE
PAGE 0630-1). JUMPER AA2-E2-G08
TO JOB.
DOES ACTUATOR ARM
                         MOVE
DUTWARDS(TOWARD EDGE OF DISK)
YN
11
 003
Ł
 REMOVE JUMPER. REPLACE
                            CARD
I
 AA2-E2
1
I.
  1
1
 1
004
          JUMPER.
REMOVE
                 REPLACE CARD
1 AA2-D4
1
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1 005

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e.

ż

REPLACE CARD AA2-E2

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#### MAP 0604-1

SYSTEM 32

PAGE 1 OF 3

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0602	+ •	A	1	001
0606	١	A	1	001
0613	1	Α	1	001
0651	1	A	1	001

EXIT POINTS

EXIT THIS MAP | TO

		+	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
		+	
1	002	0300	A
з	027	0603	A
з	028	0603	Α
. З	029	0606	A

001 (ENTRY POINT A) POWER OFF. DISCONNECT 208/240 VAC SUPPLY TO DRIVE MOTOR AT DETB1-1 AND DETB1-2. (LOCATED ON REAR OF 62GV CASTING.) POWER ON. METER DC VOLTAGE AT FOLLOWING POINTS: AA2-C4-G02 PDS AND D08 NEG, AND AA2-C4-G13 NEG D08 PDS. IS VOLTAGE INSIDE RANGE 21.6V TO 26.4V ON BOTH LINES? Y N 002 GD TO MAP 0300. ENTRY POINT A. ŧ L 003 IS BRAKE DISENGAGED? YN 004 | METER DC VOLTAGE DET81-6 (POS) | DET81-5 (NEG) FOR 24 VOLTS. IS VOLTAGE INSIDE RANGE 21.6V TO | 26.4V? YN 1 L 1 005 L POWER OFF. CHECK CONTINUITY OF t CABLE IN AA2-A3 TO DETB1. SEE ł PAGE 0634-2. ł IS CABLE GOOD? ł IYN 1 1.1 ł 006 ۱ L REPLACE CABLE AA2-A3. VAC SUPPLY AT L t RECONNECT 1 DETB1. RESET MOTOR THERMAL ۱ 1 | BUTTON IF TRIPPED 1 J ۱ 1 L L 1 ۱ 1 1 ł 1 Į COPYRIGHT IBM CORP 1975 1 1 ł 1 I 1

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MAP 0605-1

PN2547547

PEC825412

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            62GV 105
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            SYSTEM 32
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            PAGE
                   2 DF
                           З
    1
  I
    1
    1
  1
  I
    007
    REPLACE CARD AA2-D4. RECONNECT
  ŧ
  VAC SUPPLY AT DETB1. RESET
   MOTOR THERMAL
                      BUTTON IF
  TRIPPED.
L
L
 1
  008
Ł
  REPLACE BRAKE ASSEMBLY. (SEE MLM)
1
  RECONNECT VAC SUPPLY AT DETB1.
  RESET MOTOR THERMAL BUTTON IF
  TRIPPED
1
0.09
PROBE AA2-D4-B08 (+BRAKE FAILURE)
IS LINE DOWN?
Y N
1 010
REPLACE CARD AA2-D4. RECONNECT
VAC SUPPLY AT DETBI. RESET MOTOR
THERMAL BUTTON IF TRIPPED.
1
011
CHECK BRAKE ADJUSTMENT.(SEE MLM)
      TENSION ON DRIVE BELT. CHECK
CHECK
FOR LOOSE PULLEYS CHECK FOR BIND, IN
MOTOR AND SPINDLE BEARINGS.
ALL GOOD?
Y N
1
1 012
MAKE NECESSARY REPAIRS. RECONNECT
| THERMAL BUTTON IF TRIPPED.
I
013
POWER OFF. RECONNECT VAC SUPPLY TO
DETB1-1 AND DETB1-2. POWER ON.
DDES DRIVE MOTOR FAIL TO START?
YN
 014
1
 DOES DRIVE MOTOR RUN SLOWLY?
I
1
  YN
  1
Ł
  1
   015
   PROBE AA2-D4-G08(+SPEED PULSES)
   IS LINE PULSING?
    Y N
      1
    I.
    t
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  ۱
  1
    1
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3 3 2
     2
DEF
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2 2
1
  1
1
  1
  1
  1
  016
POWER OFF. CHECK CONTINUITY OF
CABLE AA2-A3 AND CONNECTIONS TO
| DETB1-7 AND DETE1-8. SEE PAGE
0634-2.
CABLE AND CONNECTIONS OK?
IYN
  ł
1 017
| | REPLACE CABLE IF BAD. REPAIR
| | CONNECTIONS IF BAD.
1
  1
  018
I.
POWER
        DEF. GHECK TRANSDUCER
ADJUSTMENT.(SEE MLM)
  ADJUSTMENT GOOD?
ł
  Y N
  1
  | 019
1
  ADJUST TRANSDUCER.
1
1
L
  1
  020
Ŧ
 REPLACE TRANSDUCER.
021
PROBE AA2-E2-B04(+SPEED OK)
IS LINE UP?
YN
Ł
1.022
PROBE AA2-E2-B03(+SPEED PULSES)
AND AA2-E2-D05(+SPEED SS)
EOTH LINES PULSING?
YN
  1
  023
  CHECK
                         TRANSDUCER
÷
  ADJUSTMENT. (SEE
                        MLM)
                                 IF
1
  ADJUSTMENT OK
                      REPLACE
                               CARD
  AA2-D4.
1
  024
ł.
 PROBE AA2-E2-B02(+SPEED HOLDOVER)
1
  IS LINE UP?
1
  YN
  1
  025
  I CHECK
                         TRANSDUCER
I
  ADJUSTMENT. (SEE
                        MIM)
                                 IF
  ADJUSTMENT OK
                     REPLACE
                               CARD
  AA2-D4.
1
1
              02 APR 75
                         PN2547547
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              EC828518 PEC825412
зз
нJ
                      MAP 0605-2
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MAP 0605-2

FG

62GV 105 DFHJ 2 2 2 2 SYSTEM 32 111 I T I PAGE 3 OF З 1 1 1 1 1 1 Į 1 026 | CHECK SHIELD OF TRANSDUCER | CABLE FOR GOOD GROUND | CONNECTION AT SYSTEM. IF OK | REPLACE CARD AA2-E2. 1 1 I 1 11 1 | | | 027 I L GO TO MAP 0603, ENTRY POINT A. ł ١ 1 11 028 | GO TO MAP 0603, ENTRY POINT A. L I 029 GO TO MAP 0606, ENTRY POINT A.

> 02APR75 PN2547547 EC828518 PEC825412

> > MAP 0605-3

SYSTEM 32

PAGE 1 OF 2

ENTRY POINTS

FROM	I	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0602		A A	1	001
0611	į	A	1	001

001

(ENTRY POINT A) POWER OFF. PRESS ON THE RED MOIUK THERMAL TRIP BUTTON, LOCATED ON THE BRAKE END OF MOTOR. DOES MOTOR NOW RUN? ΥN 1 1 002 | PROBE AA2-G2-B06(+BRAKE FAILURE) | IS LINE UP? YN | | 003 I I METER VAC SUPPLY ACROSS DETE1-1 AND DETB1-2, LOCATED ON REAR OF 62GV CASTING, FOR 208/230V VAC 1 | | 60 HZ DR 240 VAC 50 HZ. I VAC SUPPLY PRESENT? 1 Y N 1 1 ł 1 METER VAC SUPPLY AT ACTB1, BETWEEN TERMINALS 1 AND 2, FOR 208/230 VAC 60 HZ DR 240 VAC 50 HZ. IF VOLTAGE IS PRESENT, CABLE IS OPEN BETWEEN ACTO1 AND CONTACT 004 1 L £ L ł. 1 | BETWEEN ACTB1 AND 62GV-DETB1. | IF VOLTAGE IS NOT PRESENT, 1 ł | GO TO MAP 0310, 1 | ENTRY POINT A. 1 1 1 - 1 005 E I POWOR OFF. GO TO MLM TO I IDENTIFY THE TYPE OF MOTOR THAT 1 IS INSTALLED. 1 1 1 IS THIS AN OLD STYLE DISK DRIVE MOTOR? L 1 Y N 1 ł 1 1 1 ł 1 ł 1 1 1 Ł ł 1 COPYRIGHT IBM CORP 1975 Ł 1 1 I 1 ١ 1 1 2222 ABCD

EXIT PO	INTS		
ЕХІТ ТН	IS MAP	ΙΤΟ	
PAGE	STEP	I MAP	ENTRY
NUMBER	NUMBER	I NUMBER	POINT
1	004	0310	А
2	015	0605	А
2	017	0605	А

1000777 PN2547548

EC832050 PEC828518

MAP 0606-1

ABCD 62GV 106 1 1 1 1 SYSTEM 32 L 1 1 PAGE 2 OF 2 í 1 1 L Ł ł 1 1 t 1 1 1 006 L 1 1 REPLACE THE DISK DRIVE START ł t | RELAY. (SEE MLM). | POWER ON L 1 ł 1 DOES THE DISK DRIVE MOTOR I I Ł 1 I Y N L 1 1 007 ł Ł 1 | REPLACE DRIVE MOTOR. (SEE 1 ł | | MLM) 1 1 1 L ł 008 DISK DRIVE START RELAY 1 THE L WAS FAULTY. ł 1 009 1 | | REPLACE DRIVE MOTOR. (SEE MLM) 11 1 010 FCU ERROR. FALSE BRAKE FAILURE L | INDICATED. 011 OBSERVE MOTOR AND BRAKE FOR 10 TO 20 MINUTES FOR OVERHEATING? ARE THEY GETTING HOT? Y N ł 012 I CHECK MOTOR AND BRAKE LEAD I CONNECTIONS FOR POOR CONTACT. IF I MOTOR TRIPS AGAIN REPLACE MOTOR. BRAKE LEAD 013 GO TO THE MLM TO IDENTIFY THE TYPE OF MOTOR THAT IS INSTALLED. THIS AN OLD STYLE DISK DRIVE IS MOTOR? Y N ۱ 014 MEASURE THE POWER OFF. AND 4 ON THE START RELAY. SEE MLM. USE THE 'X1' SCALE ON THE METER. ZERO Ł WAS OHMS RESISTANCE | MEASURED? I Y N 1 1 | 015 1 | GO TO MAP 0605, ENTRY POINT A. 1 T 016 REPLACE THE DI RELAY. (SEE MLM) THE DISK DRIVE START L

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E MAP 0606-2

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100CT77 PN2547548 EC832050 PEC828518 MAP 0606-2 62GV READ MAP

SYSTEM 32

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REPLACE CARD AA2-E2

PAGE 1 DF 1

ENTRY POINTS

FROM	ł	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0651	Î	А	1	001

```
001
(ENTRY POINT A)
PROBE AA2-E2-M02(-1F WRITE CLOCK)
IS LINE PULSING?
YN
I
002
REPLACE CARD AA2-D2
1
1
003
PROBE AA2-C2-G03(-SELECT OUT DEMOD)
IS LINE UP?
YN
I
004
PROBE
          AA2-C2-J07(-SELECT
                              IN
DEMOD)
IS LINE UP?
11
005
 | GO TO MAP 0608. ENTRY POINT A.
Ĺ
L
  1
1 1
L
 006
REPLACE CARD AA2-E2
1
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EXIT POINTS

1

EXIT TH	IS MAP	то	
PAGE NUMBER	STEP   NUMBER	MAP NUMBER	ENTRY

005 | 0608

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MAP 0607-1

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MAP 0608-1

62GV 108

SYSTEM 32

PAGE 1 DF 2

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER	l	ENTRY	PAGE NUMBER	STEP NUMBER
0607		A A	1	001

001 (ENTRY POINT A) ADD THE FOLLOWING JUMPERS: AA2-C2-G03 TO D08 AA2-C2-J07 TO J08 METER DC VOLTAGE BETWEEN AA2-C2-D11 AND AA2-C2-D13. IS VOLTAGE GREATER THAN 1 VOLT? YN 002 | REMOVE JUMPERS PREVIOUSLY | INSTALLED. JUMPER AA2-E2-B12 TO 1 D08. IS ARM NOW AT OUTER STOP? (SEE | PAGE 0630-1) YN 1 1 003 L GO TO MAP 0622. ENTRY POINT A. 1 Ł 1 ł 1 1 004 PROBE REMOVE JUMPER. AA2-D4-D10(+DESIRED VELOCITY) 1 IS LINE PULSING? YN 1 1 005 1 PROBE AA2-E2-P04(-SELECT OUT ۱ I MOD) ł I IS LINE PULSING? 1 YN I 11 ï ۱ 1 006 | | REPLACE CARD AA2-E2 1 11 T 007 t 1 PROBE AA2-D4-D07(LINEAR REGION) 1 ł IS LINE PULSING? 1 Y'N ł 111 1 ł

1 1 ł 11 1 11 1 1 ١ 1 1 1 1 1 1 COPYRIGHT IBM CORP 1975 Ł ţ I 1 1 1

2222 ABCD

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1

1

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J.

EXIT POINTS

EXIT	THIS	MAP	ТО	

PAGE	STEP	1	MAP	ENTRY
NUMBER	NUMBER	 +-	NUMBER	POINT
1	003	ł	0622	A

02APR75	PN2547558
EC828518	PEC825412

MAP 0608-1

MAP 0608-2

ABCD 62GV 108 1 1 1 1 SYSTEM 32 1 11 1 PAGE 2 OF 2 ۱ I 1 ۱ 1 1 l 11 ţ 1 ί 008 I I JUMPER AA2-E2-D12 TO D08 I DOES ARM CONTINUOUSLY 1 I DSCILLATE RAPIDLY ACROSS DISK 1 ١ 1 Y N ۱ 11 1 ł 009 ۱ ١ 1 REPLACE CARDS AA2-C4 AND ţ ١ 1 | | D4. REMOVE JUMPER 1 L ۱ 1 1 I ţ 1 1 L | | 010 Ł | | REPLACE CARD AA2-C4. REMOVE Į. Ĺ JUMPER. L 1 Ι. ł 1 11 011 REPLACE CARD AA2-C2 ł £ 1 1 1 1 012 REPLACE CARD AA2-E2 1 1 013 REMOVE JUMPERS. REPLACE CARD A A2-C2.

# 02APR75 PN2547558 EC828518 PEC825412

MAP 0608-2

SYSTEM 32

PAGE 1 DF 1

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0651	1	 A	1	001

EXIT TH	IS MAP	то то	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
1	004	0614	A
	005	0614	A

EXIT POINTS

001 (ENTRY POINT A) PROBE AA2-D4-D11(-SETTLED ON TRACK) IS LINE DOWN? Y N
   002   LEAVE PROBE ON AA2-D4-D11. JUMPER   AA2-C2-D11 TO AA2-C2-D13.   LINE DOWN?   Y N
   003   REMOVE JUMPER. REPLACE CARD   AA2-D4.
OO4 POWER OFF. REMOVE JUMPER. POWER ON. WAIT 45 SECONDS. GO TO MAP 0614. ENTRY POINT A.
005 Go to Map 0614, Entry point A.

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02APR75 PN2547559 EC828518 PEC825412

MAP 0609-1

SYSTEM 32

PAGE 1 OF 1

ENTRY POINTS

FROM	1	ENTER	THIS N	4 A P		
MAP NUMBER	1	ENTRY POINT	PAGE	ĒR	STEP	!
0651	1	A	1		001	

```
001
(ENTRY POINT A)
METER DC VOLTAGE AA2-A3-D07(NEG) TO
D08(PDS) FOR 8.6 VOLTS.(POWER DN IF
PREVIOUSLY REMOVED.
IS VOLTAGE WITHIN RANGE 7.7V TO 9.5
٧?
YN
L
 002
REPLACE CARD AA2-C2
I
I
003
POWER OFF. INSTALL SERVO SIMULATOR.
(SEE NOTE PAGE 0630-1) POWER DN.
PROBE AA2-C2-J05(-SERVO CLDCK)
IS LINE PULSING?
YN
1
1 004
REPLACE CARD AA2-C2
Ł
1
005
CHECK CONTINUITY OF CABLE D-WIA1.
(SEE PAGE 0634-2)
IS CAELE CONTINUITY GOOD?
Y N
1
006
REPLACE CABLE
1
007
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REPLACE DE UNIT. (SEE MLM)

02APR75 PN2547585

EC828518 PEC825412

MAP 0610-1

62GV 113

SYSTEM 32

PAGE 1 DF 2

ENTRY POINTS

FROM	ļ	ENTER	THIS MAP		EXIT TH	IS MAP	 I то	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER	PAGE NUMBER	STEP NUMBER	I MAP NUMBER	ENTRY POINT
0651	-+-	 A	1	001	2	015	0100	 A
					1	003	0606	Δ
					2	011	0612	Α
					2	014	0615	Δ

EXIT POINTS

014

0615

001 (ENTRY POINT A) OBSERVE DRIVE MOTOR, DISK AND DRIVE BELT IS DISK SPINNING? Y N 1 002 I IS DRIVE MOTOR SHAFT TURNING? Y N L | | 003 I GO TO MAP 0606, ENTRY POINT A. 1 004 I CHECK BELT AND PULLEYS. MAKE | REPAIRS. 005 PROBE AA2-E2-U02 IS LINE DOWN? YN I 006 | METER DC VOLTAGE AA2-C4-J12 (NEG) | AA2-C4-J08 (POS) FOR 12 VOLTS. | VOLTAGE WITHIN RANGE 10.8V TO | 13.2V? | Y N I 1 I 007 | REPLACE CARD AA2-C4 (SOURCE) | CARD AA2-C2 (LOADI) | CARD AA2-D4 (LOAD2) Ł L 1 ١ 008 Ł PROBE AA2-E2-MO2(1F WRITE CLOCK) IS LINE PULSING? 1 İYN I 1 009 REPLACE CARD AA2-D2 ł 1 L 1 I 1 ł 1 1 1 1 

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18AUG76 PN2547609 EC830357 PEC828518

MAP 0611-1

62GV 113 ΑB 1 1 SYSTEM 32 ł 1 PAGE 2 OF 2 I Ł 1 I ١ 010 1 PROBE AA2-C2-J05(+SERVO CLOCKS) ł | IS LINE PULSING? Y N 1 I 011 I GD TO MAP 0612, ENTRY POINT A. I Ł L L 1 012 PROBE AA2-E2-M10(+LOOK AHEAD SS) IS LINE PULSING? | | 013 | | REPLACE CARD AA2-E2 11 014 1 | GO TO MAP 0615, ENTRY POINT A. L 015 GO TO MAP 0100, ENTRY POINT A.

SYSTEM 32

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1 1

I I A B

PAGE 1 OF 1

ENTRY POINTS FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 0611 | A 1 001 0651 | A 1 001

001 (ENTRY POINT A) POWER OFF. INSTALL SER VO SIMULATOR. SEE NOTE PAGE 0630-1. POWER ON. WAIT 45 SECONDS. PROBE AA2-C2-J05 (+SER VO CLOCKS) IS LINE PULSING? Y N | 002 | METER DC VOLTAGE AA2-C2-B09 (PDS) | AA2-C2-D08 (NEG) FOR 12 VOLTS. | VOLTAGE WITHIN RANGE 10.8V TO 1 13.2V ? I Y N 1 Ł Ł 1 003 | | REPLACE CARD AA2-C4 (SDURCE) | | CARD AA2-C2 (LOAD1) | | CARD AA2-D4 (LOAD2) 1 | | REMOVE SERVO SIMULATOR 1 1 1 004 I REPLACE CARD AA2-C2. REMOVE THE SERVO SIMULATOR. 005 POWER OFF. REMOVE THE SERVO SIMULATOR. CHECK CONTINUITY OF CABLE D-W1B1. SEE PAGE 0634-2 IS CONTINUITY DK? Y N 006 REPLACE CABLE. Ł ł 007

POWER ON. METER DC VOLTAGE AA2-A3-D07 (NEG) D08 (PDS) FDR 8.6 VOLTS IS VOLTAGE BETWEEN 7.7V AND 9.5V? Y N

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L 1 L I 1 1 1 1 . 1 008 | REMOVE CONNECTOR D-WIA1 ON DISK. I IS VOLTAGE NOW OK? I Y N 1 1 1 009 | REPLACE CARD AA2-C2 t 010 Ł REPLACE THE DE. (SEE MLM) t 011 REPLACE THE DE. (SEE MLM)

MAP 0612-1

A B

04 APR77 PN2547627 EC 830358 PEC 830357

MAP 0612-1

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62GV 115

SYSTEM 32

PAGE 1 OF 4

ENTRY POINTS

FROM	١	ENTER	THIS M	P
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0651	1	Α	1	001

001 (ENTRY POINT A) POWER OFF. CAUTIOUSLY TEST TEMPERATURE OF ERAKE HOUSING BY CAUTIOUSLY TEST HAND. IS THE BRAKE HOT? YN. T 002 POWER ON. WAIT 45 SECONDS. DESERVE ACTUATOR ARM. ARM AT HOME POSITION? (SEE PAGE 0630-1) YN 1 Ł 003 I. ARM BEHIND HOME POSITION? (SEE ÷ | PAGE 0630-1) I. YN 1 1 1 L 004 1 JUMPER AA2-E2-D12 TO D08 AND t 1 OBSERVE ACTUATOR ARM 1 ACTUATOR ARM AT OR HITTING INNER STOP? (SEE PAGE 0630-1) I Y N 1 1 I. ł I 1 1 005 1 L I GO TO MAP 0622, ENTRY POINT ŧ I A • 11 1 ł ł 1 1 1 I 006 t 1 POWER OFF. REMOVE JUMPER. 1 L INSTALL SERVO SIMULATOR. SEE ł PAGE 0630-1. POWER ON. WAIT 45 SECONDS. PROBE L ł SECONDS. 1 1 45 ( AA2-C2-J05(+SERVO CLOCKS) T 1 | IS LINE PULSING? | Y N 1 1 1 I | 007 | REPLACE CARDS AA2-C2 AND | E2. REMOVE THE SERVO 1 1 1 1 ١ I SIMULATOR 1 1 1 ł 1 1 1 ł ļ 1 I. 1 1 l , COPYRIGHT IBM CORP 1975 ł 1 1 1 1 1 1 4 2 2 2 ABCD

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EXIT POINTS

EXIT TH	IS MAP	то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
4	041	0605	A
1	. 005	0622	A

02APR75 PN2547628

EC828518 PEC825412

MAP 0613-1

вср 62GV 115 ΕF MAP 0613-2 1 1 1 2 2 . SYSTEM 32 1 t I PAGE 2 DF 4 I 1 1 I 1 1 1 1 1 1 Ł 008 1 017 POWER OFF AND REMOVE THE AA2-C4 REPLACE CARD AA2-D4 CARD. REMOVE THE SERVO 1 SIMULATOR. MEASURE THE PESISTANCE OF ACTUATOR COILS AA2-A3-B02 TO B03 AND AA2-A3-B02 TO B04. RESISTANCE 1 018 PROBE AA2-E2-J04(-STORE BIT 16) AND AA2-52-603(-STORE BIT 32). EITHER LINE DOWN OR PULSING? SHOULD BE 40 TO 100 OHMS. IS RESISTANCE GOOD? YN £ 1 Ł 1 019 L JUMPER AA2-E2-D02 TO D08. (FILE IS NOW READY TO SYSTEM.) IMPL 1 009 1 REINSTALL AA2-C4 CARD. CHECK 1 | | CABLE AA2-A3 CONTINUITY. SEE DIAG 01 AND LOAD PROGRAM ID PAGE 0634-2. IF CABLE IS OK 62GV4. Ł DO DIAGNOSTICS RUN TO ALL TESTS REPLACE DE UNIT. (SEE MLM) 1 RAN MESSAGE? 1 1 I Y N 1 1 1 010 | REINSTALL AA2-C4 CARD. POWER 020 

 I
 POWER OFF. REMOVE JUMPER. POWER

 I
 ON.

 WAIT
 45

 SECONDS.
 PROBE

 I
 AA2-D4-D11 (-SETTLED ON TRACK)

 ON. METER DC VOLTAGE AA2-C2-B04 TO DO8 AND AA2-C2-B05 TO D08. IS VOLTAGE BETWEEN +0.4V AND I IS LINE PULSING? -0.4V ON BOTH LINES? YN IYN 1 011 1 021 REPLACE CARDS AA2-E2, C4, AND I I IS LINE UP? IIYN 1 04. 1 1 1 1 1 1 022 1 PROBE AA2-E2-D02 (-FILE 012 1 1 1 F | | | READY) CHECK CABLE IN D-WIB1 FOR CONTINUITY. SEE PAGE 0634-2. IF L IS LINE DOWN? 1 1.1 | CABLE OK REPLACE DE UNIT. (SEE 1 YN 1 1 Ł MLM) ł 1 1 1 1 1 013 1 PROBE L AA2-D4-G03(+OUT CURRENT ł SELECTED) L T 1 I IS LINE DOWN? 1 Y N 1 1 014 ł REPLACE CAPDS AA2-D4 AND C4. L 1 t 015 Ł PEPLACE CARD AA2-D4. I. ł 016 PROBE AA2-E2-D06(+BRAKE FAILURE) IS LINE DOWN? Y N 1 1 1 L 1 1 1 L 1 L 1 I L 1 1 1 1 02APR75 PN2547628 1 ŧ 1 1 1 I 1 I t 1 1 Ł L I EC828518 PEC825412 4 3 3 3 3 3 2 2 GHJKLM ΞF MAP 0613-2

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MAP 0613-3
             62GV 115
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             SYSTEM 32
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                                                 Т
                                                     PROBE AA2-E2-J09(-SEEK COMPLETE)
                                                     | POWER OFF. INSTALL SERVO
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IS LINE UP?
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                                                     | SIMULATOR. (SEE PAGE 0630-1)
                                                   POWER ON. WAIT 45 SECONDS.
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                                                               AA2-E2-D02 (-FILE
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                                                   | PROBE
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 PROBE AA2-D4-J05(-OUT)
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IS LINE UP?
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 | POWER OFF. INSTALL SERVO
| SIMULATOR. SEE PAGE 0630-1.
| POWER ON. WAIT 45 SECONDS.
                                SERVO
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                                                      REMOVE
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 | PROEE AA2-E2-DO2 (-FILE READY)
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 IS LINE DOWN?
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                                                     I REPLACE CARD AA2-C4. REMOVE
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                                                     | THE SERVO SIMULATOR.
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    I REPLACE CARD AA2-C2. REMOVE
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  | | THE SERVO SIMULATOR.
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                                                   | REPLACE CARD AA2-D4
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I.
  JUMPER AA2-C4-J11 TO JOB. METER
                                               | | 037
                                                | REPLACE CARD AA2-D4
   DC VOLTAGE AA2-C2-D11 TO
  1
                                               1
 AA2-C2-D13 ON 10 VOLT RANGE.
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                                                1
 IS VOLTAGE GREATER THAN 3.0
VOLTS?
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   YN
                                                REPLACE CARD AA2-C4
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 | | REPLACE CARDS AA2-D4 AND C4.
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  | | REMOVE THE SERVO SIMULATOR
| | AND JUMPER.
                                              REMOVE JUMPER. REPLACE CARD AA2-E2.
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 | REPLACE CARD AA2-C2. REMOVE THE
1
 SERVO SIMULATOR AND JUMPER.
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 C 30
  JUMPER
           AA2-E2-DC2 TO D08.(SEE
1
  PAGE 0630-1)
1
 DOES ACTUATOR ARM MOVE TO INNER
L
  STOP?
۱
  YN
Ł
1 1
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 031
  | REPLACE CARDS AA2-C4 AND E2.
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  REPLACE CARD AA2-E2
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EC828518 PEC825412

MAP 0613-3

-- A G 62GV 115 12 SYSTEM 32 1 I PAGE 4 DF 4 11 L 1 11 040 REPLACE CARD AA2-E2 I. I 041 GO TO MAP 0605, ENTRY POINT A.

.

02 APR75 PN2547628 EC828518 PEC825412 MAP 0613-4 ~ 62GV 116

SYSTEM 32

PAGE 1 OF 1

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0609	1	Α	1	001
0651	1	A	1	001

001 (ENTRY POINT A) PROBE AA2-E2-J09 (-SEEK COMPLETE) IS LINE UP? YN 1 I. 002 POWER OFF. INSTALL SERVO SIMULATOR. SEE PAGE 0630-1. POWER DN. WAIT 45 SECONDS. PROBE AA2-E2-D02 (-FILE READY) IS LINE DOWN? 1 YN 1 I. 003 ł | REPLACE CARD AA2-C2. REMOVE THE | SERVO SIMULATOR I ł 1 I. L 004 1 JUMPER AA2-C4-J11 TO J08. METERDCVOLTAGEAA2-C2-D11TOAA2-C2-D13ON 10VOLT RANGE. IS VOLTAGE GREATER THAN 3.0 VOLTS? ۱ Y N L T ۱ 005 ł REPLACE CARDS AA2-D4 AND C4. 1 REMOVE THE SERVO SIMULATOR AND JUMPER. Ł 1 1 1 1 006 REPLACE CARD AA2-C2. REMOVE THE SERVO SIMULATOR AND JUMPER. Ł 007 POWER OFF. INSTALL THE SERVO SIMULATOR. SEE PAGE 0630-1. POWER ON. WAIT 45 SECONDS. PROBE AA2-E2-D02 (-FILE READY) IS LINE DOWN? Y N 1 ۱ 1 ۱ 1 ł. 1 1 COPYRIGHT IBM CORP 1975 ۱ ٤

1 1 A B

1 1

AB MAP 0614-1 1 1 1 1 1 ł 1 1 1 1 008 REPLACE CARD AA2-E2. REMOVE THE SERVO SIMULATOR. Į. 009 REPLACE CARD AA2-C4. REMOVE THE

SERVO SIMULATOR.

02APR75 PN2547629

EC828518 PEC825412

MAP 0614-1

SYSTEM 32

PAGE 1 OF 1

ENTRY POINTS

FROM	!	ENTER	THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0611	1	A	1	001
0651	1	A	1	001

```
001
(ENTRY POINT A)
PROBE AA2-E2-U12(+WRITE CURRENT ON)
IS LINE DOWN OR PULSING?
YN
ł
002
REPLACE CARD D-W1E3
t
1
003
POWER OFF REMOVE D-W1E3 CARD. METER
CONTINUITY AA2-E2-U12 TO D-W1B3G04.
IS CONTINUITY OK?
YN
1
004
REPLACE CABLE D-W185. REINSTALL
CARD D-W183.
1
ł
005
REPLACE CARD AA2-E2. REINSTALL CARD
D-W183.
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02APR75 PN2547630 EC828518 PEC825412 -62GV 121

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SYSTEM 32

PAGE 1 OF 1

ENTRY POINTS

FROM	1	ENTER	THIS	мар	
MAP . NUMBER		ENTRY POINT	PÄGE	ER	STEP NUMBER
0651		A	1		001

• 001 (ENTRY POINT A) POWER OFF. CHECK FOR LOOSE PULLEYS, SLACK DRIVE BELT. (BROKEN TENSION SPRING) ALL OK? YN I 002 MAKE REPAIRS T 003 POWER ON. WAIT 45 SECONDS. OBSERVE ACTUATOR ARM (SEE PAGE 0630-1) IS ARM BEHIND HOME? YN I 004 REPLACE CARD AA2-E2 1 I 005 REPLACE CARDS AA2-C4, D4 AND E2.

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02APR75 PN2547631 EC828518 PEC825412

MAP 0616-1

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SYSTEM 32
PAGE 1 OF 1
ENTRY POINTS
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FROM | ENTER THIS MAP
MAP | ENTRY PAGE STEP
NUMBER | POINT NUMBER NUMBER
     ------
            _____
 0651 A
                             001
                   1
001
(ENTRY POINT A)
PROBE AA2-D4-D11(-SETTLED ON TRACK)
IS LINE UP?
YN
ł
1 002
REPLACE CARD AA2-E2
ł
1
003
PROBE AA2-E2-M03 (-SELECT IN DEMOD)
IS LINE PULSING?
YN
1
004
I REPLACE CARDS AA2-D4 AND E2.
Ł
I
0.05
PROBE AA2-D4-B07 (-ON TRACK). NOTE
LEVEL THEN ADD JUMPER AA2-C2-D11 TO
AA2-C2-D13.
DID LINE CHANGE?
YN
T
006
REPLACE CARD AA2-D4
F
1
0.07
REPLACE CARDS AA2-C4 AND C2.
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02APR75 PN2547632 EC828518 PEC825412

MAP 0617-1

SYSTEM 32

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PAGE 1 OF 1

ENTRY POINTS

\_\_\_\_\_ FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER -----------------0651 A 1 001 0.01 (ENTRY POINT A) PROBE AA2-E2-D07 (-FCU SEEK 2) IS LINE DOWN? YN T 1 002 POWER OFF AND OBSERVE ACTUATOR ARM. SEE PAGE 0630-1. I IS ARM AT OUTSIDE STOP? YN 1 003 t. | JUMPER AA2-E2-U02 TO U08. POWER ON. OBSERVE ACTUATOR ARM. SEE ł PAGE 0630-1. ł I IS ARM AT OUTSIDE STOP? YN ł 1 - 1 1 004 SET GENERAL LOGIC PROBE LATCH ł 1 1 1 | (-LINEAR REGION) AND REMOVE | JUMPER ON E2-U02. | IS UP LIGHT ON? (INDICATES UP 1 Ł | PULSE) 1 I Y N t 1 1 1 1 005 | | LEAVE PROBE ON AA2-D4-D07. | JUMPER AA2-D4-B04 TO D08. 1 L IS UP LIGHT ON? (INDICATES ł 1 UP PULSE) I I ł I 111 L | | 006 | | REMOVE JUMPER. REPLACE Ł 1 | CARD AA2-D4 1 ł 1 | | 1 T ļ 1 1 1 1 007 1 1 | | REMOVE JUMPER. REPLACE CARD I ſ AA2-C2 1 1 1 1 1 1 1 008 1 L | REPLACE CARD AA2-E2 ł 1 L I. ł 1 1 1 COPYRIGHT IBM CORP 1975 1 1 L 11 1 1 1 АВС

АВС MAP 0618-1 1 1 1 I 1 ł 1 1 ł L 1 1 11 1 009 | REPLACE CARD AA2-E2 L 1 1 . - 1 010 REPLACE DE UNIT. SEE MLM Ł t 1 011 REPLACE CARDS AA2-E2 AND D4.

> 02APR75 PN2547633 EC828518 PEC825412

> > MAP 0618-1

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SYSTEM 32

PAGE 1 OF 1

ENTRY POINTS \_\_\_\_ \_\_\_\_ FROM ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER - ---• + • -----\_\_\_\_ 0651 | A 1 001 001 (ENTRY POINT A) METER DC VOLTAGE AA2-C2-B09 (PDS) AA2-C2-D08 (NEG) FOR +12 VOLTS. IS VOLTAGE WITHIN RANGE 1.0.8V то 13.2V? Y N ١ 002 | REPLACE CARD AA2-C4 L 003 PROBE AA2-C2-D09 (AGC GEN) IS LINE DOWN? YN 1 004 I REPLACE CARD AA2-C2 ł 1

005 REPLACE CARDS AA2-C2 AND AA2-E2

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MAP 0619-1

SYSTEM 32

PAGE 1 OF 1

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0651	Ī	A	1	001

001 (ENTRY PDINT A) POWER OFF. INSTALL SERVO SIMULATOR. SEE PAGE 0630-1. POWER ON. WAIT 45 SECONDS. PROBE AA2-E2-D02 (-FILE READY)
IS LINE DOWN?
YN
002
REPLACE CARD AA2-C2. REMOVE THE
SERVO STANU ATOR
SERVE SINCLATOR
003
REPLACE DE UNIT. SEE MLM. REMOVE
THE SERVO SIMULATOR

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02APR75 PN2547635 EC828518 PEC825412

# MAP 0620-1

SYSTEM 32

PAGE 1 OF 1

ENTRY POINTS

FROM	1	ENTER	THIS	MAP	
MAP NUMBER	1	ENTRY POINT	PAGE	ER	STEP NUMBER
0651	1	A	1		001

001 (ENTRY POINT A) PROBE AA2-E2-J12 AND AA2-E2-J13 TO DETERMINE IF EITHER LINE PULSES OVER A 30 SECOND DURATION. ARE BOTH LINES PULSING? YN I 002 REPLACE CARD AA2-E2 1 ł 003 PROBE AA2-E2-S09(-PLO RUN) IS LINE PULSING? YN I. 004 REPLACE CARD AA2-E2 1

## I 005 REPLACE CARD AA2-C2

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02APR75 PN2547636 EC828518 PEC825412

MAP 0621-1
62GV 133

SYSTEM 32

PAGE 1 OF 1

ENTRY POINTS

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FROM	1	ENTER	THIS MAP	
MAP NUMBER	-+-   	ENTRY	PAGE NUMBER	STEP NUMBER
0608 0613 0651		A A A	1 1 1	001 001 001

(ENTRY POINT A) POWER OFF. REMOVE ANY JUMPERS PREVIOUSLY INSTALLED. REMOVE AA2-C4 CARD. METER RESISTANCE OF ACTUATOR COILS AA2-A3-BO2 TO AA2-A3-BO3 AND AA2-A3-B02 TO AA2-A3-B04. Is resistance between 40 and 100 OHMS ON BOTH LINES? YN L 1 002 REINSTALL CARD AA2-C4. CHECK CONTINUITY OF CABLE D-WIA1. SEE PAGE 0634-2. IS CONTINUITY DK? YN 1 1 1 003 | REPLACE CABLE D-WIA1 1 1 1 1 004 CHECK THAT ACTUATOR LOCKOUT LEVER DOES NOT INTERFERE WITH ARM. IF OK, REPLACE DE UNIT. (SEE MLM) ۱ 005 REINSTALL CARD AA2-C4. POWER ON. JUMPER AA2-A3-B04 TO D08. (SEE PAGE 0630 - 1IS ARM AT OR HITTING OUTSIDE STOP? Y N 1

006 I CHECK THAT ACTUATOR LOCKOUT LEVER DOES NOT INTERFERE WITH ARM. IF OK, REPLACE DE UNIT. (SEE MLM)

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MAP 0622-1 Α 1 1 1 1 007 REMOVE JUMPER. PROBE AA2-D4-D11(-SETTLED ON TRACK) IS LINE UP? Y N Ł 008 | REPLACE CARD AA2-D4 1 009 REPLACE CARDS AA2-C4 AND AA2-E2

> 02APR 75 PN2547637

EC828518 PEC825412

MAP 0622-1

62GV 210

### SYSTEM 32

PAGE 1 DF 1

ENTRY POINTS

FROM	ł	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP
C643	1	A	1	001

001 (ENTRY POINT A) POWER OFF. CHECK CABLE D-WIB5. SEE PAGE 0634-1. IS CABLE GOOD? Y N | | 002 | REPLACE CABLE D-WIB5. REMOVE | JUMPER. | | 003 REPLACE CARDS D-WIB3 AND D-WIA5. REMOVE JUMPER.

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02APR75 PN2547553 EC828518 PEC825412

MAP 0623-1

PAGE 1 OF 1

ENTRY A POWER OFF.REMOVE JUMPERS. CHECK CABLES D-W1B5, D-W1B6 SEE PAGE 0634-1 IF CABLES ARE GOOD REPLACE CARDS D-W1A5 AND D-W1B3 IF STILL FAILS REPLACE DE UNIT SEE MLM.

### COPYRIGHT IBM CORP YYYY

23JAN76 PN2547594 EC828692 PEC828518 MAP 0624-1 62GV 230

Ŧ PAGE 1 OF 3 ł. 1 ENTRY POINTS 007 (3ME, 5MB AND 9MB FILES HAVE TWO \_\_\_\_\_ HEADS, 13.7MB FILES HAVE THREE FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER HEADS) THIS UNIT HAVE THREE DATA DDES HEADS? Y N 0642 | A 001 1 1 800 | SET SSW4 TO1. DEPRESS ENTER TWICE. PROBE AA2-A4-B04 001 I IS LINE DOWN? (ENTRY POINT A) POWER OFF. JUMPER AA2-E2-S13 TO UO8. POWER ON. WAIT 45 SECONDS. IMPL DIAG 01. LOAD PROGRAM ID 62GVA7. SET SSW 4 TO 0. DEPRESS ENTER. PROBE AA2-E2-U04 (+MULTI HEAD SELECTED) 1 009 | PROBE AA2-A4-B09(HEAD SEL 0) | IS LINE UP? 1 1 HEAD SELECTED) I Y N IS LINE DOWN? 1 Y N | | 010 L I GO TO MAP 633, ENTRY D 1 002 PROBE AA2-A4-BO4 | 011 IS LINE DOWN? | PROBE AA2-A4-BO8(HEAD SEL 1) YN IS LINE DOWN? 1 Ł 1 YN 1 1 L 1 003 L 1 | PROBE AA2-A4-B09(HEAD SEL 0) | 012 L 1 I IS LINE DOWN? | | GO TO MAP 633, ENTRY D IYN 1 ł | 013 1 1 | POWER OFF. CHECK | D-W1B5. SEE PAGE 0634-1. 1 004 CABLE 1 I GO TO MAP 633, ENTRY D I IS CABLE GOOD I Y N 1 005 1 | PROBE AA2-A4-BOS(HEAD SEL 1) 1 L 1 IS LINE UP? 1 014 I Y N I I REPLACE FAULTY CABLE Ł I 1 1 E | | 015 | | REMOVE JUMPER. REPLACE CARD | | D-W1B3. IF FAILS TO FIX FAULT | | 006 | | GD TD MAP 633,ENTRY D L ł ł 1 | REPLACE DE UNIT. L L ÷ 1 L 1 ł 1 1 COPYRIGHT IBM CORP 1975 18AUG76 PN2547595 1 1 1 1 1 ł 1 I 1 EC830357 PEC828692 3 3 1 2 2 MAP 0625-1 ABC DE

C 1

DΕ 62GV 230 1 1 1 1 ; İ PAGE 2 OF 3 1 1 | 016 REMOVE JUMPER. REPLACE AA2-E2 I CARD 1 017 PROBE AA2-A4-B10(HEAD SEL 2) IS LINE UP? Y N 1 | 018 I GO TO MAP 633, ENTRY D 1 019 SET SSW4 TO 1. DEPRESS ENTER TWICE. PROBE AA2-A4-B04. IS LINE DOWN? Y N 1 020 PROBE AA2-A4-B09(HEAD SEL 0) IS LINE UP? I Y N 1 | 021 I GO TO MAP 633, ENTRY D 1 1 1 022 | PROBE AA2-A4-BO8(HEAD SEL 1) IS LINE DOWN? 1 I Y N 11 1 023 1 I GO TO MAP 633, ENTRY D 1 ł 024 1 PROBE AA2-A4-B10 IS LINE UP? l 1 YN 1 1 025 Ł | GO TO MAP 633, ENTRY D Ĵ 1 1 ł 1 1 1 1 ł 1

2 I I 1 ł 026 SSW4 TO 2. DEPRESS ENTER SET TWICE. PROBE AA2-A4-B04 IS LINE DOWN? Y N 027 PROBE AA2-A4-B09 IS LINE UP? I Y N 1 1 I I GO TO MAP 633, ENTRY D 029 | PROBE AA2-A4-BO8(HEAD SEL 1) I IS LINE UP? I Y N 030 | | GO TO MAP 633, ENTRY D 1 031 | PROBE AA2-A4-B10(HEAD SEL 2) ISLINW DOWN? 1 | | 032 | GO TO MAP 633, ENTRY D İİ | 033 POWER DFF. CHECK CABLE D-W185. SEE PAGE 0634-1. | IS CABLE GOOD? YN ί I I 034 I REPLACE FAULTY CABLE 1 1 1 035 | REMOVE JUMPER. REPLACE CARD | D-W1B3. IF FAILS TO FIX FAULT REPLACE CARD | REPLACE DE UNIT. L I 18AUG76 PN2547595 I l EC830357 PEC828692 3 н MAP 0625-2

MAP 0625-2

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A B F H 1 1 2 2 62GV 230 Ł 111 PAGE 3 OF l ł 11 3 iiii | | | | | | | | 036 | | | REMOVE JUMPER. REPLACE CARD | | | AA2-E2. | | | | | | | | C37 | | REMOVE JUMPER. REPLACE CARD | | AA2-E2. | | | O38 | GO TO MAP 633,ENTRY D L 039 POWER OFF. CHECK CABLE D-W185. SEE PAGE 0634-1 IS CABLE GOOD? Y N 1 | 040 | REPLACE FAULTY CABLE 1 041 REPLACE CARDS AA2-E2, D-W1B3 AND D-W1A5

18AUG76	f	N2547595
EC830357	Γ F	PEC828692
	MAP	0625-3

62GV 240

PAGE 1 OF 4

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER		ENTRY POINT	PAGE NUMBER	STEP NUMBER
0647 0648	1	А А А	1 1	001 001
0649	ŧ	Α	1	001

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EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	I MAP I NUMBER	ENTRY POINT
2	018	0300	A
3	024	0300	Α

001 (ENTRY POINT A) DEPRESS CE RESET. AA2-E2-S13 (+DATA UNSAFE) IS LINE DOWN? PROBE Y N I. 002 I PROBE AA2-E2-U10(INTERLOCK | LINE) I IS LINE DOWN? I Y N I 003 PROBE AA2-D2-G02 (INTERLOCK L I. | LINE) I | IS LINE DOWN? | Y N | | I 1 I | 004 L | | PROBE AA2-D2-B02 (INTERLOCK ł LINE) 1 1 | | IS LINE DOWN? ł IYN L 1 ł Ł 1 1 1 1 1 1 t I 1 I L 1 I I I 1 I 1 I I 1 ł 1 1 I 1 L ۱ 1 I 1 1 L ł 1 T ł 1 I 1 ١ L 1 ł 1 I. 1 1 L L l 1 1 ļ 1 İ. COPYRIGHT IBM CORP YYYY L I 1 Ì 1 1 1 4 2 2 2 2 A B C D E

м	AP 0626-1
EC828692	PEC828518
23JAN76	PN2547596

62GV 240 BCDFG MAP 0626-2 1 1 1 2 2 1 1 1 1 1 1 PAGE 2 OF 1 4 1 1 11 L 1 1 005 1 | 012 POWER OFF. METER CONTINUITY AA2-A4-D12 TO AA2-A4-D08. WHILE I REPLACE CABLE POWER 1 J 1 L METERING CONTINUITY, RESEAT EACH 1 1 1 OF THE FOLLOWING: CABLES- AA2-A4, | 013 1 | PROBLEM WAS A LOOSE CABLE. D-W1B5, CARDS- D-W1B3, D-W1A5 Ł IS CONTINUITY OK? | | RERUN TEST TO VERIFY L Y N 1 L L 1 006 | | 014 REMOVE | REMOVE CABLE FROM D-W185 | SOCKET. METER CONTINUITY FROM I REPLACE CARD AA2-D2 Ł L D-W1-B5-D12 TO D-W1B5-D08 1 1 I IS CONTINUITY GOOD? 015 WIRE LINK Y N CHECK BETWEEN 1 AA2-D2-G02 AND AA2-E2-U10. 1 1 1 007 REMOVE CARD FROM D-W1B3. JUMPER D-W1B3-B08 TO D-W1B3-J06. METER CONTINUITY L 016 METER DC VOLTAGE AA2-A4-D11 (POS) D08 (NEG) FOR 6 VOLTS 1 FROM D-W185-D08 то | D-W1B5-D12. IS +6V PRESENT?(+5 TD +7 RANGE) I IS CONTINUITY GOOD? YN I Y N 1 017 -1 I METER DC VOLTAGE AA2-A4-| (POS) DO8 (NEG) FOR 6 VOLTS. 008 AA2-A4-811 

 I 008

 REMOVE CARD FROM D-W1A5.

 JUMPER D-W1A5-B07 TO

 D-W1A5-D07 AND D-W1A5-G07

 TO D-W1A5-G08. METER

 CONTINUITY FROM D-W1B5-D08

 1 +6V PRESENT? (+5 TO IS -F 1 | RANGE) 1 YN 1 1 Ł F TO D-W1B5-D12. IS CONTINUITY GOOD? 018 I. GO TO MAP 0300, ENTRY POINT ŧ Î Y N I A. t 1 L 1 1 1 ł 1 009 L t ł | | REPLACE DE 019 1 Ł POWER OFF. CHECK CABLE D-W185. 1 11 1 SEE PAGE 0634-1. IS CABLE GOOD? 1 1 11 I. 1 010 Ł Ł L YN | REPLACE D-W1A5 CARD L 1 -1 1 1 1 020 L Ł | REPLACE CABLE D-W185 011 | REPLACE D-W1B3 CARD ł 1 1 ł 1 1 ł ŧ I 23JAN76 PN2547596 I 1 1 1 I ł EC828692 PEC828518 2 2 3 3 MAP 0626-2 FG нј

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62GV 240 нJ 22 ł ł PAGE 3 DF 4 1 ۱ 1 021 REPLACE DE UNIT. (SEE MLM) 1 022 METER DC VOLTAGE AA2-A4-B07 (NEG) D08 (POS) FOR -4 VOLTS. IS -4V PRESENT? (-3 TO -5 RANGE) YN 023 METER DC VOLTAGE AA2-A4-B06 (NEG) D08 (PDS) FOR -4 VOLTS I IS -4V PRESENT? (-3 TO -5 RANGE) Y N 1 1 024 1 | GO TO MAP 0300, ENTRY POINT | | A. 025 POWER OFF. CHECK CABLE D-W185. E SEE PAGE 0634-1. 1 I IS CABLE GOOD? I Y N 1 026 | REPLACE CABLE D-W1B5. L 1 1 027 REPLACE DE UNIT. SEE MLM. 028 SET GENERAL LOGIC PROBE LATCH TO 'DOWN' POSITION. PROBE AA2-E2-SO4 (-RESET). DEPRESS CE RESET KEY. IS DOWN LIGHT ON? (INDICATING RESET PULSED) Y N ł ł 1 I I I ł ۱ Ł 1 3 3 к L

KL MAP 0626-3 33 L 1 L 1 1 1 I. 029 1 DC RESET LINE MISSING. I FCU 1 AA2-G2-G09 TO AA2-E2-S04. CALL | FOR ASSISTANCE. 030 RESET GENERAL LOGIC PROBE LATCH TO NONE. PROBE AA2-E2-U12 (+WRITE CURRENT ON) IS LINE DOWN OR PULSING? Y N 1 | 031 | PROBE AA2-E2-U05 (-WRITE | SELECT) I IS LINE DOWN? I Y N I 1 032 ۱ | POWER OFF. CHECK CABLE L D-W185. SEE PAGE 0634-1. IF I CABLE IS GOOD REPLACE D-W1B3 | CARD. ŧ 1 L L 033 REPLACE CARD AA2-E2 1 Ŧ 034 PROBE AA2-E2-U06 (-WRITE) IS LINE DOWN OR PULSING? Y N 035 | POWER OFF. REMOVE D-W1B3 CARD. | METER CONTINUITY AA2-E2-U12 TO | D-W1B3-G04. VERIFY CABLE AA2-A4 | TO D-W1B5 IS CORRECTLY SEATED | IS CONTINUITY GOOD? Y N I. 1 1 1 1 1 1 I 1 1 ł 23JAN76 PN2547596 t ł t 1 1 1 EC828692 PEC328518 4 4 4 MAP 0626-3 M N P

M N P 62GV 240 3 3 3 I 1 PAGE 4 OF 1 4 f 1 ł ł 1 1 1 1 036 Ł CONTINUITY FROM I METER AA2-E2-U12TO AA2-A4-D09 I IS CONTINUITY GOOD? 1 1 1 Y N ł | 037 ł 1 | CHECK WIRE LINK BETWEEN Ŧ 1 E 1 038 1 CHECK CABLE D-W185. SEE PAGE 1 L 0634-1 t I IS CABLE GOOD? ł IYN | | 039 1 | | REPLACE CABLE D-W1B5 1 L 1 1 I. 040 1 REPLACE DE T 1 1 L 041 1 | REPLACE CARD AA2-E2. REINSTALL D-W1B3 CARD 1 042 PROBE AA2-G2-S11 IS LINE DOWN OR PULSING? Y N I 043 | POWER DOWN. CHECK WIRE LINK BETWEEN AA2-G2-S11 AND AA2-E2-U06 044 REPLACE AA2-G2 CARD

1 I I ł 045 PROBE AA2-G2-B06 AND AA2-F2-S05 ARE BOTH LINES DOWN? Y N 046 POWER DOWN. CHECK OPEN WIRE | LINKS AA2-G2-B06, F2-S04, E2-S13 I I 047 DEPRESS CE START. LOAD PROGRAM ID 6280xun. Follow Instructions on CRT.

MAP 0626-4

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23JAN76 PN2547596 EC828692 PEC828518 MAP 0626-4

1AP 0626-

62GV 250

SYSTEM 32

PAGE 1 OF 1

ENTRY POINTS \_\_\_\_ \_\_\_\_\_ ENTER THIS MAP FROM -+ ---------MAP ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER ----+ \_\_\_\_ 0645 | A 1 001

001 (ENTRY POINT A) LOAD PROGRAM ID 62GVA6. (SEEK RECAL TEST) PROBE AA2-E2-P13 (+HOME) IS LINE PULSING? YN ł I 002 REPLACE CARD AA2-E2 ١ Ŧ 003 POWER DFF. CHECK THAT ARM GOES TO INNER STOP. IF OK RETURN FILE TO CUSTOMER IF FAILURE IS BELIEVED TO BE VERY INTERMITTENT REP-LACE FRU'S IN FOLLOWING ORDER:

FRU	PROBAEILITY
CARD AA2-E2	70%
CARD AA2-D4	20%
CARD AA2-C4	7%
CARD AA2-C2	1 X
DE UNIT	2%

02APR75 PN2547597

EC828518 PEC825412

MAP 0627-1

MAP 0628-1

62GV 260

SYSTEM 32

PAGE 1 OF 1

ENTRY A FAULT NOW PROBABLY IN DE UNIT. DE MAY HAVE A BINC IN ACTUATOR ARM IF ERRORS ARE ISOLATED TO CERTAIN TRACKS ONLY. IF ERRORS DECUR IN MOST TRACKS OR ARE INTERMITTENT REPLACE FRU'S IN FOLLOWING ORDER: FRU PROBABILITY CARD AA2-E2 70% CARD AA2-D4 CARD AA2-C4 CARD AA2-C2. 20% 7% 1% DE UNIT 2%

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MAP 0628-1

62GV 270 SYSTEM 32 PAGE 1 OF 2 ENTRY POINTS FROM | ENTER THIS MAP ENTRY PAGE ----+ MAP STEP NUMBER | POINT NUMBER NUMBER -----0640 Α 1 001 0641 | 0643 | Α 1 001 001 Α 1 001 (ENTRY POINT A) POWER OFF. REMOVE D-W183 AND D-WIA5 CARDS. POWER ON. METER VOLTAGE (-4V) ON D-W1 BOARD AT FOLLOWING PINS: DW1-B3-B06 NEG D08 PDS DW1-B3-G06 NEG D08 PDS DW1-A5-B06 NEG D08 POS DW1-A5-G06 NEG D08 POS DO8 POS ARE ALL PINS -4V + DR - 0.4V? YN 002 REPLACE DE UNIT. SEE MLM ł. 0.03 IMPL DIAG 01. LOAD PROGRAM ID 626VA4. SET SSW 4 TO 0. DEPRESS ENTER. PROBE AA2-F2-S05 (+DATA UNSAFE). NOTE LEVEL. LEAVE PROBE ON AA2-F2-S05. DEPRESS CE RESET. SET SSW 4 TO 1. DEPRESS CE START. DEPRESS ENTER TWICE. AGAIN NOTE LEVEL.(NOTE\* SWITCH SETTINGS CONTROL HEAD SELECT.) WAS LINE UP OR PULSING FOR ONLY ONE SWITCH SETTING? YN 1 004 POWER DFF. REINSTALL D-W1B3 ANDA5 CARDS. POWER DN. JUMPERA42-E2-S13 TOU08. WAITSECONDS. IMPLDIAGPROGRAMID62GVA2.PROBE AA2-E2-U11(-TRANSITIONS) IS LINE PULSING? YN 1 1 L 1 1 1 1 1 ł 1 ł ł COPYRIGHT IBM CORP 1975 ŧ 1 ł 2 1 1 ABC

вс MAP 0629-1 1 1 1 1 L 1 1 1 1 1 1 005 POWER OFF. REMOVE JUMPER. REMOVE CARD D-W183. METER CONTINUITY AA2-E2-U11 TO D-W1B3-J04. I IS CONTINUITY GOOD? YN 1 006 REPLACE CABLE D-WIB5. REINSTALL | CARD D-W1B3. Ł ł 007 REPLACE CARDS AA2-E2, D-WIA5 AND D-W183. T 008 POWER OFF. REMOVE JUMPER. REMOVE CARD D-W183. METER CONTINUITY AA2-E2-U11 TO D-W1B3-J04. IS CONTINUITY GOOD YN 009 REINSTALL CARD D-W183. POWER ON. WAIT 45 SECONDS. PROBE AA2-E2-S08 (+WRITE ERROR) IS LINE UP? YN 1 1 010 | | CHECK CABLES D-W185 AND D-W186. | SEE PAGE 0634-1. 1 | | ARE CABLES GOOD? 1 IYN 1 1 011 Ł | | RESEAT OR REPLACE DEFECTIVE | CABLES. 1 Ł 11 012 1 REPLACE CARDS D-W1B3 AND D-W1A5. IF STILL FAILS REPLACE DE. SEE MLM. 1 1 013 1 REPLACE CARD AA2-E2 02 APR 75 PN2547599 ł EC828518 PEC825412 2 MAP 0629-1 D

62GV 27C A D 1 1 SYSTEM 32 1 1 PAGE 2 OF 2 1 1 1 ١ I 1 014 I. | REINSTALL CARD D-WIB3. POWER ON. WAIT 45 SECONDS. PROBE AA2-E2-SOB (+WRITE ERROR) I IS LINE UP? YN 1 Ŧ 1 I | 015 CHECK CABLES D-W185 AND D-W186. SEE PAGE 0634-1. 1 1 ARE CABLES GOOD? I I Y N I Ł | | 016 I | RESEAT OR REPLACE DEFECTIVE L L . 11 I | | | 017 1 1 | | REPLACE CARDS D-W1B3 AND | | D-W1A5. IF STILL FAILS REPLACE | | DE UNIT. SEE MLM. AND ł 1 1 1 018 REPLACE CARD AA2-E2 1 1 019

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REPLACE CARD D-W183

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> 02APR75 PN2547599 EC828518 PEC825412

### MAP 0629-2

62GV 280
SYSTEM 32
PAGE 1 OF 1
1. THE SERVO SIMULATOR IS INSTALLED ON THE FILE AS FOLLOWS: DISCONNECT PADDLE D-W1B1. INSTALL & JUMPERS ON AA2- BOARD: A2-B05 TO A2-D05 A2-B03 TO A2-B04 A2-B07 TO A2-B08 D4-D09 TO D4-D08 E2-S09 TO E2-U08 E2-S09 TO E2-P08 **NOTE* TO REMOVE SERVO-SIMULATOR REMOVE *JUMPERS AND RE-INSTALL PADDLE D-W1B1.
* 2. ACTUATOR ARM POSITION INDICATOR.
*
*
Image: Normal state
/C>/8/< ******

THE ARM IS AT THE INNER STOP POSITION AND BEHIND HOME WHEN THE EDGE OF THE COIL FORMER IS IN LINE WITH THE 'IN' EDGE OF THE INDICATOR (FIG 1 A ). THE ARM IS AT THE HOME POSITION WHEN THE EDGE OF THE COIL FORMER IS APPROXIMATELY WITHIN THE AREA MARKED B IN FIG 1 . THE ARM IS AT THE CUTER STOP POSITION WHEN THE EDGE OF THE COIL FORMER IS IN LINE WITH THE 'OUT' EDGE OF THE INDICATOR (FIG 1 C ).

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02APR75 PN2547603

EC828518 PEC825412

MAP 0630-1

62GV READ FAIL MAP

SYSTEM 32

PAGE 1 DF 1

(ENTRY POINT A)

ENTRY POINTS

001

FROM	ł	ENTER	THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0601	1	 A	1	001

POWER OFF. INSPECT BOTH ANTI-STATIC BRUSHES FOR POOR CONTACT OR BAD CONNECTION TO GROUND LEAD. THIS MAY BE THE CAUSE OF HIGHLY INTERMITTENT READ FAILURES. (SEE MLM FOR BRUSH LOCATION) BRUSH TENSION SHOULD BE 50 TO 70 GRAMS AT POINT OF CONTACT. ARE BOTH BRUSHES AND GROUND LEADS GOOD? Y N Ł 1 002 MAKE REPAIRS. POWER DN. WAIT 45 SECONDS. IMPL DIAG 01. LOAD PROGRAM ID 62GV4. DOES PROGRAM RUN TO FALL TEST RUN 1 OK'? I Y N I. 1 1 003

| LOAD PROGRAM ID 6280XRD. FOLLOW | | INSTRUCTIONS ON CRT. | | | |

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REPAIR COMPLETE.
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005 POWER DN. WAIT 45 SECONDS. IMPL DIAG 01. LOAD PROGRAM ID 62BOXRD. FOLLOW INSTRUCTIONS ON CRT.

02APR75 \_ PN2547605

EC828518 PEC825412

MAP 0631-1

62GV SEEK FAIL MAP

SYSTEM 32

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PAGE 1 DF 1

ENTRY A

POWER OFF. CHECK THAT CARDS IN POSITIONS AA2-C2,C4,D4, AND E2 ARE WELL SEATED.

CHECK THAT ACTUATOR LOCKOUT LEVER IS IN LOCK 'OFF' POSITION.

POWER ON. AS SOON AS STOP LIGHT COMES ON. IMPL DIAG 01. LOAD PROGRAM ID 62BOXSK. FOLLOW INSTRUCTIONS ON CRT.

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02APR75 PN2547606 EC828518 PEC825412

MAP 0632-1

# PAGE 1 OF 5

ENTR	ΥP	OI	NTS	
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	ا +			
AP UMB I	ER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
62	5	A ^	1	001
)64]		Å	1	001
644 641	4 ( 6	A A	1 1	001
NTE RE RE N	RY F EAC CTEC 2	OINT A) CH ENTRY D TO ENT	Y IN TUR	۷.
(EI DII YI	NTRY RECT N	' POINT ED TO E	B) Entry B?	
	DO3 (ENT DIRE Y N	RY POIN CTED TO	NTC) Dentry (	C?
	00   (E   D1   Y	04 ENTRY PO RECTED N	DINT D) TO ENTR'	Y D?
		005 (ENTRY DIRECTE Y N     	POINT E ED TO EN	) Try E?

EXIT PO	INTS		
EXIT TH	IS MAP	I TO	
PAGE NUMBER	STEP NUMBER	I MAP I NUMBER	ENTRY POINT
2	011	0600	A

EC830357	PEC 82 86 92
,	1AP 0633-1

62GV INTE FAIL MAP JKL MAP 0633-2 F 222 1 L 1 I PAGE 2 OF 5 I 1 ł ł Ł ł I. 1 1 006 ł 1 012 I LOAD PROGRAM ID 62GVA5. (ENTRY POINT F) L | | PROBE FOLLOWING POINTS: DIRECTED TO ENTRY F? AA2-F2-P02 Y N L (-SEEK 2 TO FILE) 1 1 | AA2-F2-J13 007 1 (-SEEK 1 TO FILE) | (ENTRY POINT G) L | DIRECTED TO ENTRY G? AA2-F2-MC2 ł (-ODD TRACK DEST.) 1 Y N ł | ARE ALL LINES PULSING? £. - [ IYN 008 L (ENTRY POINT H) I 1 | DIRECTED TO ENTRY H? | | 013 1 ŧ I I REPLACE CARD AA2-F2 I I REPLACE CARD AA2-G2 1 Y N I. 1 1 1 009 1 ł 1 1 (ENTRY POINT J) 014 l ł L 1 FOR ASSISTANCE.(AA2 | DIRECTED TO ENTRY J? CALL L T | BOARD IS DEFECTIVE.) Y N 1 1 1 I I 1 010 015 L 1 ł CONTINUITY (ENTRY POINT K) I CHECK BETWEEN 1 AA2-F2-MO2 AND AA2-E2-M13. CIRCUIT ALL RIGHT? DIRECTED TO ENTRY K? L ł Y N L Ł 1 1 Y N ł 1 1 I 1 1 011 1 I GO TO MAP 0600, POINT A. ENTRY 016 ł 1 1 1 FOR ASSISTANCE. (AA2 | CALL t | BOARD IS DEFECTIVE.) 1 L ł 1 017 REPLACE CARD AA2-F2 1 018 FCU RECAL ACTIVE REPLACE CARD AA2-F2 ł 1 ſ ł f 1 t ł 1 1 1 I 1 ļ 1 ł ł 1 1 ŧ 18AUG76 PN2547607 1 1 1 1 PEC828692 EC830357

33222 GHJKL

MAP 0633-2

DEGH 62GV INTE FAIL MAP 1 1 2 2 PAGE 3 OF 5 1 ł 1 1 1 1 111 1 | | 019 | CHECK CONTINUITY BETWEEN | AA2-F2-J07 AND AA2-E2-P13. 1 | | CIRCUIT ALL RIGHT? I | | Y N | | | 1 | | | 020 | CALL FOR ASSISTANCE. (AA2 1 1 | | BOARD IS DEFECTIVE.) 1 Ł 021 | | REPLACE CARD AA2-F2 Ł 1 I - 1 022 I CHECK CONTINUITY BETWEEN Ł | AA2-F2-M09 AND AA2-E2-P07. | CIRCUIT ALL RIGHT? IYN L 1 1 | 023 | CALL FOR ASSISTANCE.(AA2 | | BOARD IS DEFECTIVE.) 1 1 024 L I REPLACE CARD AA2-F2 I REPLACE CARD AA2-E2 - 1 025 1 I REPLACE CARDS AA2-F2 AND G2 026 LOAD PROGRAM ID 62GVA7. SET SSW4 TO 0. DEPRESS ENTER. PROBE AA2-E2-UO4(+MULTI HEAD SELECTED) IS LINE DOWN? YN 027 | CALL FOR ASSISTANCE (AA2 BOARD IS DEFECTIVE) I

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З L L 1 028 PROBE AA2-F2-U04(-SEL HEAD O TO FILE) IS LINE DOWN? Y N 1 1 029 | REPLACE CARD AA2-F2 030 PROBE AA2-F2-U05(-SEL HEAD 1 TO FILE) IS LINE UP? Y N | 031 I REPLACE CARD AA2-F2 032 (3MB,5MB AND 9MB FILES HAVE TWO HEADS, 13MB FILE HAS THREE HEADS.) DOES THIS UNIT HAVE THREE DATA HEADS? Y N 033 | SET SSW4 TO 1. DEPRESS INQ. | DEPRESS ENTER TWICE. PROBE | AA2-F2-U05(-SEL HEAD 1 TO FILE) I IS LINE DOWN? I Y N | | 034 I I REPLACE CARD AA2-F2 | 035 | PROBE AA2-F2-U04(-SEL HEAD O TO | FILE) | IS LINE UP? I Y N 11 | | 036 | REPLACE CARD AA2-F2 1 ١ L 1 1 L ł 18AUG76 PN2547607 - 1 1 - 1 EC830357 PEC828692 4 4 N P MAP 0633-3

MAP 0633-3

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N P cQ MAP 0633-4 62GV INTE FAIL MAP 33 14 1 £ 1 1 PAGE 4 OF 5 1 1 1 1 1 1 1 -1 1 1 L 037 046 SET SSW4 TO 2. DEPRESS ING. DEPRESS ENTER TWICE. PRCBE AA2-F2-U12(-SEL HEAD 2 TO FILE) | CALL FOR ASSISTANCE. (AA2 BOARD | IS DEFECTIVE) I IS LINE DOWN? 038 PROBE AA2-F2-U12 Y N L IS LINE UP? 1 1 | 047 Y N L I REPLACE CARD AA2-F2 1 1 039 I REPLACE CARD AA2-F2 | 048 | PROBE AA2-F2-U04(-SEL HEAD O TO 1 040 | FILE) SET SSW4 TO 1. DEPRESS DEPRESS ENTER TWICE. INC. IS LINE UP? PROBE IYN AA2-F2-U05(-SEL HEAD 1 TO FILE) L IS LINE DOWN? 049 Ł Y N | REPLACE CARD AA2-F2 Ł ŧ ł 041 050 I REPLACE CARD AA2-F2 | PROBE AA2-F2-U05(-SEL HEAD 1 TO FILE) I IS LINE UP? 042 PROBE AA2-F2-U04(-SEL HEAD 0 I Y N TO FILE) 1 IS LINE UP? 051 Ł Y N | REPLACE CARD AA2-F2 L I. 1 - 1 052 1 043 | REPLACE CARD AA2-F2 L CALL FOR ASSISTANCE. (AA2 BOARD IS DEFECTIVE) 1 044 1 PROBE AA2-F2-U12(-SEL HEAD 2 TO 053 ERRONEOUS DSF RESET. FILE) IS LINE UP? REPLACE CARD AA2-F2 Y N Ł 1 045 | REPLACE CARD AA2-F2 I

18AUG76	PN2547607
EC830357	PEC828692
MA	P 0633-4

4 0

A B 62GV INTE FAIL MAP 1 1 ł 1 5 OF PAGE 5 ł Ţ 1 I | | | 054 | LOAD PROGRAM ID 62GVA3. PROBE AA2-G2-P11(+FILE FAST SYNC) | IS LINE PULSING? | Y N 11 055 I I REPLACE CARD AA2-G2 11 056 CALL FOR ASSISTANCE.(AA2 BOARD IS DEFECTIVE.) ł 057 LOAD PROGRAM ID 62GVA2. PROBE AA2-G2-S05 (-SERIAL WRITE DATA TO FILE) IS LINE PULSING? Y N 058 | REPLACE CARD AA2-G2 059 CALL FOR ASSISTANCE. (AA2 BOARD IS DEFECTIVE.)

18AUG76	PN2547607
EC830357	PEC828692
MA	P 0633-5

### PAGE 1 OF 3

NOTE 1. TO IDENTIFY CABLE POSITIONING SEE MLM WHERE A CABLE WRAP BACK IS PROVIDED, CONTINUITY TO THE D-W1 BOARD CONNECTION CAN BE CHECKED ON THE AA2 BOARD WITHOUT UNPLUGGING CABLE. 1 MOVEABLE AND FIXED HEADS. \*\*\*\*\* CONTINUITY AND RESISTANCE CHECKS SHOULD BE MADE BETWEEN EACH HEAD WINDING. CENTER TAP AND GROUND. ACCESS TO PINS IS OBTAINED BY REMOVING CARD IN POSITION D-W183 FOR MOVEABLE HEADS AND CARD IN POSITION D-W1A2 FOR FIXED HEADS. RESISTANCE BETWEEN WINDINGS (A TO B) = 5 TO 25 OHMS RESISTANCE BETWEEN WINDING AND CENTRE TAP (A TO C AND B TO C) = 5 TO 25 OHMS. NOTE:- MOST OF THIS IS RESISTANCE OF LEAD CONNECTING WINDING TO SOCKET. RESISTANCE BETWEEN CENTRE TAP AND D-W1D08 RESISTANCE BETWEEN CENTRE TAP AND DE FRAME = GREATER THAN 100K OHMS I HEAD WINDING A WINDING B CENTER TAP C. \*\*\*\* \*\*\*\*\*\* \*\*\*\* \*\*\*\*\* 1 1.1 0 D-W1B3D04 D-W1B3D06 D-W1B3G10 D-W1B3B03 D-W1B3D07 D-W1B3B04 D-W1B3D05 D-W1B3J11 1 2 D-W1B3G13 CABLE D-W1B6 TO AA2-A5 \*\*\*\*\* L CABLE CONNECTION \*\*\*\*\* WRAP BACK NET NAME \*\*\*\*\*\* \*\*\*\*\*\* -DATA TRANS D-W1B6D11 TO AA2-A5-D11 NONE +DATA TRANS D-W1B6D13 TO AA2-A5-D13 NONE CABLE D-W185 TO AA2-A4. \*\*\*\*\* 1 NET NAME CABLE CONNECTION WRAP BACK \*\*\*\*\*\* \*\*\*\*\* \*\*\*\*\* COPYRIGHT IBM CORP YYYY 23JAN76 PN2547608 EC828692 PEC828518

MAP 0634-1

62GV CABLES

## PAGE 2 OF 3

3.1	+6 VOLTS -4 VOLTS -24 VOLTS	D-W185811 D-W185806 D-W185813	TO AA2-A4-B11 TO AA2-A4-B06 TO AA2-A4-B13	AA2-A4-D11 AA2-A4-B07 AA2-A4-D13
3.2	SEL HD 0 SEL HD 1	D-W185809 D-W185809 D-W185808	TO AA2-A4-BO8 TO AA2-A4-BO9 TO AA2-A4-B08	AA2-A4-D10 AA2-A4-D07
3.3	-READ SEL +WR GATE 1	D-W185810 D-W185812 D-W185D06	TO AA2-A4-B10 TO AA2-A4-B12 TO AA2-A4-D06	NONE NONE NONE
	+WR CURR ON ONE HD SEL -TRANSIT	D-W185D09 D-W185B04 D-W185B03	TO AA2-A4-D09 TO AA2-A4-B04 TO AA2-A4-B03	NONE NONE NONE
3.4	CARD INTLK	D-W1B5D12	TO AA2-A4-D12	NONE
	 CABLE D-W1E *********	1 TO AA2-A2	2 (SERVO AMP C)	ABLE).
	NET NAME	CABLE	CONNECTION	WRAP BACK
	*****	*****	****	*****
	SERVO SIG A	D-W181D04	TO AA2-A2-D04	NONE
	SERVU SIG B	D-WIBIDUS	10 AA2-A2-D05	NUNE
	CABLE D-W1A	1 TO 442-43	3	
	*****	*****	<b>x</b> '	
	· I			
	NET NAME	CABLE	CONNECTION	WRAP BACK
		*****	******	******
	-8.7 VOLTS	D-WIAIDU9	10 AA2-A3-D08	NUNE AA2-A3-B08
	IN COIL	D = W1A1B03	Π ΔΔ2-Δ3-B03	NONE
	OUT COIL	D-W1A1B04 1	TO AA2-A3-B04	NONE
	+24V	D-W1A1B02 1	TO AA2-A3-B02	AA2-A3-D02
	+24V BRAKE A	A2-A3-B05 1	DETB1-6	NONE
	BRAKE CUIL	DEIBI-5 IU	AA2-A3-807	NUNE
	TRANSDUCER TRANSDUCER	DETB1-7 TO DETB1-8 TO	AA2-A3-D11 AA2-A3-D1C	NONE NONE

23JAN76 PN2547608

EC828692 PEC828518

MAP 0634-2

PAGE 3 OF 3

> 23JAN76 PN2547608 EC828692 PEC828518 MAP 0634-3

## PAGE 1 DF 16

ENTRY P	OINTS		
FROM	I ENTER	THIS MAP	
MAP NUMBER	I ENTRY   POINT	PAGE NUMBER	STEP NUMBER
0602 0652 0652 0652 0652 0652 0652 0652	Q A B C D E F G H J K L M N	3 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	015 001 002 003 004 005 006 007 008 009 010 011 012 013
0652 0652 0652	P Q R	2 3 3	014 015 016

EXIT PO	INTS		
EXIT TH	IS MAP	ТО	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3 7	022 095	0300	 А А
10	136	0300	A
5	046	0310	Α
4	029	300	A

001 (ENTRY POINT A)
DIRECTED TO ENTRY A?
YN
(ENTRY POINT B)
I DIRECTED TO ENTRY B?
I Y N
003
(ENTRY PUINT C)
DIRECTED TO ENTRY C?
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(ENTRY POINT D)
DIRECTED TO ENTRY D?
COPYRIGHT IBM CORP 1975
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100CT77	PN2547783
EC832050	PEC830357
	MAP 0635-1

	E 62GV BOX NOT READY	L MAP 0635-2
	PAGE 2 OF 16	
	005 (ENTRY POINT E) DIRECTED TO ENTRY E? Y N	010 (ENTRY POINT K) Directed to Entry K? Y N
	   006   (ENTRY POINT F)   DIRECTED TO ENTRY F?	   011   (ENTRY POINT L)   DIRECTED TO ENTRY L?
	Y N     007     (ENTRY POINT G)     DIRECTED TO ENTRY G?     Y N	012     012     (ENTRY POINT M)     DIRECTED TO ENTRY M     Y N
	     008     (ENTRY POINT H)     DIRECTED TO ENTRY H?     Y N	     013       (ENTRY POINT N)       DIRECTED TO ENTRY N?       Y N
	         009         (ENTRY POINT J)         DIRECTED TO ENTRY J?         Y N	
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	1 1 1 1 1 1 3 2 2 1 1 F G H J K L	1 1 EC832050 PEC830357 0 0 7 6 6 3 M N P Q R S MAP 0635-2

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S 62GV BOX NOT READY Т 2 I PAGE 3 DF 16 ł 1 023 015 (ENTRY POINT Q) DIRECTED TO ENTRY Q? DN, ENERGIZED, ALLOWING Y N ROTATE GUARD.CAREFULLY | 016 (ENTRY POINT R) DIRECTED TO ENTRY R? Ł ANY BINDING. I Y N IS MOTOR SHAFT FREE TO RUN? 1 1 Y N 1 017 ۱ | | ENTRY NOT IN THIS MAP L 024 018 PROBE AA2-E2-B05(-OUT | DIRECTION) 1 (0.0762MM)? IS LINE DOWN? I Y N IYN 1 1 1 1 019 025 1 I | REPLACE CARD AA2-E2 020 ł REPLACE CARD AA2-C2 021 POWER OFF. RESET THERMAL TRIP BUTTON ON DRIVE MOTOR IF IIYN TRIPPED.(SEE MLM) ISOLATE 110/240 VOLTS AC TO MOTOR BY DISCONNECTING DRIVE MOTOR LEADS | | 026 BY 1 1 AT DETBI-1 AND DETBI-2. POWER ON. METER DC VOLTAGE AA2-C4-G02 POSITIVE, AA2- C4-D08 NEGATIVE FOR +24 VOLTS. METER DC VGLTAGE 1 027 I L 1 028 AA2-C4-G13 NEGATIVE, AA2-C4-D08 POSITIVE FOR -24 VOLTS. ARE BOTH 24 VOLT VOLT SUPPLIES PRESENT? Y N Y N 1 022 1 | GD TO MAP 0300, ENTRY POINT A. T L 1 1 1 ł 1 1 ١ ł 444 Т UVW

WITH DC SUPPLIES STILL SWITCHED MOTOR BRAKE SHOULD BE MOTOR то FREELY.REMOVE BELT GUARD.CAREFULLY ROTATE MOTOR PULLEY BY HAND CLOCKWISE ONE OR MOTOR TWO REVOLUTIONS ONLY TO CHECK FOR I INSPECT BRAKE FOR GAP BETWEEN | PAD AND PLATE. (SEE MLM) I IS GAP LESS THAN 0.003 INCHES | | POWER DFF. REMOVE DRIVE | | POWER DFF. REMOVE DRIVE | | BELT.(SEE MLM) CAREFULLY TURN | | SPINDLE PULLEY BY HAND | | CLOCKWISE ONE REVOLUTION TO | | CHECK FOR ANY BINDING. I IS SPINDLE FREE TO TURN?

I I REPLACE DE UNIT. (SEE MLM) REPLACE DRIVE MOTOR. (SEE MLM)

| METER +24 VOLTS.(CAUTION:- VAC | PRESENT AT DETB1-1/2) DETB1-6 | POSITIVE, AA2-E2-DO8 NEGATIVE. I IS 24 VOLTS PRESENT?

100CT77 PN2547783 EC832050 PEC830357 MAP 0635-3

62GV BOX NOT READY V W U 33 3 1 1 1 4 OF 16 PAGE 1 1 L 1 1 1 1 1 037 1 029 MISSING +24 VOLT BRAKE SUPPLY. POWER OFF. CHECK CABLE AA2-A3. SEE PAGE 0634-2. IF CONTINUITY IS GOOD, RECONNECT MOTOR LEADS TO DETB1-1/2. | GO TO MAP 300, ENTRY POINT A. Y N 030 1 038 POWER OFF. RECONNECT MOTOR LEADS TO DETB1-1/2. CHECK BRAKE ADJUSTMENT.(SEE MLM) FAILURE) I IS LINE DOWN? YN IS ADJUSTMENT CORRECT? Y N 1 039 031 I IF UNABLE TO OBTAIN CORRECT ADJUSTMENT REPLACE BRAKE 1 1 1 040 ASSEMBLY. (SEE MLM) 032 METER RESISTANCE OF BRAKE COIL. DETB1-5 TO DETB1-6. IS RESISTANCE INSIDE RANGE 90 TO 120 OHMS? Y N I RANGE? YN 033 1 I REPLACE BRAKE COIL 041 Ł ASSEMBLY.(SEE MLM) ł. 1 034 1 CHECK CONTINUITY OF CABLE AA2-A3. 1 SEE PAGE 0634-2. IS ANY LINE OPEN? 1 YN Y N 1 1 1 | | 042 035 1 I REPLACE CARD AA2-D4 036 POWER ON 1 DDES RESEAT CABLE. IF FAULT IS NOT 1 ł. CLEARED REPLACE CABLE. I I TURN? 1

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POWER OFF. REINSTALL BELT GUARD. RECONNECT MOTOR LEADS TO DETB1-1 AND DETB1-2. POWER ON. WAIT ONE MINUTE. OBSERVE DRIVE MOTOR. IS DRIVE MOTOR TURNING? | PROBE AA2-D4-BOB(+BRAKE | | REPLACE CARD AA2-D4 METER VAC SUPPLY TO MOTOR. 110/240V (SEE PLATE ON | MOTR).DETB1-2 LINE, DETB1-1 | NEUTRAL.(90 TO 127V IS | ACCEPTABLE RANGE FOR 110V),(180 | TO 253V IS ACCEPTABLE FOR 240V) | IS VOLTAGE OUSIDE SPECIFIED I GO TO THE MLM TO IDENTIFY THE TYPE OF MOTOR THAT IS I INSTALLED. I IS THIS AN OLD STYLE DISK | DRIVE MOTOR? | | POWER OFF. REPLACE THE | | DISK DRIVE START RELAY. | | (SEE MLM). THE DISK DRIVE MOTOR IYN 1 1 1 1 1 1 1 - 1 1 ł 1 1 1 100CT77 í 1 1 PN2547783 1 1 5 5. EC832050 PEC830357 5 -5 ΑΑ ХҮГАВ MAP 0635-4

MAP 0635-4

62GV BOX NOT READY XYZAA 444AB 4 4 1 1 PAGE 5 OF 16 E 11 1 1 l Ł 1 1 1 043 1 E | REPLACE DRIVE MOTOR. (SEE L 1 1 | MLM) 1 1 1 044 I THE DISK DRIVE START RELAY 1 WAS FAULTY. ÷ 1 1 1 045 L REPLACE DRIVE MOTOR. USEE 1 ( MLM) 1 - 1 | 046 | GO TO MAP 0310, ENTRY POINT A. 047 PROBE AA2-D4-G08(SPEED PULSES) IS LINE PULSING? Y N 1 1 048 AA2-D4-G05(+DATA AREA | PROBE | PULSE) IS LINE PULSING? I Y N 1 049 1 | PROBE AA2-D4-J13(TRANSDUCER | OUTPUT) ł IS LINE PULSING? 1 I Y N T ł 050 Ł | | POWER OFF. REMOVE AA2-D4 CARD. METER RESISTANCE OF SPEED Ł I TRANSDUCER. 1 AA2-A3-D10 TO AA2-A3-D11. I IS RESISTANCE INSIDE 200 TO Ł 1 I 400 OHM RANGE? ł 1 Y N 1 ł 1 1 1 ł 1 ł ł L ł 1 ł ł ł 1 1 ł 1 1 1 1 1 1 l 1 1 1 I 1 1 1 1 1 ł AAAAA CDEFG

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MAP 0635-5 A A A A A CDEFG 1 1 I 1 1 I ł 1 1 1 | 051 I REINSTALL AA2-D4 CARD. T 1 L I CHECK CABLE AA2-A3 FOR Ł Т 1 | | CONTINUITY (SEE PAGE ł | 0634-2). CHECK ł 1 | | CONNECTIONS TO DETB1. IF 1 1 REPLACE | | GODD, RE | | TRANSDUCER. SPEED 1 I. 1 i. 052 1 | REINSTALL AA2-D4 CARD. L CHECK FOR MALADJUSTED | TRANSDUCER. 1 I (SEE MLM) I t I ADJUSTMENT OK? I Y N 1 1 1 1 053 1 | | IF UNABLE TO CORRECTLY | | ADJUST SPEED TRANSDUCER, | | REPLACE IT. i 1 1 1 1 054 L I REPLACE CARD AA2-D4 L 1 1 1 055 1 | REPLACE CARD AA2-D4 Ł ł 056 Ł | REPLACE CARD AA2-D4 057 PROBE AA2-E2-B02(+SPEED HOLDOVER) IS LINE UP? ΥN 1 058 | REPLACE CARD AA2-D4 059 REPLACE CARD AA2-E2

> 10DCT77 PN2547783 EC832050 PEC830357 MAP 0635-5

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MAP 0635-6
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        AA2-D4-D11(-SETTLED
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TRACK)
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IS LINE PULSING?
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                                                PROBE AA2-E2-G09(-VFL)
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| PROBE AA2-E2-M12(-OUT)
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  IS LINE PULSING?
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                                                | | METER VOLTAGE. AA2-C4-609
| | POSITIVE, DOB NEGATIVE.
| | IS VOLTAGE OUTSIDE RANGE 11
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REPLACE CARD AA2-E2
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PROBE AA2-E2-J09(-SEEK COMPLETE)
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IS LINE DOWN?
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PROBE AA2-E2-J04(-STORE BIT 16)
IS LINE UP?
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                                              PROBE AA2-E2-J09(-SEEK COMPLETE)
067
| PROBE AA2-E2-M13(-RECALIBRATE)
                                              IS LINE DOWN?
IS LINE UP?
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                                              I PROBE
                                                         AA2-D4-D11(-SETTLED ON
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  I REPLACE CARD AA2-E2
                                              | TRACK)
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                                              I IS LINE DOWN?
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1 069
                                              I.
  JUMPER E2-D12 TO E2-D08.
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  (REMOVE
                JUMPER
                               BEFORE
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                                                PROBE AA2-E2-J04(-STORE BIT.
 CONTINUING)
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 IS ACTUATOR ARM BEHIND HOME?
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AAA 62GV BOX NOT READY MNP 6 66 ł 1 PAGE 7 OF 16 t 1 I. 1 1 Ł 1 080 | REPLACE CARD AA2-E2 t 081 L PROBE AA2-E2-B05(-OUT 1 DIRECTION) I IS LINE DOWN? Y N Ł 1 082 1 I REPLACE CARD AA2-E2 ł 1 - 1 L 083 JUMPER AA2-E2-D12 ΤO D08. Ł AA2-E2-M09 (+BEHIND PROBE 1 REMOVE JUMPER BEFORE HOME). CONTINUING. i IS LINE UP? Y N I 084 1 I POWER OFF AND REMOVE AA2-C4 1 METER RESISTANCE L I CARD. AA2-A3-BO2 TO AA2-A3-BO3 AND AA2-A3-B02 TO AA2-A3-B04. | EITHER RESISTANCE DUTSIDE RANGE 40 TO 100 GHMS? Ł IYN Ł | | 085 1 | | REPLACE CARDS AA2-C4 AND I | E2. ł ł 1 086 REINSTALL CARD IN AA2-C4 | POSITION.CHECK CONTINTUITY OF | | CABLE IN AA2-A3. SEE CABLE | | CHART 0634-2. IF OK REPLACE | | DE UNIT.(SEE MLM.) 1 087 REPLACE CARD AA2-E2 1 880 REPLACE CARD AA2-C2

2 1 6 t 1 1 1 1 Ł 1 089 PROBE AA2-D4-D11(-SETTLED ΩN F | TRACK) IS LINE DOWN? 1 Y N 1 090 1 | REPLACE CARD AA2-C2 091 | REPLACE CARD AA2-D4 T 092 PROBE AA2-E2-J09(-SEEK COMPLETE) IS LINE DOWN? Y N L 1 093 | PROBE AA2-E2-M09(+BEHIND HOME) IS LINE UP? 1 Y N H 094 L | | PROBE AA2-D4-BO8(+BRAKE FAIL) | IS LINE DOWN? I Y N 1 1 | 095 1 | MISSING +24V SUPPLY. L | | GD TD MAP 0300, E | ENTRY POINT A. Ł 096 Ł I PROBE AA2-D4-D11(-SETTLED ON TRACK) Ł I. IS LINE PULSING? 1 Y N 1 Ł 1 097 I E | REPLACE CARD AA2-C4 1 1 1 1 1 098 L 1 REPLACE CARD AA2-D4 1 ł 100CT77 PN2547783 1 t 88 EC832050 PEC830357 A Α QR MAP 0635-7

MAP 0635-7

P A

A A 62GV BOX NOT READY QR 77 PAGE 8 OF 1 1 16 1 ł 099 DOWN FILE. JUMPER POWER 1 AA2-E2-U02 TO U08. POWER UP | FILE. PROBE AA2-D4-D11(-SETTLED ON | TRACK) IS LINE UP? 1 Y N 1 100 ł | PROBE AA2-D4-D11(-SETTLED ON | TRACK) 1 | IS LINE DOWN? | Y N - E 1 | 101 1 I REPLACE CARD AA2-D4 I (REMOVE JUMPER) I. 1 ŧ. 1 - 1 1 102 1 | REPLACE CARD AA2-E2 | REPLACE CARD AA2-D4 | (REMOVE JUMPER) 1 1 1 103 I REPLACE CARD AA2-D4 I (REMOVE JUMPER) 104 PROBE AA2-D4-BO8(+BRAKE FAIL) IS LINE DOWN? Y N ł | 105 | LOAD PROGRAM ID 62GV4 DDES PROGRAM RUN TO 'ALL TESTS | RAN MESSAGE ? Y N 1 1 1 1 Ŧ 1 1 1 ł Į 1 1 ł 1 1 1 1 ł 1 1 1 1 AAA STU

MAP 0635-8 AAA STU. 111 1 1 1 1 1 - 1 11 | | 106 | | POWER DFF. METER RESISTANCE | | OF BRAKE COIL. DETB1-5 TO | | DETB1-6. | | IS RESISTANCE INSIDE RANGE 90 | | TO 120 OHMS? IIYN 1 1 | | | 107 | | | FAILING BRAKE ASSEMBLY.(SEE | | | MLM) 1 1 | | 108 | | REPLACE CARD AA2-D4 11 1 109 I REPLACE CARD AA2-D4 110 PROBE AA2-D4-D11 (-SETTLED ON TRACK) IS LINE DOWN? YN 1 | 111 | REPLACE CARD AA2-E2 L 112 PROBE AA2-E2-J04(-STORE BIT 16) IS LINE UP? Y N Ł 1 113 I REPLACE CARD AA2-E2 REPLACE CARD AA2-D4 114 PROBE AA2-E2-G03(-STORE BIT 32) IS LINE UP? Y N 1 115 | REPLACE CARD AA2-E2 100CT77 PN2547783 ł 9 EC832050 PEC830357 A v MAP 0635-8

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               62GV BOX NOT READY
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               PAGE
                       9 DF 16
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116
PROBE AA2-E2-G09(-VFL)
IS LINE DOWN?
Y N
| 117
| PROBE AA2-D4-B12(+TOO FAST)
IS LINE UP?
I Y N
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| | 118
 JUMPER AA2-E2 DO2 TO DO8.
LOAD PROGRAM ID 62GV4. (NOTE
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  | ¥
                      JUMPER BEFORE
           REMOVE
1
  | CONTINUING)
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    DOES PROGRAM RUN TO 'ALL
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     TESTS RAN MESSAGE ?
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  I METER VOLTAGE AA2-C4-B09
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     | POSITIVE, DO8 NEGATIVE.
i.
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     I IS VOLTAGE OUTSIDE RANGE 11
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     | TO 13 VOLTS?
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     I Y N
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       120
POWER
                   OFF AND REMOVE
     1
       1 AA2-C4
                     CARD.
                                   METER
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      | RESISTANCE AA2-A3-BO2 TO
| AA2-A3-BO3, AND
| AA2-A3-BO2 TO AA2-A3-BO4.
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       | EITHER RESISTANCE OUTSIDE
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A A A A B B W X Y Z A B MAP 0635-9 Ł 1 1 ł ł 1 11 1 1 1 1 ł 1 1 | 121 1 1 1 Ł I REPLACE CARD AA2-C4 I REPLACE CARD AA2-D4 I REPLACE CARD AA2-D4 I REPLACE CARD AA2-C2 1 1 1 1 ŧ 1 1 1 1 | | 122 1 I REINSTALL CARD IN AA2-C4 L | POSITION, CHECK | CONTINUITY OF CABLE IN | AA2-A3. SEE CABLE CHART | 0634-2. IF CABLE OK 1 ł t L | | REPLACE DE UNIT. (SEE MLM) 1 | | 123 Ł I I REPLACE CARD AA2-C4 1 I - 1 L | 124 I REPLACE CARD AA2-E2 t | REPLACE CARD AA2-D4 1 1 125 I. I REPLACE CARD AA2-C4 1 126 REPLACE CARD AA2-C4

	MAP 0635-9
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127
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PROBE
        AA2-D4-D11(-SETTLED
                                 DN
TRACK)
IS LINE DOWN?
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128
PROBE AA2-E2-J09(-SEEK
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| COMPLETE)
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IS LINE DOWN?
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  PROBE AA2-E2-P11(SECTOR
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  | PULSE)
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  | IS LINE PULSING?
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| | REPLACE CARD AA2-C4
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  I REPLACE CARD AA2-D4
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PROBE
          AA2-D4-G05(+DATA AREA
| PULSE)
I IS LINE UP OR NO INDICATION ON
| PROBE?
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  | REPLACE CARD AA2-D4
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| REPLACE CARD AA2-E2
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135
PROBE AA2-D4-B08(+BRAKE FAIL)
IS LINE DOWN?
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t
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                                           Ł
MISSING +24V SUPPLY.
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GD TO MAP 0300, ENTRY POINT A.
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  137
          AA2-D4-G05(+DATA
                              AREA
PROBE
| PULSE)
IS LINE PULSING?
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 | 138
| REPLACE CARD AA2-D4
  139
| REPLACE CARD AA2-E2
140
PROBE
        AA2-D4-D11(-SETTLED
                                 ON
TRACK
IS LINE DOWN?
YN
1 141
| JUMPER
               AA2-C2-G04
                                TO
| AA2-C2-J04. PROBE AA2-E2-B12.
I IS LINE PULSING?
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I I 142
I I REPLACE CARD AA2-C2
I I REMOVE JUMPER
1 1
1 143
| REPLACE CARD AA2-E2
REMOVE JUMPER
144
PROBE AA2-D4-B07(-ON TRACK)
IS LINE DOWN?
Y N
145
JUMPER AA2-C2-G04 TC
AA2-C2-J04. PROBE AA2-E2-B12.
                                 то
IS LINE PULSING?
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I | REPLACE CARD AA2-C2
 REMOVE JUMPER
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                      MAP 0635-10
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MAP 0635-10

62GV BOX NOT READY ЈК В В 2 2 D E 1 1 0 0 PAGE 11 OF 16 1 1 1 L 1 I. 1 1 147 ł 1 Ŧ I REPLACE CARD AA2-E2 L 1 REPLACE CARD AA2-C4 (REMOVE JUMPER) 1 1 1 | 148 | REPLACE CARD AA2-C2 1 1 149 PROBE AA2-D4-D11(-SETTLED ON L TRACK) I. IS LINE DOWN? 1 YN 150 | JUMPER AA2-E2-B04 TO DO8. | OBSERVE ACTUATOR ARM POSITION ł | IS ARM AT INSIDE STOP? I Y N 1 1 1 | 151 I REPLACE CARD AA2-C4 | (REMOVE JUMPER) ł ł 1 i. 1 1 1 152 1 | REPLACE CARD AA2-C2 | (REMOVE JUMPER) L 153 1 I REPLACE CARD AA2-C2 154 AREA AA2-D4-G05(+DATA PROBE PULSE) IS LINE PULSING? Y N 1 155 | PROBE AA2-C2-J05(+SERVO CLOCK) IS LINE PULSING? 1 L Y N 1 1 t 1 ŧ ŧ 1 I 1 1 I 1 L 1 ł 1 1 1 2 2 **B B B** F G н

н I L 156 PROBE AA2-E2-U04(-1 HEAD SELECTED) IS LINE DOWN? Y N Т 1 157 | REPLACE CARD AA2-C2 158 METER DC VOLTAGE AA2-C2-D05(NEG) TO DO8(POS). IS VOLTAGE OUTSIDE RANGE 7.5 TO 9.5 VOLTS? Y N | 159 | POWER OFF. INSTALL SEE SERVO-SIMULATOR. PAGE | 0630-1. | PROBE AA2-C2-J05(+SERVO CLOCK) | IS LINE PULSING? I Y N 1 1 | | 160 | | REPLACE CARD AA2-C2 | | (REMOVE SERVO SIMULATOR) | | | 161 I CHECK CONTINIUTY DF CABLES AA2-A2 AND AA2-A3. SEE CABLE | CHART 0634-2. I IS ANY LINE OPEN? - 1 | | 162 | | REPLACE DE UNIT. (SEE MLM) | | (REMOVE SERVO SIMULATOR) | | | 163 RESEAT CABLE. IF TROUBLE IS NOT CLEARED, REPLACE CABLE (REMOVE SERVO SIMULATOR) 1 164 REPLACE CARD AA2-C2 100CT77 PN2547783

MAP 0635-11

В

EC832050 PEC830357

MAP 0635-11
нвв 62GV BOX NOT READY 2 F G 1 1 1 1 1 PAGE 12 OF 16 1 1 1 1 1 | | | | 165 | | REPLACE CARD AA2-E2 1 166 I REPLACE CARD AA2-C2 I REPLACE CARD AA2-E2 167 PROBE AA2-D4-BO7(-ON TRACK) IS LINE PULSING? Y N | 168 POWER DFF. JUMPER AA2-C2-D11 TD AA2-C2-D13. POWER ON. PROBE AA2-D4-J02.(-GUARD BAND) WAIT 1 MINUTE. IS LINE UP? I Y N 1 | | 169 | PROBE AA2-D4-B07(-ON TRACK) Ł I IS LINE DOWN? 1 11 Ŧ | | 170 | | REPLACE CARD AA2-D4 1 L | 171 1 I REPLACE CARD AA2-D4 I REPLACE CARD AA2-E2 1 1 | 172 | PROBE AA2-D4-D11(-SETTLED DN | TRACK) | IS LINE DOWN? I Y N 1 - 1 173 1 | REPLACE CARD AA2-C2 Ł I REPLACE CARD AA2-D4 1 1 L 174 | REPLACE CARD AA2-E2

GΒ MAP 0635-12 2 J L 1 1 1 1 1 | 175 | PROBE AA2-E2-J09(-SEEK | COMPLETE) IS LINE DOWN? 1 - 1 | 176 | PROBE AA2-E2-J04(-STORE EIT 1 L | | 16) | | IS LINE UP? | | Y N i i 1 | | 177 | | REPLACE CARD AA2-E2 L 1 1 L | | 178 | | POWER OFF. PROBE | | AA2-E2-G09(-VFL). JUMPER | | AA2-E2-U02 TO U08. POWER ON. | | WAIT ONE MINUTE. PROBE IS LINE UP? 1 IIYN 11 1 | | 179 I I REPLACE CARD AA2-E2 I I REPLACE CARD AA2-D4 I I REPLACE CARD AA2-D4 I I REPLACE CARD AA2-C4 1 1 1 | | 180 | | REPLACE CARD AA2-D4 1 1 1 181 | REPLACE CARD AA2-E2 182 IS ARM AT OUTSIDE STOP? YN 1 | 183 I REPLACE CARD AA2-C4 I REPLACE CARD AA2-D4 1 100CT77 PN2547783 1 EC832050 PEC830357 3 В к MAP 0635-12

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                62GV BOX NOT READY
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                PAGE 13 OF
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  1 184
    JUMPER AA2-E2-B12 TO DO8.
  1
  I IS ACTUATOR ARM AT OUTSIDE
                                                 1
    STOP?
  1
  £
    Y N
  1 1
  | | 185
| | REPLACE DE UNIT.(SEE MLM)
  1 1
  | 186
    PROBE AA2-E2-M12(-OUT)
  Ł
  I IS LINE UP?
  Î Y N
                    • • •
                                  · . .
  | | 187
  I I REPLACE CARD AA2-E2
I I REPLACE CARD AA2-D4
  1 1
  | 188
 | REPLACE CARD AA2-E2
  189
  PROBE AA2-D2-D02(1F READ CLOCK)
IS LINE PULSING?
  Y N
  190
             AA2-D4-G05(+DATA
                                    AREA
  I PROBE
                                                 1
  | PULSE)
                                                 i.
  IS LINE PULSING?
  | Y N
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  JUMPER
                   AA2-C2-G03
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   | AA2-C2-J07. METER VI
| AA2-C2-D11 TO AA2-C2-D13.
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    | | REPLACE CARD AA2-E2
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    | 193
    | REPLACE CARD AA2-D2
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    I REPLACE CARD AA2-C2
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LM I 1 1 1 194 | REPLACE CARD AA2-D2 195 POWER OFF. JUMPER AA2-C2-D11 TO AA2-C2-D13. POWER ON. WAIT ONE MINUTE. PROBE AA2-D4-J02 (-GUARD BAND ) (REMOVE JUMPER BEFORE CONTINUING) IS LINE UP? YN | 196 PROBE AA2-D4-G05(+DATA AREA | PULSE) IS LINE PULSING? I Y N | | 197 | | JUMPER AA2-C2-G03 ТО | AA2-C2-J07. METER V( | AA2-C2-D11 TO D13. (RE | JUMPER BEFORE CONTINUING) VOLTS (REMOVE I I IS VOLTAGE GREATER THAN 1 | | VOLT? I Y N 11 | | 198 | | PROBE AA2-E2-G13(+CTR 4) | | IS LINE DOWN? | 199 I METER DC VOLTAGE i | | C4-B09 POSITIVE | | | C4-B08 NEGATIVE | | IS VOLTAGE INSIDE RANGE | | DF 11 TO 13 VOLTS? 1 T 1 E 1 Y N 1 L 1 1 1 ł Ł I t 1 1 1 ł 1 1 1 1 1 1 L ł 1 1 1 1 1 100CT77 PN2547783

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MAP 0635-13

MAP 0635-13

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B B B B B B 62GV BOX NOT READY NPQRS T 1 1 1 1 1 1 333333 PAGE 14 DF 16 I 1 1 - 1 1 L 1 200 Ł I. 1 1 I REPLACE CARD AA2-C4 (SOURCE) Ŧ 1 | CARD AA2-C2 (LOAD1) | CARD AA2-D4 (LOAD2) 1 1 L 1 1 1 L 1 201 POWER OFF AND REMOVE AA2-C4 CARD. METER L 1 Ł | RESISTANCE AA2-A3-B02 TO | AA2-A3-B03 AND AA2-A3-B02 ł 1 1 TO AA2-A3-B04. ł E | EITHER RESISTANCE DUTSIDE Ł | RANGE 40 TO 100 DHMS? L IYN 1 1 L ł | | 202 Ł | | REPLACE CARD AA2-E2 | | REPLACE CARD AA2-D4 | | REPLACE CARD AA2-D4 1 ł 1 1 203 Ŧ 1 | REINSTALL CARD IN AA2-C4 1 | | POSITION.CHECK CONTINUITY | | OF CABLE IN AA2-A3. SEE | | CABLE CHART 0634-2. IF Ł, 1 L I CABLE OK REPLACE DE UNIT. 1 1 1 4 E | 204 Ł I REPLACE CARD AA2-D2 I REPLACE CARD AA2-E2 L | REPLACE CARD AA2-D4 1 -1 205 1 I REPLACE CARD AA2-C2 | | REPLACE CARD AA2-D4 1 206 | REPLACE CARD AA2-E2 207 PROBE AA2-E2-PO4 AND AA2-E2-MO3 (IN/OUT DEMOD) IS EITHER LINE DOWN? Y N L 1 1 1 1 ł 1 L 1 ΒB υv

MAP 0635-14 CDBB 1 1 U V 1 ł 1 1 1 1 1 1 1 1 1 1 208 1 I I REPLACE CARD AA2-E2 1 | | 1 209 I I REPLACE CARD AA2-C4 I I REPLACE CARD AA2-C2 210 PROBE AA2-D4-G05(+DATA AREA PULSE) | IS LINE PULSING? | Y N 1 1 | | 211 | | JUMPER AA2-E2-GO8 TO JO8. | | DOES ACTUATOR ARM MOVE OUT? IIYN I I REPLACE CARD AA2-E2 1 1 1 213 I I REPLACE CARD AA2-D4 1 | 214 REPLACE CARD AA2-D4 215 PROBE AA2-E2-U09 (PLO OUT OF SYNC) IS LINE UP? YN 1 216 PROBE AA2-D4-D11(-SETTLED ON TRACK) ISLINE DOWN? | | | | 217 I REPLACE CARD AA2-E2 I REPLACE CARD AA2-D4 L 1 1 1 I 1 1 1 1000777 PN2547783 1 1 55 EC832050 PEC830357 ΒB WΧ MAP 0635-14

62GV BOX NOT READY BBE 1 W X 1 1 ۱ 4 4 I PAGE 15 DF 16 1 ł L 1 1 218 - 1 PROBE AA2-D4-G05(+DATA AREA 1 1 | PULSE) 1 | IS LINE PULSING? 1 Y N 1 1 ł 1 1 | 219 ł 1 | JUMPER AA2-E2-D12 TO D08. | IS ACTUATOR ARM BEHI Ł 1 BEHIND ł 1 | HOME? 1 Y N 1 Ł 1 1 1 1 1 220 I REPLACE CARD AA2-C4 1 I 1 221 1 1 | REPLACE CARD AA2-E2 | REPLACE CARD AA2-C2 1 Ł 1 L 1 222 1 REPLACE CARD AA2-E2 1 1 223 L REPLACE CARD AA2-C4 224 POWER OFF AND REMOVE AA2-C4 CARD. METER RESISTANCE AA2-A3-B02 TO AA2-A3-B03 AA2-A3-B04. EITHER RESISTANCE DUTSIDE RANGE 40 TO 100 DHMS? Y N 1 225 1 REPLACE CARD AA2-D4 I REPLACE CARD AA2-E2 I REPLACE CARD AA2-C4 1 226 CARD REINSTALL IN AA2-C4 POSITION. CHECK CABLE IN AA2-A3 SEE POSITION. CABLE CHART 0634-2. IF CABLE OK REPLACE DE UNIT.

1 ł 1 227 PROBE AA2-D4-D11(-SETTLED ΩN TRACK) IS LINE DOWN? Y N ł 1 228 PROBE AA2-D4-G05(+DATA AREA | PULSE) IS LINE PULSING? Y N Ł 1 229 L 1 | PROBE AA2-E2-B07 (+ RETRACT) 1 I IS LINE UP? L ΥN ł 1 1 230 Ł T I CHECK CONTINUITY OF CABLE 1 Ł CHART 1 | AA2-A3. SEE CABLE 0634-2. 1 I IS ANY LINE OPEN? 1 Y N ł 1 1 1 1 1 | 231 1 | REPLACE CARD AA2-C4 | REPLACE CARD AA2-E2 T 1 ŧ 1 - 1 L 1 232 ł 1 | RESEAT CABLE. IF FAULT IS I L I NOT CLEARED REPLACE CABLE. 1 1 ł 1 233 L REPLACE CARD AA2-E2 1 ł L 1 1 234 I REPLACE CARD AA2-C4 I 235 PROBE AA2-E2-B07 (+ RETRACT) IS LINE UP? Y N 11 1 1 1 I ł ł I 1 1 100CT77 PN2547783 1 1 EC832050 PEC830357 6 6 B B Y Ζ MAP 0635-15

MAP 0635-15

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62GV BOX NOT READY
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1 1
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                    16 OF 16
              PAGE
11
1 1
| 236
JUMPER AA2-C4-B04 TO D08
DDES ACTUATOR ARM MOVE OUT?
IYN
L
| | 237
| | CHECK CONTINUITY OF C
| | AA2-A3. SEE PAGE 0634-1.
                               CABLE
I IS ANY LINE OPEN?
  I Y N
I
  1
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     1
  | | 238
| | REPLACE DE UNIT. SEE MLM.
1
Ł
  1 239
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| | RESEAT CABLE. IF FAULT IS
  I NOT CLEARED REPLACE CABLE.
1
1 1
240
I REPLACE CARD AA2-C4
L
241
JUMPER AA2-C4-BO4 TO DO8
DOES ACTUATOR ARM MOVE OUT?
Y N
1
242
I CHECK
          CONTINUITY OF
                                CABLE
AA2-A3.
              SEE CABLE
                                CHART
| 0634-2.
| IS ANY LINE DPEN?
| Y N
11
| 243
| | REPLACE DE UNIT. (SEE MLM)
11
| 244
RESEAT CABLE. IF FAULT IS NOT
CLEARED, REPLACE CABLE
245
REPLACE CARD AA2-E2
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100CT77 PN2547783 EC832050 PEC830357 MAP 0635-16 SCP ERROR MAP

SYSTEM 32

PAGE 1 OF 5

ENTRY POINTS

*r* 

FROM   ENTER THIS MAP
MAP   ENTRY PAGE STEP NUMBER   POINT NUMBER NUMBER
0100 I A 1 001
001 (ENTRY POINT A) IS SCP ERROR 33 DISPLAYED ON THE CRT? Y N
002 FOR SCP ERRORS OTHER THAN SCP ERROR 33, REFER TO SCP ERROR MESSAGES GUIDE (CUSTOMER MANUAL). RUN DIAGNOSTICS FOR A DEVICE IF INDICATED, OR DEPRESS CE RESET AND RETURN TO SYSTEM MAP 0100, ENTRY PDINT D.
DUB DEPRESS SYSTEM RESET. DISPLAY AND RECORD THE CONTENTS OF THE FOLLOWING LSR'S AND CONTROL STORE LOCATION:
LSR X'00' LSR X'0A' (MAR-INTERRUPT LEVEL 0) LSR X'0C' (MAR-INTERRUPT LEVEL 1) LSR X'0E' (MAR-INTERRUPT LEVEL 2) CONTROL STORE ADDRESS X'0070'
IS THE CONTENTS OF CONTROL STORE ADDRESS X'0070' BETWEEN X'0000' AND X'0011'? Y N
004 IS THE CONTENTS OF CONTROL STDRE ADDRESS X'0070' EQUAL TO X'0012'? Y N
005   IS THE CONTENTS OF CONTROL   STORE ADDRESS X'0070' EQUAL TO   X'FFFF'?   Y N
I I 006 I I RUN SYSTST. IF ND ERRORS I I DCCUR RETURN MACHINE TO I I CUSTOMER.
             CDPYRIGHT IBM CORP 1975 
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ABC

EXIT POINTS

E >	KIT THI	S MAP	1	то	
PA NL	AGE JMBER	STEP NUMBER		M A P NUMBER	ENT RY POI NT
	2	012		0102	 В

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EC830358 PEC830357

E C SCP ERROR MAP	DEFGH MAP 0700-2
SYSTEM 32	<u> </u>
     PAGE 2 OF 5     	
007   TWO PERMENENT 62GV ERRORS HAVE   OCCURRED BEFORE END OF JOB.   GG TO PAGE 3, STEP 019,   ENTRY POINT B.     OOB	<pre>      012       THE CPU FAILED.       DISPLAY AND RECORD THE       CONTENTS OF CONTROL STORE       ADDRESS X'0081' AND       X'0082'.       SO TO MAP 0102.</pre>
TO ISOLATE THE FAILING DEVICE, DISPLAY AND RECORD THE CONTENTS OF CONTROL STORE ADDRESS X'0083', X'0084', AND X'0086'.	ENTRY POINT B.             013     A FAILURE HAS OCCURRED IN THE
IF THE CONTENTS OF CONTROL STORE ADDRESS X'0083' IS LESS THAN X'05C2', THE ACTIVE MAR IS STORED IN LSR X'OC'. USE VALUE RECORDED EARLIER TO ANSWER THE FOLLOWING QUESTIONS.	<pre>    RUN 33FD OR A FEATURE DEVICE     RUN 33FD AND FEATURE DEVICE     DIAGNOSTICS TO ISOLATE THE     FAILURE. IF FAILURE IS NOT     DIAGNOSED, REPLACE:           AA1-H2(PORT CARD)     AA1-H2(PORT CARD)</pre>
IF THE CONTENTS OF CONTROL STORE ADDRESS X'0083' IS GREATER THAN X'05C1', AND THE CONTENTS OF CONTROL STORE ADDRESS X'0084' IS LESS THAN X'0C19', THE ACTIVE MAR IS STORED IN LSR X'0E'. USE VALUE RECORDED EARLIER TO ANSWER THE FOLLOWING QUESTIONS.	<pre>    AA2-L2(BSCA OR SDLC)     AA2-L2(BSCA OR SDLC)     AA2-N2(CARDIO)     AA1-F2(MICR)                 014     A FAILURE HAS OCCURRED IN THE     KEYEOARD. RUN KEYEOARD     DIAGNOSTICS TO ISOLATE THE</pre>
IF THE CONTENTS OF CONTROL STORE ADDRESS X'0083' IS GREATER THAN X'05C1'AND THE CONTENTS DF X'0084' IS GREATER THAN X'0C18', THE ACTIVE MAR IS STORED IN CONTROL STORE ADDRESS X'0086'. USE VALUE RECORDED EARLIER TO ANSWER THE FOLLOWING QUESTIONS.	<pre>    FAILURE. IF FAILURE IS NOT     DIAGNOSED, REPLACE:       AA1-H2(PORT CARD)   AA2-M2(KEYBOARD/CRT)       015   A FAILURE HAS OCCURRED IN THE   PRINTER. RUN PRINTER DIAGNOSTICS</pre>
I IS THE VALUE OF THE ACTIVE MAR BETWEEN X'0580' AND X'0699'? Y N	TO ISOLATE THE FAILURE. IF   FAILURE IS NOT DIAGNOSED,   REPLACE: 
009   IS THE VALUE OF THE ACTIVE MAR   BETWEEN X'0700' AND X'0879'?   Y N	AAI-H2(PORT CARD)   AA2-Q2(LINE PRINTER)   AA2-Q2,AA2-R2(SERIAL PRINTER)     016
     ClO     IS THE VALUE OF THE ACTIVE MAR     BETWEEN X'0880' AND X'09FF'?     Y N	A FAILURE HAS OCCURRED IN THE 62GV. RUN 62GV DIAGNOSTICS TO ISOLATE THE FAILURE. IF FAILURE IS NOT DIAGNOSED, REPLACE:
     011     IS THE VALUE OF THE ACTIVE     MAR BETWEEN X'OA00' AND     X'OCOO'?     Y N 	AA1-H2(PORT CARD) AA2-F2(62GV) AA2-G2(62GV)
	15APR77 PN2546666
	EC830358 PEC830357
DEFGH	MAP 0700-2

SCP ERROR MAP Α 1 SYSTEM 32 I PAGE 3 OF 5 1 1 017 IS THE CONTENTS OF CONTROL STORE ADDRESS X'0070' EQUAL TO X'000B' OR X 1000C 1? Y N 1 | 018 ERROR MAY BE IN SOFTWARE OR | THE I IN THE HARDWARE. A STORAGE DUMP MAY HAVE OCCURRED. I IPL FROM 62GV. INSERT A SCRATCH DISKETTE. EXECUTE APAR COMMAND. SEE SCP REFERENCE MANUAL. CALL I PSR. 019 TWO ERRORS HAVE OCCURRED. THE SECOND ERROR WAS A 62GV ERROR. THE FIRST ERROR MAY ALSO BEEN A 62GV ERROR. THE IOB FOR THE SECOND ERROR WILL E IDE FOR THE SECOND ERROR WILL DEFINED BELOW. THE IOB FOR THE FIRST ERROR (IF THE ERROR WAS A 62GV ERROR) WILL BE IN THE MAIN STORE LOCATIONS DEFINED BELOW. LODK FOR SIMILARITIES IN THE IDE'S AND FREELANCE. (ENTRY POINT B) DISPLAY AND RECORD THE IDB'S FOR THE ERRORS. THE IOB FOR THE FIRST ERROR STARTS AT MAIN STORE ADDRESS X'0594'. THE IOB FOR THE SECOND ERROR STARTS AT CONTROL STORE ADDRESS X'0025'. SENSE BYTES SHOULD BE OF PRIMARY INTEREST. IF THE FOLLOWING SENSE BITS ARE ON: SECTOR SYNC CK DR CRC CK OR WRITE ECHO CK DR WRITE CK TRIGGER DR DISK NOT READY WITH DA TA UNSAFE AND WRITE UNSAFE DR DISK NOT READY WITH DATA UNSAFE AND SELECT UNSAFE THE PROBABLE CAUSES OF FAILURE ARE: CARDS D-W183, D-W1A5, A-A2D2, A-AZG2 AND A-A2E2 OR CABLES A-A2 A4 AND A-A2 A5.

IF THE FOLLOWING SENSE BITS ARE ON: (STEP 019 CONTINUES)

# 62GV IOB DESRIPTION

LOCAT		1
1ST ERR	2ND ERR	DESCRIPTION
X' 0594' X' 0595'	X 0025	CHAIN POINTER- SECTOR ADDR OF NEXT IOB. X'FFFF' IF THIS IS LAST IOB IN CHAIN.
X • 0596 •	x '0026' (HIGH)	COMPLETION COMPLETION CODE- X'40'-NORMAL COMPLETION X'41'-PERMENENT I/O ERROR X'42'-SCAN NOT HIT X'44'-SCAN EQUAL HIT X'80'-CALL FROM CS X'20'-MAIN OP ISSUED X'10'-VERIFY ISSUED X'08'-SEEK ISSUED

15APR 77 PN2546666

ECB30358 PEC630357

## SCP ERROR MAP

### SYSTEM 32

## PAGE 4 OF 5

(STEP 019 CONTINUED) NO-OP OR DISK NOT READY WITHOUT DATA UNSAFE

THE PROBABLE CAUSES OF FAILURE ARE: CARD INTERLOCK NET-SEE THEORY-DIAGRAMS MANUAL 62GV-38 BRAKE FAILURE NET-SEE THEORY-DIAGRAMS MANUAL 62GV-39 CHAN DATA PROTECT NET-SEE THEORY-DIAGRAMS MANUAL 62GV-39

IF THE FOLLOWING SENSE BITS ARE DN: SEEK CK DR DFF TRACK CK DR ND RECORD FOUND

THE PROBABLE CAUSES OF FAILURE ARE: CARDS A-A2C2,A-A2C4,A-A2D4, A-A2E2 AND A-A2F2 OR CABLES A-A2A2 AND A-A2A3.

IF THE FOLLOWING SENSE BITS ARE ON: CHAN TRANSFER ERROR OR CHAN OVERRUN OR PARALLEL PARITY CK

THE PROBABLE CAUSES OF FAILURE ARE: CARDS A-A2F2, A-A2G2 OR XOVERS A-A1Z2, A-A1Z3 AND A-A1Z4

IF THE FOLLOWING SENSE BIT IS ON: SERDES CK

THE PROBABLE CAUSE OF FAILURE IS: CARD A-A2G2

REFER TO 62 GV IOB DESRIPTION TO THE RIGHT AND THE FOUR 62 GV SENSE BYTE DESCIPTIONS BELOW.

SENSE BYTE O:

MS X 059E /CS X 002A

BIT O-DISK NDT READY BIT 1-ALT SECTOR PROC BIT 2-SECTOR SYNC CHK BIT 3-OFF TRACK CHK BIT 4-CRC CHK BIT 5-PARALLEL PRTY CHK BIT 5-WRITE ECHO CHK (STEP 019 CONTINUES)

	   	X '04'-SEEK BEFORE VERIFY I ISSUED
x • 0597 •	   X * 00 26*   ( LOW)   	Q BYT E-   X' AO' -CONTROL   X' A1' -READ   X' A2' -WRITE   X' A3' -S CAN
X * 0598 *	X *00 27 *   (HIGH)                       	IR BYTE- ICONTROL: IX'00'-SEEK IX'01'-RECALIERATE READ AND WRITE: IX'80'-REPEAT SAME DATA IX'40'-CS LOW ONLY IX'08'-FAST SYNC EXTENDED IX'04'-CS SELECT IX'01'- ID READ/WRITE IX'00'-DATA READ ONLY: IX'02'-READ DIAG SCAN ONLY: IX'02'-SCAN HI OR EQUAL IX'01'-SCAN EQUAL IX'00'-SCAN EQUAL
X * 0599 * X* 059A*	X'0027' (LOW) X'0028' (HIGH)	STARTING SECTOR ADDR- (SS FORMAT)
X'059B'	X'0028' (LOW)	NUMBER OF SECTORS (-1)- DATA TRANSFER
X 1059C 1 X 1059D 1	X'0029'	DATA FIELD ADDRESS
X 1 059E 1 X 1 059F 1	X'002A'	SENSE BYTES 0-1 (SEE TABLE TO LEFT)
X ' 05 A0 '   X ' 05 A1 '	X'002B'	SENSE BYTES 2-3 (SEE TABLE TO LEFT)
X '05 A2 '	X '002C'  (HIGH)	I/O OPERATION RETRY COUNTER
X 105 A3 1	x • 00 2C • !	FLAG BYTE-

## 15APR 77 PN2546666

EC830358 PEC830357

SYSTEM 32

# PAGE 5 OF 5

(STEP 019 CONTINUED) BIT 7-CHANNEL OVERRUN

SENSE BYTE 1:

MS X 059F / CS X 002A

EIT G-NO-OP BIT 1-DATA UNSAFE BIT 2-INVALID SEEK ADDR BIT 3-ATTACH EQUIP CHK BIT 4-NO RECORD FOUND BIT 5-SCAN EQUAL HIT BIT 6-SCAN NOT HIT BIT 7-SEEK CHK

# SENSE BYTE 2:

MS X \* 05 A0 \* / CS X \* 00 2B \*

BIT O-SERDES CHK BIT 1-WRITE CHK TRIGGER BIT 2-CHAN TFER ERR BIT 3-NOT USED BIT 4-NOT USED BIT 5-NOT USED BIT 6-NOT USED BIT 7-NOT USED

SENSE BYTE 3:

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MS X 05A1 CS X 002B BIT 0-NOT USED BIT 1-SELECT UNSAFE BIT 2-WRITE UNSAFE BIT 3-BRAKE FAILURE BIT 4-SERVO UNSAFE BIT 5-NOT USED BIT 6-9.1 MEGABYTE BIT 7-NOT USED

	(LOW)                                     	X'80'-ND ERROR RECOVERY ATTEMPT X'40'-ND WRITE DATA VERIFY X'20'-ND ERROR LOGGING X'10'-USE SUPPLYED NFCCHS FIELD X'08'-USED BY RPG COMPILER X'04'-ND RETURN ON PERMENENT ERROR X'02'-RESERVED X'01'-NG SEEK BEFORE
		OPERATION
X 1 05441	X'002D' (HIGH)	QUE UE I NG PR IOR ITY
X ' 054 5'	X'002D' (LOW)	UNA SSIG NED

15APR 77	PN2546666
EC830358	P EC8 30 3 5 7

CRT ENTRY CHART

SYSTEM 32

PAGE 1 OF 5

ENTRY POINTS

FROM	1	ENTER	THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0101 0102 0107 1201	   	А А А А	1 1 1 1	001 001 001 001

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OOI (ENTRY POINT A) POWER OFF. INSTALL 1-WIDE CABLE EXTENDER PART# 5998763 BETWEEN CRT-PC AND CRT-PC CABLE AND LEAVE IT INSTALLED UNTIL END OF CALL. POWER ON. SET ALL DATA SWITCHES TO 0000. SET MODE SELECTOR SWITCH TO PROCESS RUN. SET BOTH THE IMPL AND IPL SWITCHES TO THE UP POSITION AND ALL OTHER TOGLE SWITCHES TO THE OTHER TOGGLE SWITCHES TO THE ALL DOWN POSITION. INSERT THE CE DIAG 01 DISKETTE AND CLOSE THE DOOR. WAIT 45 SECONDS. DEPRESS THE LOAD KEY. WAIT UNTIL THE STOP LIGHT COMES ON

DEPRESS START AND WAIT SEVERAL SECONDS, DEPRESS INQ KEY, TYPE IN CRT1, DEPRESS ENTER KEY

CRT1 RUN WITH NO ERRORS? Y N

002 REPLACE CARD AA2-M2 (CRT KEYBOARD | CARD)

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220CT76 PN2547610 EC830357 PEC828518

MAP 1200-1

\* DISPLAY MAY BE BLANK OR \* HAVE ABNORMAL DISPLAY ON IT. # \*\*\*\*\* THE FOLLOWING INSTRUCTIONS ASSUME YOU HAVE IMPLED. THEY WILL LEAD

\*\*\*\*\*

CONTINUE HERE ONLY AFTER BEGINNING

IN THE SYSTEM ENTRY CHART.

YOU TO THE MAIN MENU AND LOAD PROGRAM CRT1.

THIS ACTION WILL CAUSE PROGRAM CRT1, (VIDEO CLGCK STEP) TC RUN, THE RESULTS OF CRT1 WILL BE PRINTED ON THE PRINTER.

MAP 1200-1

Δ	CRT ENTRY CHART	С МАР	1200-2
I	SYSTEM 32	2	
	PAGE 2 OF 5		
 OO3 DEPRESS BRIGHTNESS TO DISPLAY DISPLAY SEC NORMAL RAST DDES RASTE PROPER POSI Y N	SYSTEM RESET, TURN CONTROL FULL CLOCKWISE RASTER (REFERENCE MLM TION FOR A PICTURE OF A ER) R APPEAR NORMAL AND IN TION?	 004 REF PICTURES IN MLM DISPLA TO HELP DEFINE SOME SYMF MAY OCCUR. CHOOSE F FOLLOWING SYMPTOMS AND SPECIFIED MAP:   ******	Y SECTION TOMS THAT ROM THE EXIT TO **********
			MAP ≠
		<ul> <li>BLANK CRT BRIGHTNESS</li> <li>CONTROL TURNED CW.</li> <li>SCREEN DOES NOT GLOW OR</li> <li>APPEAR HAZY.</li> </ul>	*   1201-1*   *   *
		* DISPLAY TCO BRIGHT, DIM * AND/OR UNADJUSTABLE	,  *  1202-1*
		<ul> <li>SIX VERTICAL MARKS ON</li> <li>CRT, OR PARTIAL</li> <li>HORIZONTAL (PROBABLE</li> <li>FAILURE: HORIZONTAL CKT</li> </ul>	+  1203-1* * )  *
		<ul> <li>★ SOME HORIZONTAL LINES</li> <li>★ MISSING (PROBABLE</li> <li>★ FAILURE: VERTICAL CKT)</li> </ul>	1204-1* *
		<ul> <li>* APPEARS AS ALL THIN</li> <li>* HORIZONTAL LINES</li> <li>* (PROBABLE FAILURE:</li> <li>* WIGGLE CKT)</li> </ul>	1205-1*   *   *
		* JITTERY DISPLAY	1207-1*
		<pre># FLASHING DISPLAY</pre>	1208-1*
		<pre>* VERY LARGE DISPLAY *</pre>	1209-1*
		<ul> <li>MIS-POSITIONED RASTER</li> <li>SHIFTED LEFT OR RIGHT,</li> <li>TOP OR BOTTOM OR CHANGE</li> <li>IN SIZE FROM NORMAL. MA</li> <li>BE SHIFTED SO FAR THAT</li> <li>IT IS NO LONGER ON THE</li> <li>FACE OF THE SCREEN, AND</li> <li>WITH BRIGHTNESS CONTROL</li> <li>TURNED FULL CLOCKWISE,</li> <li>THE FACE OF THE SCREEN</li> <li>WILL GLOW OR BE HAZY.</li> </ul>	-  *   * D   * Y   1210-1*   *   *   *   *
		IF THE ABOVE SYMPTOMS DO N	DT DEFINE
		GO TO PAGE 3, STEP 005, EN B.	FRY POINT
		220CT76 P	2547610

32 BC EC830357 PEC828518

MAP 1200-2

CRT ENTRY CHART Б 2 SYSTEM 32 Ł PAGE 3 OF 5 ł 1 1 005 (ENTRY POINT B) DEPRESS CE START, TYPE IN CRT2, DEPRESS ENTER KEY, TURN THE BRIGHTNESS CONTROL BACK TO SHOW NORMAL BRIGHTNESS, IF POSSIBLE. THE PATTERN IS SHOWN IN MLM, SECTION 5 FIGURE 15. CHOOSE FROM THE FOLLOWING SYMPTOMS: REF PICTURES IN MLM DISPLAY SECTION. \*\*\*\* ≭ | EXIT \* \* SYMPTOM | MAP ≠ \* DISPLAY TOO ERIGHT, DIM, | \*
\* AND/OR UNADJUSTABLE |1202-1\* \*--------- | -----\* \* RASTER ONLY WITH BRIGHT- × ¥ NESS HIGH (PROBABLE 11206-1\* FAILURE: VIDED CIRCUIT) \* ¥ \*----------\* \* JITTERY DISPLAY |1207-1\* \*--- | - - - - - \* ------\* FLASHING DISPLAY |1208-1\* \*-- \* \_\_\_\_\_ . | \_ \_ \_ \_ \_ \* VERY LARGE DISPLAY |1209-1\* ---- | ----- \* \*--\* CONTINUE IF MORE SYMPTOMS ARE \* \* REQUIRED DEPRESS START, SYMPTOM REQUIRE FURTHER DEFINITION? ΥN Ł 1 006 I END OF CALL ł 1 I 1 ł 1 1 ł 4 D !

220CT76 PN2547610 EC830357 PEC828518

MAP 12C0-3

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3

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5 E

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## CRT ENTRY CHART

SYSTEM 32

| | PAGE 4 DF 5 | | 007 TYPE IN CRT3,

DEPRESS ENTER KEY

THE PATTERN SHOULD APPEAR AS SHOWN IN MLM, SECTION 5 FIGURE 24 FOR DOMESTIC SYSTEMS. WORLD TRADE SYSTEMS SEE FIGURES 25-36 FOR YOUR COUNTRY. SYSTEMS WITH KATAKANA, SEE NOTE 1. SYSTEMS WITH U/L CASE, SEE NOTE 2.

DOES DISPLAY APPEAR AS EXPECTED? Y N 300 1 REPLACE CARD AA2-M2 (CRT KEYBOARD | CARD) 1 009 U/L CASE FEATURE INSTALLED ON IS THE SYSTEM? Y N 1 010 1 GO TO PAGE 5, POINT C. L STEP 015, ENTRY 1 011 DEPRESS CODE KEY(LOWER CASE CHARACTERS SHOULD BE DISPLAYED). DEPRESS CODE KEY AGAIN(UPPER C CHARACTERS SHOULD BE DISPLAYED). CASE DOES DISPLAY ALTER CORRECTLY WHEN CODE KEY IS DEPRESSED? Y N 012 1 CONFIGURATION ERROR. RECONFIGURE SYSTEM FOR U/L CASE FEATURE. I RUN CUSTOMIZE PROGRAM.

THIS ACTION WILL CAUSE PROGRAM CRT3, (ALL CHARACTER DISPLAY) TO RUN.

NOTE 1: (KATAKANA FEATURE)

DEPRESS KANA GN KEY FOR KATAKANA CHAACTERS. DEPRESS KANA OFF KEY FOR NON-KATAKANA CHARACTERS.

NOTE 2: (U/L CASE FEATURE)

SYSTEM MUST BE CONFIGURED FOR UPPER/LOWER CASE FEATURE TO ENABLE CRT3 TEST TO RUN CORRECTLY. WHILE CRT3 IS EXECUTING, PRESS THE CODE KEY. LOWER CASE CHAR-ACTERS SHOULD BE DISPLAYED(SEE MLM SECTION 5.4.4). TO RETURN TO UPPER CASE DISPLAY, PRESS THE CODE KEY AGAIN.

220CT76 PN2547610

EC830357 PEC828518

MAP 1200-4

CRT ENTRY CHART Ε 4 SYSTEM 32 1 PAGE 5 GF 5 ł t ł 013 IS LOWER CASE DISPLAY SAME AS MLM SECTION 5.4.4? ΥN L 014 | REPLACE CARD AA2-M2 (CRT KEYBOARD ( CARD) 015 (ENTRY POINT C) DEPRESS START, TYPE IN CRT4, DEPRESS ENTER KEY. THE DISPLAY SHOULD APPEAR AS SHOWN IN MLM, SECTION 5 FIGURE 37. DOES DISPLAY APPEAR AS EXPECTED? Y N | 016 | REPLACE CARD AA2-M2 (CRT KEYBOARD | CARD) 017 DEPRESS START, PROBLEM IS INTERMITTENT. UNADJUSTABLE BRIGHTNESS AND FAILURE TO BLANK THE CRT DISPLAY CAN BE INTERMITTENT BECAUSE OF A FAILING CRT.VIBRATION OR POWERING UP AND DOWN CAN REMOVE SYMPTOMS THE TEMPOARILY. IF THIS CONDITION EXISTS: -GROUND THE CRT HIGH VOLTAGE ANODE -REPLACE THE CRT AND CHASSIS ASM -READJUST THE YOKE OTHERWISE: LOAD PROGRAM ID KEDTOCRT- THIS IS A FREELANCE PROGRAM TO AID IN LOCATING KEYBOARD AND CRT FAILURES. RESEAT ATTACHMENT CARD AA2-M2. RESEAT CABLE FROM AA2-U2 TO CRT-PC.

CHECK POWER CONNECTIONS TO CABLE

(TB1 AND TB2 TO CRT-PC)

THIS ACTION WILL CAUSE PROGRAM CRT4, (DYNAMIC REDISPLAY TEST) TO RUN.

> 220CT76 PN2547610 EC830357 PEC828518

> > MAP 1200-5

## BLANK DISPLAY

SYSTEM 32

PAGE 1 OF 3

#### ENTRY POINTS

FROM		ENTER	THIS	MAP	
MAP NUMBER	     +-	ENTRY POINT	PAGE NUME	BER	STEP NUMBER

NO ENTRIES IN THIS TABLE

#### 001

POWER UP. TURN BRIGHTNESS CONTROL CLOCKWISE UNTIL ANY DISPLAY IS VISABLE (DDT, RASTER, ETC.) OR POT REACHES ITS STOP.

#### IS SCREEN COMPLETLY BLANK? YN 1 1 002 GO TO MAP 1200, ENTRY POINT A. L 003 REMOVE CRT REAR PANEL. USING CE METER 15 VDC SCALE, REF TO FRAME GROUND, MEASURE: CABLE-PIN BO8, B09, D09, +12 VDC D10 -12 VDC CABLE-PIN DO2 CABLE-PIN B12, B13 +6 VDC CABLE-PIN D12. D13 GND ALL VOLTAGES OK, AND GND AT ZERO? YN L 004 MEASURE FAILING LINE ON TH | +12 VDC TB 2-5 -12 VDC TB2-6 +6 VDC тв2-3 GND TB1-2 | FAILING LINE OK? YN L 1 005 1 REFERENCE POWER DISTRIBUTION DIAGRAM, LOCATE OPEN AND 1 ۱ | | CORRECT. FAILURE BETWEEN PS AND I TB. ۱ I L 1 1 1 I 1 COPYRIGHT IBM CORP 1975 1 ł T 1 2 2

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### EXIT POINTS

EXIT TH	IS MAP		
PAGE NUMBER	STEP NUMBER	I MAP	ENTRY
1	002	1200	A

A BLANK CRT INDICATES THAT THE ELECTRON BEAM IS NOT REACHING THE FACE OF THE CRT. THE ELECTRON BEAM IS GENERATED WHEN THE FILAMENT HEATS THE CATHODE OF THE TUBE. THIS ELECTRON BEAM IS THEN CONTROLLED BY THE GRIDS AS IT IS ATTRACTED TO THE FACE OF THE CRT BY THE HIGH VOLTAGE APPLIED TO THE ANODE OF THE CRT.

03JUN75	PN2547611
EC828552	PEC828518

MAP 1201-1

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BLANK DISPLAY
                                                С
A B
1 1
                                                2
             SYSTEM 32
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  1
1
             PAGE 2 OF
                             з
1
  ł
  T
Ł
                                                Ł
1 006
                                                015
  REPLACE CABLE TO CRT-PC
ł
007
VISUALLY INSPECT THE CRT YOKE
(BOTTOM OF CRT CHASSIS ASSEMBLY)
                       THE CRT YOKE
                                                Y N
FILAMENT SHOULD GLOW.
IS FILAMENT GLOWING?
                                                 016
                                                Ł
YN
1
1 008
POWER DOWN. REMOVE DISPLAY SIGNAL
  CABLE. USE CE METER RX1 (-)LEAD
DN CHASSIS GROUND (+)LEAD
                                                1
                                                  YN
1
                                                £
  CABLE-PIN B12. B13
                                                  1 017
ŧ
  CONTINUITY?
                                                ł
  YN
1
  I
   009
                                                1
                                                 018
   (+)LEAD ON PC-PIN 18
                                                1
  1
   CONTINUITY?
                                                1
    YN
                                                019
  1
    1
1
  I
    010
    UNPLUG SOCKET ON CRT YOKE.
      CHECK CONTINUITY OF BROWN
    WIRE ON SOCKET-PIN 8, AND
     CHECK CONTINUITY OF BROWN
    1
    WIRE ON SOCKET-PIN 1
      CONTINUITY
    t
                     GOOD
                             ON
                                   вотн
                                                100VDC.
     CHECKS?
    1
      YN
    1
    1
                                                Y N
      011
                                                ł
    1
      I REPLACE CRT SOCKET ASM.
    L
                                                 020
    Ł
  I
      012
    Ł
      REPLACE CHASSIS AND CRT ASM.
ł
  ł
                                                1
t
  1
    013
  I REPLACE DISPLAY PC BOARD
L
                                                 1 MEGOHM.
 C14
1
                                                Ł
 REPLACE CHASSIS AND CRT ASM.
                                                  YN
                                                  1 021
                                                  1
                                                  022
                                                1
                                                з
2
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c

USE CE METER 500 VDC SCALE (-) LEAD ON PC-PIN 6 (+) LEAD ON PC-PIN 7 VOLTAGE BETWEEN 320-400 VDC? USE CE METER 50 VAC SCALE. LEAD ON PC-PIN 1 LEAD ON PC-PIN 3 VOLTAGE BETWEEN 12-30 VAC? | REPLACE DISPLAY PC BOARD REPLACE CONVERTER. USE CE METER 500 VDC SCALE (-) LEAD ON PC-PIN 15 (+) LEAD ON PC-PIN 17 TURN BRIGHTNESS CONTROL FROM FULL CCW TO CW AND OBSERVE METER. (LEAVE BRIGHT- NESS CONTROL IN ITS FULL CW POSITION) VOLTAGE SHOULD VARY FROM LESS THAN 50 VDC TO MORE THAN VOLTAGE VARY CORRECTLY? POWER DOWN. DISCONNECT LEAD 10. RX 10K SCALE MEASURE RESISTANCE BETWEEN LEAD 10 AND PC-PIN 9. VARY BRIGHTNESS CONTROL. MEASURE RESISTANCE BETWEEN LEAD 10 AND PC-PIN 11. VARY BRIGHTNESS CONTROL. RESISTANCE VARY FROM APPROX. 0 TO REPLACE BRIGHTNESS CONTROL POT. REPLACE DISPLAY PC BOARD 03JUN75 PN2547611

MAP 1201-2

MAP 1201-2

EC828552

D

AF IZUI-Z

PEC828518

D BLANK DISPLAY 2 SYSTEM 32 1 PAGE 3 OF 3 1 C23 WE RECOMMEND OBTAINING ALL FOUR FRU'S AND REPLACING THEM ONE AT A TIME IN THE SEQUENCE SHOWN UNTIL PROBLEM IS RESOLVED AND ONLY ONE FRU HAS BEEN REPLACED: DISPLAY PC BOARD CONVERTER CRT SOCKET ASM CHASSIS AND CRT ASM

-

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03JUN75	PN2547611
EC828552	PEC828518

MAP 1201-3

BRIGHT, DIM. AND/OR UNADJUSTABLE MAP 1202-1 SYSTEM 32 PAGE 1 OF 2 001 DISPLAY IS TOO BRIGHT, DIM, AND/OR BRIGHTNESS ON THE CRT IS CONTROLLED FROM THE 400 VDC OUTPUT OF THE UNADJUSTABLE. CONVERTER. THE BRIGHTNESS CONTROL FORMS PART OF A VOLTAGE DIVIDER FROM THE 400 VDC SUPPLY TO GROUND. TURNING THE BRIGHTNESS CONTROL CHANGES THE VOLTAGE APPLIED TO THE VIDED AMPLIFIER. THIS IN TURN CHANGES THE BIAS ON THE CRT WHICH INCREASES OR DECREASES THE ELECTRON FLOW TO THE FACE OF THE CRT. THIS CHANGES THE BRIGHTNESS. USING 500 VDC SCALE. MEASURE FROM PC-PIN 10 (+) TO PC-PIN 15 (-). VARY THE BRIGHTNESS CONTROL TO ITS HE RANGE OF VOLTAGE FROM THE BRIGHTNESS CHECKS THE AVAILABLE LIMITS. CONTROL . VOLTAGE VARY FROM 0 тο 130V (+-30%)?YN 1 1 002 USING 500 VDC SCALE. MEASURE FROM CHECKS THE 400 VDC OUTPUT OF THE PC-PIN 7 (+) TO PC-PIN 6 (-) CONVERTER. IS THE VOLTAGE BETWEEN 320 AND 400 VDC? I YN 1 ŧ 1 003 ł | REPLACE CONVERTER. ł ŧ 1 t 1 004 POWER DOWN. REMOVE YELLOW WIRE FROM PC-PIN 10 USE CE METER RX 1K MEASURE RESISTANCE FROM PC-PIN 9 I. TO YELLOW WIRE, VARY BRIGHTNESS 1 CONTROL . L RESISTANCE SHOULD VARY FROM 0 DHMS TO 1 MEG. 1 MEASURE RESISTANCE FROM PC-PIN 11 TO YELLOW WIRE, VARY BRIGHTNESS CONTROL, 1 RESISTANCE SHOULD VARY FROM 0 L OHMS TO 1 MEG. RESISTANCE VARY CORRECTLY AND E SMOOTHLY? t Y N 1 005 | REPLACE BRIGHTNESS CONTROL POT. L 1 L 1 006 Ł REPLACE DISPLAY PC BOARD. L 1 COPYRIGHT IBM CORP 1975 03JUN75 ł PN2547612 I EC828552 PEC828518 2

MAP 1202-1

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BRIGHT, DIM,
Α
1
              SYSTEM 32
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                      2 OF
              PAGE
                              2
1
ŧ
t
007
DOES VOLTAGE VARY SMOOTHLY?
Y N
1
008
| REPLACE BRIGHTNESS CONTROL POT.
1
1
009
POWER DOWN. DISCONNECT PG-PIN 17.
METER RESISTANCE FROM WIRE REMOVED
TO PC-PIN 14 WITH METER SET TO RX1.
IS
    THE RESISTANCE APPROXIMATELY
INFINITY?
Y N
ŧ
010
REPLACE CRT SOCKET ASM.
RECONNECT WIRE TO PIN 17 ON PC
BOARD.
ł
ł
011
POWER UP.
USING 500 VDC SCALE, MEASURE FROM
PC-PIN 17 (+) TO PC-PIN 15 (-) WITH
WIRE STILL REMOVED, VARY THE
BRIGHTNESS CONTROL TO ITS LIMITS
VOLTAGE VARY FROM LESS THAN 50 VDC
TO MORE THAN 90 VDC?
YN
1
012
I REPLACE DISPLAY PC BOARD.
1
013
REPLACE CRT AND CHASSIS ASM
RECONNECT WIRE TO PIN 17 ON PC
```

BOARD.

03JUN75 PN2547612 EC828552 PEC828518

MAP 1202-2

HCRIZONTAL MISSING

SYSTEM 32

PAGE 1 DF 2

001 SIX MAPKS ON CRT, PARTIAL HORIZONTAL DEFLECTION, OR CHARACTERS DISTORTED ON THE ENDS.

```
. . . . . . . . .
PROBE AA2-M2-UC6 (-HOPIZONTAL)
LINE PULSING?
Y N
1
002
PFPLACE CONTROL CARD, AA2-M2.
ł
L
003
REMOVE CRT REAR COVER. PROBE
                                  CRT
CABLE-PIN B10 (-HORIZONTAL)
LINE PULSING?
Y N
1
1 004
I
  REPLACE DISPLAY SIGNAL CABLE.
ŧ.
t
0.05
POWER DOWN.
REMOVE YOKE CONNECTOR
                                  PC
                          FROM
                          RX1 SCALE.
BOARD.
        USE CE METER,
CHECK FOR RESISTANCE IN WIRE B TO D
AND C TO E.
RESISTANCE BETWEEN 5-20 OHMS
                                   ON
BOTH CHECKS?
YN
I
1
 006
| REPLACE YOKE ASSEMBLY.
1
1
007
REMOVE CRT REAR COVER. POWER UP.
USE CE METER, 15 VDC SCALE. MEASURE
FROM FRAME GROUND TO PROBE POINT ON
DIODE D1.
VOLTAGE +12 VDC +- 10%?
Y N
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 1
            COPYRIGHT IBM CORP 1975
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2 2
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THE HORIZONTAL SWEEP CIRCUIT MOVES THE ELECTRON BEAM IN A HOPIZONTAL LINE ACROSS THE FACE OF THE CRT. THE ATTACHMENT GENEPATES HORIZONTAL INPUT PULSES. THESF PULSES TRIGGER AMPLIFIERS ON THE DISPLAY PC BOARD. THESE AMPLIFIERS DPIVE CURRENT THROUGH THE TWO HORIZONTAL YOKE WINDINGS. THIS CURRENT GENERATES THE MAGNETIC FIELD TO MOVE THE ELECTRON BEAM. THE MAGNETIC FIELD FROM EACH WINDING MOVES THE BEAM HALF-WAY.

01APR75 PN2547613

EC828518 PEC825412

MAP 1203-1

A R HORIZONTAL MISSING 1 1 SYSTEM 32 ł 1 I PAGE 2 OF 5 1 1 Ţ 1 008 ł CE METER, 15 VDC SCALE. USE T MEASURE FROM FRAME GROUND TO CRT | CABLE PIN-DO9, D10. 1 ł VOLTAGE +12 VDC +- 10%? I Y N 1 1 009 USE CE METER, 15 VDC SCALE. MEASURE FROM FRAME GROUND TO ١ 1 I I TB2-5. 1 1 l | VOLTAGE +12 VDC +- 10%? IYN t . 1 1 | | 010 | | PEF VOLTAGE DIST. DIAGRAM AND 1 1 | ! FIX FAILURE FROM PS TO TB. 1 1 1 1 | | | 011 I. 1 I REPLACE CABLE TO CRT-PC 1 1 1 I. 1 012 ١ I REPLACE DISPLAY PC PDARD. ł ۱ 013 PEPLACE DISPLAY PC EDARD.

> 01APR75 PN2547613 FC828518 PEC825412 MAP\_1203-2

. . .

MAP 1203-2

VERTICAL MISSING MAP 1204-1 SYSTEM 32 1 OF 1 PAGE 001 LESS THAN SIX LINES OF DISPLAY. THE VERTICAL SWEEP CIRCUIT POSITIONS THE ELECTRON BEAM VERTICALLY ON THE FACE OF THE CRT. THIS POSITIONING PROVIDES THE SIX LINES ON THE DISPLAY. VERTICAL INPUTS ARE GENERATED BY THE ATTACHMENT, SENT TO THE PC BOARD, AMPLIFIED, AND USED TO DRIVE DRIVE CURRENT THROUGH THE VERTICAL YOKE. THIS CURRENT GENERATES THE MAGNETIC FIELD TO MOVE THE ELECTRON BEAM. PROBE LINES: AA2-M2-S09 (-VERTICAL 1) • AA2-M2-SO4 (-VERTICAL 2) ٠ AA2-M2-SO8 (-VERTICAL 4) ALL LINES PULSING? Y N 1 002 REPLACE CONTROL CARD, AA2-M2. Ł 1 1 003 REMOVE CRT REAR COVER. PROBE: CRT CABLE-PIN B02 (-VERTICAL 1) PIN BO3 (-VERTICAL 2) PIN BO4 (-VERTICAL 4) ALL LINES PULSING? YN I 004 REPLACE DISPLAY SIGNAL CABLE. ١ 005 POWER DOWN. REMOVE YOKE CONNECTOR FROM PC BOARD. USE CE METER RX1 SCALE. CHECK FOR RESISTANCE IN WIRE A TO F. . CONTINUITY OK? Y N 006 | REPLACE YOKE ASSEMBLY. ŧ 007 REPLACE DISPLAY PC BOARD.

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MAP 1204-1

```
WIGGLE MISSING
                                                                       MAP 1205-1
SYSTEM 32
PAGE 1 OF
               1
001
SIY NAPPOW
                                           THE WIGGLE SWEEP CIRCUIT MOVES THE
              LINES ACEOSS FULL FACE
                                           FLECTRON BEAM UP AND DOWN TO GIVE
THE CHARACTERS HEIGHT. CONTROL
PULSES ARE GENERATED BY THE
OF DISPLAY.
                                           ATTACHMENT, SENT TO THE DISPLAY PC
                                           BOARD, AMPLIFIED, AND USED TO DRIVE
                                           CURRENT THROUGH THE CHARACTER YOKE.
                                           THIS CURPENT GENERATES THE MAGNETIC
                                           FIELD TO MOVE THE ELECTRON BEAM.
PERBE AA2-M2-SOE (-WIGGLE)
LINE PULSING?
v
 N
۱
1 002
FEPLACE CONTROL CARD. AA2-M2.
003
REMOVE CRT REAR COVER.
PPOBE PC-PIN 13
LINE PULSING?
Y N
1
 004
ł
| PROPE CRT CABLE-PIN BOS (-WIGGLE)
ł
LINE PULSING?
  Y N
I
L
  1
    005
L
  1
  I REPLACE DISPLAY SIGNAL CABLE.
l
  1
1
 1
1
  006
t
REPLACE DISPLAY PC BOARD.
1
1
007
USE CE METER 15 VDC
REFERENCE ON CHASSIS GROUND
MEASURE PC-PIN 12.
VOLTAGE +12 VDC +-10%?
Y N
ł
Ł
 008
PEPLACE DISPLAY PC EDARD.
1
1
000
REPLACE CRT YOKE ASSEMBLY.
                                                            01APR75
                                                                        PN2547615
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MAP 1205-1

MAP 1206-1

VIDED MISSING SYSTEM 32 PAGE 1 OF 1

```
001
RASTER ONLY
PROBE AA2-M2-U05 (-VIDED)
LINE PULSING?
YN
I
1 002
I REPLACE CONTROL CARD, AA2-M2
1
1
003
REMOVE REAR COVER ON ORT. PROBE ORT
CABLE-PIN 807 (-VIDEO)
LINE PULSING?
YN
ł
004
REPLACE DISPLAY SIGNAL CABLE.
1
L
005
REPLACE DISPLAY PC BOARD.
```

BRIGHTNESS CONTROL TURNED UP AND NO VIDED. JUST RASTER

بالمراجعة المستحاليا والرو

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MAP 1206-1

## JITTERY DISPLAY

SYSTEM 32

PAGE 1 DE 1

0.01 REMOVE CRT REAR PANEL. USING CE METER, 15 VDC SCALE, REFERENCE TO FRAME GROUND, MEASURE: +12 VDC CABLE-PIN BOS. BO9. D09. D10 -12 VDC CABLE-PIN DO2 + e VDC CABLE-PIN P12. B13 ALL VOLTAGES +- 10% OF NOMINAL? Y N 1 1 005 MEASURE FAILING VOLTAGE ON TE. | +12 VDC T82-5 -12 VDC TB2-6 t. VDC T 82-3 1 +6 FAILING VOLTAGE OK? 1 I. YN ١ ł 1 003 t | REFERENCE POWER DISTRIBUTION | DIAG. LOCATE LOOSE CONNECTION | AND CORRECT FAILURE BETWEEN PS 1 1 L AND TR. 1 ۱ I 004 1 REPLACE CABLE TO CRT-PC. t 1 t 005 VISUALLY FOR ITEMS WHICH CHECK COULD CAUSE & MAGNETIC FIELD NEAR THE MACHINE. A MAGNETIC FIELD CAN BE CAUSED BY A MOTOP OR MACHINE OPERATING NEAR BY. IS THERE A MAGNETIC FIELD? Y N ١ 1 006 REPLACE THE CONVERTER. 1 0.07 FLIMINATE THE CAUSE OF THE MAGNETIC FIELD.

A JITTERY (MOVING, UNSTABLE) DISPLAY CAN BE CAUSED BY A RIPPLE ON THE +12 VDC POWER SUPPLY, OR A MAGNETIC FIELD CAUSED BY A MOTOR OR MACHINE OPERATING NEARBY.

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MAP 1207-1

FLASHING DISPLAY

SYSTEM 32

PAGE 1 DF 1

CO1 FLASHING DISPLAY

THE DISPLAY FLASHES BECAUSE THE HIGH VOLTAGE IS BEING CUT OFF. WHEN THE HIGH VOLTAGE SUPPLY IS OVERLOADED, IT TURNS OFF. AFTER 10 SECONDS, THE HIGH VOLTAGE SUPPLY TURNS ON AGAIN. IF AN OVERLOAD CONDITION STILL EXISTS, THE DISPLAY FLASHES ON FOR 1 SECOND AND THEN OFF FOR 10 SECONDS. FLASHING OR CHANGES IN THE BRIGHTNESS CAN BE CAUSED BY CHANGES IN THE 400 VDC USED FOR BRIGHTNESS CONTROL.

POWER DOWN. REMOVE CRT REAR COVER. REMOVE FIGH VOLTAGE ANODE. POWER UP. USE CE METER, 500 VDC SCALE. MEASURE PC-PIN 6 (-) AND PC-PIN 7 (+) VOLTAGE 320-400 VDC AND STEADY? YN 1 1 002 REPLACE DISPLAY PC BOARD. REPLACE CONVERTER. I 003

REPLACE CHASSIS AND CRT ASM

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EC828518 PEC825412

MAP 1208-1

MAP 1209-1

VERY LARGE DISPLAY

SYSTEM 32

PAGE 1 DF 2

001 VERY LARGE DISPLAY

REMOVE CRT REAR COVER.

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A VERY LARGE DISPLAY IS CAUSED WHEN THE HIGH VOLTAGE APPLIED TO THE CRT ANODE IS LOW. WHEN THIS VOLTAGE IS LOW, THE ELECTRON BEAM MOVES SLOWER TOWARD THE FACE OF THE CRT. THIS PERMITS THE MAGNET IC FIELD PERMITS THE MAGNETIC FIELD DEVELOPED BY THE YOKE TO DEFLECT THE BEAM A GREATER DISTANCE. THE HIGH VOLTAGE OSCILLATOR ON THE DISPLAY PC BOARD PROVIDES THE DRIVE PULSES TO THE CONVERTER. THE CONVERTER CHANGES THESE PULSES TO 400 VDC FOR BRIGHTNESS CONTROL AND THE HIGH VOLTAGE FOR THE ANODE LEAD.

USE CE METER, 50 VAC SCALE. MEASURE FROM PC-PIN 1 TO PC-PIN 3 VOLTAGE 12-30 VAC? Y N 1 002 POWER DOWN. GROUND HIGH VOLTAGE ANDDE. USE CE METER, RX1 SCALE. CHECK FOR OPEN FROM HIGH VOLTAGE LEAD TO GROUND. | RESISTANCE HIGH? I Y N t 1 1 003 | REPLACE CONVERTER. L 1 L I. 1 C04 POWER UP. METER 15 VDC SCALE, USING CE REFERENCE TO CHASSIS GROUND. MEASURE: 1 CABLE-PIN BC8, B09, +12VDC L D09, D10 -12VDC CABLE-PIN DO2 1 CABLE-PIN B12, B13 1 +6VDC GND CABLE-PIN D12, D13 ALL VOLTAGES DK? Y N ł 005 MEASURE VOLTAGES ON TB. | +12 VDC TB 2~ 5 | -12 VDC TB2-6 TB2-3 +6 VDC t ALL VOLTAGES OK? t Y N Ł 1 1 1 Ł 1 1 1 COPYRIGHT IBM CORP 1975 ł 1 ł 1 Į ł

2 2 2 2 AECD 03JUN75 PN2547619

EC828552 PEC828518

MAP 1209-1

VERY LARGE DISPLAY ABCD 1 1 1 1 SYSTEM 32 1111 PAGE 2 DF 2 1 1 1 1 1111 1 1 1 1 1 1 006 | | AND FIX FAILURES FROM POWER | | SUPPLY TO TB. 1 1 1 | | 007 | | REPLACE CABLE TO CRT-PC. 11 11 COB REPLACE DISPLAY PC BOARD. L i C 09 REPLACE CONVERTER.

> 03JUN75 PN2547619 EC828552 PEC828518

MAP 1209-2

MIS-POSITIONED RASTER

## SYSTEM 32

PAGE 1 DF 1

POWER DOWN.

HORIZONTAL

VERTICAL

Y N | | 002

| | 003

001 MIS-POSITIONED RASTER

DISCONNECT YOKE CONNECTOR (ON TOP

IS RESISTANCE APPROXIMATELY 5-20

A TO F

MEASURE

B TO D AND C TO E

OF CRT-PC BOARD).

OHMS ON ALL MEASUREMENTS?

REPLACE DISPLAY PC BOARD.

I REPLACE YOKE ASM.

RESISTANCE ON CABLE WITH RX1:

SHIFTED LEFT OR RIGHT TOP OR BOTTOM. MAY BE SHIFTED SO FAR THAT IT IS NO LONGER ON THE FACE OF THE SCREEN, AND WITH BRIGHTNESS CONTROL TURNED FULL CLOCKWISE, THE FACE OF THE SCREEN WILL GLOW OR BE HAZY.

MAP 1210-1

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MAP 1210-1

SYSTEM/32

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		09/29/77		P/N	2547690
PAGE 3000-	1	EC	832050	PEC	830358

# TABLE OF CONTENTS

# INTRODUCTION

# 4

8

30

# SECTION I. IMPL:

<ol> <li>DETAILED DESCRIPTION OF IMPL SEQUENCE</li> </ol>	9
2. LOADING FROM 33FD OR 62GV (NORMAL OPERATION)	12
3. IMPL ERROR INDICATIONS	16
3.1 WRAP TEST ERRORS	16
3.2 WRAP ERROR I.D. TABLE	19
3.3 PROCESSOR CHECK	22
3.4 EVENT INDICATORS	23
4. IMPL DIAGNOSTIC OPTIONS	24
<ol><li>DETAILED DESCRIPTION OF IMPL DIAGNOSTIC OPTIONS</li></ol>	26

# SECTION II. DIAGNOSTIC CRT/PRINTER DISPLAYS:

NOTE: DISPLAYS ARE IN ORDER BY DISPLAY MESSAGE NUMBER. THEY ARE LISTED HERE BY TYPE OF TEST.

*TYPE OF TEST*	*DISPLAY	NUMBER*	*PAGE*	
CE PANEL TEST DISPLAYS-(PANEL	) 02	60	31	
CRT/KEYBOARD FAMILIARIZATION-	03	01	41	
STORAGE ALTER/DISPLAY-	03	05	43	
33FD DISPLAY/ALTER-(DSPA33FD)	03	10	47	
DISKETTE LIST-(LIST)	03	12	49	
62GV I/O ERROR DISPLAY	033	20	56	
LINE PRINTER NOT READY DISPLA	Y 03.	23	58	
SERIAL PRINTER NOT READY DISP	LAY 03	23	59	
LINE PRINTER CHECK DISPLAY	03:	24	60	
DISKETTE DUMP-(DUMP33FD)	033	25	61	
62GV ALTER/DISPLAY-(DSPA62GV)	03	27	63	
LINE PRINTER-(PRT1)	03:	30	66	
HELP DISPLAYS-(HELP)	03	59	78	
62GV DISPLAYS-(62GV)	030	64	81	
SERIAL PRINTER-(SPRT1)	03.	75	85	
BSCA DISPLAYS-(BSCA)	04(	00	92	
ANALYZE CE DISKETTE-(ANAL33FD	) 050	04	93	
MOVE DISPLAYS-(MOVE)	050	70	95	
PATCH DISPLAYS-(PATCH)	05	10	96	
CUSTOMIZ DISPLAYS-(CUSTOMIZ)	05	14	101	
CONFIGURE-(CONFIG)	05:	19	103	
DISK INITIALIZE-(INITDISK)	05	50	116	

P/N 2547690 PEC 830358 09/29/77 EC 832050 PAGE 3000- 2

S	YSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE	PAGE 3000-
	62GV ANALYZE-(ANALDISK)057533FD HEAD ALIGN-(HEADALGN)0620FRIEND DISPLAYS-(FRIEND)0660TUSELECT DISPLAYS-(TUSELCT)067633FD FREELANCE-(33FD)0690SYSTEST DISPLAYS-(SYSTST)0700ERAP DISPLAYS-(ERAP)0801BSCA DISPLAYSSEE MAPSUC DISPLAYSSEE MAPSDLC DISPLAYSSEE MAPCARD I/O DISPLAYSSEE MAPSEE MAPSECTION33001255 DISPLAYSSEE MAPSECTIONSEE MAPSECTIONSEE MAPSECTIONSEE MAPSECTIONSEE MAPSECTIONSEE MAPSECTION3600	126 134 141 150 153 154 162
SECTION I	<ol> <li>PROGRAM DESCRIPTIONS:</li> <li>MDI-MAP TU TEST LISTING</li> <li>DIAGNOSTIC PROGRAM DESCRIPTIONS</li> <li>OTHER DIAGNOSTIC SUPPORT (ERAP, SYSTEM TEST, ETC.)</li> <li>SYSTEM TEST MAINTENANCE STRATEGY</li> <li>FLOWCHART FOR RUNNING SYSTEM TEST</li> </ol>	165 169 173 178 179 180
SECTION I	<ul> <li>MISCELLANEOUS INFORMATION:</li> <li>62GV FRIEND TEST NOTES</li> <li>RUNNING 33FD TESTS FROM 33FD</li> <li>33FD FREELANCE SUPPORT</li> <li>33FD FREELANCE ERROR CODES</li> <li>STORAGE DUMP PRINTOUT FROM THE CE PANEL</li> </ul>	181 181 182 183 191 193

3

		C	09/29/7	7		P/N	2547690
3000-	3		· •	EC	832,050	PEC	830358

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PAGE

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INTRODUCTION:

PURPOSE:

THIS GUIDE IS INTENDED FOR YOU TO USE WHEN CHECKING OUT THE SYSTEM FOR PROPER OPERATION, AND TO ASSIST YOU WHEN RUNNING DIAGNOSTICS ON THE SYSTEM. IF YOU ARE NOT FAMILIAR WITH S/32 DIAGNOSTICS, THE HELP FUNCTION OF DCP CAN BE A GOOD TOOL FOR YOU TO LEARN THE TESTS THAT ARE AVAILABLE.

> CATAGORIES OF DIAGNOSTIC TESTS AND UTILITY PROGRAMS AS DEFINED BY THE 'HELP' PROGRAM OF THE DIAGNOSTIC CONTROL PROGRAM ARE:

1.	MAP	DIAGNOSTICS USE OF TUXX	(MDI). TESTS WITH MAPS TO TEST:
		1. KYBD	5. BSCA
		3. 62GV	7. CARD I/O
		4. 33FD	8. 1255

SPECIAL DIAGNOSTICS 2.

> THESE TESTS ARE DESIGNED TO RUN AGAINST A SPECIFIC DEVICE. TESTS ARE AVAILABLE FOR THE FOLLOWING DEVICES: KEYBOARD CRT BSCA PRINTER 33FD SDLC 62GV CPU CARD 1/0

3. UTILITIES:

CONFIGURE, DISKETTE LIST, ANAL 33FD, 33FD ALT/DISP, 62GV ALT/DISP, PATCH, MOVE, DUMP 33FD, INIT 62GV, MDI TU SELECT, AND FRIEND.

OTHER DIAGNOSTICS 4.

1. SYSTEM TEST

2. ERAP

- BSCA (IF INSTSLLED) SDLC (IF INSTALLED) 3.
- 4 .

09/29/77 P/N 2547690 EC 832050 PEC 830358

PAGE 3000- 4

FORMAT: THE GUIDE IS SECTIONALIZED IN THE FOLLOWIING MANNER: INTRODUCTION: GENERAL INFORMATION. IMPI : THE FOLLOWING OPERATIONS ARE EXPLAINED: A. DETAILED DESCRIPTION OF IMPL SEQUENCE NORMAL IMPL OPERATIONS FROM 62GV & 33FD IMPL ERROR INDICATIONS. Β. с. IMPL DIAGNOSTIC TESTING OPTIONS D. DETAILED DESCRIPTION OF TEST OPTIONS Ε. F. ETC. DISPLAYS: THE CRT DISPLAYS ARE LISTED BY DISPLAY NUMBER AND CONTAIN ADDITIONAL INFORMATION ABOUT EACH DISPLAY. THE TABLE OF CONTENTS LISTS THE DISPLAYS BY TYPE SUCH AS: FRIEND DISPLAYS, ERAP DISPLAYS, 62GV INITIALIZE DISPLAYS, CONFIGURE DISPLAYS, PATCH DISPLAYS, PRINTER DISPLAYS, FTC. MDI PROGRAM DESCRIPTION : THE TYPES OF TESTS ARE LISTED IN THE FOLLOWING CATAGORIES: MAP DIAGNOSTICS-(MDI'S) Α. Β. TUXX TESTS с. DIAGNOSTIC PROGRAM DESCRIPTIONS D. UTILITIES OTHER DIAGNOSTIC SUPPORT Ε. MISCELLANEOUS INFORMATION: THIS SECTION CUNTAINS INFORMATION SUCH AS: A. STORAGE DUMP FROM THE C.E. PANEL Β. RUNNING 33FD TESTS FROM THE 33FD ۲. 33FD FREELANCING 33FD FREELANCING ERROR CODES D.

E. 62GV FRIEND SCOPING NOTES F. 33FD COMMANDS

09/29/77		P/N	2547690
EC	832050	PEC	830358

PAGE 3000- 5

# DISKETTE INFORMATION:

THE FOLLOWING DISKETTES ARE SHIPPED WITH A BASIC S/32:

DIAG 01- CONTAINS THE DIAGNOSTIC CONTROL PROGRAM (DCP). AND MOST OF THE DIAGNOSTIC TESTS.

DIAG 02- CONTAINS ERAP TEST AND SYSTEM TEST. YOU CANNOT IMPL DIAG 02.

SYSTEMS WITH OPTIONAL FEATURES HAVE ADDITIONAL DISKETTES. ALL FEATURES EXCEPT 1255 (MICR) USE DIAG 03. 1255 DIAGNOSTICS ARE ON DIAG 04 DISKETTE. NEITHER DIAG 03 NOR DIAG 04 CAN BE IMPL'ED.

# FEATURE SERVICE GUIDE INFORMATION:

THE FOLLOWING CHART SHOWS THE PART AND E.C. NUMBERS OF THE DIAGNOSTIC SERVICE GUIDES FOR OPTIONAL FEATURES:

LOCATION	PART NUMBER	E.C. NUMBER
S/32 MAPS (3100)	2547691	830358
S/32 MAPS (3200)	2773056	830358
S/32 MAPS (3300)	2594628	830357
5321 MAPS (0914)	1635739	386102
S/32 MAPS (3600)	2548063	830358
	LOCATION S/32 MAPS (3100) S/32 MAPS (3200) S/32 MAPS (3300) 5321 MAPS (0914) S/32 MAPS (3600)	LOCATION PART NUMBER S/32 MAPS (3100) 2547691 S/32 MAPS (3200) 2773056 S/32 MAPS (3300) 2594628 5321 MAPS (0914) 1635739 S/32 MAPS (3600) 2548063

	•	09/29/77		P/N 25	47690
PAGE 3000-	6	EC	832050	PEC 83	0358
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OPERATIONAL NOTE: WHETHER THE YOSITION OF THE IPL SWITCH DETERMINES WHETHER THE 'ALTER/DISPLAY' OR 'INQUIRY' ROUTINE IS ENTERED WHEN THE CPU IS STOPPED, AND THE INQUIRY KEY IS PRESSED. IPL SWITCH UP (DISKETTE)= ALTER/DISPLAY IPL SWITCH DOWN (DISK) =INQUIRY

THE ALTER/DISPLAY STORAGE ROUTINE WILL BE ENTERED IF THE FOLLOWING 3 CONDITIONS EXIST:

THE IPL SWITCH IS UP (DISKETTE POSITION). THE CPU IS STOPPED (STOP KEY/LIGHT IS ON). THE INQ KEY IS PRESSED. 1.

2. з.

TO RETURN TO THE MAIN MENU FROM THE ALTER/DISPLAY ROUTINE: IPL SWITCH TO DISK (DOWN).
 PRESS START KEY.
 PRESS THE INQ KEY.

		09/29/77		P/N	2547690
AGE 3000-	7	EC	832050	PEC	830358

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I. IMPL

#### IMPL (INITIAL MICROPROGRAM LOAD)

YOU CAN IMPL FROM EITHER THE 33FD (DIAG 01 ONLY) OR FROM THE 62GV.

IMPL FROM EITHER THE 33FD OR THE 62GV CAUSES THREE SEPARATE LOADS (\$CP01,\$CP02 AND \$CP03) INTO CONTROL STORE TO OCCUR. THESE LOADS CONTAIN CPU DIAGNOSTIC TESTS, PORT DIAGNOSTIC TESTS, ATTACHMENT DIAGNOSTIC WRAP TESTS, AND SUPPORTING PROGRAMS THAT ARE EXECUTED EACH TIME THEY ARE LOADED.

IF FAILURES OCCUR DURING IMPL, YOU CAN USE THE EVENT INDICATORS, WRAP TEST FAILURE CODES, CRT DISPLAYS, AND REGISTER VALUES (AS DIRECTED BY THE SYSTEM ENTRY MAPS) TO ISOLATE FAILURES. TO ISOLATE FAILURES, DIAGNOSTIC WRAP TEST OPTIONS SUCH AS LOOP ON ROUTINE, LOOP ON 1'ST 2K WORD, LOOP ON 1'ST 4K WORD, AND SO ON,CAN BE SET INTO THE ADDRESS/DATA SWITCHES BEFORE PRESSING THE LOAD KEY AGAIN.

NOTE THAT THE INFORMATION ABOVE IS THE SAME FOR THE FIRST THREE LOADS OF EITHER THE 33FD OR 62GV IMPL. DIFFERENCES BETWEEN THE 33FD AND 62GV IMPL'S FOLLOW:

1. IF THE DIAGNOSTIC WRAP TESTS DURING IMPL FROM THE 33FD ARE SUCCESSFULLY COMPLETED, CONTROL STORE IS LOADED WITH THE DIAGNOSTIC CONTROL PROGRAM. SUCCESSFUL COMPLETION IS INDICATED BY THE DISPLAY 'IMPL DIAGNOSTIC TESTS RAN WITHOUT ERRORS'. PRESSING THE START KEY TO CONTINUE, AS INDICATED BY THE DISPLAY, CAUSES THE MAIN MENU TO BE DISPLAYED. THIS ALLOWS YOU TO SELECT DEVICE DIAGNOSTIC TESTS, MDI-MAP TU DIAGNOSTICS, OR UTILITY PROGRAMS IF DEVICE FAILURES ARE SUSPECTED.

2. IF THE DIAGNOSTIC WRAP TESTS DURING IMPL FROM THE 62GV ARE SUCCESSFULLY COMPLETED, CONTROL STORE IS LOADED WITH THE SCP. SUCCESSFUL COMPLETION IS INDICATED BY THE DISPLAY 'INITIAL PROGRAM LOAD COMPLETE '. THIS ALLOWS YOU TO RUN SYSTEM TEST OR ERAP FROM THE DIAG 02 DISKETTE UNDER CONTROL OF THE SCP.

EITHER THE 33FD OR THE 62GV IMPL SEQUENCE CAN BE VARIED TO HELP YOU LOCATE FAILURES. SOME DIAGNOSTIC OPTIONS APPLY TO BOTH DEVICES, AND SOME TO ONLY ONE DEVICE. SEE DETAILED DESCRIPTION OF IMPL OPTIONS IN THIS SECTION TO FIND WHICH GPTIONS APPLY TO WHICH DEVICE.

PAGE 3000- 8

09/29/77 P/N 2547690 EC 832050 PEC 830358

### 1. DETAILED DESCRIPTION OF IMPL SEQUENCE

THE BASIC 33FD IMPL CONSISTS OF THREE (3) OR OPTIONALLY UP TO SEVEN (7) PARTIAL CONTROL STORE LOADS BEFORE THE DEVICE DIAGNOSTIC PROGRAMS ARE LOADED. BECAUSE THE 33FD AND 62GV IMPL SEQUENCES ARE SIMILAR, THE FOLLOWING SEQUENCE APPLIES TO BOTH.

THE FOLLOWING IS A SUMMARY OF THE TYPES OF TESTS CONTAINED WITHIN THESE LOADS. FIG. 1 SHOWS PICTORIALLY THE CE DISKETTE IMPL SEQUENCE OF TESTS LISTED BELOW:

- A. <u>INITIAL</u> 2K WORD LOAD (TRACK 0 SPECIAL SECTOR OF 4094 DATA BYTES AND 2 CRC CHARACTERS) BY HARDWARE INTO CONTROL STORE LOCATIONS 0000-07FF. THESE WORDS CONTAIN THE FOLLOWING:
  - . DIRECT AREA DATA
  - . CPU INSTRUCTION TESTS
  - PORT TESTS
  - . 33FD/62GV LOADER
- B. SECOND LOAD OF 2K WORDS (TRACK 1) BY 33FD LOADER INTO CONTROL STORE LOCATIONS 0800-OFFF.
  - REST OF CPU INSTRUCTION TESTS
    MAIN STORE TESTS

  - . CONTROL STORE TEST
  - . 33FD/62GV LOADER
- C. <u>THIRD</u> LOAD OF 2.75K WORDS (TRACK 2 AND 7 SECTORS OF TRACK 3) BY 33FD LOADER INTO CONTROL STORE LOCATIONS 0080-0F7F.
  - . CRT WRAP TEST
  - . KEYBOARD WRAP TEST
  - . 33FD WRAP TEST
  - . 62GV WRAP TEST

PAGE

- PRINTER WRAP TEST
  WRAP TEST SUPERVISOR
- . 33FD LOADER
- . 62GV LOADER (NOT USED HERE)

		09/29/	77		P/N	2547690	
3000-	9		EC,	832050	PEC	830358	÷

# FIG.1 DISKETTE DIAGO1 IMPL SEQUENCE

INITIAL 2K WORD Impl Load	LOAD OF 2ND HALF OF CONTROL STORE	3RD LOAD OF Control Store
DIRECT AREA		DIRECT AREA
RESET EVENT		CRT WRAP TEST
MICROINSTRUCTION	UNALTERED	KEYBOARD WRAP TEST
     	LOAD	33FD WRAP TEST
		62GV WRAP TEST
BASIC PORT TEST		PRINTER
RESET EV. IND. #3		WRAP TEST
	RESET EVENT INDICATOR #4 REST OF MICROINSTRUCTION	RESET EV. IND. #7   WRAP TEST   SUPERVISOR AND   CRT ROUTINE   PLUS DISPLAY   BUFFER
NOT LOADED		33FD LOADER
	MAIN STORAGE TEST	62GV LOADER
	RESET EV. IND. #5   CONTROL STORE TEST	(BYPASSED HERE)
	RESET EVENT INDICATOR #6	UNALTERED FROM PREVIOUS LOAD
	33FD/62GV LOADER	
TRACK O LOADED (1 SECTOR OF 2K WORDS) FROM 33FD	TRACK 1 LOADED (8) SECTORS OF 128 WORDS EACH)	TRACK 2 AND 7 SECTO OF TRACK 3 LOADED

 09/29/77
 P/N 2547690

 PAGE 3000- 10
 EC 832050
 PEC 830358

4TH,5TH,6TH OR

7TH LOAD OF CONTROL STORE

4TH CONTROL STORE LOAD IF CE DOES NOT SELECT OPTION F9XX

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(IF SELECTED) DIRECT AREA -----FIRST 3K WORDS OF DIAGNOSTIC ADDITIONAL 1 CONTROL PROGRAM | MICROINSTRUCTION| (REMAINDER LOADED TESTS BY CONTROL PROGRAM) TRACK 4 NOW UNUSED TRACK 5 NOW UNUSED UNALTERED FROM PREVIOUS LOAD TRACK 6 NOW UNUSED TRACK 7 NOW UNUSED (THESE ARE SELECTED BY ADDRESS SWITCH SETTING F904,F905,F906 AND F907 RESPECTIVELY RIGHT TRACK 8 AND 4 SECTORS OF AFTER STOP LIGHT IS ON AFTER IMPL IS COMPLETE) TRACK 9 LOADED FROM 33FD

PAGE 3000- 11

09/29/77 EC 832050 PEC 830358

P/N 2547690

- 2. LOADING FROM 33FD OR 62GV (NORMAL OPERATION) ( NORMAL OPERATION = ADDRESS/DATA SWITCHES SET AT 0000, AND NO IMPL ERRORS.)
  - A. IF LOADING FROM 33FD, INSERT DISKETTE DIAGO1.
  - B. SET CE PANEL SWITCHES TO THE FOLLOWING SETTINGS:
    - . MODE SELECTOR SW TO "PROC RUN" POSITION

    - CHECK STOP POWER FAULT DPLY PRESENT FORCE CLOCK OFF

    - IPL DISKETTE (SET TO 'DISK' FOR 62GV)
      IMPL DISKETTE (SET TO 'DISK' FOR 62GV)
      STOR SEL MAIN

    - . ADDR COMPARE RUN
    - . ADDRESS SWITCHES SET TO 0000
  - C. PRESS LOAD KEY ON OPERATORS PANEL. LOAD KEY SHOULD LIGHT AND STAY ON UNTIL THE 1ST 4096 BYTES ARE TRANSFERRED INTO CONTROL STORAGE.
  - D. THE 33FD MECHANISM WILL CLICK FOR ABOUT 14 SECONDS

PAGE 3000- 12

09/29/77 P/N 2547690 EC 832050 PEC 830358

THIS MESSAGE OCCURS IF DIAGO2,03 OR HIGHER IS IMPL \*ED

1 2 3 4 0 0 0 0 1 ATTENTION \* \* \* \* \* | 1 | × × × × 2 THIS DISKETTE CAN'T BE IMPL'ED . 3 INSERT DIAGO1 AND 4 5 RE-IMPL 0000 | 6

- E. IF THE MACHINE IS FUNCTIONING PROPERLY DURING IMPL, THE 'EVENT INDICATORS' (LEFT BYTE P,0,1,2,3,4,5,6,7 INDICATOR LIGHTS) TURN OFF IN SEQUENCE FROM LEFT TO RIGHT (P--->7). SEE PARAGRAPH 3.4 IN THIS SECTION FOR EACH EVENT INDICATOR MEANING.
- F. THE 33FD MECHANISM CLICKS SEVERAL TIMES WHILE THE 'EVENT INDICATORS' ARE BEING RESET.THIS INDICATES THE 33FD LOADERS ARE BEING EXECUTED. (THE 62GV EMITS A LOW LEVEL HUM.)
- G. THE FOLLOWING CRT DISPLAYS SHOULD OCCUR APPROXIMATELY 30 SECONDS (20 SECONDS IF LOADING FROM 62GV) AFTER THE LOAD KEY IS PRESSED.

PAGE 3000- 13

09/29/77 P/N 2547690 EC 832050 PEC 830358



H. THE STOP KEY/LIGHT ON THE OPERATOR PANEL WILL BE ON. IF DEVICE DIAGNOSTIC PROGRAMS OR UTILITY PROGRAMS ARE DESIRED, PRESS THE CONSOLE START KEY AND FOLLOW THE DISPLAYED INSTRUCTIONS.

		09/29/77		P/N	2547690
PAGE 3000- 14		EC	832050	PEC	830358

DISPLAY AFTER NORMAL 62GV IMPL



/\_\_TO LOAD A SYSTEM/3 LANGUAGE DIAGNOSTIC PROGRAM, ENTER:

SYSTST (FOR SYSTEM TEST) OR ERAP (FOR ERROR RECORDING) OR BSCA (FOR BSCA TEST IF BSCA IS INSTALLED) OR SDLC (FOR SDLC TEST IF SDLC IS INSTALLED) AND PRESS ENTER KEY.

NEXT DISPLAY WILL BE 0600

NOTE: SEE BSCA OR SDLC DIAGNOSTIC SERVICE GUIDES FOR TESTING OF THOSE FEATURES.

			09/29/77		P/N	2547690
15			EC	832050	PEC	830358
	•• •			** *		

PAGE 3000- 15

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#### 3. IMPL ERROR INDICATIONS

AFTER PRESSING THE LOAD KEY (IMPLING), IF THE APPROPRIATE CRT DISPLAY DDES NOT APPEAR WITHIN THE DESIGNATED TIME AND/OR THE EVENT INDICATORS (PARAGRAPH 3.4) ARE NOT ALL OFF, THEN A MACHINE FAILURE SHOULD BE SUSPECTED. OTHER CAUSES COULD BE IMPROPER INSERTION OF DISKETTE OR THE WRONG DISKETTE, OR IMPROPER SETTING OF CE PANEL IF THE APPROPRIATE CRT SWITCHES. PROPER SWITCH SETTINGS ARE:

- 1. IF YOU ARE LOADING FROM THE 33FD, THE IMPL SWITCH MUST BE UP, AND THE IPL SWITCH IS IGNORED. 2. IF YOU ARE LOADING FROM THE 62GV, THE IMPL AND IPL SWITCHES
- MUST BE DOWN. IF THE IPL SWITCH IS UP, AND ANY DISKETTE OTHER THAN THE SCP BACKUP DISKETTE IS INSERTED, A '13 ERROR' OCCURS.

#### 3.1 WRAP TEST ERRORS:

THE IMPL DIAGNOSTIC 'WRAP TESTS' DETECT AN ERROR IN A DEVICE ATTACHMENT.

USUALLY THIS ERROR STILL ALLOWS THE CRT TO BE USED FOR DISPLAYING THE ERROR AS SHOWN BELOW.

IF THE DISPLAY OCCURS AND/OR THE STOP LIGHT COMES ON, THE SAME INFORMATION WOULD BE IN THE MACHINE MAIN LEVEL REGISTERS WRI-WR6 AS WELL AS IN CONTROL STORAGE LOCATIONS 0017 - 001B. (SEE THE DISPLAY ON THE NEXT PAGE FOR DEFINITION.)

NORMALLY, AT THE TIME OF THE DISPLAY, YOU WOULD GO TO THE MAP CHARTS TO DETERMINE THE CAUSE OF THE FAILURE. HOWEVER, YOU COULD PRESS START TO ATTEMPT EXECUTION OF DEVICE DIAGNOSTICS, YOU EXERCISERS, OR UTILITIES. AT THIS TIME, YOU CAN ALSO LOAD OPTIONAL TESTS USING ADDRESS SWITCH SELECTION. SEE PARAGRAPHS 4 AND 5 OF THIS SECTION FOR IMPL OPTIONS AVAILABLE TO YOU.

DON'T FORGET: IF A WRAP TEST STOPS WITH AN ERROR DISPLAY, YOU CAN PRESS START AND CONTINUE TO THE MAIN MENU IN ORDER TO RUN DIAGNOSTICS AGAINST THE ATTACHMENT THAT CAUSED THE 'WRAP ERROR'.

PAGE 3000- 16

09/29/77 EC 832050 PEC 830358

P/N 2547690

WRAP TEST ERROR DISPLAY

(APPEARS FROM EITHER 62GV IMPL OR 33FD IMPL)



THIS LINE CONTAINS EITHER 1,2,3,4, OR UP TO 5 4-DIGIT 'WRAP ERROR' ID'S. THESE NUMBERS IDENTIFY THE FAILING DEVICE AND THE TYPE OF FAILURE. THE FIRST TWO DIGITS OF AN ID ARE THE DEVICE ADDRESS AND THE SECOND TWO DIGITS IDENTIFY THE PARTICULAR FAILURE.

\*\* PARAGRAPH 3.2 IS A TABLE OF WRAP ERROR ID'S \*\*

PAGE 3000- 17

09/29/77 P/N 2547690 EC 832050 PEC 830358 THE ID'S DISPLAYED ON THE CRT ARE ALSO PUT INTO CONTROL STORE AND REGISTERS AS FOLLOWS:

ID	C/S ADDRESS	REGISTER	DEVICE
DOXX	0017	WR2	33FD
40XX	0018	WR3	CRT
10XX	0019	WR4	KEYBOARD
EOXX	001A	WR5	LINE PRINTER
E1XX	001A	WR5	SERIAL PRINTER
AOXX	001B	WR6	62GV

ALSE AT THIS TIME WR1 AND CS LOCATION 0016 WILL CONTAIN DATA INDICATING WHICH DEVICE(S) HAD WRAP ERRORS:

BIT 0=1 33FD WRAP ERRORS: BIT 0=1 33FD WRAP ERROR 1-3 NOT USED 4=1 CRT WRAP ERROR 5=1 KEYBOARD WRAP ERROR 6=1 PRINTER WRAP ERROR 7=1 62GV WRAP ERROR 8-15 NOT USED

		•		
09/29/77			P/N	2547690
EC	832050		PEC	830358

PAGE 3000- 18

# 3.2 \*\* WRAP ERROR ID TABLE \*\*

#### 33FD ERRORS

D001	JID ON NO-INDEX FAILED TO JUMP
D002	STEP MODE INDEX FAILED
D003	INDEX COUNTER 8 BIT NOT DFF
DC04	INDEX COUNTER 8 BIT NOT COME ON
D005	DIAGNOSTIC INDEX NOT RESET
D006	INDEX COUNTER NOT RESET BY INDEX
0007	READY COUNTER IS AT 172
0008	READY COUNTER IS NOT AT 172
0009	READY COUNTER ADVANCED FROM 172
0010	READY WHEN INDEX IS LATE
D011	DISK IS FAST WHEN IT SHOULD BE SLOW
0012	DISK READY WHEN SHOULDN'T BE
0013	DISK IS FAST WHEN SHOULDN'T BE
0014	READY COUNTER IS AT 172
0015	EAST OD NOT DEADY NOT ON WITH EADLY INDEY
	ITO DESET EDDODS NOT THON ORE EDDOD BITS
0017	
	ERROR BITS ON EOR COOD EARLY INDEY
	EDDOD BITS ON EOD COOD LAKET INDEX
0019	LATE INDEX NOT GET INDE PEADY!
0020	TO ON ERROR NOT BRANCH WHEN SHOULD
0021	DEAD CLOCK 102 NOT DESET BY STANDARD CLOCK
0022	PEAD RE CLOCK NOT ADVANCE PICHT
0023	PEAD CLOCK NOT ADVANCE RIGHT
0024	EALIED TO EDDCE MACHINE CHECK INTERDURT
0020	MACHINE CHECK INTERDIDT RECHTS NOT AS EXDECTED
0021	TACHINE CHECK INTERROFT RESOLTS NOT AS EXPECTED.
	I/O WORKING FAILURE FRUM DOFU
	EDDAD THE INDICATE AN EDDAD IN THE INDI COUNTED C
	NTINE THE DESCRIPTION INDICATES WHAT IS EVECTED
DO31 IMPL	COUNTED NOT 81 - TRACK 1
	MDI COUNTED NOT OF HEAD LOAD & TDACK A
	RECOUNTER NOT SIN HEAD LOAD & TRACK D
	DIT STNG ON ZERUSS
D034 HEAD	LUADY LUW WE CORRENTYTEACE U & NU ERASE GATE
DO30 READ	
	DOOD TOPS INDICATE AN EDDOD IN THE CE HOAD DATA
	NEXCHIDIS INDICATES DATA EXPECTED
RUUIINE. INE.	- TEDEET
DUSB DATA	= 'JJAA' - NOFOON
	- 'UUUF'
003E 33FD 1	KEAUY & NU EKKUKS
	KAP MUDE

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09/29/77 P/N 2547690 EC 832050 PEC 830358

PAGE 3000- 19

# WEAP ERBOR ID EAILURE MEANING

# KEYBOARD ERRORS

1001	KEYBOARD ENABLE FAILED
1002	KEYBOARD DISABLE FAILED
1003	SET DIAGNOSTIC MODE FAILED
1004	RESET DIAGNOSTIC MODE FAILED
1005	SET DATA GATE LATCH FAILED
1006	RESET DATA GATE LATCH FAILED
1007	SET OVERRUN LATCH FAILED
1008	JIO ON OVERRUN FAILED TO JUMP
1009	OVERRUN FAILED TO DISABLE KEYBOARD
1010	RESET OVERRUN LATCH FAILED
1011	MICRO-INTERRUPT ENABLE FAILED
1012	JUMP ON MICRO-INTERRUPT ENABLED FAILED
1013	FAILED TO MICRO-INTERRUPT
1014	RESET INTERRUPT FAILED
1015	MICRO-INTERRUPT DISABLE FAILED
1016	DIAGNOSTIC JUMP TRUE FAILED
1017	DIAGNOSTIC JUMP FALSE FAILED
1018	DIAGNOSTIC SENSE -00- FAILURE
1019	DIAGNOSTIC SENSE -55- FAILURE
1020	DIAGNOSTIC SENSE -AA- FAILUREE
1021	DIAGNOSTIC SENSE -FE- FAILURE
1022	DATA WRAP FAILURE
1023	LEVEL 2 INTERRUPT STUCK ON
1024	FAILED TO FORCE MACHINE CHECK
1025	MACHINE CHECK INTERRUPT RESULTS NOT AS EXPECTED.
1026	A KEY IS PROBABLY STUCK DOWN
SERIAL	PRINTER ERRURS
E101	INITIAL SENSE FAILURE (PART 1)
E102	INITIAL SENSE FAILURE (PART Z)
E105	EMITTER COLUMN COUNTER FAILURE
E104 E105	FURMS EMITTER COUNTER FAILURE
E105	HEAD ROSITION COUNTED EATLUDE (INCREMENTING)
E100	HEAD POSITION COUNTER FAILURE (DECREMENTING)
E107	The COUNTED EATING
E100	MAR ADDRESS WRAD EATLIDE
FIOA	MEMORY DARITY EDDOD
ELOR	
E100	RAM PATTERN FATLURF
E100	INTERUPT FATLURE
E10E	INTERRUPT RESET FATLURE
E110	ROS SENSE TEST FAILURE
E111	MOTOR ELAPSE COUNTER EATLURE
E112	DBO PARITY CHECK NOT INTERRUPT
E113	DBD PARITY CHECK NOT OCCUR CORRECTLY
E114	DBO PARITY CHECK NOT RESET
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PAGE 3000- 20

09/29/77 P/N 2547690 EC 832050 PEC 830358

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CRT	ERRORS	
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4001 4002 4003	SET DIAGNOSTIC MODE FAILED RESET DIAGNOSTIC MODE FAILED DIAGNOSTIC JUMP TRUE FAILED
4004	DIAGNOSTIC JUMP FALSE FAILED
4005	ADAPTER RESET AND INITIAL SENSE
4006	LOAD/SENSE LD/SNS ADDRESS REGISTER
4007	LD/SNS ADRS REG NOT RESET
4008	LD/SNS ADRS REG NOT INCR'ED PROPERLY
4009	DISPLAY ADRS REG NOT RESET
4010	DISPLAY ADRS REG NOT INCR'ED PROPERLY
4011	DISPLAY ADRS REG NOT INCR FROM 'EF' TO '00'
4012	ONE DATA BYTE LOAD/SENSE (AA AND 55)
4013	LOAD/SENSE ALL DATA BUFFER LOCATIONS
4014	IMPROPER LINE INCR
4015	HORIZONTAL NOT ON DURING TRACE
4016	HORIZONTAL NOT OFF DURING RETRACE
4017	WIGGLE BIT NOT ON DURING TRACE
4018	WIGGLE BIT NOT OFF DURING RETRACE
4019	JID BRANCHED WHEN NOT EXPECTED
4020	JIO DID NOT BRANCH
4021	JIO BRANCHED WHEN NOT EXPECTED
4022	ODD/EVEN VIDEO BIT NOT SET
4023	ODD/EVEN VIDEO BIT NOT RESET
LINE PRINTER	ERRORS
E001	INITIAL ADAPTER CHECK OUT
E002	PRINT BUEEER ADDRESS INCR TEST
E021	PRINT AND BELT UP TO SPEED CHECK OUT
E029	PSS TIMING ANALYSIS
E02C	DIAGNOSTIC HAMMER FIRE TEST (
F02D	BLANK LINE PRINT TEST
E084	24 VOLT CONTACTOR AND POWER TEST
E084	24 VOLT CONTACTOR AND POWER TEST

62GV ERRORS

A001	INITIAL ADAPTER CHECK OUT
A002	SEEK TO CE TRACK
A003	TEST READ ID CUMMAND (ALL HEADS)
A004 A005	TEST READ DATA COMMAND (ALL HEADS)
A006	SEEK BACK TO HOME
A007	SEEK 'BEHIND' HOME
8008	TEST INDEX PULSE

PAGE 3000- 21

P/N 2547690 PEC 830358 09/29/77 EC 832050

3.3 PROCESSOR CHECK

WHEN THE IMPL DIAGNOSTIC TESTS DETECT AN ERROR, THEY FORCE A PROCESSOR CHECK BY EXECUTING A CHECK HALT INSTRUCTION. AT THE TIME OF THE PROCESSOR CHECK, SYSTEM REGISTER WR3 (L) CONTAINS THE FAILING DIAGNOSTIC ROUTINE NUMBER.

TO DETERMINE THE FAILING CPU FUNCTION, USE THE CE PANEL AND IMPL DIAGNOSTIC LISTINGS (\$CP01, \$CP02 AND \$CP03) AS FOLLOWS:

1. IF EVENT INDICATORS O-7 ARE RESET (OFF) THEN THE FAILURE OCCURRED IN THE I/O DEVICE TESTS, AND THE DIAGNOSTIC LISTING '\$CPO3' SHOULD BE USED. USE THE MAR ADDRESS -1 TO LOCATE THE FAILING INSTRUCTION.

2. IF ANY EVENT INDICATOR 2-6 BUT NOT 7 IS RESET, THEN LOOK AT THE MAR ADDRESS. IF THE MAR ADDRESS IS 0719, THEN USE THE MAB ADDRESS -1 TO FIND THE FAILING INSTRUCTION IN 'CPOI' OR '\$CPO2'.LISTING '\$CPO1' INCLUDES ADDRESSES 0000-07FF. LISTING '\$CPO2' INCLUDES ADDRESSES 0800-0FFF. IF THE MAR ADDRESS IS NOT 0719 THEN USE THAT MAR ADDRESS -1 TO FIND THE FAILING INSTRUCTION IN LISTING '\$CPO1' OR '\$CPO2'. USE '\$CPO1' IF ADDRESS IS BETWEEN 0000-07FF, USE '\$CPO2' IF ADDRESS IS BETWEEN 0800-0FFF.

3. IF EVENT INDICATORS O OR 1 ARE NOT RESET, THEN THE IMPL DIAGNOSTICS HAVE NOT BEEN LOADED. IN THIS CASE THE MAP CHARTS MUST BE USED TO DETERMINE FAILING FUNCTION.

WHEN USING DIAGNOSTIC LISTINGS '\$CPO1', '\$CPO2', OR '\$CPO3', READ THE COMMENTS NEXT TO THE FAILING INSTRUCTION AS WELL AS THE DIAGNOSTIC ROUTINE HEADING DESCRIPTION TO DETERMINE THE EXACT OPERATION BEING PERFORMED.

PAGE 3000- 22

09/29/77 P/N 2547690 EC 832050 PEC 830358

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# 3.4 EVENT INDICATORS

THE LOAD AND ALL NINE EVENT INDICATOR LIGHTS (LEFT BYTE DISPLAY ON CE PANEL) WILL BE TURNED ON WITH A DEPRESSION OF THE LOAD KEY. THE SEQUENCE WILL START WHEN THE KEY IS RELEASED AND WILL TRANSFER 4K BYTES FROM THE 33FD DISKETTE INTO CONTROL STORAGE. THE EVENT INDICATORS ARE DISPLAYED WHEN THE MODE SELECTOR SWITCH IS IN PROCESSOR RUN POSITION.

- \*P LIGHT OFF ADAPTER RECEIVED THE LOAD SIGNAL AND INITIATED ACTION IN RESPONSE. (BPC)
- \*0 LIGHT DFF 1ST CYCLE STEAL REQUEST RECEIVED, DATA TRANSFER HAS STARTED. (WRITE TRIGGER)
- #1 LIGHT OFF LOAD DROPS INDICATING THAT THE DATA TRANSFER WAS COMPLETED. (ALU BIT 4 AND WRITE TRIGGER)
- \*LOAD LIGHT OFF DATA TRANSFER COMPLETED WITH NO DATA CHECK. (ALU BIT 4, WRITE TRIGGER, AND NOT PROCESSOR CHECK, AND NOT BPC.)
- 2 LIGHT OFF BRANCHING AND CONDITIONAL BRANCHING ROUTINES COMPLETE. LSR'S ARE CLEARED OF BAD PARITY. RESET OF INDICATOR 2 OCCURS IN ROUTINE #2.
- 3 LIGHT OFF LOAD #1 COMPLETE. AFTER RESETTING EVENT INDICATOR #3 THE LOADER WILL BE EXECUTED TO LOAD THE 2ND 2K WORDS OF TEST.
- 4 LIGHT OFF FIRST MICRO-INSTRUCTION OF LOAD #2. INDICATES LOAD #2 TRANSFERRED PROPERLY. RESET OF EVENT INDICATOR 4 OCCURS IN ROUTINE #36.
- 5 LIGHT OFF FIRST INSTRUCTION OF THE CONTROL STORAGE TEST (ROUTINE #64). THIS LIGHT OFF INDICATES ALL PREVIOUS ROUTINES (#36 - #63) RAN OK. THIS INCLUDES REST OF CPU TESTS AND MAIN STORE TEST.
  - 6 LIGHT OFF LAST INSTRUCTION OF THE CONTROL STORAGE TEST (ROUTINE #64). THIS LIGHT OFF INDICATES CONTROL STORAGE TEST RAN DK.
  - 7 LIGHT OFF FIRST INSTRUCTION OF IMPL LOAD #3 (WRAP TEST LOAD). THIS LIGHT OFF INDICATES BOTH LOAD #1 AND LOAD #2 RAN OK AND THAT THE 3RD LOAD HAS STARTED EXECUTION.

★ THESE LIGHTS RESET BY HARDWARE CONTROLS, THE REMAINDER BY MICROPROGRAM INSTRUCTIONS.

> 09/29/77 P/N 2547690 EC 832050 PEC 830358

PAGE 3000- 23

### 4. IMPL DIAGNOSTIC OPTIONS (SUMMARY)

(A DETAILED DESCRIPTION FOLLOWS THIS SUMMARY)

ADDRESS SW SETT	ING EUNCIION
F100	RUN KEYBOARD DIAGNOSTICS
F7XX	BYPASS WRAPS, RUN CPU TESTS, BUT NO CRT DISPLAY OCCURS. THE CONTENTS OF WR1-WR6 INDICATE IF ANY WRAP TEST ERRORS OCCURRED.
F800	LOAD 33FD DIAGNOSTICS WHEN IMPLING FROM THE 62GV.
F90X X=4,5,6,7	LOAD OPTIONAL MICROCODE TEST FROM TRACK X OF DISKETTE. THESE TRACKS DO NOT CONTAIN ANY RELEASE PROGRAMS. THEY CAN BE USED BY THE CE FOR HIS OWN TESTS. THESE TRACKS ARE LOADED AT CONTROL STORE LOCATION 0080. THE CE MUST WRITE HIS TESTS ASSUMING THAT STARTING LOCATION.
FA01	STOP AFTER EXECUTION OF 2K WORDS.
FA02	STOP AFTER EXECUTION OF 4K WORDS.
FB01	LOOP ON 1ST 2K WORDS.
FB02	LOOP ON 1ST 4K WORDS.
FC01	LOOP ON 1ST 2K WORDS AND BYPASS ERRORS.
FC 02	LOOP ON 1ST 4K WORDS AND BYPASS ERRORS.
FDXX	LOOP ON ROUTINE XX.
FEXX	LOOP ON ROUTINE XX AND BYPASS ERRORS.
FFXX I HEX VAL 80 08 04 02 01 00	RUN ONLY SELECTED WRAP TESTS INDICATED BY BITS ON. UE 33FD WRAP TEST CRT WRAP TEST KEYBOARD WRAP TEST PRINTER WRAP TEST 62GV WRAP TEST BYPASS WRAPS AND CPU TESTS (SEE NEXT PAGE)

ΡΑ	GE	3000-	24

P/N 2547690 PEC 830358 09/29/77 EC 832050

# SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

FF00

\*\*\*\*\*\*\*\* IMPORTANT NOTE \*\*\*\*\*\*\* WILL BYPASS ALL WRAP TESTS AND ALSO SKIP CONFIGURATION SENSITIVE CPU TESTS. THIS SETTING SHOULD BE USED IF A CE DISKETTE FROM ANOTHER SYSTEM (THAT HAS A DIFFERENT STORAGE CONFIGURATION) IS IMPL'ED. THIS SETTING SHOULD BE USED IF ADDITIONAL STORAGE IS BEING ADDED TO THE SYSTEM AND THE CE DISKETTE IN NOT YET RECONFIGURED.

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09/29/77 EC 832050 P/N 2547690 PEC 830358

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<u>OPTION</u> F1OC 33FD ONLY	EUNCTION THIS SWITCH SETTING WHEN IMPL'ING CAUSES THE KEYBOARD DIAGNOSTIC TESTS TO BE AUTOMATICALLY LOADED AND EXECUTED AFTER THE WRAP TESTS HAVE RUN. (THIS IS USED WHEN THE KEYBOARD IS UNRELIABLE OR INOPERABLE AND CAN'T BE USED TO CALL IN THE KEYBOARD DIAGNOSTICS.
F7XX 33FD DR 62GV	SEE FFXX DETAILED DESCRIPTION. ONLY DIFFER- ENCE IS THAT NO CRT DISPLAY WILL OCCUR WITH THIS OPTION. ONLY THE STOP LIGHT WILL COME ON (WHETHER AN ERROR OCCURS OR NOT). THE REGISTERS WR1-WR6 CONTENTS INDICATE FAILURES. F7XX WILL COME TO A HALT IMPLING FROM EITHER 62GV OR 33FD.
F800 62GV ONLY	SWITCH SETTING APPLICABLE ONLY TO 62GV IMPL. F800 MUST BE ENTERED BEFORE IMPL OR, SWITCH SETTING CAN BE MADE AT THE TIME A WRAP ERROR DISPLAY MESSAGE IS PRESENT. BYPASSES LOADING SCP AND LOADS 33FD DIAGNOSTICS AND SUPERVISOR.
F904 F905 F906 F907	SWITCH SETTING MAY BE ENTERED BEFORE IMPL OR WHEN THE STOP LIGHT COMES ON AND CRT DISPLAY APPEARS.
LOAD OPTIONAL MICROCODE TEST 33FD ONLY	LOADS MICRO CODE FROM TRACKS 4,5,6, OR 7 RESPECTIVLY INTO CONTROL STORE (LOCATIONS 0080-087F) AND STARTS EXECUTION OF LOADED CODE. THIS PROVIDES ROOM FOR OPTIONAL MICROCODE TESTS THAT LATER MAY BE NEEDED OR FOR TESTS NOT RUN DURING NORMAL IMPL SEQUENCE. IF YOU PUT YOUR OWN TESTS ON THESE TRACKS, YOU SHOULD START YOUR PROGRAMS AT CS LOCATION 0080.
FA01 STOP AFTER FIRST 2K WORDS EXECUTED	CAUSES A STOP (STOP LIGHT ON) AFTER 1ST 2K WORDS OF THE IMPL TESTS. THE STOP OCCURS PRIOR TO LOADING THE 2ND 2K WORDS. THE SWITCH SETTING MUST BE MADE PRIOR TO PERFORMING IMPL.
33FD ONLY	WHEN THE STOP LIGHT TURNS ON, THE CPU LOOPS UNTIL THE START KEY IS PRESSED. WHEN THE STOP LIGHT IS TURNED ON, THE ADDRESS SWITCHES MAY BE ALTERED TO ANOTHER OPTION. IF FAOI IS LEFT IN THE SWITCHES AND THE START KEY IS PRESSED, THE FIRST 2K WORDS EXECUTE AGAIN AND THE STOP LIGHT COMES ON. IN OTHER WORDS, EACH DEPRESSION OF THE START KEY WILL RE- EXECUTE THE FIRST LOAD AND COME BACK TO THE SAME STOP LOOP.

5. DETAILED DESCRIPTION OF IMPL DIAGNOSTIC OPTIONS

PAGE 3000- 26

09/29/77 P/N 2547690 EC 832050 PEC 830358

OPTION	EUNCTION
FA02 STOP AFTER 1ST 4K WORDS	PERFORMS SIMILAR FUNCTION AS OPTION SETTING FAO1 EXCEPT STOP LIGHT COMES ON AFTER THE SECOND 2K WORDS HAVE EXECUTED.
EXECUTED	(33FD ONLY)
	WHEN THE STOP LIGHT IS ON, THE CPU LOOPS UNTIL THE START KEY IS PRESSED. PRIOR TO THE KEY BEING PRESSED, THE ADDRESS SWITCHES MAY BE ALTERED TO ANOTHER OPTION. PRESSING THE START KEY WITH A NON-OPTION SETTING IN THE ADDRESS SWITCHES CAUSES NORMAL CONTINUATION OF THE IMPL SEQUENCE. IF FAO2 IS LEFT IN THE SWITCHES, EACH START KEY DEPRESSION WILL EXECUTE THE EIRST 4K WORDS OF TEST
	(LOADER IS BYPASSED) AND WILL COME TO A STOP.
FBO1 LOOP ON 1ST 2K WORDS	CAUSES LOOPING ON THE 1ST 2K WORDS OF IMPL DIAGNOSTICS. (33FD ONLY) ONCE THE PROGRAM IS LOOPING, THE ADDRESS SWITCHES MAY BE CHANGED TO ANY ADDRESS SINCE THEY WILL BE IGNORED BY THE PROGRAM. IN THIS WAY, THE ADDRESS COMPARE FUNCTION MAY BE USED. ONLY A RE-IMPL GETS PROGRAM OUT OF THIS LOOP. THIS LOOPING EXECUTES ALL CODE OF THE FIRST 2K WORDS EXCEPT THE LOADER.
FB02 LOOP ON 1ST 4K WORDS	CAUSES LOOPING ON THE FIRST 4K WORDS OF IMPL DIAGNOSTICS (FIRST 2 LOADS OF CONTROL STORE). (33FD ONLY)
	ONCE THE PROGRAM IS LOOPING, THE ADDRESS SWITCHES MAY BE CHANGED TO ANY ADDRESS SINCE THEY WILL BE IGNORED BY THE PROGRAM. IN THIS WAY, THE ADDRESS COMPARE FUNCTION MAY BE USED. ONLY RE-IMPL GETS PROGRAM OUT OF THIS LOOP. THE LOOPING EXECUTES ALL CODE OF THE FIRST 2 LOADS OF CONTROL STORE (4K WORDS) EXCEPT THE LOADERS.
FC01 LOOP ON 1ST 2K WORDS AND EYPASS ERF	THESE OPTION SETTINGS ARE IDENTICAL TO FBOI AND FBO2 RESPECTIVELY EXCEPT THAT WHEN LOOPING, DETECTED ERRORS ARE IGNORED (33FD DNLY).
FC02 LOOP ON 1ST 4K WORDS AND 33FD ONLY.	BYPASS ERRORS.

PAGE 3000- 27

09/29/77 09/29/77 P/N 2547690 EC 832050 PEC 830358

DEITON	EUNCTION
FDXX LOOP ON	CAUSES LOOPING ON ROUTINE XX. XX CAN 5e any routine numbered 13 - 64.
XX	SWITCH SETTING MUST BE MADE PRIOR TO IMPL.
33FD ONLY	ALL ROUTINES BEFORE THE SELECTED ROUTINE WILL BE RUN PRIOR TO LOOPING. ONCE LOOPING BEGINS, THE ADDRESS SWITCHES MAY BE CHANGED WITHOUT STOPPING THE LOOPING. ONLY RE-IMPL GETS PROGRAM OUT OF THIS LOOP.
FEXX LOOP ON ROUTINE XX AND BYPASS ERRORS	THIS OPTION IS IDENTICAL TO THE FDXX OPTION EXCEPT THAT IT ALSO CAUSES ALL DETECTED ERRORS TO BE BYPASSED, CAN ONLY BE RUN FROM THE 33FD, AND ROUTINE 64 (CONTROL STORE TEST) CANNOT BYPASS DETECTED ERRORS.
FFXX RUN ONLY WRAP TEST	EXECUTE ONLY THOSE 'WRAP TESTS' DESIGNATED BY XX.
	THIS PROVIDES A MEANS OF BYPASSING CERTAIN 33FD OR WRAP TESTS, ALL WRAP TESTS, OR 62GV RUNNING ANY COMBINATION OF WRAP TESTS. EACH DEVICE WRAP TEST HAS A BIT ASSIGNED IN THE XX ENTRY:
·	BIT 0 33FD 1 UNASSIGNED 33FD 2 UNASSIGNED OR 3 UNASSIGNED 62GV 4 CRT 5 KEYBOARD 6 PRINTER 7 62GV
	THE BIT -ON- MEANS RUN THAT DEVICE WRAP TEST. THE BIT -OFF- MEANS BYPASS THAT DEVICE WRAP TEST. ANY COMBINATION OF THE BITS MAY BE ON OR OFF. IF FF IS NOT IN THE LEFT ADDRESS SWITCHES, ALL WRAP TESTS ARE RUN (DEFAULT).

09/29/77 P/N 2547690 EC 832050 PEC 830358

PAGE 3000- 28

	****** IMPORTANT NOTE *****
FF00	WILL BYPASS ALL WRAP TESTS AND ALSO SKIP ALL
	CONFIGURATION SENSITIVE CPU TESTS. THIS
33FD	SETTING SHOULD BE USED IF A CE DISKETTE FROM
OR	ANOTHER SYST.EM (THAT HAS A DIFFERENT STORAGE
62GV	CONFIGURATION) IS IMPL'ED. THIS SETTING SHOULD
	ALSO BE USED IF ADDITIONAL STORAGE IS BEING
	ADDED TO THE SYSTEM AND THE CE DISKETTE IS NOT
	YET RECONFIGURED.

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/77 P/N 2547690 EC 832050 PEC 830358 09/29/77

#### II. DIAGNOSTIC CRT/PRINTER DISPLAYS

THE FOLLOWING CRT DISPLAYS ARE IN SEQUENCE BY DISPLAY MESSAGE NUMBER. THEY ARE INTENDED TO BE USED WITH THE MAPS, BUT CAN BE USED ANY TIME ADDITIONAL INFORMATION IS NEEDED ABOUT A SPECIFIC DISPLAY.

1. DIAGNOSTIC MDI DISPLAYS 0001 THRU 0255

THE FOLLOWING DISPLAY IS REPRESENTATIVE OF THE MENUES THAT ARE DISPLAYED WHILE THE MDI (MAP-DIAGNOSTIC INTEGRATED) PROGRAMS ARE EXECUTING.



THE REMAINING PART OF THE SCREEN IS USED FOR INFORMATION TO DESCRIBE THE TEST BEING EXECUTED, THE QUESTION TO BE ANSWERED OR THE FAILURE AND HOW TO FIX IT.

> 09/29/77 P/N 2547690 EC 832050 PEC 830358

PAGE 3000- 30

### SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

0260 & 0261 CE PANEL TEST (PANEL) 1 2 3 4 0 0 0 0 1 ADDRESS SWITCHES TEST. t | 1 | ENTER ANY SWITCH SETTING THEN PRESS CE | 2 | START. THE SENSED ADDRESS DATA WILL BE | 3 Ł | DISPLAYED ON LAST LINE. REPEAT TIL YOU | 4 WISH TO STOP BY ENTERING 0000. 1 5 XXXX IS PRESENT ADDR SWITCHES SET 0260 | 6 1 ł \_\_\_\_\_ IN THIS TEST THE ADDRESS SWITCH SETTING IS SENSED AND DISPLAYED ON CRT FOR VERIFICATION BY CE. ANY SETTING CAN BE CHECKED BY THIS TEST. TERMINATE TEST BY ENTERING 0000 IN SWITCHES AND PRESSING CE START. 3 2 1 4 1 0 0 0 0 IPL SWITCH TEST. 1

PUT IPL SWITCH IN DOWN POSITION THEN

THIS IS THE FIRST INSTRUCTION IN THE IPL SWITCH TEST.

PRESS CE START.

PAGE 3000- 31

77 P/N 2547690 EC 832050 PEC 830358 09/29/77

2

3

4 5

0261 1 6

CE PANEL TEST

0262 & 0263

1 2 3 4 1 0 0 0 0 IPL SWITCH TEST ERROR : | 1 2 I IPL SWITCH BIT IN CONSOLE STATUS BYTE 3 1 IS OFF. SHOULD BE ON. 4 5 0262 | 6

THIS INDICATES A FAILURE OCCURRED IN THE IPL SWITCH TEST. NORMALLY WHEN THE IPL SWITCH IS PUT IN THE DOWN POSITION THE IPL BIT IN THE CONSOLE STATUS BYTE WILL BE ON.

2 3 0 1 4 ō 1 0 0 IPL SWITCH TEST. 1 2 PUT IPL SWITCH IN THE UP POSITION THEN 3 PRESS CE START. 4 5 0263 6 1 THIS IS THE SECOND INSTRUCTION IN THE IPL SWITCH TEST.

PAGE 3000- 32

09/29/77 P/N 2547690 EC 832050 PEC 830358

CE PANEL TEST 0264 & 0265 2 0 3 0 4 1 0 0 I IPL SWITCH TEST ERROR : 1 2 ł I IPL SWITCH BIT IN CONSOLE STATUS BYTE 3 IS NOT OFF. 4 5 0264 6 \_\_\_\_\_ THIS INDICATES A FAILURE OCCURRED IN THE IPL SWITCH TEST. NORMALLY WHEN THE IPL SWITCH IS IN THE UP POSITION THE IPL BIT IN THE CONSOLE STATUS BYTE SHOULD BE OFF. 1 2 3 4 Ó 0 1 0 0 TEST COMPLETE. 1 L PRESS CE START TO RUN NEXT TEST. 2 3 4 5 0265 | 6 -----

THIS MESSAGE WILL SEPARATE INDIVIDUAL ROUTINES IN THE CE PANEL TEST.

09/29/77		P/N	2547690
EC.	832050	PEC	830358

PAGE 3000- 33

CE PANEL TEST

2 3 4 1 1 0 0 0 0 SYS INSN STEP SWITCH TEST ERROR: 1 2 SYS INSN STEP BIT ON NOW IN CONSOLE 3 STATUS BYTE. 4 5 I 0266 6 1 ł THIS ERROR MESSAGE OCCURS IF THE SYS INSN

STEP BIT IN THE CONSOLE STATUS BYTE IS ON WHEN THE MODE SELECTOR SWITCH IS IN THE RUN POSITION.

1	1 0	2 0		3 0	4 0	
SYS	INSN STEP	SWITCH	TEST	ERROR:		1
						2
SERV	ICE REQUES	ST ON.				3
	•					4
						5
					0267	6
						1

THIS ERROR MESSAGE OCCURS IF THE SERVICE REQUEST LATCH IS FOUND ON DURING THE FIRST PART OF THE SYS INSN STEP SWITCH TEST.

PAGE 3000- 34

09/29/77 EC 832050

P/N 2547690 PEC 830358

0266 & 0267

CE PANEL TEST 0268 & 0269 | SYS INSN STEP SWITCH TEST. | 1 TURN MODE SELECTOR SWITCH TO SYS INSN | 3 STEP POSITION, AND PRESS CE START. ÷. 0268 | THIS DISPLAY INSTRUCTS THE CE TO TURN THE MODE SELECTOR SWITCH TO THE SYS INSN STEP POSITION SO THAT THIS FUNCTION CAN BE TESTED. SYS INSN STEP SWITCH TEST ERROR: F SYS INSN STEP BIT IN CONSOLE STATUS BYTE NOT ON. L L THIS ERROR MESSAGE OCCURRS IF, AFTER THE MODE SELECTOR SWITCH IS PUT IN SYS INSN STEP POSITION THE SYS INSN MODE BIT IS THE CONSOLE STATUS BYTE IS NOT ON.

	09/29/77		P/N	2547690
PAGE 3000- 35	EC	832050	PEC	830358

CE PANEL TEST

0270 & 0271

1 2 3 4 1 0 0 0 0 I SYS INSN STEP SWITCH TEST ERROR: 1 ł 2 SERVICE REQUEST NOT ON. 3 Ł 4 5 0270 6 I

THIS ERROR MESSAGE OCCURRS IF, AFTER THE MODE SELECTOR SWITCH IS PUT IN THE SYS INSN STEP POSITION THE SERVICE REQUEST LATCH DOES NOT COME ACTIVE.

1	0	2		0	4	
SYS	INSN STEP	SWITCH	TEST	ERROR:		1
						2
RETU	JRN MODE SE	LECTOR	SWITC	н то		3
RUN	POSITION	THEN PRE	ESS CE	START.		4
						5
					0271	6
						•

THIS COMMAND INSTRUCTS THE CE TO RETURN THE MODE SELECTOR SWITCH TO THE NORMAL RUN POSITION.

09/29/77		P/N	2547690
· EC	832050	PEC	830358

PAGE 3000- 36

#### CE PANEL TEST

0272 &0273

1 3 2 4 1 0 0 0 0 MAINSTORE ADDRESS COMPARE TEST. 1 I 2 | PUT ADDRESS COMPARE SWITCH IN RUN 3 POSITION THEN PRESS CE START. 4 1 5 1 0272 | 6 1

THIS IS THE FIRST INSTRUCTION IN THE MAINSTORE ADDRESS COMPARE TEST. AT THIS TIME THE ADDRESS COMPARE SWITCH SHOULD BE IN THE RUN POSITION AND THE STORAGE SELECT SWITCH SHOULD BE IN THE MAIN STORAGE POSITION.

2

•

MAINSTORE ADDRESS COMPARE TEST ERROR :	1
	2
MAINSTORE ADDRESS COMPARE BIT ON IN	3
CONSOLE STATUS BYTE.	4
	5
0273	6
	L O O O O O MAINSTORE ADDRESS COMPARE TEST ERROR : MAINSTORE ADDRESS COMPARE BIT ON IN CONSOLE STATUS BYTE. 0273

THIS ERROR MESSAGE OCCURS IF THE MAIN STORE ADDRESS COMPARE BIT IS FOUND IN THE CONSOLE STATUS BYTE BEFORE THE ADDRESS COMPARE SWITCH HAS BEEN PUT IN THE STOP POSITION.

PAGE 3000- 37

09/29/77 EC 832050

P/N 2547690 PEC 830358

# P/N 2

0274 & 0275

CE PANEL TEST 3 4 1 2 0 0 0 1 0 MAINSTORE ADDRESS COMPARE TEST ERROR : | 1 2 SERVICE REQUEST ON. 3 4 5 0274 1 6 1 THIS ERROR MESSAGE OCCURS IF THE SERVICE REQUEST LATCH IS ON BEFORE THE ADDRESS COMPARE SWITCH WAS PUT IN THE STOP POSITION. 1 2 3 1 0 0 0 0 | MAINSTORE ADDRESS COMPARE TEST. 1 1 PUT ADDRESS COMPARE SWITCH IN STOP 2 POSITION THEN ENTER VALID MAINSTORE 3 ADDRESS FOR COMPARE STOP. PRESS CE 4 START TO RUN. REPEAT FOR ANY VALID 1 5 ADDR EXCEPT FFFF WHICH STOPS TEST 0275 | 6 \_\_\_\_\_

THIS CRT DISPLAY INSTRUCTS THE CE TO PUT THE ADDRESS COMPARE SWITCH IN THE STOP POSITION THEN ENTER A <u>VALID</u> MAINSTORE ADDRESS. THEN PRESSING THE CE START KEY WILL TEST THE MAINSTORE ADDRESS COMPARE CIRCUITS. IF THE TEST WORKS, DISPLAY #0279 APPEARS FOR 2 SECONDS THEN RETURNS TO THIS DISPLAY FOR ANOTHER ENTRY. TERMINATION OF THIS ROUTINE IS DONE BY ENTERING FFFF IN THE SWITCHES. ENTERING AN INVALID MAINSTORE ADDRESS HERE(OTHER THAN FFFF) WILL CAUSE A MAINSTORE INVALID ADDRESS PROC CHECK.

PAGE 3000- 38

09/29/77 P/N 2547690 EC 832050 PEC 830358 CE PANEL TEST

i 1

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1

0276 & 0277

1	1 0		2 0	3 0	4 0	
M	INSTORE	ADDRESS	COMPARE	TEST ER	ROR :	1
						2
M	INSTORE	ADDRESS	COMPARE	BIT NOT	ON	3
IM	CONSOL	E STATUS	BYTE.			4
						5
					0276	6
 TH I ADI	S ERROR DRESS CO 1 0	MESSAGE MPARE ST	DCCURS A DP HAS BI 2 0	AFTER A EEN ATTE 3 0	MAINSTO MPTED. 4	DRE
1 M/	INSTORE	ADDRESS	COMPARE	TEST ER	ROR :	1
Ì		-				2
I I SE	RVICE R	EQUEST N	DT ON.			3
1					1	4
1						5

THIS ERROR MESSAGE OCCURS AFTER A MAINSTORE ADDRESS COMPARE STOP HAS BEEN ATTEMPTED.

	09/29/77		P/N	2547690
000- 39	EC	832050	PEC	830358

0277 | 6

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PAGE 3

# CE PANEL TEST

0278 &0279

2 3 4 1 0 0 0 1 0 17 SECOND MICROLOOP TIMEOUT TEST. 1 1 | THIS TEST ENABLES THE 7 SEC TIMEOUT. 2 1 I IT WILL CAUSE A PROC CHECK 7 SEC 1 3 AFTER YOU PRESS CE START. 4 THIS IS THE LAST TEST. PRESS RESET 15 AND START TO REPEAT THE TEST. 0278 | 6 ł ------

THIS CRT DISPLAY DESCRIBES THE 7 SECOND MICROLOOP TIMEOUT TEST. THE TEST RESULTS IN A PROCESSUR CHECK. A SYSTEM RESET, CE START RETURNS BACK TO START OF THE CE PANEL TEST.

1	1 0		2 0	3 0	4 0	
ħ	AINSTORE	ADDRESS	COMPARE	TEST.		1
					.	2
٢	AINSTORE	ADDRESS	COMPARE	OCCURRED.	ļ	3
					ļ	4
					l	5
				0	279	6

THIS MESSAGE WILL OCCUR IF THE MAINSTORE ADDRESS STOP HAS PERFORMED SUCCESSFULLY. IN 2 SECONDS DISPLAY # 0275 WILL APPEAR.

PAGE 3000- 40

/77 P/N 2547690 EC 832050 PEC 830358 09/29/77

PAGE 3000- 41

# CRT/KEYBOARD FAMILIARIZATION

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0301 & 0302

THESE DISPLAYS OCCUR ONLY AFTER RUNNING THE IMPL SEQUENCE. IT IS FOR OPERATORS WHO NEED FAMILIARIZATION WITH THE CRT AND KEYBOARD TO SELECT PROGRAMS. PRESSING THE INQUIRY KEY AT ANY TIME BYPASSES THIS FAMILIARIZATION AND WILL DISPLAY THE MAIN MENU.

	1	1 0	2 0	3 0	4 0
	MESSAGE	S LARGER	THAN ONE	DISPLAY AR	1
	SCROLLA	BLE. SCR	OLL MESSA	GES ARE IDE	EN- 2
	TIFIED	BY 'S' IN	THE LAST	POSITION -	3
	ROLL U	P/DOWN K	EYS CONTR	OL SCROLLI	NG    4
>	PRESS	ROLL UP'	KEY TO CO	NTINUE.	5
	THESE 4	DIGITS A	RE THE DI	SPLAY ID (	03015 6
I I	DON'T B THE DIS THE PRO	E AFRAID PLAY WILL PER KEY I	TO EXPERI REMAIN U S PRESSED	MENT. NTIL	
	1	0	0	0	ō
	THE ENT	ER KEY WI	LL BE USE	D BY YOU	1
	TO SIGN	AL THE SY	STEM THAT	YOU HAVE	2
	ACKNOWL	EDGED A M	ESSAGE.		3
	PRESS E	NTER KEY	TO CONTIN	UE.	4
					5
·	EACH DI	SPLAY HAS	THIS UNI	QUE ID (	0302 6

	09/29/77	P/N 2547690
PAGE 3000- 41	EC 832050	PEC 830358

0303

CRT/KEYBOARD FAMILIARIZATION (CONTINUED)

	1 2 1 0 0	3 0	4 0
	THE 'ENTER' KEY WILL	ALSO BE USED	BY YOU 1
	TO SIGNAL THE SYSTEM	THAT YOUR DAT	A ENT- 2
	RY IS DONE.		3
	TYPE IN 'GO' AND PRES	S 'ENTER' KEY	. 4
	ALL DISPLAYS A	RE LOCATED IN	5
>	> THE USERS GUID	E BY THIS ID	0303 6

.....'GO' MUST BE TYPED IN THE FIRST 2 POSITIONS OF THIS LINE TO PROCEED TO THE NEXT STEP. IF AN ERROR IS MADE, PRESS ENTER TO TO REDISPLAY THE WHOLE SCREEN.

MAIN MENU

1

0304

- NOTE I IF A KEYBOARD PROBLEM IS APPARENT OR SUSPECT, SET 'F1' IN DATA SWITCHES 1 AND 2 AND RE-IMPL.
- NOTE II TO DISPLAY OR ALTER STORAGE, PRESS OPERATOR CONSOLE STOP, PUT THE IPL SWITCH IN THE DISKETTE (UP) POSITION AND PRESS THE 'INQ' KEY.

1	1	2 0	3 0	4 0	
IENT	ER MAP OR	PROGRAM NA	ME.		1
					2
. 1 1	IF UNKNOW	N REFER TO	SERVICE GU		3
	OR ENT	ER HELP			4
					5
>xxx:	xxxxx <	INPUT NA	ME	0304	6
·				'	

\_\_ENTER IN THESE POSITIONS, LEFT JUSTIFIED, A PROG ID FROM THE DIAGNOSTIC PROGRAM DESCRIPTIONS IN SECTION III OF THIS GUIDE.

PAGE 3000- 42

09/29/77 P/N 2547690 EC 832050 PEC 830358
SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

#### STORAGE ALTER/DISPLAY FORMAT

0305

FOUR DIGIT HEX ADDRESS OF THE LOWEST LOCATION OF THE LINE DISPLAYED TO THE RIGHT. ADDRESSING IS BY WORD FOR CONTROL STORE, AND BY BYTE FOR MAIN STORE. 2 WORD GROUPS OF DATA IN STORAGE THAT CAN BE ALTERED THRU KEYBOARD BY CHANGING THE CHARACTERS AND PRESSING 'ENTER' KEY. 3 2 4 1 0 0 1 0 / 0 / I PRESSING A SCROLL UP OR DOWN KEY WILL INCREMENT TO THE NEXT OR PREVIOUS 40 WORDS (80 BYTES) OF DATA 4 XXXX XXXXXXX XXXXXXX XXXXXXX XXX/XXXX 5 1 >aaaas ALTER OR SCROLL<----- 0305S| 6 1 1. 1 ENTER AN 'M' HERE IF MAIN STORAGE IS DESIRED. 'C' FOR C/S.

ENTER IN THESE 4 POSITIONS THE ADDRESS DESIRED TO SKIP TO, THEN PRESS A SCROLL KEY TO SKIP DIRECTLY TO A DISPLAY OF THAT PORTION OF STORAGE.

NOTE - A PROCESS CHECK WILL OCCUR IF YOU TRY TO SCROLL OR SKIP TO AN ADDRESS OUTSIDE THE LIMITS OF STORAGE ON THIS SYSTEM.

09/29/77		P/N
EC	832050	PEC

2547690

830358

PAGE 3000- 43

## 0305 (ALTERNATE)

THIS DISPLAY OCCURS IF AN ATTEMPT IS MADE TO ENTER AN INVALID HEX CHARACTER. CORRECTING THE ERRONEOUS CHARACTER(S) WILL ALLOW CONTINUATION.

	1	1 0	2	3 0	4 0	
ļ	XXXX	*****	*****	*****	*****	1
	xxxx	*****	*****	*****	*****	2
	xxxx	*****	*****	*****	xxxxxxx	3
	xxxx	*****	*****	*****	*****	4
	xxxx	*****	*****	*****	*****	5
1	<b>a</b> aaas	5 IM	WALID DAT	ra	03055	6

Ρ	A	G	E	3	0	0	0-	44
---	---	---	---	---	---	---	----	----

### UNRECOVERABLE 33FD ERROR DISPLAY

0306

1 2 3 4 1 0 0 0 0 133FD I/O ERROR 1 L WR1 CONTAINS ERROR STATUS. 2 --> 1 1 1-> WR2 CONTAINS CYL/SECTOR NUMBER. 3 ł 1 ı | REFER TO USER GUIDE FOR MORE DETAIL. 4 ł 1 ł 5 1 1 I 1->0306 6 1 í 1 L ->HEX VALUE IN WR2(H)=FAILING CYLINDER ID HEX VALUE IN WR2(L)=FAILING SECTOR ID 1 1 SENSE BIT INFORMATION --->HEX VALUE IN WR1(H) IN WR1(L) 1 00= HARDWARE ERROR BIT MEANING -SEE WR1(L)-0 DISK FAST 01= SECTOR NOT WITHIN NOT READY 1 FILE LIMITS. END OF CYLINDER 2 02= DATA CHECKS (CRC CHECKS) FIRST RECORD NOT 3 FOUND READ OVERRUN 03= EXPECTED ADDRESS MARK NOT 4 A DATA ADDRESS MARK. 5 UNDEFINED 04= WRITE ERROR 6 WRITE OVERRUN 05= INVALID CYL. OR SECTOR 7 SERIAL WRITE SPECIFIED. PARITY CHECK 07= WRONG SECTOR LENGTH 08= UNINITIALIZED TRACK IF WR1(H) CONTAINS A 7, THE CAUSE IS MOST LIKELY A) WRONG DISKETTE OR

B) PROGRAMMING PROBLEM.

IF WR1(H) CONTAINS A 1 OR 5, THE PROBABLE CAUSE IS A PROGRAMMING PROBLEM.

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09/29/77		P/N	2547690
EC	832050	PEC	830358

PAGE 3000- 45

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

0307 & 0308



### KEYBOARD TO CRT FRIENDS TEST DISPLAY

0309

THIS TEST ALLOWS FREELANCE EXERCISING OF THE KEYBOARD. DEPRESSING ANY DATA KEY (DISPLAYABLE CHARACTER) WILL FILL ALL 240 POSITIONS OF THE CRT WITH THAT CHARACTER - EITHER UPPER OR LOWER SHIFT. DEPRESSING ANY FUNCTION KEY WILL CAUSE A ONE-LINE DESCRIPTION OF THE KEY THAT WAS DEPRESSED. NOTE : KATAKANA INPUT IS NOT ALLOWED.

PRES	SSING	'START'	CAUSES	A 2	RETURN	TO	MAIN	MENU. 4	
	1	ō		õ		ō		<u> </u>	
l									1
l		KEYB	DARD FR	IEN	D'S TES	ST			2
·					•				3
·	тоз	START: PI	RESS ANY	ĸ	EY.				4
	тов	EXIT: PR	ESS STAF	۲x	KEY				5
ļ							c	309	6
									1

P/N 2547690

PAGE 3000- 46

an galain

09/29/77

EC 832050 PEC 830358

PAGE 3000- 47

33FD DISPLAY / ALTER MENU (DSPA33FD)

THIS UTILITY WILL SCROLL AND/OR ALTER ONLY 1 SECTOR OF THE 33FD DISKETTE AT A TIME. EACH SECTOR MUST BE SELECTED INDIVIDUALLY BY THIS MENU AND THEN EITHER REPLACED OR CANCELLED BEFORE ANOTHER CAN BE SELECTED.

2 3 4 1 0 0 1 0 0 | 33FD DISPLAY / ALTER 1 Ł ENTER CYL. & SECTOR DESIRED 2 ENTER 0001 FOR IMPL SECTOR З 4 ł 5 1 0310 --->CCSS<-----6 11\_ ENTER SECTOR NUMBER (X'01' THRU X'08') DESIRED IN THESE ENTER CYLINDER NUMBER DESIRED IN THESE TWO POSITIONS. TWO POSITIONS.

NOTE - '01' IS THE ONLY VALID SECTOR FOR CYLINDER OO

33FD DISPLAY/ALTER ERROR DISPLAY

(ALTERNATE) 0310

THIS DISPLAY WILL OCCUR IF AN ATTEMPT IS MADE TO ENTER AN INVALID DISK ADDRESS. CORRECTING THE ERRONEOUS CHARACTER(S) WILL ALLOW CONTINUATION.

2 3 4 1 1 0 0 0 0 33FD DISPLAY / ALTER ÷ Ł 1 ENTER CYL. & SECTOR DESIRED 2 ENTER 0001 FOR IMPL SECTOR 3 4 5 CCSS<-INVALID ADDR-REENTER CCSS 0310 6

PAGE 3000- 47

09/29/77 P/N 2547690 EC 832050 PEC 830358

0310

#### 33FD DISPLAY/ALTER DISPLAY

THE CYLINDER AND SECTOR NUMBER NOW BEING DISPLAYED.



\_\_STARTING ADDRESS OF EACH LINE (16 BYTES) THAT IS DISPLAYED. LOWEST ADDRESS OF A SECTOR IS ALWAYS 0000, HIGHEST IS 01F0. (0F00 FDR CYL.'00')

NOTE: FOR CYLINDER 0, IGNORE THE LAST 2 BYTES (4095 & 4096).

PAGE 3000- 48

09/29/77 P/N EC 832050 PEC

P/N 2547690 PEC 830358

0312

## 33FD DISPLAY/ALTER ERROR DISPLAY

0311 ALTERNATE

THIS DISPLAY WILL OCCUR IF AN ATTEMPT IS MADE TO ENTER AN INVALID HEX CHARACTER. CORRECTING THE ERRONEGUS CHARACTER(S) WILL ALLOW CONTINUATION. 3 3 2 4

1	0	0	0	0	
ICYL->	XX SEC-XX	INVAL	D DATA	   	1
loxxx	*****	*****	*****	xxxxxxx	2
loxxx	*****	*****	*****	xxxxxxx	3
loxxx	*****	*****	*****	xxxxxxx	4
loxxx	*****	*****	*****	xxxxxxx	5
-	_ C=CANCE	R=REPI	ACE	03115	6
'				'	

33FD DISKETTE LIST UTILITY (LIST)

4 1 2 3 1 0 0 0 0 CE DISKETTE LIST PROGRAM 1 1 Ł 2 MOUNT CE DISKETTE TO BE LISTED 3 L 1 4 I 1 5 Ł | PRESS 'ENTER' TO CONTINUE 0312 ŧ 6 L ł 

INSERT DISKETTE TO BE LISTED. THIS MENU APPEARS WHEN THE PROGRAM IS FIRST LOADED AND WHEN THE CURRENT DISKETTE HAS BEEN LISTED. THIS ALLOWS FOR MORE THAN ONE DISKETTE TO BE LISTED. PRESS 'INQUIRY' KEY TO TERMINATE PROGRAM AND RETURN TO MAIN MENU.

09/29/77		P/N	2547690
EC	832050	PEC	830358

PAGE 3000- 49

### 33FD DISKETTE LIST UTILITY



09/29/77		P/N	2547690
EC	832050	PEC	830358

PAGE 3000- 50

0313

PAGE 3000- 51

33FD DISKETTE LIS	T UTILITY (CONT'D)	0313
PRINTOUT HEADINGS	DEFINITIONS	
PROG ID	PROGRAM ID OR NAME THAT IS USE TO CALL UP OR EXECUTE THAT PRO	D Igram
LEVEL	ACTUAL LEVEL OF EACH INDIVIDUA THE LEVEL ID MAY CONTAIN A CHA WHICH SYSTEM THE PROGRAM MUST A = BASE SYSTEM WITH SERIAL PR B = BASE SYSTEM WITH LINE PRIM IF THE LEVEL ID DOES NOT CONTA THAT PROGRAM WILL RUN ON ANY S	L PROGRAM. RACTER TO DESIGNATE RUN UNDER. INTER ITER XIN A CHARACTER, YSTEM.
COMMENT	BRIEF DESCRIPTION OF THE PROGR	AM
OPTIONAL · · · P/N E/C	SOME PROGRAMS CONTAIN THEIR OW AND ENGINEERING CHANGE ID NUME	IN PART NUMBER
PATCHED	REFERENCE AS WHETHER OR NOT TH PROGRAM HAS BEEN PATCHED OR UP BY THE PATCH PROGRAM	IE DATED
NGTE: (IN REFERENCE THESE PROGRAMS MENU BECAUSE T DATE MODULES O	TO THE NOTE APPEARING IN THE PR ARE NOT CALLABLE THROUGH THE M HEY ARE EITHER SUPERVISOR PROGR R SUBROUTINE SUPPORT MODULES.	INTOUT) AIN AMS,

\*\*\* DISPLAY NUMBER 0314 \*\*\* SEE SECTION IV, PARAGRAPH 5. FOR STORAGE DUMP PRINTOUT EXAMPLE.

DACE	2000-	51
FAGE	2000	~ ~

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09/29/77		P/N	2547690
EC	832050	PEC	830358

# CRT ATTACHMENT TEST MESSAGE

0315



.

CRT1 - VIDEO CLOCK STEP OF TEST CHARACTER - RAN WITHOUT ERRORS. ALL CRT ATTACHMENT TESTS HAVE NOW BEEN RUN.

097297	11		P/N	2547690
PAGE 3000- 52	EC	832050	PEC	830358

CRT ATTACHMENT TEST ERROR MESSAGE-

123456	1 7890	1 5	2 0	2. 5.	•	•	•	1 1 0	1 1 5	1 2 0	1 2 5	1 1 3 3 0 2
CRT1 -	ERROR	-v I D	ED CL	OCK S	τ7 /	, '	,					0316
				<i>i</i> i	/							ł

CRT1 - VIDEO CLOCK STEP OF TEST CHARACTER - AN ERROR OCCURRED WHILE RUNNING THIS CRT ATTACHMENT TEST. THE CRT MAP CHART WILL INDICATE APPROPRIATE ACTION.

CRT ALIGNMENT TEST PATTERN

0317

THIS DISPLAY OCCURS IN CRT ALIGNMENT TEST 'CRT2'. PRESSING 'START' CAUSES A RETURN TO MAIN MENU.

_	1	1 0	2 0	3 0	4 0	
ļ	1	78901	78901	78901	0	1
	12	2	2	. 2	0	2
	13	3	3	3	0	3
	1 4	4	4	4	0	4
Ì	1 5	5	5	i :	50	5
	1 6	5 0	6 .	6	0317	6
<u>.</u>						-

	09/29/77	P/N 2547690
PAGE 3000- 53	EC 832050	PEC 830358

0318

THIS DISPLAY OCCURS IN THE CRT STATIC ALL CHARACTER DISPLAY TEST 'CRT3' ON DOMESTIC MACHINES. FOR ASCII OR WORLD TRADE CHARACTER SET, SEE THE INTRODUCTION AND MAINTENANCE MANUAL (SECTION 5.4.4, FIGURES 24 THROUGH 36). PRESSING THE 'KANA ON' KEY, IF INSTALLED, WILL CAUSE THE KATAKANA CHARACTERS TO BE DISPLAYED. PRESSING 'KANA OFF' CAUSES THE 'NON KATAKANA' DISPLAY. PRESSING THE 'CODE' KEY (IF DUAL CASE FEATURE IS INSTALLED) CAUSES LOWER CASE CHARACTERS TO BE DISPLAYED. PRESSING 'START' CAUSES A RETURN TO MAIN MENU.



	09/29/77	P/N 2547690
PAGE 3000- 54	EC 832050	PEC 830358

CRT DYNAMIC REDISPLAY

0319

THIS PATTERN OCCURS IN CRT DYNAMIC REDISPLAY TEST 'CRT4'. LINES 1, 2, 5,  $\epsilon$  6 contain all '\*'s, except for the message 1D in line 6.

LINES 3 & 4 ARE RIPPLED CONTINOUSLY WITH THE FOLLOWING CHARACTERS: /(SLASH), \_(UNDERSCORE), .(PERIOD), (BLANK), \*(ASTERISK)

THE ENTIRE SCREEN WILL BE ERASED AFTER THE \*'S ARE RIPPLED IN LINE 4. AFTER ABOUT 500 MSEC, IT WILL BE RE-DISPLAYED. PRESSING 'START' CAUSES A RETURN TO MAIN MENU.

	1	2	3	4
1	0	· 0	0	0
   *****	 *******			***** 1
   ****	*****	*****	****	***** 2
   **** 	*****	******	*****	***** 3
*****	******	*****	*****	***** 4
,   ***** 	******	*******	*****	***** 5
,   * * * * *	******	*****	****	0319   6

	09/29/77	P/N 2547690
PAGE 3000- 55	EC 832050	PEC 830358





0320

HEX VALUE OF WR1:

0001		READ ID ERROR OCCURRED ON SELECTED SECTOR
		WITH BOTH NORMAL AND EXTENDED READ ID COMMANDS.(16 RETRIES)
0002		WRITE ID ERROR. PROGRAM FOUND ALTERNATE SECTOR THAT IS
		FLAGGED AS HAVING POSSIBLE BAD DATA FOR A READ OPERATION,
		BUT WOULD BE OK FOR WRITE DATA. BEFORE DOING A WRITE
		DATA, THE PROGRAM HAS TO CHANGE THE FLAG
		BYTE IN CONTROL FIELD FROM 05 TO 01 HENCE
		THE WRITE ID COMMAND WHICH IS FAILING.(16 RETRIES)
0004		READ ID ERROR. READ ID ERRORS HAVE OCCURRED
		ON EVERY SECTOR (BOTH READ ID AND EXTENDED READ ID COMMANDS
		FAILED) OF CURRENT TRACK IN WR5. (16 RETRIES PER SECTOR)
0008	• • •	READ/WRITE ERROR. PROGRAM ISSUED READ/WRITE COMMAND AND
		AFTER 16 RETRIES AN ERROR STILL EXISTS WITH THE HARDWARE.
0010		SEEK ERROR OCCURRED WHILE TRYING TO SEEK TO A NEW TRACK.
		(16 RETRIES) THIS ERROR CAN OCCUR IF THE 62GV IS NOT CON-
		FIGURED CORRECTLY. RE=RUN -CONFIG- TO VERIFY THAT THE
		62GV IS CONFIGURED CORRECTLY.
0020		RECALIBRATE ERROR. AFTER DOING RESET AND
		RECALIBRATE 16 TIMES, THE ERROR STILL EXISTS.
0100	• • •	ND RECORD FOUND. SELECTED SECTOR HAS NO ERRORS
		BUT DID NOT GET SECTOR HIT.
0400	• • •	62GV IOB ERROR (PROGRAM ERROR). ADDRESS OF IOB IS
		IN C/S LOCATION -0055
0800	• • •	POSSIBLE BAD DATA WARNING. CURRENT SECTOR
		TRYING TO BE READ IS FLAGGED AS QUESTIONABLE DATA.
		PRESS CE START TO TRY READING IT.

09/29/77 P/N 2547690 EC 832050 PEC 830358

PAGE 3000- 56

OTHER REGISTERS CONTAIN THE FOLLOWING INFORMATION:

WR2(H) STATUS BYTE 0	
WR3(H) STATUS BYTE 2	
WR3(L) HEX VALUE OF SECTOR FLAG BYTE OF SECTOR BEING OPERATED ON	
WR5 HEX VALUE OF TRACK ID BEING OPERATED ON	
WR6(L) HEX VALUE OF SECTOR ID BEING OPERATED ON	
62GV STATUS BYTE BIT DEFINITION	
STATUS BYTE O	
BIT U FILE NUT READY	
2 SECTOR SYNC CK	
3 ••• UFF TRACK CK 4 ••• CRC CK	
5 PARALLEL PARITY CK	
6 ••• WRITE ECHD CK	
STATUS BYTE 1	
BIT 0 N/A	
2 INVALID SEEK	
3 ATTCH EQUIP CK	
4 ••• N/A 5 ••• N/A	
6 N/A	
7 PLO OUT OF SYNC	
BIT 0 SERDES CK	
1 N/A	
2 ••• PURT TRANSFER ERRUR 3 ••• N/A	
4 INTR T.O. CK	
5 ••• N/A	
7 N/A	
DIAGNOSTIC STATUS BYTE 6	
1 ••• SELECT UNSAFE	
2 ••• WRITE UNSAFE	
3 ••• BRAKE FAILURE 4 ••• SERVO UNSAFE	
5 N/A	
6 ••• N/A	
/ ••• N/A	

	09/29/77	P/N 2547690
000- 57	EC 832050	PEC 830358

· PAGE 30

0321 & 0322

	1
SEE THE MDI PROGRAM DESCRIPTION IN THE	2
DIAGNDSTIC USER S GUIDE	3
FOR THESE DISPLAYS.	4
	5
0321 & 0322	6
I	

LINE PRINTER NOT READY DISPLAY

1

(B-SYSTEM) 0323

-----TOP LINE OF DISPLAY AT TIME NOT READY CONDITION OCCURRED.

	L	ō	0	õ	o o	
>	xxxxxx	xxx	• XXX			1
	PRINTE	R NOT RE	ADY BECAU	JSE OF:		2
1->	xxxxx	xxx	<b>.</b> xxx			3
						4
						5
	PRESS	'ENTER'	ΚΕΥ ΤΟ Ο	DNTINUE	0323	6

I\_\_\_IDENTIFICATION OF 1 OF THE FOLLOWING NOT READY CONDITIONS

THROAT INTERLOCK OPEN- THE THROAT (BETWEEN PRINT HAMMERS AND PRINT BELT) IS OPEN. IT MUST BE CLOSED TO ALLOW PRINTING.

END OF FORMS- PRINTER RAN OUT OF PAPER. PUT MORE PAPER IN TO CONTINUE.

COVER INTERLOCK OPEN- COVER IS OPEN WHICH DOES NOT ALLOW PRINTING TO OCCUR. CLOSE THE COVER.

\*\* CORRECT THE PROBLEM AND PRESS 'ENTER' KEY FOR THE PROGRAM TO CONTINUE PRINTING.

> 09/29/77 P/N 2547690 EC 832050 PEC 830358

PAGE 3000- 58

SERIAL PRINTER NOT READY DISPLAY (A-SYSTEM) 0323 2 3 1 4 0 0 1 0 0 ---> xxxxxxxx . . . xxx 1 1 1 ł PRINTER NOT READY BECAUSE OF: 2 ł ł ł |-> xxxxxxxx . . . xxx 3 l 1 1 ł 4 1 1 £ 1 5 ł L 1 | PRESS 'ENTER' KEY TO CONTINUE 03231 6 ŧ 1 \_\_\_\_\_ ---- IDENTIFICATION OF 'NOT READY' CONDITION, WHICH IS ONE OF THE FOLLOWING: END OF FORMS PRINTER RAN OUT OF PAPER. PUT MORE PAPER IN TO CONTINUE. FORMS HUNG HORIZONTAL CHECK FORMS RUNAWAY WIRE CHECK MEMORY PARITY CHECK UNPRINTABLE CHARACTER CHECK PRINTER NOT READY \*\* CORRECT THE PROBLEM AND PRESS 'ENTER' KEY FOR THE PROGRAM TO CONTINUE PRINTING. TOP LINE OF DISPLAY AT TIME 'NOT READY' CONDITION

OCCURRED.

PAGE 3000- 59

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

LINE PRINTER CHECK DISPLAY

PAGE 3000- 60

0324

---- TOP LINE OF DISPLAY AT TIME NOT READY CONDITION OCCURRED. 2 1 3 4 1 0 0 0 0 ---> xxxxxxxx . . . xxx 1 PRINTER CHECK OCCURRED 2 1-> XXXXXXXX . . . XXX ł 3 1 RUN PRINTER DIAGNOSTICS OR ... 4 1 I 5 PRESS 'ENTER' KEY TO CONTINUE 1 0324 1 6 ł ł ---IDENTIFICATION OF PRINTER CHECK THAT HAS OCCURRED WHILE PRINTING, WHICH IS ONE OF THE FOLLOWING: FORMS JAM CHECK - THE FORMS JAM DETECTOR SHOWS THAT THE PAPER IS NOT SPACING PROPERLY. BELT SPEED CHECK - THE BELT IS NOT MAINTAINING CORRECT RPM. CARRIAGE SYNC CHECK - INCORRECT FEEDBACK PULSE COUNT RECEIVED FROM CARRIAGE STEPPER MOTOR CONTROL CARD. BELT SYNC CHECK - INCORRECT PRINT SUBSCAN PULSE COUNT BETWEEN HOME PULSES. MOST LIKELY CAUSE IS THAT THE SYSTEM IS NOT CORRECTLY CONFIGURED FOR THAT PRINTER. RE-RUN -CONFIG- PROGRAM TO CORRECT. BELT EMITTER CHECK - BELT EMITTER IS NOT DETECTING THE PRINT BELT IMPRESSIONS CORRECTLY. BUFFER DATA CHECK - PRINT DATA BUFFER HAS BAD PARITY HAMMER PARITY CHECK - THE ODD/EVEN NUMBER OF HAMMERS SELECTED DOES NOT CORRESPOND TO COIL CURRENT FEEDBACK. COIL CURRENT CHECK - HAMMER COIL CURRENT IS ON TOO LONG. \*\* CORRECT THE PROBLEM IF POSSIBLE AND PRESS THE 'ENTER' KEY. THE PROGRAM WILL RESET THE ERROR, TRY AGAIN AND CONTINUE. IF PROBLEM PERSISTS, RUN THE PRINTER DIAGNOSTICS.

PAGE 3000- 60

DISKETTE DUMP MENU (DUMP33FD)

0325



L\_ENTER IN THESE 4 POSITIONS THE CYLINDER (X'00' THRU X'4C') AND AND SECTOR NUMBERS (01 THRU 08) OF THE LOWEST BYTES ON THE DISKETTE NEEDED TO BE DUMPED. NOTE: IF END NUMBERS MATCH START NUMBERS, ONE SECTOR WILL BE DUMPED.

>	A	G	E	3	00	0-	61
---	---	---	---	---	----	----	----

£

### DISKETTE DUMP PRINTOUT

0326

HEADER LINES ARE PRINTED ANY TIME THE CYLINDER/SECTOR NUMBERS CHANGE. CYLINDER NUMBER(X'00' THRU X'4C') SECTOR NUMBER (X'01' THRU X'08') ł 1 1 1 1 1 1 2 2 1 1 2 2 33 1 • 234567890 5 0 5 0 5 0 2 0 ł 1 . . . . v /IGHT IBM CORP 1974 133FD CYL/SEC XXXX (LEADING)/ 03261 BYTES 1 | 000 XXXXXXXX XXXXXXX XXX/ | 020 XXXXXXX XXXXXXX XX/ |\*1E0 XXXXXXX XXXXXXX X/ /.С....\* <----/....t <----/.CC.C.C.\* <---1 11 1 1 GRAPHIC REPRESENTATION OF THE 32 HEX BYTES OF DATA 1 ON EACH LINE. (DOTS ARE UNPRINTABLE CHARACTERS) 1 1 HEX DATA OF ALL 512 BYTES (4094 IF CYL. 00) OF A SECTOR |\_HEX ADDRESS OF 1ST BYTE OF THE 32 BYTES IN THIS LINE 1 THIS \* INDICATES THAT ALL THE DATA FROM THIS ADDRESS, BACK TO THE PREVIOUS LINE PRINTED, WAS IDENTICAL. I\_\_\_ NDTE: FOR CYLINDER 0, IGNORE THE LAST 2 BYTES PRINTED (4095 &4096).

## PAGE 3000- 62

PAGE 3000- 63

# 62GV DISPLAY/ALTER MENU (DSPA62GV)

0327

THIS UTILITY WILL SCROLL AND/OR ALTER ONLY 1 SECTOR OF THE 62GV DISK AT A TIME. EACH SECTOR MUST BE SELECTED INDIVIDUALLY BY THIS MENU AND THEN EITHER REPLACED OR CANCELLED BEFORE ANOTHER CAN BE SELECTED.

1 2 3 4 0 0 0 0 1 | 1 62GV DISPLAY/ALTER ENTER CYLINDER, HEAD AND SECTOR DESIRED 2 ŧ 3 ł ENTER SECTOR NUMBER (X'00' THRU X'3B') 4 DESIRED IN THESE TWO POSITIONS. 5 ł ->cccchhss 0327 6 ----- | -Ł ١. ł 4

ENTER HEAD ID (00, 01 OR 02) IN THESE TWO POSITIONS.

L\_\_\_ENTER CYLINDER NUMBER(X'0000' THRU X'00AB' OR X'012E') DESIRED IN THESE FOUR POSITIONS.

NOTE: MAXIMUM CYLINDER NUMBER DEPENDS ON FILE CAPACITY. (006C FOR 3.2MB, 00A8 FOR 5.0MB, OR 012E FOR 9.1 AND 13.7MB)

62GV DISPLAY/ALTER ERROR DISPLAY

(ALTERNATE) 0327

THIS DISPLAY WILL OCCUR IF AN ATTEMPT IS MADE TO ENTER AN INVALID DISK ADDRESS. CORRECTING THE ERRONEOUS CHARACTER(S) WILL ALLOW CONTINUATION.

3 1 2 4 0 0 0 0 1 62GV DISPLAY/ALTER 1 1 ENTER CYLINDER, HEAD AND SECTOR DESIRED 2 3 1 4 ł 1 5 CCCCHHSS <-INVALID, RE-ENTER 0327 6

y are

09/29/77 P/N 2547690 EC 832050 PEC 830358

PAGE 3000- 63

. . . . . . . . . . .

## 62GV DISPLAY/ALTER DISPLAY

0328

CYLINDER, HEAD AND SECTOR NUMBER NOW BEING DISPLAYED. TO ALTER, CHANGE THE DESIRED LOCATIONS, THEN PRESS ENTER. TO SCROLL UP OR DOWN, PRESS A SCROLL KEY. (IT WILL NOT SCROLL ) 1 1 (BEYOND SECTOR LIMITS) 1 Ł 2 3 4 I 1 0 Ł 0 0 0 Ł 1 1 v v |CYL-XXXX HD-XX SEC-XX ALTER OR SCROLL | 1 ----64 BYTES THAT CAN 1 BE ALTERED --- | 1 ł 1 1 C=CANCEL R=REPLACE 032851 6 ۱ 1 L - 1 L ł PUTTING A 'C' IN THIS POSITION AND PRESSING WILL CANCEL THIS ALTER/DISPLAY SESSION WITHOUT CHANGING THIS SECTOR ON DISK. 1 AN 'R' IN THIS POSITON REPLACES THIS SECTOR ON THE 62GV WITH THE ONE NOW DISPLAYED.

STARTING ADDRESS OF EACH LINE (16 BYTES) THAT IS DISPLAYED. ADDRESSES OF A SECTOR ARE X'0000' THRU X'01F0'.(THRU X'0F00' ON CYL.00)

PAGE 3000- 64

### 62GV DISPLAY/ALTER ERROR DISPLAY

(ALTERNATE) 0328

THIS DISPLAY OCCURS IF AN ATTEMPT IS MADE TO ENTER AN INVALID HEX CHARACTER. CORRECTING THE ERRONEOUS CHARACTER(S) WILL ALLOW CONTINUATION.

•

1	1 0	2 0	3 0	4 0	
CYL-	XXXX HD-	-XXINVA	ID DATA		1
oxxx	*****	xxxxxxx	*****	xxxxxxx	2
oxxx	*****	*****	*****	xxxxxxx	3
oxxx	*****	*****	******	xxxxxxx	4
oxxx	*****	****	*****	******	5
-	_ C=CANCEL	R=REPI	LACE	03285	6

I AUL JUUU U.	P,	AG	E 3	100	0-	65
---------------	----	----	-----	-----	----	----

## LINE PRINTER PAPER CLAMP TEST

0330 THIS DISPLAY OCCURS WHEN THE PAPER CLAMPS ARE DE-ACTIVATED. PRESSING 'ENTER' ACTIVATES THE PAPER CLAMPS.

1 2 3 4 0 1 0 0 0 PAPER CLAMP OPEN/CLOSE TEST 1 ł 2 ICLAMP IS NOW OPEN. 3 1 READY TO CLOSE IT. 4 1 5 1 |PRESS 'ENTER' TO CONTINUE 0330 I 6 I

### ALTERNATE 0330

THIS DISPLAY OCCURS WHEN THE PAPER CLAMPS ARE ACTIVATED. PRESSING THE 'ENTER' KEY DE-ACTIVATES THE CLAMPS.

1	1 0	2 0	3 0	4 0	
PAPER	CLAMP OPE	N/CLOSE TE	ST		1 1
۹   1					2
I CLAM	P IS NOW C	LOSED.			3
I READ	Y TO OPEN	IT.			4
					5
PRES	S 'ENTER'	TO CONTINU	E	03,30	6
					1

PAGE 3000- 66

09/29/77 EC 832050

P/N 2547690 · PEC 830358 LINE PRINTER 1/2 INDEX FEATURE TEST (PRT10) 0332-0334 1 2 3 4 1 0 0 0 0 | THIS MACHINE IS NOT CONFIGURED FOR | 1 HALF INDEX FEATURE. 1 2 13 | 4 1 5 ł PRESS 'ENTER' KEY TO CONTINUE 0332 | 6



1	1 0		2 0	3 0	- C	+ )
HALF	INDEX	CARD	AA2-J4	FAILING.		11
						2
						3
						4
						5
PRES	S "ENTI	ER' KI	ЕУ ТО С	ONTINUE	0333	6
						•

		09/29/77		P/N	2547690
PAGE	3000- 67	EC	832050	PEC	830358



LINE PRINTER INTERLOCK STATUS DISPLAY TEST (PRT2)

0335

1	1 0	2 0	3 0	4. 0	
PROGRAM	IS SA	MPLING INTE	RLOCK STAT	JS	1
EVERY -	500- M	ISEC.			2
					3
END OF	FORMS	SWITCH	• CLOSED<-		4
THROAT	SWITC	:н	•• CLOSED<-		5
COVER	SWITCH	i	• CLOSED<-	0335	6

IF AN INTERLOCK SWITCH IS OPENED, IT WILL BE INDICATED HERE.

en en en en en en en en en en en en en e		· .
PAGE 3000- 68	09/29/77 EC 832050	P/N 2547690 PEC 830358

# SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE PAGE 3000- 69

LINE PRINTER HALF INDEX FEATURE DISPLAY (PRT10)

0336

1	L	1 0	2 0		3 0	2	+ )
Ē							1 1
ļ							2
	HALF	INDEX	CARRIAGE	TIMING	TEST		3
ļ							4
							5
	PRESS	<b>!</b> ENTER	. KEY TO	CONTINU	E	0336	6
·-							-

LINE PRINTER HALF INDEX FEATURE DISPLAYS (PRT11) 0337 & 0338

1	1 0		2 3 0 0	3 4 0 (	4 D
THIS	MACHINE	IS NOT	CONFIGURE	D.FOR	1 1
HALF	INDEX F	ATURE.			2
					3
					4
					5
PRESS	S 'ENTER	KEY TO	CONTINUE	0337	6

	09/29/77	P/N 2547690
PAGE 3000- 69	EC 832050	PEC 830358

......

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

1 2 3 4 Ó 0 1 0 0 THIS COMPLETES THE HALF INDEX TEST. 1 VERIFY THE OUTPUT. REFER TO MAP 2 0400-4 FOR OUTPUT DESCRIPTION. 3 4 5 PRESS 'ENTER KEY TO CONTINUE 0338 6 1

LINE PRINTER TIMING TEST OPTION MENU (PRT3)

2 3 4 1 0 0 1 0 0 CHOOSE FOLLOWING SIGNAL FOR TIMING : | 1 2 1 - PSS 4 - HAMMER 3 2 - IMPSS 5 - CARRIAGE 4 L 3 - HOME 5 0340 6 

ENTER HERE THE NUMBER (1 THRU 5) OF THE SIGNAL TO BE TIMED, THEN PRESS 'ENTER'

PSS = PRINT SUB-SCAN PULSES IMPSS = IMPRESSION SINGE SHOT HOME = CHAIN HOME PULSE HAMMER = HAMMER FIRE PULSE CARRIAGE = CARRIAGE FEEDBACK PULSES

1

PAGE 3000- 70

09/29/77 EC 832050 PEC 830358

P/N 2547690

0340

PAGE 3000- 71

## LINE PRINTER PRINT SUBSCAN PULSES DISPLAY

0341

THIS TIME IS SAMPLED 512 TIMES AND DISPLAYED. | SHOULD BE 710 USEC (690 USEC FOR 285 LPM). |



LINE PRINTER IMPRESSION SINGLE SHOT DISPLAY

0342



TIS SIGNAL IS REGULATED BY THE FORMS THICKNESS CONTROL SWITCH

PAGE 3000- 71

PAGE 3000- 72

LINE PRINTER HOME PULSE DISPLAY

Ρ

0343



	09/29/77	P/N 2547690
AGE 3000- 72	EC 832050	PEC 830358

#### LINE PRINTER HAMMER NUMBER TIMING

0345

THIS TIME IS SAMPLED AND UPDATED EACH PRINT CYCLE. IT SHOULD BE FROM 1300 TO 1500 USEC (1200-1450 FOR 285 LPM) PLUS OR MINUS 10%.



### LINE PRINTER CARRIAGE FEEDBACK TIMINGS DISPLAY

0346

THESE TIMES, THAT OCCUR DURING A SPACE OPERATION, ARE SAMPLED AND UPDATED EVERY SECOND .

1

1	1 0	2 0	3 0	4	
CARRIAG	E FEEDBACK	TIMINGS	(USEC)		1
CAR	RIAGE PULSE	#1 2	518 <	i i	2
STA	RT UP PULSE	2.	568 <		3
osc	ILLATOR PUL	SES 1.	.679 <		4
STO	P PULSES	#1 2.5	518 #2 :	3.358	5
				0346	6

TOLERANCES:

THE VALUES SHOWN IN THIS SAMPLE ARE PLUS OR MINUS 10% EXCEPT FOR THE START UP PULSE VALUE. IT CAN VARY FROM 1.679 TO 3.358US.

	09/29/77	P/N 2547690
3000- 73	EC 832050	PEC 830358

PAGE

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000- 74

LINE PRINTER HAMMER/CHARACTER FIRE TEST (PRT4)

0350 & 0351

THIS PROGRAM ALLOWS THE OPERATOR TO PRINT ANY CHARACTER(S) IN ANY PRINT POSITION(S).

TYPE IN AND ENTER PRINT POSITION AND | 1 CHARACTER TO PRINT. WHEN DONE TYPE END. PPP = PRINT POSITION C = CHARACTER I->IPPPC I----ENTER THE PRINT POSITION 'PPP' (3 DIGIT DECIMAL 001-132) AND THE CHARACTER TO BE PRINTED IN THAT POSITION, THEN PRESS 'ENTER'. AFTER PUTTING IN ALL CHARACTERS AND POSITIONS DESIRED, ENTER AN 'END' IN THE PRINT POSITION AND PRESS 'ENTER' TO START PRINTING THE LINE. THIS DISPLAY APPEARS ON THE CRT WHILE THE PROGRAM IS IN PROGRESS. PROGRAM PRINTING L I í 

> 09/29/77 P/N 2547690 PEC 830358

PAGE 3000- 74

EC 832050

HELP DISPLAY FOR ERAP & SYSTST PROGRAM

0352 & 0353

 1
 2
 3
 4

 1
 0
 0
 0
 0

 ITO EXECUTE THE ERAP PROGRAM
 1

 1. IMPL 62GV
 2

 2. ENTER ERAP
 3

 3. BE SURE DIAG02 IS LOADED IN 33FD
 4

 4. FOLLOW CRT INSTRUCTIONS
 5

 0352
 6

1	1 0	2 0	3 0	4 0	
TO E	XECUTE SYST	EM TEST P	ROGRAM		1
1.	IMPL 62GV				2
2.	ENTER SYST	ST			3
3.	BE SURE DI	AGO2 IS LO	DADED IN	33FD	4
4.	FOLLOW CRT	INSTRUCT	IONS		5
				0353	6
ł					1

PAGE 3000- 75		09/29	09/29/77 EC 832050	

LINE PRINTER PRINT BELT ON TEST

0354 - 0356

PRINT BELT ON TEST.		1
	i	2
PRINTER NOT READY DUE TO	ļ	3
COVER, THROAT OR END OF FORMS.		4
CORRECT CONDITION AND		5
PRESS ENTER TO CONTINUE	0354	6

PRINT BELT ON TEST.	11
	·2
PROGRAM WILL ISSUE COMMAND TO START	3
THE PRINT BELT.	4
	5
PRESS 'ENTER' TO CONTINUE 0355	6

WHEN DISPLAY 0355 OCCURS, THE PROGRAM IS READY TO RESET THE LINE PRINTER (BELT WILL STOP IF IT'S RUNNING)AND ISSUE A BELT GO COMMAND. IF THE BELT WAS ALREADY TURNED ON BY THIS PROGRAM, THE BELT GO REMAINS ACTIVE, UNTIL 'ENTER' IS PRESSED AND THEN THE RESET AND BELT GO COMMAND IS RE-ISSUED.

							1
ļ							2
	BELT	GO	IS	BEING	ISSUED.		3
							4
l							5
1						0356	6
1			_				l

THIS DISPLAY OCCURS FOR A COUPLE OF SECONDS WHILE THE LINE PRINTER IS RESET AND THE BELT GO COMMAND IS ISSUED.

09/29/77 P/N 2547690 EC 832050 PEC 830358

PAGE 3000- 76

LINE PRINTER WORST PROBABILITY PRINT PATTERNS OPTION MENU

0357

1 2 3 4 0 0 0 0 1 1 WORST PROBABILITY PRINT PATTERNS 1 SELECT ONE OF THE PATTERNS: 2 1 3 (1) 5,5,\* FOR 50-155 LPM PRINTER 1 4 (2) 5,5,5,\* FOR 285 LPM PRINTER 5 <----ENTER SELECTION</pre> 0357 6

THESE PATTERNS INDICATE THE NUMBER OF HAMMERS THAT WILL BE FIRED ON A PARTICULAR SUBSCAN. FOR EXAMPLE: ON PATTERN 1, 5 HAMMERS WILL FIRE ON SUBSCAN 1 AND 5 ON SUBSCAN 2 AND THE REST OF THE LINE IS RANDOM.

LINE PRINTER H PATTERN PRINT TEST

0358



PRESS INQUIRY KEY TO EXIT.

PAGE 3000- 77

HELP PROGRAM (HELP)

0359 & 0360



SELECTED DEVICE IS A FEATURE. LOAD DISKETTE CONTAINING ITS SUPPORT AND CONTINUE.

PAGE 3000- 78

09/29/77 EC 832050

P/N 2547690 PEC 830358
HELP PROGRAM

0361

2 0 3 0 4 1 1 0 0 IND PROGRAMS AVAILABLE ON THIS DISKETTE 1 1 2 3 L 4 1 5 PRESS 'ENTER' KEY TO CONTINUE 0361 1 6 1. 

CURRENT DISKETTE DOES NOT CONTAIN THE PROGRAM SUPPORT. MOUNT CORRECT DISKETTE AND CONTINUE.

HELP PROGRAM - MAIN MENU

0362

1	. 1	н -	2 0	3 0		4 0
15	ELECT ARE	A				1 1
1	L. MAP DI	AGNOSTIC	S			2
	2. SPECIA	L DIAGNO	STICS			3
	. UTILIT	IES				4.
1	. OTHER	DIAGNOST	IC SUPF	PORT		5
->	<se< td=""><td>LECTION</td><td></td><td></td><td>0362</td><td>6</td></se<>	LECTION			0362	6
1 . SE	GENERAL	PROGRAM	AREAS	DESCRIBED	ON NI	_I EXT PAGE.

09/29/77		P/N	2547690
EC	832050	PEC	830358

PAGE 3000- 79

.

PAGE 3000- 80

0362

HELP PROGRAM - MAIN MENU (CONTINUED)

MAP DIAGNOSTICS

THE MDI-MAP PROGRAMS THAT FAULT ISOLATE PROBLEMS FOR A DEVICE.

### SPECIAL DIAGNOSTICS

STAND-ALONE PROGRAMS THAT PERFORM A SPECIFIC FUNCTION FOR A DEVICE.

#### UTILITIES

SPECIAL OVERALL SYSTEM SUPPORT PROGRAMS TO DO VARIOUS 'HOUSEKEEPING' FUNCTIONS AND TESTING.

## OTHER DIAGNOSTIC SUPPORT

DIAGNOSTIC PROGRAMS THAT ARE AVAILABLE FOR EXECUTION UNDER SYSTEM CONTROL. THIS SELECTION ONLY PROVIDES A DESCRIPTION OF THE TEST. THE ACTUAL PROGRAMS DO NOT RESIDE ON DIAGO1.

HELP PROGRAM - DEVICE SELECTION

0363

1	1 ~ 0	2 0	3 0	4 0	
SEL	ECT PROGRAM	AREA			1
1.	*****	5.	*****		2
2.	*****	6.	*****		3
3.	****	7.	*****		4
4.	****	8.	*****		5
<-	SELECTI	DN		0363	6
					•

CHODSE DEVICE FROM LIST OF DEVICES THAT HAVE DESIRED PROGRAM SUPPORT.

	09/29/77		P/N	2547690	
00- 80	EC	832050	PEC	830358	

62GV WRITE ID LOOP TEST (62GV)

0364

1 2 3 4 0 1 0 0 0 WRITE ID LOOP TEST. Т 1 2 Ł PROGRAM IS ISSUING WRITE ID'S TO 3 ISECTOR 30 (ALL HEADS) ON THE 1 4 ICE TRACK. 5 0364 6 1 \_\_\_\_\_

THIS DISPLAY IS SHOWN WHILE THE PROGRAM IS EXECUTING.

62GV READ ID LOOP TEST VIA ADDR/DATA SW-4 1 2 3 4 1 · 0 0 0 0 READ ID LOOP TEST - ALL SECTORS-CE TRCK | 1 |DATA SWITCH 4 = 0(HEAD 0) 2 1 (HEAD 1) 3 1 (HEAD 2) 4 2 I 5 PRESS 'ENTER' TO CONTINUE 0365 6 E ł \_\_\_\_\_

INFORMATION DISPLAY TO INFORM YOU THAT DATA SWITCH 4 IS USED TO SELECT THE HEAD ID TO BE TESTED. THE SWITCH CAN BE CHANGED WHILE THE PROGRAM IS RUNNING.

09/29/77
EC

P/N 2547690 PEC 830358

EC 832050

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE PAGE 3000-82

62GV READ ID LOOP TEST VIA ADDR/DATA SW-4 (ALTERNATE) 0365

THIS DISPLAY IS SHOWN WHILE THE TEST IS EXECUTING. 2 1 3 4 1 0 0 0 0 READ ID LOOP TEST - ALL SECTORS-CE TRCK | 1 |DATA SWITCH 4 = 0 (HEAD 0) 2 1 1 (HEAD 1) 1 3 2 (HEAD 2) 4 TESTING HEAD X <-----İ 5 1 | PROGRAM IS EXECUTING 0365 | 1 6

THIS SHOWS THE HEAD THAT IS CURRENTLY BEING TESTED.

L

62GV WRITE ID LOOP VIA ADDR/DATA SW-4

-----

0367

1	1 0	2 0	3 0	4 0
WRITE	ID LOOP	(SECTOR	30) CE TRAC	К   1
DATA S	WITCH 4	= 0 (HE	AD 0)	2
		1 (HE	AD 1)	3
		2 (HE	AD 2)	4
				5
IPRESS	'ENTER'	TO CONTINU	JE	0367 6

INFORMATION DISPLAY TO INFORM THE CE THAT DATA SWITCH 4 IS USED TO SELECT THE HEAD ID TO BE TESTED. THE HEAD CAN BE CHANGED WHILE THE PROGRAM IS RUNNING.

PAGE	3000-	82

09/29/77		Ρ
EC	832050	P

P/N 2547690 PEC 830358

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE PAGE 3000-83

62GV WRITE ID LOOP VIA ADDR/DATA SW-4

THIS DISPLAY IS SHOWN WHILE THE TEST IS EXECUTING.

2 0 3 1 4 1 0 0 0 WRITE ID LOOP (SECTOR 30) CE TRACK | 1 |DATA SWITCH 4 = 0 (HEAD 0) 1 2 1 (HEAD 1) 13 2 (HEAD 2) 14 TESTING HEAD X <-----5 - 1 PROGRAM IS EXECUTING 0367 | 6 

THIS SHOWS WHAT HEAD IS CURRENTLY BEING TESTED.

62GV +-1 TRACK SEEK LOOP TEST 0369 THIS DISPLAY IS SHOWN WHILE THE TEST IS BEING EXECUTED.

1	0	0	3	4		
+- 1-T	RACK SEE	K LOOP TEST.			1	-
					2	
PROGR	AM IS SE	EKING BACK A	ND FORTH	1	3	
+1 AN	D -1 CON	TINUOUSLY			4	
					5	
				0369	6	

09/29/77		P/N	2547690
EC	832050	PEC	830358





THIS DISPLAY IS ALSO SHOWN WHILE THE TEST IS RUNNING. \*\*\* FOR DISPLAYS 0373 & 0374 \*\*\* SEE SECTION II, HELP DISPLAYS.

09/29/77	P/N 2547690
EC 832050	PEC 830358

SERIAL PRINTER CHARACTER SET (SPRT1)

0375

THE FOLLOWING MESSAGE OCCURS WHEN THE CHARACTER SET TEST (SPRT1) IS SELECTED. AT EACH DEPRESSION OF THE 'ENTER' KEY , THE 64 CHARACTER SET IS PRINTED . IF THE 'KANA ON' KEY HAS BEEN PRESSED, THE 67 KATAKANA CHARACTERS ARE PRINTED. 1 2 3 4 1 0 0 0 0 0

SERIAL PRINTER CHARACTER SET KATAKANA PRESS 'ENTER' KEY TO CONTINUE SERIAL PRINTER CHARACTER SET THIS LINE APPEARS C

SERIAL PRINTER H/I PATTERN TEST (SPRT2)

0376

THE FOLLOWING MESSAGE OCCURS WHEN THE H/I OVERPRINT PATTERN TEST (SPRT2) HAS BEEN SELECTED. 'HI HI HI' IS PRINTED FIRST. THEN 'IH IH IH' OVERPRINTS.

1	1 0	2 0	3 0	. 0	
	SERIAL PRINT	ER H/I P	ATTERN		1
				l	2
					3
	PRESS 'INQ'	TO TERMI	NATE TEST.	ĺ	4
				1	5
				0376	6
				'	

·	. *		
,		09/29/77	P/N 2547690
-	PAGE 3000- 85	EC 832050	PEC 830358

#### SERIAL PRINTER RIPPLE PRINT (SPRT3)

0377

THE FOLLOWING MESSAGE OCCURS WHEN THE ALL CHARACTER RIPPLE PRINT TEST (SPRT3) HAS BEEN SELECTED. ALL 132 PRINT POSITIONS ARE FILLED WITH THE 64 CHARACTER SET WITH A BLANK IN EVERY 4TH POSITION. THE LINE IS SHIFTED LEFT EACH TIME IT PRINTS. NOTE : PRESSING THE KANA ON KEY WILL NOT CAUSE KATAKANA CHARACTERS TO BE PRINTED.

1	1 0	2 0	3 0	4 0	
!	SERIAL PRINTER	RIPPLE	PRINT		1
				l	2
				i	3
	PRESS 'INQ' TO	TERMINA	TE TEST.	ĺ	4
				1	5
,   				0377	6

PAGE	3000-	86

09/29/77 P/N 2547690 EC 832050 PEC 830358 SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000- 87

0378

### SERIAL PRINTER FRIENDS TEST (SPRT4)

THE FOLLOWING MESSAGE OCCURS WHEN THE FRIEND'S TEST (SPRT4) HAS BEEN SELECTED. THE FIRST CHARACTER ENTERED WILL BE THE ONE THAT IS PRINTED. THE NEXT CHARACTER ENTERED MUST BE A DIGIT (O THRU 9). PRINTED. THE NEXT CHARACTER ENTERED MUST BE A DIGIT (O THRU 9). THIS DIGIT INDICATES THE NUMBER OF LINES TO BE SPACED AFTER THE LINE IS PRINTED. THE NEXT 3 DIGITS ARE THE DECIMAL NUMBER (001-132) OF THE STARTING PRINT POSITION. THE NEXT 3 ARE THE ENDING PRINT POSITION (001-132). THE LAST CHARACTER IS THE DIRECTION DESIRED FOR THE PRINT LINE. 'R' FOR RIGHT, 'L' FOR LEFT OR 'B' FOR BOTH.

NOTE	: KATAKANA	INPUT IS	NOT AL	OWED.	
1 .	1 0	2 0	3 0	4 0	
SERI	AL PRINTER	FRIENDS T	EST	   	1
ENTER CH	AR. TO PRI	NT, NO. 01	F LINES	то	2
SPACE (C	)-9), STRT	AND END PO	DS. AND		3
DIRECTIO	ON TO PRINT	(R,L OR I	B)	ĺ	4
				•   	5
Н,1,001,	132,8 <-SE	LECTION		0378	6

NOTE: SELECT A DIRECTION OF R FOR UNIDIRECTIONAL PRINTERS.

SERIAL PRINTER FRIENDS TEST (SPRT4)

0378 (ALTERNATE)

THE PREVIOUS DISPLAY IS MODIFIED, IF AN INVALID ENTRY IS MADE, BY INSERTING THE WORD 'INVALID' FOLLOWING 'SELECTION'. PROGRAM THEN ALLOWS RE-ENTRY OF DIGITS. 1.

2

1	Ô	Ő	0	0
I SE	RIAL PRINT	ER FRIEND	S TEST	1
				2
I I PRESS	'INQ' TO	RETURN TO	OPTION ME	NU 1.3
   ·		-		4
1				5
  н,1,С 	001,132,B <	-SELECTIO	N INVALID	0378 6

2

PAGE 3000- 87

09/29/77 P/N 2547690 EC 832050 PEC 830358



THIS DISPLAY WILL ONLY BE SEEN ON SYSTEMS WITH 120 CPS PRINTERS.

## SERIAL PRINTER RIPPLE WIRE TEST (SPRT5)

0379

THE FOLLOWING MESSAGE OCCURS WHEN THE RIPPLE WIRE TEST (SPRT5) HAS BEEN SELECTED. THE PATTERN IS ALTERNATING 'SLASH' & 'Reverse slash'.

1	1 0	2 0	3 0	4 0	
	SERIAL PRI	NTER RIPPLE	WIRE TEST	 	1
					.2
	PRESS 'INQ	TO TERMIN	ATE TEST.		3
				l	4
					5
				0379	6

 09/29/77
 P/N
 2547690

 PAGE 3000-88
 EC
 832050
 PEC
 830358

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

0380

SERIAL PRINTER EVEN/ODD WIRE TEST (SPRT6)

THE FOLLOWING MESSAGE OCCURS WHEN THE EVEN/ODD WIRE TEST (SPRT6) HAS BEEN SELECTED. THE PATTERN IS A LINE FULL OF THREE CHARACTERS FOLLOWED BY THREE BLANKS. THE CHARACTERS CONSIST OF THE 7X7 MATRIX WITH ALTERNATING 4 WIRES AND 3 WIRES.

1	(	1 0	2 0	3 0	4 0	
	SERIAL	PRINTER	EVEN/ODD	WIRE TE	ST	1
					1	2
	PRESS	'INQ' TO	TERMINATE	TEST.		3
					l	4
				-	I	5
					0380   	6

### SERIAL PRINTER STRESS TEST (SPRT7)

0381

THE FOLLOWING MESSAGE OCCURS WHEN THE STRESS TEST (SPRT7) HAS BEEN SELECTED. THE TEST CONSISTS OF 'H'S PRINTED IN POSITIONS 1-10. NEXT LINE IS 'H'S IN POSITIONS 2-11, ETC. UNTIL THE TEN 'H'S ARE RIPPLED TO THE RIGHT MARGIN. THEN THEY ARE RIPPLED BACK TO THE LEFT MARGIN. 1 2 3 4 1 0 0 0 0 0

1	U		0	0	0	
	SERIAL PRIM	NTER	STRESS TI	EST		1
1						2
	PRESS 'INQ'	то	TERMINATE	E TEST.		3
						4
						5
					0381	6
'						

		and the second second second second second second second second second second second second second second second		
	Sec. Constraints	a fa a ter	· · · ·	
		09/29/77	P/N	2547690
PAGE 3000- 89	· .	EC 832050	PEC	830358

### S-PRINTER TIMING TOLERANCE TEST (SPRT9)

0382 & 0383

THE FOLLOWING MESSAGES OCCUR WHEN THE TIMING TOLERANCE TEST (SPRT9) HAS BEEN SELECTED.

	1 2 3 4 1 0 0 0 0	
ļ	TIMING TEST - PLUS 10% VARIATION	1
Ì	MOTOR AND EMITTER TIMINGS HAVE	2
1	BEEN INCREASED BY 10 PERCENT.	3
	SIX LINES WILL PRINT TO TEST.	4
	PRESS 'INQ' TO EXIT TEST.	5
1	PRESS 'ENTER' KEY TO CONTINUE 0382	6
۱		
	1 2 3 4 1 0 0 0 0	
!	TIMING TEST - MINUS 10% VARIATION	1
	MOTOR AND EMITTER TIMINGS HAVE	2
	BEEN DECREASED BY 10 PERCENT.	3
	SIX LINES WILL PRINT TO TEST.	4
1	PRESS 'INQ' TO EXIT TEST.	5

l\_\_\_\_\_l.

PRESS 'ENTER' KEY TO CONTINUE

I

THE TIMING VALUES FOR EMITTERS AND MOTOR ARE CHANGED IN THE RAM. THE MESSAGE IS DISPLAYED AND THE PROGRAM HALTS. WHEN 'ENTER' IS PRESSED, THE PROGRAM PRINTS 6 LINES OF H'S, 3 IN EACH DIRECTION, WITH ERROR CHECKING. ERRORS ARE DISPLAYED.

0383

6

and the second second second second second second second second second second second second second second second	and the second second second second second second second second second second second second second second second	
PAGE 3000- 90	09/29/77 EC 832050	P/N 2547690 PEC 830358

0384



IF THE CONFIGURATION DATA IS NOT FOUND, OR FOUND TO BE INCORRECT, THIS MESSAGE IS DISPLAYED. (PRINTER SPEED PROBABLY INVALID) . RUN 'CONFIG' PROGRAM TO CORRECT THE PROBLEM.

S-PRINTER	CONTINUOUS 1 0	HEAD RESTORE	TEST 3 0	(SPRT10 4 0	0385
I S	ERIAL PRINT	ER CONTINUOUS	RESTO	RE	1
					2
PI	RESS 'INQ'	TO TERMINATE	TEST.	1	3
1				l	4
					5
l.				0385	6
1					

THIS MESSAGE OCCURS WHEN THE CONTINUOUS HEAD RESTORE TEST (SPRT10) HAS BEEN SELECTED. HEAD RESTORES WILL BE EXECUTED APPROXIMATELY EVERY 250 MSEC.

09/29/77		P/N	2547690
EC	832050	PEC	830358

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

BSCA PROGRAM DISPLAYS (BSCA)

FOR DISPLAY ID'S 0400 - 0499 SEE 2 BSCA DIAGNOSTIC SERVICE GUIDE. 3 4 5 0400 - 0499 6 NOTE: THE BSCA SERVICE GUIDE IS MAP SECTION 3100.

.

MOVE-ERROR

0503

THIS DISPLAY WILL NOT BE SEEN IF THE CORRECT PROCEDURES ARE USED FOR CONFIG, MOVE AND CUSTOMIZ. IF THE DISPLAY IS SEEN, LOAD DIAGO1.

	1	0	0	0	4 0	
	DISKETTE	IN THE	33FD DRI	VE IS NOT	THE	1
İ	-DIAG01-	DISKET	re.			2
i						3
1	LOAD THE	-DIAGO	L- DISKET	TE.		4
ļ					·	5
ļ	PRESS IE	NTER' KE	EY TO CON	TINUE	0503	6
L.						

	09/29/77		P/N	2547690	
0- 92	EC	832050	PEC	830358	

33FD C.E. DISKETTE ANALYZE (ANAL33FD)

THIS DISPLAY OCCURS WHEN THE ANALYZE OPTION IS SELECTED.

	1	1 0	2 0	3	4 0	
1	33FD DI	SK - AN	ALYZE			-
						2
	INSERT	C.E. DI	SKETTE TO E	E ANALYZEC	•	3
i						4
						5
	PRESS '	ENTER •	TO CONTINUE		0504	6

THIS DISPLAY OCCURS WHILE THE DISKETTE IS BEING ANALYZED.

(ALTERNATE) 0504



	09/29/77	P/N 2547690
PAGE 3000- 93	EC 832050	PEC 830358

0504

33FD C.E. DISKETTE ANALYZE 0505 &0506

THIS DISPLAY OCCURS WHEN THE DISKETTE HAS BEEN ANALYZED



THIS DISPLAY OCCURS WHEN ANALYSIS DETECTS AN ERROR. 0506

2 3 4 1 0 1 0 0 0 33FD DISK - ANALYZE 1 2 THIS LINE CAN BE ONE OF THE 1 EXPECTED CCSS = \_\_\_ FOLLOWING: L 4 ACTUAL CCSS = \_\_\_\_ 5 ł 1 1 ------1.CYLINDER NOT AS EXPECTED. ł \_\_\_\_ THIS LINE CAN BE EITHER: 1. PRESS INQ TO RETURN TO MAIN MENU 2. PRESS START TO TRY ANALYZE AGAIN 2.SECTOR LENGTH NOT 512,OR 4094 BYTES 3.EXPECTED ADDR MARK NOT A DATA AM 4.CRC ERROR READING ZZZZ FIELD (ZZZZ = DATA OR ID ) 5.SECTOR NUMBER NOT AS EXPECTED.

PAGE 3000- 94

09/29/77 P/N 2547690 EC 832050 PEC 830358

MOVE (MOVE)

DATA IS BEING MOVED TO 62GV L 0507 · | ALL DIAGNOSTIC SUPPORT HAS BEEN MOVED TO THE 62GV. ----- NOTE -----MOUNT -DIAGO2- DISKETTE AND EXECUTE PROGRAM -CUSTOMIZ- TO MOVE SCP SUPPORT. 1 5 PRESS 'ENTER' KEY TO CONTINUE 

NOTE: THE -MOVE- PROGRAM ONLY TRANSFERS DIAGNOSTIC PROGRAM SUPPORT TO THE 62GV WHICH RESIDES ON DISKETTE -DIAGO1-. TO TRANSFER SCP MODULES TO THE 62GV, LOAD DISKETTE -DIAGO2- AND CALL UP AND EXECUTE PROGRAM -CUSTOMIZ-. DO NOT IMPL -DIAGO2- DISKETTE.

		09/29/	77		P/N	2547690
PAGE 3000-	95		ЕC	832050	PEC	830358

0507 & 0508



		09/29/77	P/N 2547690
-00	96	EC 832050	PEC 830358



THIS IS THE RELEASE LEVEL FOUND IN THE VTOC. CORRECT IT OR EXIT.

PAGE 3000- 97

09/29/77 P/N 2547690 EC 832050 PEC 830358

## SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PATCH LOCATION & CHECK BYTE MENUS



 09/29/77
 P/N 2547690

 PAGE 3000- 98
 EC 832050
 PEC 830358

0511

PATCH LOCATION & CHECK BYTE MENU ERRORS

(MODIFIED) 0511



THIS IS THE DATA THAT IS ON THE -----MOUNTED DISKETTE AT THE LOCATION ENTERED. CORRECT IT OR EXIT.

	09/29/77	P/N 2547690
PAGE 3000- 99	EC 832050	PEC 830358

0512



THIS WORD WILL BE 'LOCATION' IF THE END OF A PROGRAM IS ENCOUNTERED WHILE ENTERING THE PATCH DATA, OR THIS WORD WILL BE 'DATA' IF A CHARACTER OTHER THAN 0-9 OR A-F IS ENTERED.

09/29/77		P/N	2547690
EC	832050	PEC	830358

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000-101

PATCH END MENU

0513

NOTE - IF OPTION 'A' OR 'W' HAVE BEEN SELECTED AT LEAST ONCE DURING THIS PATCH SESSION, PRESSING 'INQ' WILL RETURN TO THIS DISPLAY FOR EXIT.

1	1 0	2 0	3 0	4 0
VERIF	Y THE PATC	H DATA PR	INTED OUT,	HEN   1
ENTER	K			2
יכידנ	CANCEL TH	IS PATCH	AND RETRY,	JR 3
1>'A'TO	) PUT IT ON	DISK & G	O TO ADDR.	1ENU 4
↓ ↓ · <u> .</u>  >!₩!TC	PUT IT ON	I DISK & G	O TO ID MEN	NU, OR 5
->x	E. TO EXIT			0513 6
        SELEC	T DESIRED	OPTION AN	D PRESS ENT	rer•
THIS	OPTION RET	URNS TO D	ISPLAY 0510	).
THIS	OPTION RET	URNS TO D	ISPLAY 0511	l.

CUSTOMIZE (CUSTOMIZ)

3 1 2 4 0 0 1 . 0 0 **\*\*CUSTOMIZER PROGRAM EXECUTING\*\*** 1 I 1 2 3 4 5 1 1110X 0514 6 1\_\_/\_ 1 THIS CHARACTER IDENTIFIES THE PHASE OF THE PROGRAM CURRENTLY EXECUTING. THE DIGIT CAN BE 1 THRU C. 1\_

	09/29/77	P/N	2547690
PAGE 3000-101	EC 832050	PEC	830358

0514

#### CUSTOMIZE

0515 & 0516



EXCEPT FOR ERROR 0004, RE-RUN CONFIG, MOVE AND CUSTOMIZ PROGRAMS. USE YOUR B/O SUPPORT STRUCTURE IF THE PROBLEM REMAINS. ON A 0004 ERROR, RUN 33FD AND DISK DIAGNOSTICS IN ADDITION TO CONFIG, MOVE AND CUSTOMIZE.

1	1 0	2 0	3	4 0	
ICUST	OMIZ IS	COMPLETED.	TAKE ONE	OF	1
THE	FOLLOWIN	G ACTIONS:			2
11.	INSERT D	IAGO1 AND	PRESS INQ I	KEY TO	3
	RETURN T	O THE OPTI	ON MENU.		4
2.	IMPL FRO	M DISK TO	LOAD SCP.		5
PRE	SS 'ENTE	R' KEY TO	CONTINUE	0516	6

PAGE 3000-102

09/29/77 EC 832050 F

P/N 2547690 PEC 830358 CONFIGURATOR (CONFIG)

0519 & 0520

3 4 1 2 Ó 1 0 0 0 ISYSTEM CONFIGURATOR 1 1 12 1 DISKETTE IN 33FD IS NOT -DIAGO1-1 3 14 MOUNT THE -DIAGO1- DISKETTE 1 5 PRESS 'ENTER' KEY TO CONTINUE 0519 | 6 1 

CONFIGURATOR INFORMATION DISPLAY

CAUTION: IF ANY RPQ'S ARE INSTALLED ON	
CAUTION: IF ANY RPQ'S ARE INSTALLED ON	
THIS SYSTEM, THEY MAY AFFECT YOUR CON-	1
I FIGURATION AND DIAGNOSTICS. REFER TO VOL 1	2
	3
101 FOR A DESCRIPTION OF YOUR RPQ'S. ANY	4
PREVIOUS CONFIGURATION OF THIS DIAGO1 IS	5
PUT IN THE MENU'S. 'PRESS ENTER' 0520   	6

\*\*\* WARNING \*\*\* UNLESS THIS CONFIGURATION DATA AGREES <u>EXACTLY</u> WITH THE ACTUAL SYSTEM CONFIGURATION, VARIOUS PROBLEMS WILL RESULT. SEE THE MACHINE LEVEL HISTORY IN SLD VOL. 1 FOR THE CORRECT CONFIGURATION. STORAGE SIZES OF 24K OR 32K WILL BE INDICATED. IF THERE IS NO STORAGE SIZE LISTED, ASSUME 16K.

> 09/29/77 P/N 2547690 EC 832050 PEC 830358

## CONFIGURATOR KEYBOARD ARRANGEMENT DISPLAY

0521



FRANCE II/BELGIUM (AZERTY)

NOTE: INFORMATION ON THE FEATURES AND CONFIG-URATION OF YOUR SYS-TEM CAN BE FOUND IN SLD VOL.1 ON THE MA-CHINE LEVEL HISTORY PAGE. \*\*\*\*

PAGE 3000-104

6.

7.

8.

9.

DENMARK

ITALY

JAPAN 10. NORWAY

13. SWEDEN

17. KATAKANA 18. PORTUGAL

SPAIN
 SPANISH SPEAKING

14. FRANCE I(QWERTY)
15. UNITED KINGDOM 16. UNITED KINGDOM 2

> 09/29/77 EC 832050 PEC 830358

P/N 2547690

## CONFIGURATOR FEATURE MENU

0522 & 0523



IF YOUR SYSTEM HAS BSCA/SDLC, DATA RECORDER, MAG CARD UNIT OR 1255, ENTER A 'Y'. INFORMATION ABOUT FEATURES THAT ARE ON YOUR SYSTEM CAN BE FOUND ON THE YELLOW 'HARD CARD' IN MLM VOLUME 1.

	1	1 0	2 0	3 0	4 0	
						-
Ì						2
	MOUNT	THE -DI	AG01- DISKE	тте so тн	AT	3
ļ	THE C	DNFIGURA	TION DATA C	AN BE STO	RED.	4
ļ						5
	PRESS	ENTER	TO CONTINUE		0523	6
-						-

PAGE 3000-105

 $i^{2}$ 

09/29/77 P/N 2547690 EC 832050 PEC 830358 CONFIGURATOR DEVICES

0524 & 0525

1.

1	0	0	0	0	
SELEC	T FEATURES	DESIRED	ON THIS	DISKETTE.	1
1. X>	xxxxxx	5. X	xxxxxx	1	2
2. X>	(XXXXXX	6. X	xxxxxx		3
3. X>	<xxxxx< td=""><td>7. X</td><td>xxxxxx</td><td></td><td>4</td></xxxxx<>	7. X	xxxxxx		4
4. XX	(XXXXXX	8. X	xxxxxx		5
3	< SE	PARATE BY	COMMAS	0524	6
				 	•



	09/29/77	P/N 2547690
PAGE 3000-106	EC 832050	PEC 830358

CONFIGURATOR

0526 & 0527



1	1 0	2 0	3 0	4 0	
					1
MOUNT	THE DISKE	TTE CONTAI	NING THE		2
FEATU	RE DEVICE	DIAGNOSTIC	SUPPORT.		3
					4
PRESS	'ENTER'	TO CONTINUE			1
<	ENTER			0527	6
					l

<b>D</b> A	05	2000 1	~ 7
PA	GE	2000-10	51

77 P/N 2547690 EC 832050 PEC 830358 09/29/77

P/N 2547690 PEC 830358

CONFIGURATOR

0528 & 0529

1	1 0		2		.3 0	4 0	
DO YOU	WANT T	O WR	ITE	THE	CONFIGURATI	ON	1
DATA ON	62GV	?					2
							3
		Y -	YES				4
		N -	NO				5
Y <	ANSWER					0528	6



	09/29/77
PAGE 3000-108	EC 832050



THE PREVIOUSLY DEFINED MAIN STORAGE SIZE WILL BE SHOWN.



THE PREVIOUSLY DEFINED CONTROL STORAGE SIZE WILL BE SHOWN.

D٨	GE	30	00-	100
F A	96	- 50	00-	103

09/29/77 77 P/N 2547690 EC 832050 PEC 830358

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0532

CRT/KYBD FEATURES



33FD CONFIGURATOR 1 2 0 3 0 1 0 0. 33FD CONFIGURATOR | 1 IS ASCII FEATURE INSTALLED? i z 13 4 5 - <----(Y OR N) 0536 6

D./ t st<del>yt</del> i t 09/29/77 P/N 2547690 EC 832050 PEC 830358 09/29/77 PAGE 3000-110

0536

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000-111

# PRINTER CONFIGURATOR (SPEED)

0539 & 0540

THESE DISPLAYS REQUIRE YOU TO SELECT THE PRINTING SPEED BY ENTERING THE CORRESPONDING NUMBER .

	1		1 0	2 0		3 0		4 0	
!	S	ERIA	PRINTER	CONFI	GURATO	R		-!	1
ł	1.	40	CHAR./SEC	UNIDI	RECTIO	NAL		ļ	2
1	2.	40	CHAR./SEC	BIDIR	ECTION	AL			3
Ì	з.	80	CHAR./SEC					ļ	4
1	4.	120	CHAR./SEC						5
i	1<		SELECTION				0539		6
'								'	

1	1 0		2 0	3 0		4 0
	PRI	NTER	CONFIC	GURATOR		- 1 1
1.50	LINES	PER	MINUTE			2
2.100	LINES	PER	MINUTE			1.3
3.155	LINES	PER	MINUTE			1.4
4.285	LINES	PER	MINUTE			5
_< 	- SELEC	стіо	N		0540	6

	•	
PAGE 3000-111	09/29/77 EC 832050	P/N 2547690 PEC 830358

LINE PRINTER CONFIGURATOR

0541 & 0542

1		1 0	2 0		3 0	4	+ )
		PRINTER	CONFIC	URATOR			1
1.	48	CHARACTER	SET				2
2.	64	CHARACTER	SET				3
3.	96	CHARACTER	SET				4
							5
_<		- SELECTION	4			0541	6

THIS DISPLAY REQUIRES YOU TO SELECT THE PRINT IMAGE SIZE BY ENTERING THE CORRESPONDING NUMBER.

THIS DISLAY OFFERS THE OPTION OF CHANGING THE PRINT IMAGE IN THE EVENT THE PRINTER DOES NOT HAVE A STANDARD IMAGE.

I	1 0	2 0	3 0	4 0		
	PRINTER	CONFI	GURATOR		1	
1 1	SELECT EITHER				2	
11.	1. STANDARD IMAGE					
2.	SPEĊIAL IMAGE				4	
		•			5	
  _ <· 	SELECTION	l		0542	6	

	09/29/77		P/N	2547690	
112	EC 8	332050	PEC	830358	

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000-113

LINE PRINTER CONFIGURATOR

0543 & 0544

	1	2	3	. 4	r -
1	0	0	0	, C	)
1	PRINTER	CONFIGUI	RATOR		1
USE	THE CHART J	UST PRIN	FED TO CHA	NGE	2
ТНЕ	IMAGE.	USE THE	FORMAT: N	NN <del>,</del> XX	3
(NNN	=IMAGE POSI	TION & XX	<=EBCDIC).	PRESS	4
ENTE	R TO CHANGE	• ENTER	END' TO E	XIT	5
NNN,	xx <			0543	6

THIS DISPLAY ALLOWS THE C.E. TO CHANGE ANY OR ALL POSITIONS OF THE PRINT IMAGE.

IE: ENTERING '035,4A' WOULD CHANGE IMAGE POSITION #35 FROM ITS STANDARD VALUE TO X'4A'. IN ADDITION TO THE CHART PRINTED ALONG WITH THIS DISPLAY, THE CE

IN ADDITION TO THE CHART PRINTED ALONG WITH THIS DISPLAY, THE CE MUST HAVE KNOWLEDGE OF OR INFORMATION SHOWING WHICH POSITIONS TO CHANGE FOR HIS SPECIAL IMAGE.

THE CURRENT IMAGE HAS JUST BEEN PRINTED FOR VERIFICATION. IT SHOULD BE SAVED. A 'Y' REPLY TERMINATES PRINTER CONFIGURATION. AN 'N' REPLY WILL CAUSE RE-EXECUTION OF THE ENTIRE LINE PRINTER PORTION OF THE CONFIGURATOR PROGRAM.

	1		2			3		4
1	0		0			0		0
1	PR	INTER	CONF	IGU	RATOR			1 1
1 1 1								1 2
THE	PRINT	IMAGE	AND	ITS	CORR	ESPON	DING	3
EBCD	IC HAV	E PRIM	NTED.	S A V	/Е ТН	IS.		4
IST	HIS CO	RRECT	P ENT	ER 1	r or	N		5
Y _<							0544	4 6

PAGE 3000-113

09/29/77 P/N 2547690 EC 832050 PEC 830358

### LINE PRINTER CONFIGURATOR

0545 & 0546



THIS DISPLAY OCCURS DURING THE LINE PRINTER CONFIGURATION IF A KATAKANA PRINT BELT HAS BEEN SELECTED.

1		1 0	2 0	3 0	4 0	
		PRINTER	CONFIGU	JRATOR		1
11.	64	CHARACTE	R SET			2
2.	96	CHARACTE	R SET			3
3.	128	CHARACTE	R SET			4
					·	5
<		-SELECTIO	N		0546	6
۱ ــــــ						I

PAGE	3000-	-114
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09/29/77		P/N	2547690
EC	832050	PEC	830358
PAGE 3000-115

### 62GV CONFIGURATOR

0548 & 0549

THESE DISPLAYS OCCUR DURING THE 62GV PORTION OF THE CONFIGURATOR PROGRAM. THE SIZE LAST CONFIGURED IS DISPLAYED. A 'Y' REPLY TERMINATES THE 62GV CONFIGURATION. AN 'N' REPLY WILL ALLOW YOU TO CHANGE THE SIZE ON ANOTHER DISPLAY.



YOU ARE ALLOWED TO SPECIFY THE SIZE OF THE 62GV WHICH IN TURN CHANGES THE CE CYLINDER. IF THE INCORRECT SIZE IS ENTERED THE HARDWARE DIAGNOSTICS WILL CATCH IT WHEN THEY TRY TO EXECUTE.

			1		2			3			4	
1			0		0.			0			0	
			DIS	K CONF	IGU	RATO	R				ļ	1
	1 =	5	MEGAI	BYTE								2
	2 =	9	MEGAI	BYTE							ļ	3
	3 =1	3	MEGA	BYTE							ļ	4
ļ	4 =	3	MEGA	BYTE							i	5
i-	<		ENTER	SIZE	(1,	2,	3	OR	4)	0549		6

09/29/ <b>7</b> 7		P/N	2547690
EC	832050	PEC	830358

PAGE 3000-115

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000-116

## DISK INITIALIZE (INITDISK)

0550 & 0551

THIS DISPLAY INDICATES THAT THE MAIN STORE LOAD OF THE MESSAGES, TABLES AND WORK AREAS, WAS NOT FOUND ON THE DISKETTE OR AN ERROR OCCURRED IN LOADING.

3 3 5 2 2 4 1 1 1234567890 5 Ó 5 0 0 1 Ł SINITMSG DID NOT LOAD 2 I ENTER KEY WILL CAUSE PROGRAM TO | 3 RESTART 4 5 1 PRESS 'ENTER' TO CONTINUE 0550 6 L 1

|---1 OR MORE OF THE 59 SECTOR PULSES IS MISSING 1 1234567890 1 5 2 2 3 3 4 5 0 0 5 0 I-> SECTOR PULSES ARE NOT CORRECT 1 1 2 1 3 | 4 - 5 PRESS 'INQ' KEY AND RETRY PROGRAM 0551 16 I \_\_\_\_\_\_

PAGE 3000-116

0552 & 0557

---INDEX PULSE IS MISSING 3 3 0 5 1 2 2 -4 1 2 <u>2</u> 0 5 1 3 4 5 6 7 8 9 0 5 0 V I INDEX PULSE DID NOT OCCUR | 1 2 I 1 3 I | 4 5 | PRESS 'INQ' KEY AND RETRY PROGRAM 0552 | 6 \_\_\_\_\_

## DISK INITIALIZE

0557

A SEEK COMMAND HAS BEEN ATTEMPTED AND TOO LONG A TIME HAS ELAPSED WHILE WAITING FOR SEEK COMPLETE

1 1 2 2 3 3 1234567890 5 0 5 0 5 - 4 0

TIMEOUT HAS OCCURRED WHILE WAITING | 1 | FOR SEEK COMPLETE. 1 2 13 1 1 4 L . - 5 | PRESS 'INQ' KEY AND RETRY PROGRAM 0557 | 6 I ł \_\_\_\_\_

> 09/29/77 P/N 2547690 EC 832050 PEC 830358 PAGE 3000-117

PAGE 3000-118

#### DISK INITIALIZE

0558 & 0559

NO DEFECTIVE SECTORS ARE ALLOWED ON CYLINDER O OR 1. REPLACEMENT OF DISK ENCLOSURE IS NECESSARY IF DEFECTS ARE FOUND ON THESE TRACKS.

A DEFECTIVE SECTOR HAS BEEN FOUND ON | 1 CYLINDER -- CYLINDER ID (0000 OR 0001) APPEARS HERE XXXX<-----NO DEFECTS ARE ALLOWED ON THIS CYL. L t | PRESS 'INQ' KEY AND RETRY PROGRAM 0558 | 6

AN ID CANNOT BE WRITTEN IN A CERTAIN LOCATION. THIS NECESSITATES DISK ENCLOSURE REPLACEMENT

. 23	456	7890	L )	1 5	2 0	2 5		3 0	3 5	4 0	
A	DEF	ECTI	VE	SEC	TOR H	IAS B	EEN	FOUND	ON	-!	1
WH	ІСН	ΑN	ID	CAI	TONN	BE W	RITI	EN,		ļ	2
		RE	GUL	AR (	DR EX	TEND	ED.				3
										ļ	4
											5
PR	ESS	• 1 •	101	KEY	AND	RETR	Y PF	OGRAM	0559		6
	NH	23456 A DEF WHICH PRESS	234567890 A DEFECTI WHICH AN RE	1 234567890 A DEFECTIVE WHICH AN IE REGUL	I I 234567890 5 A DEFECTIVE SEC WHICH AN ID CAN REGULAR ( PRESS 'INQ' KEY	I I 2 234567890 5 0 A DEFECTIVE SECTOR H WHICH AN ID CANNOT REGULAR OR EX PRESS 'INQ' KEY AND	1 1 2 2 234567890 5 0 5 A DEFECTIVE SECTOR HAS B WHICH AN ID CANNOT BE W REGULAR OR EXTEND PRESS 'INQ' KEY AND RETR	1 1 2 2 234567890 5 0 5 A DEFECTIVE SECTOR HAS BEEN WHICH AN ID CANNOT BE WRITT REGULAR OR EXTENDED. PRESS 'INQ' KEY AND RETRY PR	1 1 2 2 3 234567890 5 0 5 0 A DEFECTIVE SECTOR HAS BEEN FOUND WHICH AN ID CANNOT BE WRITTEN, REGULAR OR EXTENDED.	1 1 2 2 3 3 234567890 5 0 5 0 5 A DEFECTIVE SECTOR HAS BEEN FOUND ON WHICH AN ID CANNOT BE WRITTEN, REGULAR OR EXTENDED.	1 1 2 2 3 3 4 234567890 5 0 5 0 5 0 A DEFECTIVE SECTOR HAS BEEN FOUND ON WHICH AN ID CANNOT BE WRITTEN, REGULAR OR EXTENDED.

	09/29/77	P/N 2547690
PAGE 3000-118	EC 832050	PEC 830358

0560 & 0561

AN ID WAS WRITTEN IN THIS SECTOR BUT THE DATA FIELD WAS FOUND TO BE BAD, SO THE ID WAS RE-WRITTEN FLAGGED. THIS FLAGGED ID CANNOT BE READ. RETRY PROGRAM FROM START.

1 5 2 0 2 5 3 4 3 ō 1234567890 5 0 UNABLE TO WRITE FLAGGED ID. ID WAS 1 1 PREVIDUSLY WRITTEN OK IN SAME SECTOR 2 3 ł 4 5 | PRESS 'INQ' KEY AND RETRY PROGRAM 0560 | 6 L 

ERRORS OCCURRING ON WRITE COMMANDS CAN BE SERIOUS PROBLEMS. MAKE NOTE OF THE ERRORS AND PROCEED AT YOUR DISCRETION.

2

	12345	67890	5	0	5	0	5	ō	
ł	ERRO	R DCCUR	RED ON	WRI	TE CO	MMAND.	<b>4. 4. 4. 4.</b>		1
	-> xx	xxxxxx	x		XXX	xxxxx	xx <		
   	-> xx:	*****	x		xx	xxxxxx	xx <	 1	 
i	-> xx	xxxxxx	x		XXX	xxxxx	xx <		i
	PROCI	EED AT	YOUR D	DISCR	ETION			ľ	5
i i	PRESS	S 'ENTE	R' TO	CONT	INUE		05	61	6
     	ANY (	DF THE ARIABLE	DISK E	RROR:	S MAY	BE IN	THE	<sup>1</sup> se	

2

2

FOR DISK STATUS BYTES AND BITS, SEE DISPLAY 0320.

09/29/77		P/N	2547690
EC	832050	PEC	830358

PAGE 3000-119

0562 & 0563

A CONDITION HAS OCCURRED WHICH SHOULD NOT HAPPEN. RE-START THE PROGRAM.

1 1 2 2 3 3 4 1234567890 5 0 5 0 5 0 PROGRAM IS LOADED INCORRECTLY-RELOAD PRESS 'INQ' KEY AND RETRY PROGRAM 0562 6

ALL ID'S HAVE BEEN RE-WRITTEN, ALL DATA FIELDS RE-WRITTEN, AND A LISTING OF THE CYL 2 ID CONTENTS HAS BEEN PRINTED.

1 1 2 2 3 3 4 1234567890 5 0 5 0 5 0 END OF JOB 3 PRESS 'ENTER' TO CONTINUE 0563 6

	09/29/77	P/N 2547690
PAGE 3000-120	EC 832050	PEC 830358

0564 & 0565

ALL ALTERNATE SECTORS HAVE BEEN ASSIGNED. THIS CAN OCCUR DUE TO HARDWARE FAULT, IN WHICH CASE THE DATA SECTORS WITH ASSIGNED ALTERNATES MAY NOT BE BAD. REFER TO SCP OPERATING GUIDE FOR RECOVERY. IF ALL THE SECTORS ARE TRULY DEFECTIVE, DISK ENCLOSURE REPLACEMENT IS NECESSARY.

12345678	1 90	1 5	2 0	2 5	3 0	3 5	4 0
ALL ALT	ERNATE	SEC	TORS	ARE	ASSIG	NED.	i 1
THEY MA	Y HAVE	BEE	N INC	ORRE	CTLY		2
ASSIGNE	D DUE	TO A	HARD	WARE	FAIL	URE.	3
PRESS .	ENTER	TO	RE-WR	ITE	тне і	D'S	4
IGNORIN	G THE	ALTE	RNATE	S AS	SIGNE	D.	15
PRESS	ENTER	TO	CONTI	NUE		056	4 6
							'

AN UNSUCCESSFUL ATTEMPT HAS BEEN MADE TO WRITE AND READ AN EXTENDED ID

1 1234567890	1 5	2 0	2 5	3 0	3 5	4 0
						1
						2
UNABLE TO W	RITE/	READ	EXTEN	IDED ID		3
						4
						5
PRESS 'INQ'	KEY	AND F	RETRY	PROGRA	M 050	65 6
						'

PAGE 3000-121

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000-122

DISK INITIALIZE

0566 & 0567

DURING EXECUTION OF THE INITIALIZE PROGRAM ERRORS OCCURRED WHICH ARE NOT NORMALLY EXPECTED. CRC AND SECTOR CONDITION CHECKS WILL NOT CAUSE THIS HALT.

WILL CONTAIN CURRENT CYL WILL CONTAIN 0, 1 OR 2 2 3 1 3 1 1 2 4 1234567890 5 0 5 1 0 1 5 0 v ERRORS OCCURRED ON CYL OXXX HD X \* ł 1 T ł ----> XXXXXXXXXXX \*\*\*\*\* <-1 1 -> XXXXXXXXXXX \_ XXXXXXXXXX <. Į 1 T ---> XXXXXXXXXX XXXXXXXXXX <-1 1 1 1 | PROCEED AT YOUR DISCRETION 5 1 1 PRESS 'ENTER' TO CONTINUE 0566 | ł ŧ 6 i ł \_ ANY OF THE DISK ERRORS MAY BE IN THESE ١. VARIABLE FIELDS.

FOR 62GV STATUS BYTES AND BITS, SEE DISPLAY 0320.

A FLAG HAS INDICATED THAT THE CONFIGURATION PROGRAM NEEDS TO BE RUN.

	1234567	1 890	1 5	2 0	2 5	3 0	3 5	4 0			
ł				· · · · · · · · · · · · · · · · · · ·					1		
1											
ļ	RUN CONFIG PROGRAM										
ļ									4		
1									5		
	PRESS	•ENTER	к <b>' т</b> о	CONT	INUE		050	67   	6		

		•
	09/29/77	P/N 2547690
PAGE 3000-122	EC 832050	PEC 830358

0568

THIS DISPLAY IS ACTIVE DURING THE EXECUTION OF THIS PROGRAM.

2 2 3 3 4 1 1 0 1234567890 0 5 0 5 5 WRITING ON CYLINDER 1 XXXX<-----۱ 3 L 4 1 5 PROGRAM IS EXECUTING 0568 1 6 Í 

THIS VARIABLE FIELD WILL CONTAIN THE PRESENT - CYLINDER NUMBER (HEX).

## DISK INITIALIZE

0569

THESE DISPLAYS BEGIN THE PROCESS OF INITIALIZING THE 62GV FILE. FOLLOW THE DIRECTIONS TO CONTINUE FROM THIS POINT.

NOTE: THE NEXT THREE DISPLAYS ARE ALL NUMBERED 0569, AND ARE NEEDED TO DISPLAY THE ENTIRE TEXT OF THE MESSAGE. THE FIFTH LINE OF THE FIRST DISPLAY CONTINUES ON THE FIRST LINE OF THE SECOND DISPLAY.

1234	56789	1 1 0 5	2 0	2 5	3 0	3 5	<b>4</b> 0	
>>>	>>>CAI	UTION -	SEVER	E UTI	LITY<	<<<<		1
тніз	PROG	RAM WIL	DEST	ROY A	LL DA	TA ON		2
ТНЕ	DISK	WHILE	REWRIT	ING I	D'S.			3
тне	сизта	DMER MU	ST BE	MADE	AWARE	OF		4
тні	S SITU	JATION.	TO A	TTEMP	т то	SAVE		5
PRES	S 'EN	TER KE	у то с	ONTIN	IUE	056	9	6

PAGE 3000-123

.

123456789	1 1 90 5	2 0	2 5	3 0	3 5	4 0	
DATA, IT	T MUST B	E DUMP	ED TO	DISK	ETTES	•	1
IF YOU	WISH TO	CONTI	NUE W	ітн т	HIS	ļ	2
PROGRAM,	YDU MUS	T CHAN	GE TH	E SET	TING	OF	3
AT LE	EAST ONE	OF TH	E ADD	R/DAT	A	ļ	4
SWITCHES	5 FROM I	TS PRE	SENT	POSIT	ION.	ļ	5
IPRESS 'EN	NTER' KE	у то с	אדאכ	UE	05	69	6

123456	1 57890	1 5	2 .0	2 5	3 0	3 5	4 0	
								.1
F	PLEASE	RETUR	N -AL	L- AD	DR/DA	TA	ļ	2
	SWITC	HES T	0 ZER	O POS	ITION	•		3
								4
								5
PRESS	<b>'</b> ENTER	• KEY	то с	ONTIN	UE	050	69	6
								-

PAGE 3000-124

. . .

• .• .

0570

1 1 2 2 3 3 4 1234567890 5 5 0 0 5 0 INITIALIZE PROGRAM FOR DISK | 1 ENTER TRK., HEAD AND SECTOR NUMBER OF 1 2 A SECTOR WHICH SHOULD BE FLAGGED AS | 3 DEFECTIVE. ENTER END WHEN THROUGH. | 4 5 ICCCCHHSS <----ENTER 0570 6 1-/-/-/-1 iiı 7 1. . 11

I ENTER THE DEFECTIVE TRACK, HEAD, AND SECTOR NUMBERS IN THE POSITIONS SHOWN. ENTER ALL DEFECTIVE SECTORS INDICATED BY THE ANALDISK PROG. AS WELL AS ALL SECTORS LISTED ON THE WHITE (OR GREY) LABEL ON THE D.E. ENTER 'END' IF THERE ARE NO BAD SECTORS OR ALL HAVE BEEN ENTERED. THESE SECTORS WILL BE FLAGGED AS DEFECTIVE AND ALTERNATES ASSIGNED.

PAGE 3000-125

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

62GV ANALYZE PROGRAM (ANALDISK)

FUNCTION MENU

L

1

1\_

.

1234567890	1 5	0	2 5	0	3 5	4	
DISI	K ANA	LYZE	PROGR	AM			1
CHOOSE THE P	UNCT	ION W	нісн	YOU W	ANT		2
THIS PRO	OGRAM	ТО Р	ERFOR	м.			3
1.ANALYZE THE	E ENT	IRE D	ISK.				4
2.REWRITE SEL	ECTE	D ID'	S AND	ZERO	DATA.		5
< SELECT	[ 0 N	•			057	5	6

/\_\_\_ OPTION 1 SHOULD BE SELECTED FIRST TO DETERMINE THE CONDITION OF THE DISK SURFACE.

REWRITE MENU 2 0 2 5 3 5 1 3 4 1234567890 5 0 0 DISK ANALYZE PROGRAM 1 1 ł TRACK REWRITE OPTION 2 1 Ł ENTER TRACK ID AND HEAD NUMBER OF 1 3 Ł TRACK TO BE REWRITTEN, IN HEX. | 4 ---- ENTERING END WILL CAUSE END OF JOB ENTER 'END' WHEN FINISHED. <--->CCCCHH<-- SELECTION 0576 6 DISPLAY. 1\_ 1

ENTER THE TRACK AND HEAD AS PRINTED ON THE ERROR LISTING PRINTED DURING THE ANALYZE FUNCTION.

		09/29/77	P/N	2547690
PAGE	3000-126	EC 8	332050 PEC	830358

62GV ANALYZE PROGRAM

0577 & 0578





1 1234567890	1 5	2 0	2 5	3 0	3 5	4 0	
DIS		LYZE	PROGR	AM			1
TR	ACK R	EWRIT	Е ОРТ	ION			2
TRACK AND I	HEAD	TO WR	ITE <b>,</b>	IN HE	x, IS		3
	xxxx xx <						4
	VE	RIFY		1			5
PRESS ENTER	KEY	то со	NTINU	E	057	78	6

TRACK ID AND HEAD NUMBER SELECTED BY OPERATOR. COMPARE TO ERROR LISTING AND CONTINUE.

1

09/29/77 P/N 2547690 EC 832050 PEC 830358

PAGE 3000-127

62GV ANALYZE PROGRAM

0579 ε 0580

2 1 1 2 3 3 4 1234567890 5 5 0 5 0 0 DISK ANALYZE PROGRAM 1 THIS MESSAGE SHOULD DISPLAY FOLLOWING 2 RECOVERY FROM A PROC CHECK ERROR. | 3 I IF NOT TRUE - PRESS 'INQ' TO END JOB. | 4 1 5 PRESS 'ENTER' TO CONTINUE 0579 | 6 

A SYSTEM RESET & CE START AFTER A PROCESS CHECK DISPLAYS THIS MESSAGE. CONTINUING WILL CAUSE A PRINTOUT OF THE TRACK AND HEAD NUMBER THAT WAS BEING ANALYZED.

END DISPLAY

 1
 1
 2
 2
 3
 3
 4

 1234567890
 5
 0
 5
 0
 5
 0

DISK ANALYZE PROGRAM	1
	2
	3
END OF JOB	4
	5
PRESS ENTER TO CONTINUE 0580	6

PRESSING 'INQ' AT ANY TIME WHILE PROGRAM IS EXECUTING CAUSES THIS DISPLAY.

09/29/77		P/N	2547690
EC	832050	PEC	830358

PAGE 3000-128

(LEFT-HALF) 0581

## 62GV ANALYZE PROGRAM

SURFACE ANALYZE RESULTS PRINTOUT

NOTE: IF NO ERRORS ARE DISCOVERED, AN 'OK MESSAGGE' REPLACES THIS PRINTOUT.

5 2 3 6 1 1 0 0 0 ٥ 0 0 DISK SURFACE ANALYSIS RESULTS 1 TRACK ID ł HEAD ID SECTOR ID ---- READ ID RESULTS ------X X ---EXPECTED CONTROL FIELD ACTUAL CONTROL FIELD ID LSR INCREMENT(S/B 05) ADAPTER CK -Y/N-| NOT READY -Y/N-STATUS BYTES / ï 0 1 2 FFCCCCHHSS FFCCCCHHSS 00 0002 0000020000 010011001D 05 00 00 00 00<--N N 0002 00 01 0000020001 0100160034 05 N N 00 00 00<--1 00 00 00<--1 0011 00 10 000011001D 0200020000 05 N N 62GV ANALSYSIS TEST COMPLETE. IF ERRORS OCCUR ON READ ID OPERATION - NO -READ DATA RESULT/ |≠INCORRECT FIGURES IN →LSR INCREMENT- FIELDS MAY MEAN POTE/ THESE SECTORS MAY NEED TO BE REWRITTEN. |≭REFER TO THE -FRIEND- UTILITY PROGRAM TO READ OR REBU∕ MEANING OF BITS IN STATUS BYTES IS SHOWN IN THE US/ 1 \_SEE DISPLAY 0320

EXAMPLE PRINTOUT: SHOWS 2 SECTORS ON TRACK 2 WHICH HAVE BEEN ASSIGNED AS ALTERNATES, WITH THE ACTUAL CONTROL FIELD SHOWING THE SECTOR ID OF THE DEFECTIVE SECTOR. ALSO SHOWS ONE OF THE DEFECTIVE PRIMARY SECTORS WHICH IS ASSIGNED TO AN ALTERNATE.

## SEE NEXT PAGE FOR RIGHT-HALF

	09/29/77	P/N 2547690
SE 3000-129	EC 832050	PEC 830358
	· · · · · · ·	

PAG

## 62GV ANALYZE PROGRAM

#### (RIGHT=HALF) 0581

SURFACE ANALYZE RESULTS PRINTOUT CONTINUED



ESSOR CHECKS WHILE DOING READ OPERATIONS.

SECTORS.

OTHER APPLICABLE COMMENT ERROR DETECTED - ONE OF THE ERROR COLUMNS, OR THE STATUS BYTES, WILL SHOW OTHER THAN NORMAL RESULTS.

09/29/77		P/N	2547690
EC	832050	PEC	830358

PAGE 3000-130

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STATUS.

S/3 LANGUAGE DIAGNOSTIC SUPERVISOR

0600 \$ 0602

3

4

1

3 1 2 0 0 1 0 0 1 ł | MOUNT DISKETTE DIAGO2 2 | 3 | PRESS 'ENTER' KEY WHEN MOUNTED. 4 5 0600 | 6 1 DISKETTE DIAGO2 CONTAINS ALL S/3 LANGUAGE DIAGNOSTIC PROGRAMS. THIS DISKETTE MUST BE INSERTED TO CONTINUE OPERATION. \_\_\_\_ SEE THE NEXT PAGE FOR IOB AND STATUS BYTE FORMATS. 1 2 3 4 0 0 1 0 0 | ERROR OCCURRED WHILE DOING A 1 1 | 33FD I/O OPERATION. 2

ALL 33FD I/O OPERATIONS ARE BEING DONE THRU \$DI2 MICRO CODE TRANSIENT.

PAGE	3000	)-131
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XR2 POINTS TO THE IOB AND

IOB	PARM LIST	FORMAT	:
	OFF	SET FRO	M XR2
	0,1 2,3 4,5 6	DC DC DC DC	XL2'FILE START CYL,SECTOR' XL2'PRESENT CYL,SECTOR BEING OPERATED ON' XL2'FILE END CYL,SECTOR' XL1' 82 FOR 512 FUNCTIONS '
	7 8,9 10	DC DC DS	ILI' NUMBER OF SECTOR -1' AL2(BUFFER ADDRESS OF A 512 BYTE AREA) XLI' OPERATION CODE' 0 - READ
	11	DC	1 - WRITE XL1' COMPLETION CODE' 0 - AOK 1 - END OF FILE, NO OPERATION DONE 2 - END OF FILE WAS REACHED BEFORE OPERATION COMPLETED. BYTE 12 WILL HAVE THE NUMBER OF SECTORS COMPLETED. 3 - ERROR, BYTE 12 AND 13 WILL CONTAIN TH ERROR CODES.
	12,1	B DS	XL2 DEFINED BY BYTE 11 FOR COMPLETION CODE =3 BYTE 12 STATUS CODE 0 HARDWARE ERROR(SEE SENSE) INFO IN BYTE 12) 1 SECTOR NOT WITHIN FILE LIMITS 2 DATA CHECKS (CRC CHECKS) 3 EXPECTED ADDRESS MARK NOT A DATA AM 4 WRITE ERROR 5 INVALID CYL. OR SECOT 6 UNINITIALIZED TRACK 7 WRONG SECTOR LENGTH EXTE 13 SENESE INEORMATION AS ECULIOUS
			BIT O DISK FAST 1 NOT READY 2 END OF CYLINDER 3 FIRST RECORD NOT FOUND 4 READ OVERRUN 5 UNDEFINED 6 WRITE OVERRUN 7 SERIAL WRITE PARITY CHECK

PAGE 3000-132

09/29/77

# S/3 DIAGNOSTIC SUPERVISOR

0603



EITHER YOU HAVE THE WRONG DISKETTE MOUNTED, OR THE PROGRAM IS NOT CONTAINED ON THE DISKETTE.

	09/29/77	P/N 2547690
PAGE 3000-133	EC 832050	PEC 830358

33FD HEAD ALIGNMENT TEST (HEADALGN)

1 2 3 1 0 0 0 0 \*\*\* 33FD HEAD ALIGNMENT TEST \*\*\*\* 1 2 INSERT MASTER DIAGO2 DISKETTE TO BE | 3 READ 4 5 PRESS 'ENTER' KEY TO CONTINUE 0620 1 6 1

NOTE: PERFORM STATIC HEAD ALIGNMENT AJUSTMENT PRIOR TO RUNNING THIS TEST IF THE DISKETTE OR HEAD HAS BEEN REPLACED.

3 1 2 4 1 0 0 0 Ω \*\*\* 33FD HEAD ALIGNMENT TEST \*\*\*\*\* | 1 PUT A SCRATCH DISKETTE IN DRIVE. 2 WRITING WILL OCCUR IN TRACKS 71-76 | 3 NOTE IT MUST NOT HAVE FLAGGED TRACKS | 4 OR DISKETTE ERROR WILL OCCUR. 1 5 PRESS 'ENTER' KEY TO CONTINUE 0621 | 6 1 

PAGE 3000-134

09/29/77 EC 832050

P/N 2547690 PEC 830358

0622 & 0623



A '-' HERE MEANS THE HEAD IS OFF TOWARD THE CENTER OF THE DISKETTE. 1 2 3 4 1 0 1 0 0 0 \*\*\* 33FD HEAD ALIGNMENT TEST \*\*\*\* | 1 1 2 v THE HEAD ALIGNMENT IS GOOD +.0004 3 4 INQ FOR OPTION MENU 5 ENTER FOR TIMING PRINTOUTS 0623 | 6 

'GOOD' DISPLAYS WHEN THE HEAD IS WITHIN TOLERANCE.

09/29/77		P/N	2547690
EC	832050	PEC	830358

PAGE 3000-135

0624

1 0	2 0	3 0	4 0
	* ERROR *	 ****	****** 1
			·2
INSERT THE	MASTER D	IAGO2 DISKE	TTE. 3
			4
			5
IN SCROLL ST	ATUS/ Y	TO BYPASS ER	R 06245 6
1 1 0	2	3 0	4 0
ISTATUS X'XX	1		1
BIT OFAST		BIT 4READ	OVERUN 2
   1NOT R	EADY	5 N	/A 3
2END C	F CYL	6WRIT	OVERUN 4
3MISSI	NG REC	7WRIT	PARITY 5
IN SCROLL ST	ATUS/'Y' '	TO BYPASS ER	R 06245 6
1 0	2 0	3 0	4 0
STATUS X'XX	ŧ	· · · · · · · · · · · · · · · · · · ·	1
1 NOT READY	IF NO	DISKETTE IN	DRIVE 2
2 MISSING R	EC IF REG	2 175 IS MIS	SING 3
3 READ OVER	UN IF BAD	DISKETTE I	N DRIVE 4
			5
N SCROLL ST	ATUS/'Y' 1	TO BYPASS ER	R 06245 6

PAGE 3000-136

123410000110000111111111111111111111111211111211111211111211111211111321111411111511111611111611111611111711117111181111911



PAGE 3000-137

1

1

1

1 2 3 0 0 0 0 STATUS X'80' \*\*\*\*\* ERROR DOIT RTN \*| 1 BIT 0--MISSING ID 1/5 BIT 4--NO DATA AM 2 1--WRONG TRACK 5--WRONG DATAL 3 2--WRONG SEC SIZE 6-- N/A | 4 7-- N/A | 5 3--NO AM ENTER/SCROLL FOR STATUS 062651 6 1 2 3 4 0 0 0 0 STATUS X'XX' 1 1 BIT O--FAST BIT 4--READ OVERUN 2 1--NOT READY 5-- N/A | 3 6--WRIT OVERUN 4 2--END OF CYL 7--WRIT PARITY 5 3--MISSING REC ENTER/SCROLL FOR STATUS 062651 6 \_\_\_\_ 1 2 4 3 0 0 0 0 STATUS X'XX' 1 1 1 NOT READY IF NO DISKETTE IN DRIVE | 2 3 2 MISSING REC IF REC 1/5 IS MISSING 3 READ OVERUN IF BAD DISKETTE IN DRIVE 4 5

IENTER/SCROLL FOR STATUS

PAGE 3000-138

09/29/77 P/N 2547690 EC 832050 PEC 830358

062651 6

1

0626

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000-139

HEAD ALIGNMENT TEST 0627 & 0628 THIS DISPLAY OCCURS WHEN SOME MEASUREMENTS ARE OUTSDE THE VALID RANGE, AND IS FOLLOWED BY THE NEXT 2 PRINTOUTS. 3 1 2 4 0 0 0 0 1 | **\* \* \*** 33 FD HEAD ALIGNMENT TEST \*\*\*\* | ] 2 ł Ł 3 NOTE: SOME OF THE MEASUREMENTS ARE 4 1 OUTSIDE THE VALID RANGE 5 0627 | 6 1

OPTIONAL PRINTOUT (SEE 0623) OR AUTOMATIC AFTER PREVIOUS DISPLAY.

A TIME OF '.1' MEANS AN ERROR PREVENTED THE MEASUREMENT. VALID READINGS ARE FROM 17.4 TO 33.6

\*\*\*\* \*\*\*\* 33FD HEAD ALIGNMENT TEST 0628 NUMBERS ARE MILLISEC UNTIL HEAD GETS OFF TRACK. TO ELIMINATE ECCENTRICITY IN THE MASTER DISKETTE ROW 2 & 3 ARE STARTED ON SECTOR ONE ROW 2 & 4 ARE STARTED ON SECTOR FIVE ----- MASTER DIAGO2 DISKETTE -----ECCENTRICITY CAUSES TYPICAL VARIATIONS UP TO 2.5 MILLISEC PER COLUMN ---- FORWARD -------- REVERSE -----1-2 2-3 3-0 3-2 0-1 2-1 1-0 0-3 26.0 25.3 25.6 26.1 27.1 24.8 26.7 25.3 27.9 27.9 27.8 27.5 25.7 23.2 25.0 24.0 • 1 26.4 25.6 26.0 • 1 .1 -1 •1 23.0 •1 • 1 - 1 - 1 • 1 .1 .1 ----- AVERAGE -----\_\_\_\_ ---- FORWARD ---------- REVERSE -----1-2 2-3 3-0 3-2 2-1 0-1 1-0 0-3 25.8 19.8 20.0 13.2 13.2 12.0 12.9 12.4 19.7 12.6

		09/29/77		P/N 2547690
PAGE 3000-139	• .	EC	832050	PEC 830358

READING IS STARTED ON STEPPER TRACK O AND SEEK IS ENERGIZED TO MOVE TO STEPPER TRACK 1. WHEN THE DATA BEING READ IS SENSED INCORRECTLY THE TIME ELAPSED IS STORED IN COLUMN 0-1. THIS IS REPEATED FORWARD 1 TO 2, 2 TO 3, AND 3 TO 0, THEN IN REVERSE FROM 3 TO 2, 2 TO 1,1 TO 0 AND 0 TO 3. READING IS DONE TWICE STARTING AT SECTOR ONE AND TWICE AT SECTOR 5 TO COMPENSATE FOR HUB POSITIONING VARIATIONS. AVERAGES ARE CALCULATED AND STORED.

		– sc	RATCH	DISKET	TE -		
	TYPICA	L VARI	ATIONS	ARE			
	0	.8 PER	COLUM	N			
	3	5 FOR	WARD 0	R REVE	RSE		
	2	-0 AVE	FORWA	RD TO	AVE RE	v	
	FOR	WARD -			REV	FRSE -	
0 1	1 2	~~~~	2 0	- <b>-</b>	2 1		
0-1	1-2	2-3	5-0	5-2	2-1	1-0	0-5
·	<b>.</b>				• • •		
25.6	26.6	26.5	25.1	26.5	24.8	26.8	25.7
26.5	26.3	25.7	25.7	26.7	24.6	27.2	25.4
26.4	26.6	26.0	25.6	26.2	24.8	26.9	25.5
25.6	25.9	26.3	25.7	26.7	25.0	27.3	25.4
			AVE	RAGE -			
					PEV	EDSE -	
<u> </u>							0 0
0-1	1-2	2-3	3-0	3-2	2-1	1-0	0-3
<b>.</b>	24.4	2/ 1	25 /	<b>2</b> / F	<b>२</b> / ०		25 5
20.0	20.4	20.1	22.0	20.0	24.0	21.1	22.2
	2	6.0		26.	0		

THE HEAD ALIGNMENT IS +.0036 INCHES

A SCRATCH DISKETTE IS WRITTEN WITH PATTERNS LIKE THOSE ON THE MASTER DISKETTE, THEN THE READ AND SEEK SEQUENCE PROCEEDS. THIS SEQUENCE IS SIMILAR TO THE SEQUENCE USED ON THE MASTER DISKETTE. NO HUB VARIATION CAN OCCUR BETWEEN WRITING AND READING SO READING IS STARTED ON THE SAME SECTOR FOR THESE 4 PASSES. THE AVERAGES ARE THEN USED TO CALCULATE THE HEAD POSITION.

09/29/77		P/N	2547690
EC	832050	PEC	830358

PAGE 3000-140

0629

HEAD ALIGNMENT END DISPLAY

0630

0660



FRIEND PROGRAM - ENTRY MENU (FRIEND)



	00/20/77	D/N 25/7400
DACE 2000-1/1	5723711	P/N 2547890
PAGE 5000-141	EC 852050	PEC 830358

PAGE 3000-142

## FRIEND PROGRAM - MAIN OPTION MENU

0661

(ALSO SEE 62GV FRIEND TEST IN SECTION IV OF THIS GUIDE)

1	1 0	2 0	3 0	4 0	- -
FRIEN	D PROGRAM -	- xxxx <-			DEVICE ID SELECTED
1-BU	ILD CMND T	ABLE	5-SET	OPTIONS	2
2-DU	MP CMND TA	BLE			3
3-EX	ECUTE CMND	TABLE			4
4-SE	T/DUMP DAT	A FIELDS	·		5
_<	CHOOSE OPT:	ION		0661	   6   NOTES:
SUGGESTED	ORDER OF O	TION SEL	ECTION	1.PRESS	'INQ' TO RETURN TO THIS
1 - BUILD	CMND TABLE	E .		MENU I	FROM ANY OPTION.
2 - DUMP	CMND TABLE			2.THE CO	OMMAND TABLE REMAINS AS
4 - SET/D	UMP DATA F	IELDS		SET U	NTIL OPTION 1 IS SELECTED
(FOR R	EAD/WRITE (	DPERATION	IS)	OR WH	EN A NEW DEVICE IS CHOSEN.
5 - SET D	PTIONS			3.THE 2	DATA FIELDS ARE CHANGED
3 - EXECU	TE CMND TAE	BLE		BY OP	TION 4, OR A READ/WRITE
				OP ERA	TION.THE FRIEND SUPERVISOR
				DOES I	NOT PRESET THE FIELDS.



MAXIMUM NUMBER OF ENTRIES IS 10.

DESCRIPTION OF COMMANDS AVAILABLE FOR THE DEVICE. AFTER ENTERING THE SELECTION, FOLLOW THE DIRECTIONS ON EACH MENU AS PER DEVICE COMMANDS.

PAGE 3000-142

FRIEND PROGRAM - CMND TABLE BUILD MENU

0663

2 3 4 1 0 0 0 1 0 FRIEND PROGRAM - XXXX 1 I 2 3 --COMMAND TABLE FILLED--4 5 PRESS 'ENTER' TO CONTINUE 0663 L 6

THIS DISPLAY DESIGNATES THAT 10 CMND ENTRIES HAVE BEEN MADE. PRESSING 'ENTER' TO CONTINUE RETURNS PROGRAM BACK TO MAIN OPTION MENU (0661). OPTION 2 SHOULD NOW BE SELECTED TO PRINT THE COMMAND TABLE FOR VERIFICATION. NOTE: SEE 62GV FRIEND NOTES (IN SECTION IV) FOR COMMAND TABLE NOTES.

FRIEND PROGRAM - EXECUTION DISPLAY 0664 ENGLISH INTERPRETATION OF COMMAND JUST EXECUTED. 2 3 1 0 0 0 0 FRIEND PROGRAM - XXXX <-----DEVICE ID SELECTED 1 ERROR BYTES ... 00 00 00 00 00 00 | 3 THESE LINES DEPEND OTHER BYTES ... 00 00 00 00 00 00 T 4 ON THE RUN TIME OPTIONS SELECTED. <----TYPE D TO DEFINE BITS OR <--/ | 5 -STEP MODE--LOOP ON TABLE--STOP ON ERROR-OR -STOP AT END **I**\*STEP MODE\* ENTER TO CONTINUE<- 0664 6 OF TABLE-

IF YOU TYPE IN 'D', THE BIT MEANINGS OF THE ERROR AND OTHER BYTES ARE DEFINED BY MENU 0666, OR SEE THE NEXT PAGE.

> 09/29/77 P/N 2547690 EC 832050 PEC 830358

PAGE 3000-143

THE FOLLOWING ARE THE MEANINGS OF THE DISK ERROR BYTES.

		BYTE 2
K E E E E RUN E	BIT 0 BIT 1 BIT 2 BIT 3 BIT 4 BIT 5 BIT 6 BIT 7	N/A +DATA UNSAFE N/A +ADAPTER CHECK N/A N/A N/A +PLO OUT OF SYNC
		BYTE 4
ECK E CHECK E T CHECK E E E	BIT 0 BIT 1 BIT 2 BIT 3 BIT 4 BIT 5 BIT 6 BIT 7	N/A +SELECT UNSAFE +WRITE ERROR +BRAKE FAILURE +SERVO UNSAFE N/A N/A +FAST SYNC
SET E	BIT       0         BIT       1         BIT       2         BIT       3         BIT       4         BIT       5         BIT       6         BIT       7	CTRL REG NOT INCRMTD DATA REG NOT INCRMTD RECAL TIME OUT SEEK TIME OUT OP END TIME OUT CONTROL FIELD ERROR SECTOR HIT ERROR UNEXPECTED INTERRUPT
	ς RUN ECK CHECK Γ CHECK	ВІТ 0 ВІТ 1 ВІТ 2 ВІТ 3 ВІТ 4 ВІТ 5 ВІТ 6 ВІТ 6 ВІТ 7 СНЕСК ВІТ 2 ВІТ 3 Г СНЕСК ВІТ 2 ВІТ 3 ВІТ 5 ВІТ 6 ВІТ 3 ВІТ 6 ВІТ 7 ВІТ 1 ВІТ 2 ВІТ 3 ВІТ 3 ВІТ 3 ВІТ 3 ВІТ 3 ВІТ 3 ВІТ 3 ВІТ 3 ВІТ 3 ВІТ 3 ВІТ 4

PAGE 3000-144

/77 P/N 2547690 EC 832050 PEC 830358 09/29/77

THE FOLLOWING ARE THE BIT MEANINGS OF THE OTHER DISK ERROR BYTES:

BYTE 1

811	0	NZA		
BIT	1	N/A		
BIT	2	N/A		
BIT	.3	N/A		
BIT	4	N/A		
BIT	5	-SCAN	EQUAL	HIT
BIT	6	-SCAN	EQUAL	
BIT	7	N/A		

BYTE 3

HIGH BYTE OF ENDING CONTROL REGISTER ADDRESS VALUE.

BYTE 5

HIGH BYTE OF ENDING DATA REGISTER ADDRESS VALUE. BYTE 2

BIT 1 HEAD 1 JIO SET BIT 2 N/A BIT 3 N/A BIT 4 N/A BIT 5 N/A BIT 6 HOME BIT 7 BEHIND HOME	BIT	0	SCAN	HIT .	JIO SE	T
EIT 2 N/A BIT 3 N/A BIT 4 N/A BIT 5 N/A BIT 6 HOME BIT 7 BEHIND HOME	BIT	1	HEAD	1 JI	) SET	
BIT 3 N/A BIT 4 N/A BIT 5 N/A BIT 6 HOME BIT 7 BEHIND HOME	BIT	2	N/A			
BIT 4 N/A BIT 5 N/A BIT 6 HOME BIT 7 BEHIND HOME	BIT	3	N/A			
BIT 5 N/A BIT 6 HOME BIT 7 BEHIND HOME	BIT	4	N/A			
BIT 6 HOME BIT 7 BEHIND HOME	BIT	5	N/A			
BIT 7 BEHIND HOME	BIT	6	HOME			
	BIT	7	BEHIN	D HO	1E	

BYTE 4

LOW BYTE OF ENDING CONTROL REGISTER ADDRESS VALUE.

BYTE 6

LOW BYTE OF ENDING DATA REGISTER ADDRESS VALUE.

PAGE 3000-145

### FRIEND PROGRAM - SCOPE LOOP OPTION MENU

0665

I\_\_\_\_ ENGLISH INTERPRETATION OF COMMAND BEING EXECUTED. 1 2 3 4 1 0 0 0 0 FRIEND PROGRAM - XXXX <----DEVICE ID SELECTED 3 ---- TIGHT SCOPE LOOP OPTION -----4 5 0665 I 6 1

THIS MENU IS DISPLAYED WHILE THE PROGRAM IS LODPING ON THE SELECTED COMMAND. THIS IS A TIGHT PROGRAM LOOP (MINIMUM PROGRAM OVERHEAD) FOR SCOPING PURPOSES.

TO SET UP FOR SCOPING, DO THE FOLLOWING:

1 - SET ADDRESS SWITCHES TO -0060-

2 - SET -STOR SEL- SWITCH TO CONTROL STORE (CTL)

3 - CONNECT SYNC LEAD TO AA1-J2-D12 (-ADRS COMPARE SYNC)

4 - CONNECT THE SCOPE PROBE TO DESIRED SIGNAL

THE PURPOSE OF SETTING THE ADDRESS SWITCHES IS THAT JUST BEFORE THE ACTUAL TEST IS STARTED, THE PROGRAM BRANCHES TO THIS LOCATION TO PROVIDE A 'SYNC POINT' FOR SCOPING PURPOSES. THIS TECHNIQUE REDUCES THE NUMBER OF INSTRUCTIONS IN THE LOOP AND ALLOWS FOR A MORE STABLE SCOPE TRACE.

PAGE 3000-146

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000-147

0666

FRIEND PROGRAM - BYTE MEANING DISPLAYS

BYTE ID (ERROR OR OTHER) BYTE NUMBER IN SEQUENCE 2 4 1 3 ł 1 0 0 0 0 -->XXXXX BYTE #X 00 00 00 00 00 00 <---- VALUE OF ALL 6 BYTES L AFTER LAST COMMAND. SCROLL OR ENTER TO CONTINUE 0666S. 6 1 

I----DEFINITION OF CURRENT BYTE BEING DISPLAYED

USE SCROLL KEYS TO SCAN FORWARD/BACKWARD FOR INTERPRETATION OF OTHER BYTES.

PRESS 'ENTER' TO RETURN TO EXECUTION OF NEXT COMMAND IN CMND TABLE.

FRIEND PROGRAM - M/S DATA FIELD SET

İ.

0667

THIS MENU ALLOWS M/S DATA FIELDS (512 BYTES IN LENGTH) TO BE PRESET TO A DESIRED PATTERN.

1	1 0	2 0 .	3 0	:	4 0			
FRIEND P	ROGRAM -	xxxx <				DEVICE	ID	SELECTED
CHOOSE C	PTION				ļ	2		
1-PRESE	T M/S DAT	A FIELD 1			ļ	3		
2-PRESE	T M/S DAT	A FIELD 2	!.		ļ	4		
 ->3-DUMP	DATA FIEL	DS			į	5		
< I	NPUT			0667	7	6		
					···· ,			

\_\_\_OPTION 3 WILL PROVIDE A PRINTED OUTPUT OF THE TWO FIELDS.

	09/29/7	77	P/N 2547690
PAGE 3000-147		EC 832050	PEC 830358

FRIEND PROGRAM - M/S DATA FIELD SET 0668 1 2 3 4 0 1 n 0 0 IFRIEND PROGRAM - XXXX <-----DEVICE ID SELECTED I. 1 2 L CHOOSE 4-DIGIT HEX WORD TO BE TEST ٦ PATTERN FOR DATA FIELD. 4 5 L --> XXXX <----INPUT PATTERN 0668 6 1 ۱\_\_ L

-- ENTER A VALID 4-DIGIT HEX TEST PATTERN THAT YOU WOULD WANT REPEATED THROUGHOUT THE 512-BYTE DATA FIELD.

FRIEND PROGRAM - RUN TIME OPTION SELECTION

0669

1	0	2 3 0 0	,	4 0	
FRIEND	PROGRAM - X	xxx <		DEVICE	ID SELECTED
CHOOSE 1	RUN TIME OP	TION(S)		2	
1-STOP	ON ERROR	4-SCOPE LOO	P	3	
2-STEP	MODE	5-TIME DELA	Y	4	•
3-LOOP	ON TABLE			5	
1	<inpu< td=""><td>г</td><td>0669</td><td>6</td><td></td></inpu<>	г	0669	6	
I				1	

TO SELECT ONE OR MORE OPTIONS, TYPE IN THE CORRESPONDING NUMBER(S). IF YOU DO NOT TYPE IN A NUMBER, THE OPPOSITE OPTION IS ASSUMED. ) NUL ... EXAMPLE: 5 <---INPUT

THE PROGRAM WILL LOOP ON THE TABLE, CHECK DATA SWITCHES FOR TIME DELAY BETWEEN COMMANDS, NOT STOP ON ERROR, NOT STEP THROUGH THE TABLE AND NOT HAVE SCOPE LOOP. OPTION 5 CAUSES THE PROGRAM TO USE THE 4 DATA SWITCHES AS A VALUE TO DELAY THAT MANY MILLISECS BETWEEN COMMANDS. SEPARATE OPTION SELCTIONS WITH COMMA'S.

di en en e

PAGE 3000-148

FRIEND PROGRAM CMND TABLE PRINTOUT 0670 1 1 DEVICE ID SELECTED\_ 1 1 1 2 2 / З 2 3 3 1 ••••1 2 1234567890 0 5 0 2 5 0 5/ 0 ....5 FRIEND COMMAND TABLE - XXXX 1 06701 ENTRY COMMAND --> 1 XXXXXXXXXXXXXXXXX/ XXXXXXXXXXXXXXXX/ 11--> 2 |--> 3 XXXXXXXXXXXXXXXX/ 1--> 4 XXXXXXXXXXXXX/ I 11--> 5 XXXXXXXXXXXXX/ 11--> 6 XXXXXXXXXXX/ 11--> 7 XXXXXXXXXX/ 11--> 8 XXXXXXXXX/ 11--> 9 XXXXXXXX/ ||-->10 XXXXXXXX/ ---- END OF TABLE-I.

--- LIST OF COMMANDS CURRENTLY STORED IN CMND TABLE.

NOTE: THIS WILL REMAIN UNCHANGED UNLESS A NEW TABLE IS BUILT OR THE SELECT A DEVICE MENU (0660) IS RE-DISPLAYED.

FRIEND PROGRAM - M/S FIELD PRINTOUT

0675

M/S

	1	1 2	2	3	1	1 2	1 2	$\begin{array}{c}1 \\ 3 \\ \end{array}$	
12345	67890	5 0	5	U	5	0	5	02	
M/S D	ATA FIEL	D 1 100	0 - 1	1FF /	/			06751	
1				/	1				
WR1=X	XXX WRZ	=XXXX WF	3=XXX	×,/ ,	/			1	
1				/ /				1	
I XXXX	XXXXXXX	X XXXXX	XX X	/ ·/X	XXXXXX	XXX	XXXXX	1	
I XXXX	XXXXXXX	x xxxxx	(XX /	/XX	XXXXXX	XXX	XXXXX	. 1	
XXXX	XXXXXXX	X XXXXX	XX /	/ X X X	XXXXXX	XXX	XXXXX	1	
11	. 1	1 I	1	11		1		1	
1							CURRE	ENT CON	ITENTS OF
A	DDRESSES								

NOTE: THE ADDRESSES OF THE DATA FIELDS ARE PRINTED AT THE TOP. YOU COULD USE THE ALTER/DISPLAY STORAGE PROGRAM TO CHANGE THE DATA FIELDS TO ANY MIXED PATTERN DESIRED. THE 2 DATA FIELDS ARE ONLY CHANGED BY THE PRESET M/S FIELD OPTION OR BY A DEVICE OPERATION. THE 2 DATA FIELDS ARE NOT PRESET BY THE FRIEND PROGRAM

PAGE 3000-149

MDI TU TEST SELECT PROGRAM (TUSELCT)

2 3 1 Ó 1 0 0 0 MDI TU TEST SELECT PROGRAM | 1 1. XXXXXXXX 5. XXXXXXXX 2 1 2. XXXXXXXX 6. XXXXXXXX 3 3. XXXXXXXX 7. XXXXXXXX 4 4 . . XXXXXXXX 8. XXXXXXXX 5 L <---SELECT A DEVICE 0676 6 1 ۱ 

THIS MENU DISPLAYS ALL THE DEVICES THAT HAVE MDI MAP PROGRAMS WHICH CONTAIN INDIVIDUAL TU TESTS.

2 1 3 4 1 0 0 0 0 MDI TU TEST SELECT PROGRAM | 1 REFER TO THE DIAGNOSTIC USER'S GUIDE İ 2 - MDI TU TEST LISTING -| 3 AND ENTER MDI TU TEST ID TO EXERCISE 1 4 5 TUXX <-----0677 | 6 1 I 

PAGE 3000-150

09/29/77 EC 832050 PEC 830358

P/N 2547690
MDI TU TEST SELECT PROGRAM

0678 & 0679



WILL BE DISPLAYED ON LINE 6.

PAGE 3000-151

# MDI TU TEST SELECT PROGRAM

0680 2 0681

1 2 3 4 0 1 0 0 0 MDI TU TEST SELECT PROGRAM | 1 2 1 1 TU DOES NOT EXIST ON THIS DISKETTE 3 1 4 Ł 5 ł PRESS 'ENTER' KEY TO CONTINUE 0680 | 6 I 1 THE TU TEST SELECTED IS EITHER INVALID OR THE DISKETTE DOES NOT CONTAIN IT. ,

1	1 0		2 0	3 0	4 0	•
MDI	TU TEST	SELECT	PROGRAM			1
   						2
   L O A (	DISKET	TE CONT	AINING			3
DIAC	SNOSTIC :	SUPPORT				4
						5
PRES	SS 'ENTER	R' KEY	TO CONTI	NUE	0681	6

THE DEVICE SELECTED IS DEFINED AS A FEATURE. LOAD THE DISKETTE CONTAINING THAT DEVICE'S SUPPORT.

PAGE 3000-152

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000-153

MDI TU TEST SELECT PROGRAM

0682

1 2 3 4 1 0 0 0 0 MDI TU TEST SELECT PROGRAM 1 1 2 NO PROGRAMS AVAILABLE ON THIS DISKETTE | 3 4 5 PRESS 'ENTER' KEY TO CONTINUE 0682 | 6 .

THE MDI MAP PROGRAMS ARE NOT ON THIS DISKETTE. LOAD THE CORRECT DISKETTE CONTAINING THE SUPPORT.

33FD FREE LANCE SUPPORT

1

0690-0693

 1

 FOR DISPLAY ID'S 0690 - 0693 SEE
 2

 DIAGNOSTIC USER'S GUIDE
 3

 33FD FREELANCE SUPPORT SECTION.
 4

 5
 0690 - 0693
 6

33FD FREELANCE SUPPORT IS IN SECTION IV OF THIS GUIDE.

	09/29/77		P/N 2547690
53	 _ EC	832050	PEC 830358

PAGE 3000-153

### SYSTEM TEST MAIN MENU (SYSTST)

0700

THIS DISPLAY OCCURS AFTER THE SYSTEM TEST HAS BEEN LOADED. IT WILL STAY ON THE SCREEN FOR ABOUT 5 SECONDS,



/\_\_\_ ENTER ANY OF THE 5 SELECTIONS HERE.(BLANK IS A NO-OP) APPROPRIATE DISPLAYS WILL OCCUR FOR EACH OPTION SELECTED. THEY ARE ALL DESCRIBED ON THE FOLLOWING PAGES. SELECTING OPTION 5 TERMINATES THE TEST AND RETURNS TO SCP MAIN MENU.

\*NOTE-'PRINT' 'PAGE' & 'SPACE' FUNCTIONS OF KEYBOARD ARE AVAILABLE ANYTIME DURING TEST. THE DISPLAY WILL NOT FLASH IF A KEYBOARD ERROR OCCURS.

PAGE 3000-154

0701

SYSTEM TEST SELECT OR ACTIVATE DEVICE (OPTION 1)

TO SELECT 1 OR MORE DEVICES TO RUN DURING SYSTEM TEST EXECUTION. (SEE THE NOTE AT THE BOTTOM OF THIS PAGE).



NOTES: 1. THE 33FD CANNOT BE RUN WITH ANY OF THE FOLLOWING DEVICES: BSCA/SDLC, DATA RECORDER, 1255, OR MAG CARD UNIT. THESE DEVICES AND THE 33FD USE THE SAME CONTROL STORAGE TRANSIENT AREA, SO THEY ARE MUTUALLY EXCLUSIVE. CONSEQUENTLY,YOU CANNOT ENTER 'A' TO RUN ALL DEVICES IF YOU HAVE ANY OF THESE FEATURE DEVICES. THE 33FD CAN BE RUN WITH THE DISK. IF THE 33FD IS ACTIVE, NO OTHER DEVICE CAN BE ACTIVATED UNTIL YOU DE-SELECT THE 33FD.

2. DO NOT USE 'ALL' IF YOUR SYSTEM HAS A 1255. IF THE KEYBOARD AND THE 1255 ARE ACTIVATED AT THE SAME TIME, UNPREDICTABLE RESULTS WILL OCCUR.

3. IF YOU TRY TO OPERATE THE 1255 WHILE THE BELT PRINTER IS RUNNING IN 8 LPI MODE YOU MAY GET STACKER COMMAND ERRORS.

PAGE 3000-155

### SYSTEM TEST RUN (OPTION 2)

0702

THIS OPTION STARTS EXECUTION OF THE SELECTED DEVICES. THE KEYBOARD MODULE USES THE CRT DURING EXECUTION. IF THE KEYBOARD MODULE IS NOT SELECTED FOR EXECUTION, THEN THIS DISPLAY APPEARS WHILE SYSTEM TEST IS RUNNING.



ENTERING A 'O' HERE CONTINUES EXECUTING THE TEST. ENTERING A '1' HERE RETURNS TO THE SYSTEM TEST MAIN MENU.

WHEN BSCA OR SDLC IS SELECTED, ALLOW ADEQUATE TIME (5 SECONDS) FOR THE TEST TO COMPLETE BEFORE ENTERING OPTION 2.

09/29/77 P/N 2547690 EC 832050 PEC 830358

PAGE 3000-156

0703

SCAN RESULTS OF SYSTEM TEST (OPTION 3) PRESSING 'ENTER' RETURNS TO SYSTEM TEST MAIN MENU.



PAGE 3000-157

SYSTEM TEST DE-SELECT (OPTION 4) 0704 ε 0705 THIS OPTION IS USED TO TERMINATE ONE OR MORE SYSTEM TEST MODULES.

	1	1 0	2   0   V	 3  0  V	   4   0 		_ ALL COLUMNS REPRESENT SAME DATA AS ON '0703'DISPLAY
	QUEU	- DESELECT	DEVICES O	NE AT A	TIME	1	
	1 A	KEYBOARD	1500	00F0	0000	2	
	2	62GV	0000	0000	0000	3	
	3	33FD	0000	0000	0000	4	
	4_X	PRINTER	0000	0000	0000	5	
	/  / -<- /-/	-ENTER ONE N	JMBER		07045	 <	- SCROLLABLE IF MORE THAN 4 TEST MODULES
/ .   	/6 'A' IS EXE	ENTER IN THI MODULE TO BE IN THIS PO ACTIVE. AN ECUTED. THIS	S POSITION DE-SELECT SITION OF S' MEANS CHARACTER	THE NUI ED. A LINE I IT WAS S CHANGES	MBER OF INDICATI SELECTEI S TO A	THE ES T BU T	THE MODULE JT NEVER WHEN DE-SELECTED.
	1	1 0	2 0	3 0	4 0		
		200				1	
	1					2	
	1					3	
	ND DE	VICES ARE AG	TIVE			4	×
	1					5	
:					0705	6	

THIS DISPLAY OCCURS IF OPTION 2 IS TAKEN WITH NO DEVICES SELECTED. THIS DISPLAY IS VISIBLE FOR 5 SECONDS BEFORE RETURNING TO MAIN MENU.

PAGE 3000-158

09/29/77 29/77 P/N 2547690 EC 832050 PEC 830358

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and the second

SYSTEM TEST ERROR

0706 & 0707



THIS ERROR DISPLAY OCCURS DURING SYSTEM TEST START UP IF NO CONFIGURATION DATA CAN BE FOUND.



THIS ERROR DISPLAY OCCURS DURING SYSTEM TEST IF NO MORE STORAGE IS AVAILABLE TO LOAD ANOTHER DEVICE MODULE. SOLUTION IS TO RUN WITH FEWER MODULES.

•			
09/29/77		P/N	2547690
EC	832050	PEC	830358

PAGE 3000-159

3

### SYSTEM TEST KEYBOARD MODULE

0710

1 2 1 0 0 0 0 ALL DATA KEYS ARE DISPLAYED ON LINE SIX. 1 THESE FUNCTION KEYS : INQ, ERROR, 2 ALL CURSOR POSITION AND PRINTER CONTROL | 3 KEYS ARE HANDLED. THE REST ARE NO-OPED. | 4 SCREEN IS ROLLED UP WHEN LINE 6 IS FULL. 5 0710 | 6 1

### SYSTEM TEST 62GV MODULE

P

THIS DISPLAYS IF A 62GV ERROR OCCURS

THIS FIELD WILL CONTAIN A COMMAND FROM THIS LIST SCAN EQUAL 3 SCAN HIGH 1 2 4 SCAN LOW SCAN INVAL 0 0 0 1 0 AN ERROR OCCURRED ON THE 162GV , READ DATA ł 1 I WHILE DOING A XXXXXXXXX <-2 ۱ AND CHECKING XXXXXXXXX XXXXXXX <----L ON RELATIVE SECTOR # XXXX 4 l 1 1 5 L 0720 ł 6 THIS IS A DECIMAL NUMBER BETWEEN 1 AND 20100

THIS FIELD WILL CONTAIN 'FOR SCAN HIT' OR 'FOR SCAN NOT HIT' ON A SCAN COMMAND. ON A READ DATA COMMAND IT WILL CONTAIN, 'DATA FOR 55' OR 'DATA FOR AA'

			09/29/77		P/N 2547690	
AGE	3000-160		EC	832050	PEC_830358	

0720

### SYSTEM TEST 33FD TEST

0730

THIS DISPLAY OCCURS BEFORE THE 33FD SYSTEM TEST MODULE EXECUTES ANY I/O OPERATIONS. THE PROGRAM ASSUMES THAT AN SCP INITIALIZED SCRATCH DISKETTE HAS BEEN INSTALLED WHEN THE ENTER KEY IS PRESSED.



PAGE 3000-161

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

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PAGE 3000-162

ERAP MENU (ERAP)

0801

THIS DISPLAY SHOWS THE DEVICES FOR WHICH AN ERAP PRINT IS AVAILABLE. THE DEVICE ERROR COUNTERS AND TABLES ARE RESET AFTER ERAP PRINTS THE RECORDED DATA FOR THE SELECTED DEVICES.

		1		2	3	4	IF THE SYSTEM INCLUDES
	1	0		0	0	0	MORE THAN 9 DEVICES
							WHICH HAVE AN ERAP
	IENII	ER ERAP SE	LEU	TUNS	LIKE	1,3,4	THIS DISPLAY BECOMES
	END	TO STOP		,MOD TO	MODIFY SI	O CTRSI :	2 SCROLLABLE WITH THE
	1					1	3 DEVICE NAME LINES
	1	KEYBOARD	2	PRINTER	3 62GV		3 ROLLING UP OR DOWN.
	4	33FD	5	CPU	6 XXXX	xxxx	4
	7	xxxxxxx	8	*****	9 XXXX	xxxx	5
:	 > S E L E 1	ECTION ALL				0801S<	
	<u>ا</u>					I	

ALLOWED ENTRIES ARE: 'ALL' - DEFAULT 'END' - TERMINATES THE PROGRAM, AND RETURNS TO SYSTEM CONTROL.

'END' - TERMINATES THE PROGRAM, AND RETURNS TO SYSTEM CONTROL.
'X,XX,...'- NUMBER(S) OF 1 OR MORE DEVICES ATTACHED.
'MOD' - AFTER DEVICES ARE SELECTED,GIVES YOU THE OPPORTUNITY TO
CHANGE THE SIO COUNTERS FOR THE SELECTED DEVICE(S). THIS IS
THE ONLY WAY SIO COUNTERS CAN BE CHANGED. IF YOU ZERO THE
SIO COUNTERS FOR A DEVICE, RUN AN ERAP PRINTOUT TO ZERO
ERROR COUNTERS AND THE ERROR HISTORY COUNTERS ALSO.

NOTES:

1. IF AN INVALID INPUT IS ENTERED ALL INPUT IS IGNORED AND THIS DISPLAY IS REPEATED.

2. SEE SYSTEM LOGIC MANUAL (SY21-0567) FOR TYPES OF ERRORS RECORDED FOR EACH SELECTION. FOR. INFORMATION ON THE

PAGE 3000-162

### ERAP DIRECTORY ERROR

0802

THE DIRECTORY TO THE ERROR RECORDING TABLES DID NOT CONTAIN AN ENTRY FOR THE DEVICE WHICH WAS SELECTED. THE MOST PROBABLE CAUSE OF THIS ERROR IS THAT SOME PROGRAM HAS INCORRECTLY MODIFIED OR WRITTEN OVER THE DIRECTORY. RESTORE THE SYSTEM TO CORRECT THE DIRECTORY. 1 2 3 4

	1	0	0	0	0	
ļ						1
1	THE ERT	DIRECTORY	DOES NO	T CONTAI	N	2
1	AN ENTR'	Y FOR THIS	DEVICE		1	3
1						4
1	PRESS E	NTER TO TER	RMINATE	ERAP		5
1					0802	6
ł						

PAGE 3000-163

SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000-164

0803

### ERAP SID COUNTER(S) MODIFY/DISPLAY

THIS DISPLAY SHOWS THE CURRENT CONTENTS OF THE SIO COUNTERS FOR A DEVICE. THE NUMBERS SHOWN CAN BE CHANGED. WHEN THE ENTER KEY IS PRESSED THE NUMBERS SHOWN WILL BE RETURNED TO THE SIO COUNTERS.

\_\_\_\_ INITIAL CURSOR POSITION NAME IS FROM UDT\_ L 13 2 4 1 0 1 0 0 10 1 E ISIO COUNTERS FOR XXXX 1 L ν NUMBER OF XXXX , XXXXX X .\_ X X X. PERIODS ARE USED TO < 1 MARK ALLOWED FIELDS 1 -->NUMBER OF XXXXXX XXX XXX .XX XXXX X. 3 FOR NUMBERS NUMBER OF XXXXX x x. 4 5 PRESS ENTER TO STORE CHANGES 0803 6

TITLES ARE THE SAME AS THOSE APPEARING ON A NORMAL ERAP PRINTOUT. A TITLE WHICH IS TOO LONG IS TRUNCATED.

# ERAP/ERT COMPATIBILITY ERROR

I

0804

THIS WILL BE THE NAME OF THE DEVICE THAT IS INCOMPATIBLE.

2 1 3 4 1/ 0 0 0 0 XXXXXXXX ERAP AND ERR RECORDING TABLES 1 ARE INCOMPATIBLE. THIS ERAP RELEASE WILL! 2 RUN WITH ERT V XX L XX. <-----4 THIS LINE CONTAINS ERT ON THIS SYSTEM IS V XX L XX. THE VERSION AND LEVEL OF THE ERROR RECORD-5 1 ł ING TABLE THAT THIS |PRESS 'ENTER' TO RETURN TO MENU.| 0804 ERAP MODULE WILL RUN WITH.

THIS LINE CONTAINS THE VERSION AND LEVEL OF THE ERROR RECORDING TABLE FOR THIS DEVICE ON THE SCP INSTALLED.

		09/29/77		P/N	2547690
PAGE 3000-164	•	EC	832050	PEC	830358

### III. PROGRAM DESCRIPTIONS:

MDI (MAP-DIAGNOSTIC INTEGRATION) IS A METHOD OF MERGING DIAGNOSTIC TESTS WITH A MAP CHART INTO A SINGLE 'PROGRAM'. THIS 'PROGRAM' IS BUILT TO REPRESENT THE LOGICAL FLOW OF THE MAP CHART AND ALSO CONTAINS THE ACTUAL MICRO CODE TESTS. AT EXECUTION TIME, THE MDI SUPERVISOR FOLLOWS THE LOGIC FLOW OF THE MAP CHART BY DETERMINING YES/NO DECISIONS. THESE YES/NO DECISIONS ARE MADE BY EITHER ANALYZING THE RESULTS FROM EXECUTING THE SMALL DIAGNOSTIC TESTS (TU TESTS), OR ACCEPTING A 'Y' OR 'N' RESPONSE FROM YOU TO A MAP CHART QUESTION.

UNDER NORMAL CONDITIONS, THE MDI PROGRAMS ARE EXECUTED IN AN AUTOMATIC MODE. THAT IS, EACH TU TEST IS EXECUTED AND ITS RESULTS ANALYZED WITHOUT CE INTERVENTION, UP TO THE POINT WHERE THE PROGRAM CANNOT CONTINUE WITHOUT SOME EXTERNAL ACTION.

THE MDI PROGRAMS CAN BE EXECUTED IN A FREELANCE MODE BY SETTING THE MODE SELECTOR SWITCH TO 'SYS INSN STEP'. THE FOLLOWING DISPLAY IS PRESENTED BEFORE EXECUTING THE MDI PROGRAM:

### DIAGNOSTIC PROGRAM MAIN MENU

1

0307

	1	1 0	2 0	3 0	4 0	
1	!					1
	ENTER EN	ITRY NUM	BER.			2
	1					3
1 _`	+ ->xxxxxxxx	<c< td=""><td>URRENT M</td><td>AP ID</td><td></td><td>4</td></c<>	URRENT M	AP ID		4
						5
	 ->1	<n< td=""><td>EXT ENTR</td><td>Y NUMBER</td><td>0307</td><td>6</td></n<>	EXT ENTR	Y NUMBER	0307	6
						-

\_\_\_\_MAP NAME REQUESTED IN MAIN MENU (0304)

\_\_\_\_\_ENTER IN THESE POSITIONS THE ENTRY NUMBER (1 - 256) ON THE MAP CHART. (DEFAULTS TO 1)

THE ENTRY NUMBER IS THE 3 DIGIT ID AT EACH POINT IN A MDI MAP CHART. YOU NEED TO REFER TO THE HARD COPY MAP CHART. THIS DISPLAY ALLOWS PROGRAM TO GO TO ANY POINT IN THE MDI MAP CHART.

PAGE 3000-165

### DIAGNOSTIC OPTION MENU(S)

0308

3 4 1 2 0 1 0 0 0 | SELECT OPTIONS. 1 0. NO OPTIONS 2 1. STOP BEFORE GIVING ROUTINE CONTROL 3 2. DISPLAY ROUTINE RESULTS 4 3. LOOP ON ROUTINE 5 --> X,X,X <---SELECTIONS 03085 <---1 1 1 \_\_\_\_\_ 1 \_\_\_\_ENTER ANY OPTION NUMBERS FROM ABOVE LIST. SEPARATE WITH COMMAS IF MORE THAN 1. OPTIONS 0 AND 1 ARE MUTUALLY EXCLUSIVE. ł ł 2 3 1 4 0 0 1 0 0 | SELECT OPTIONS. | 1 4. LOOP UNTIL NO DECISION 2 5. LOOP UNTIL YES DECISION 3 6. STOP AT FIRST NO DECISION 7. STOP AT FIRST YES DECISION 5 1 1 > X,X,X <---SELECTIONS 03085 < I

#### THESE ARE SCROLLABLE DISPLAYS. -----

TO 'STEP' THROUGH THE MDI MAP, SELECT OPTIONS 1 AND 2. THIS CAUSES THE TEST DESCRIPTION TO BE DISPLAYED BEFORE THE TEST IS EXECUTED AND ALSO DISPLAYS THE TEST RESULTS AND HOW THE MAP CHART IS ANALYZING THE RESULTS AFTER THE TEST IS EXECUTED.

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09/29/77	P/N 2547690
EC 832050	PEC 830358

PAGE 3000-166

# DIAGNOSTIC MDI DISPLAYS

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0001 THRU 0255

THIS DISPLAY IS ALSO SHOWN WHEN ONE OF THE LOOP OPTIONS IS SELECTED. THIS WILL ALLOW VISUAL ANALYSIS OF ANY CHANGING RESULTS. NOTE OPTIONS 4-7. THESE CAN BE USED TO 'TRAP' INTERMITTENT FAILURES BY LOOPING ON A TU TEST UNTIL THE RESULTS CHANGE. WHEN THE TEST STOPS, THE CHANGED RESULTS REMAIN DISPLAYED.

ENGLISH HEADING DESCRIBING TU TEST TYPE OF COMPARE THAT MAP IS CHECKING 1 3 4 2 1 0 0 0 0 / AGAINST THE TEST RESULTS 1 1 1 RESULTS THAT MAP IS 2 **ICOMPARE TYPE** XXXXXXXX <----11 CHECKING FOR COMPARE FIELD XXXXXXXX <-----RESULTS PASSED FROM TEST 1 NAME OF MDI MAP **IRECEIVED RESULT** XXXXXXXX <-----BEING TESTED ł DECISION XXX<--XXXXXXXX<· 1 MAP CHART PRESS 'ENTER' KEY TO CONTINUE TUXX NNN<---- REFERENCE NUMBER i Ι. TUID OF TEST YES/NO DECISION OF MAP 1

THE FOLLOWING TWO DISPLAYS CORRESPOND TO DISPLAYS 0307 AND 0308, BUT ARE USED FOR THE KEYBOARD MDI TESTS. NOTE THE USE OF DATA SWITCHES AND START KEY RATHER THAN THE 'Y', 'N' AND 'ENTER' KEYS.



1\_\_\_TO SELECT ENTRY NUMBER: SET DATA SWITCH 1 TO 0 AND THEN SET THE ENTRY, IN DECIMAL, IN DATA SWITCHES 2,3,AND 4 AND PRESS START.

	09/29/77	P/N 2547690
AGE 3000-167	EC 832050	PEC 830358

# SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

# DIAGNOSTIC OPTION MENU(S) (KEYBOARD)

. • .

0322

	1	1 0	2 0	3 0	4 0	
- -	SELE	CT OPTION	S.			1
	00 1	O OPTIONS				2
	80 S	TOP BEFOR	E GIVING R	OUTINE CONT	ROL	3
	40 C	ISPLAY RO	UTINE RESU	LTS		4
	20 L	OOP ON RO	UTINE			5
	-> <-	SELECT	THRU DATA	SWITCHES O	322S <	
						. 1
   · · · 	TO S Posi	CROLL THI	S DISPLAY: AND PRESS	PLACE DATA START' KEY	SWITC	H 1 AT
i i	-TO I	NPUT SELE	CTION(S):	ADD (HEXIDE	CIMAL)	THE I
i I	VALU	ES OF THE	OPTIONS S	ELECTED TOG SWITCHES 3	ETHER & 4,	AND I PLACE I
	DATA STA	SWITCH 1 RT' KEY.	IN POSITI	ON '0', AND	PRESS	THE I
	•	1	2	3	4	1
	1	0	0	0	0	
	SELE	CT OPTION:	5.			1
	10 L	OOP UNTIL	NO DECISIO	NC	i	2
	08 L	OOP UNTIL	YES DECIS	ION		3
	04 S	TOP AT FI	ST NO DECI	ISION	i	4
	02 S	TOP AT FI	RST YES DEC	CISION	ļ	5
 	> <-	SELECT	THRU DATA	SWITCHES 0	3225 <	
•						

PAGE 3000-168

# 1. MDI-MAP TU TEST LISTING (ALL DEVICES)

THE FOLLOWING TU TESTS ARE IMBEDDED IN THE MDI-MAP DIAGNOSTICS FOR EACH DEVICE.(FOR FEATURE DEVICES, SEE THAT FEATURE SERVICE GUIDE) EACH TEST CAN BE CALLED INDIVIDUALLY BY USING THE -TUSELCT-PROGRAM. \*\*\*\*\* SEE CAUTION BELOW \*\*\*\*\*

<u>IU</u> TUO1 TUO2 TUO3 TUO4	33FD	<u>DESCRIPTION</u> STEP MODE READ TEST STEP MODE CE WRITE TEST READY/SPEED TEST SEEK/READ ID TEST	
TU05		WRITE TEST (USE SCRATCH DISKETTE)	
<b>~</b>	62GV		
TUO1		READ ID STEP MODE TEST	
TU02		WRITE DATA STEP MODE TEST	
TU03		READ DATA STEP MODE TEST	CAUTION:
TU04		INITIAL ADAPTER CHECK OUT	THE TU TESTS ARE
TU05		BASIC 62GV INTERRUPT TEST	DESIGNED TO RUN IN
TU06		DATA BUFFER LOAD/SENSE TEST	SEQUENCE AS CALLED
TU07		DIAGNOSTIC MODE SET/RESET	BY THE MAPS.
TUO8		INTERRUPT REQUEST TEST	RANDOM SELECTION OF
1009		SECTURATINDEX SETARESET TEST	IU IESIS CAN LAUSE
TUOA		SEEK CONTED INCREMENT TEST	ERON CERTAIN TESTS
TUOC		ENARIE INTERRIDT TIMERUT TEST	FROM CERTAIN TESTS.
TU20		INITIAL RESET OF SEEK LINES	1
TU21		INITIAL RESET OF DATA LINES	
TU23		RECALIBRATE TEST	
TU25		OFF TRACK TEST	
TU26		RECALIBRATE AND 1 TRACK SEEK TEST	
TU30		COMPOSITE RECALIBRATE AND SEEK TE	ST
TU31		+- 1-TRACK SEEK TEST	
TU32		+- 5 OR 7 TRACK SEEK TEST	
TU33		+- 11 OR 17 TRACK SEEK TEST	
TU40		HOME SENSE TEST	
TU41		+- 1-TRACK SEEK TEST	
1050		READ COMPOSITE TEST	
1056		READ ID (ALL HEADS)	(6)
TU60		READ DATA M/S (CONTROL FIELD IN M	/5/
TU64	· •	READ DATA C/S (CONTROL FIELD IN M	(5)
TU70		INITIAL RESET OF SEEK OPERATIONS	
TU71		RESET AND RECALIBRATE TEST	•
<b>TU73</b>		SPEED TEST	
TU75		RANDOM SEEK TEST	
TU76		INTERFACE SENSE/RECORD TEST	

	09/29/77	P/N 2547690
PAGE 3000-169	 EC 832	2050 PEC 830358

# SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

	62GV	(CONTINUED)
T1193	0200	WRITE ID (HEAD 2) TEST
TUGA		WRITE ID (HEAD C) TEST
TU05		WRITE ID (HEAD 1) TEST
TU05		WRITE ID (HEAD I/ TEST
1000		WRITE ID TEST (ALL HEADS)
1087		WRITE ID TEST (ALL HEADS)
1088		EXTENDED WRITE/READ ID TEST
1090		WRITE DATA (HEAD 0 - SECTUR 30)
TU96		WRITE/READ DATA (ALL HEADS)
TUAO		SCAN EQUAL (HEAD 0 - SECTUR 30) TEST
TUAA		SCAN EQUAL NO HIT TEST
TUAB		SCAN LOW (HEAD O) TEST
TUAD		SCAN HIGH (HEAD O) TEST
TUBO		READ VERIFY (HEAD O) TEST
TUCO		DIAGNOSTIC READ TEST
	KEYBO	JARD
ΙU		DESCRIPTION
TUOO		INTERRUPT NOT ENABLED TEST
TU01		SCAN CODE '55' TEST
TU02		SCAN CODE "AA" TEST
TU03		RIGHT SHIFT KEY TEST
TU04		OVERRUN TEST
TU05		LEFT REPEAT KEY TEST
TUO6		RIGHT REPEAT KEY TEST.
TU07		DEPRESS ALL KEYS TEST
TUOS		KEYBOARD TO CRT ERIEND'S CALLER
	LINE	PRINTER
τu	LINE	PRINTER DESCRIPTION
<u>IU</u> TU01	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST
<u>TU</u> TUO1 TUO2	LINE	PRINTER DESCRIPTION INITIAL IOS/JID TEST BASIC PRINTER INTERRUPT
<u>TU</u> TU01 TU02 TU03	LINE	PRINTER <u>DESCRIPTION</u> INITIAL IOS/JID TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE
<u>TU</u> TU01 TU02 TU03 TU04	LINE	PRINTER <u>DESCRIPTION</u> INITIAL IOS/JID TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT
<u>TU</u> TU01 TU02 TU03 TU04 TU05	LINE	PRINTER <u>DESCRIPTION</u> INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE
<u>TU</u> TUO1 TUO2 TUO3 TUO4 TUO5 TUO6	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP
<u>TU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU07	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET
<u>TU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU07 TU08	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET
<u>TU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU07 TU08 TU09	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU07 TU08 TU08 TU09 TU0A	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION
<u>TU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU05 TU06 TU07 TU08 TU08 TU08 TU0A	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET
<u>TU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU05 TU06 TU07 TU08 TU08 TU08 TU08 TU06	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU07 TU08 TU08 TU09 TU09 TU00 TU00 TU00	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER CARRIAGE SYNC CHECK SET/RESET
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU05 TU06 TU07 TU08 TU08 TU08 TU00 TU00 TU00 TU00	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER CARRIAGE SYNC CHECK SET/RESET ONE SPACE AND CARRIAGE LOAD SPACE
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU05 TU06 TU07 TU08 TU09 TU0A TU08 TU00 TU00 TU00 TU00 TU00	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER CARRIAGE SYNC CHECK SET/RESET ONE SPACE AND CARRIAGE LOAD SPACE SPACE COUNTER (16 LINES)
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU07 TU08 TU07 TU08 TU07 TU08 TU00 TU00 TU00 TU00 TU00 TU00 TU00	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER CARRIAGE SYNC CHECK SET/RESET ONE SPACE AND CARRIAGE LOAD SPACE SPACE COUNTER (16 LINES) BELT GO SET/RESET
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU07 TU08 TU07 TU08 TU09 TU00 TU00 TU00 TU00 TU00 TU11	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER CARRIAGE SYNC CHECK SET/RESET ONE SPACE AND CARRIAGE LOAD SPACE SPACE COUNTER (16 LINES) BELT GO SET/RESET DIAGNOSTIC MODE UP TO SPEED
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU05 TU06 TU07 TU08 TU00 TU06 TU00 TU06 TU00 TU06 TU00 TU01 TU11 TU12	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER CARRIAGE SYNC CHECK SET/RESET ONE SPACE AND CARRIAGE LOAD SPACE SPACE COUNTER (16 LINES) BELT GO SET/RESET DIAGNOSTIC MODE UP TO SPEED BELT SPEED CHECK SET/RESET
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU07 TU08 TU07 TU08 TU09 TU00 TU00 TU00 TU00 TU00 TU00 TU00	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER CARRIAGE SYNC CHECK SET/RESET ONE SPACE AND CARRIAGE LOAD SPACE SPACE COUNTER (16 LINES) BELT GO SET/RESET DIAGNOSTIC MODE UP TO SPEED BELT SPEED CHECK SET/RESET RIBBON CONTROL (6 SEC RUN TIME)
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU07 TU08 TU09 TU08 TU09 TU08 TU09 TU00 TU00 TU00 TU00 TU00 TU00 TU00	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER CARRIAGE SYNC CHECK SET/RESET ONE SPACE AND CARRIAGE LOAD SPACE SPACE COUNTER (16 LINES) BELT GO SET/RESET DIAGNOSTIC MODE UP TO SPEED BELT SPEED CHECK SET/RESET RIBBON CONTROL (6 SEC RUN TIME) PRINT SUBSCAN AND HOME
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU07 TU08 TU07 TU08 TU07 TU08 TU00 TU00 TU06 TU00 TU06 TU00 TU01 TU12 TU11 TU12 TU13 TU14 TU13	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER CARRIAGE SYNC CHECK SET/RESET ONE SPACE AND CARRIAGE LOAD SPACE SPACE COUNTER (16 LINES) BELT GO SET/RESET DIAGNOSTIC MODE UP TO SPEED BELT SPEED CHECK SET/RESET RIBBON CONTROL (6 SEC RUN TIME) PRINT SUBSCAN AND HOME ODD/EVEN SUBSCAN SET/RESET
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU07 TU08 TU07 TU08 TU07 TU08 TU00 TU00 TU00 TU00 TU00 TU11 TU12 TU13 TU14 TU14 TU16	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER CARRIAGE SYNC CHECK SET/RESET ONE SPACE AND CARRIAGE LOAD SPACE SPACE COUNTER (16 LINES) BELT GO SET/RESET DIAGNOSTIC MODE UP TO SPEED BELT SPEED CHECK SET/RESET RIBBON CONTROL (6 SEC RUN TIME) PRINT SUBSCAN AND HOME ODD/EVEN SUBSCAN SET/RESET
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU07 TU08 TU07 TU08 TU00 TU00 TU00 TU00 TU00 TU00 TU00	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER CARRIAGE SYNC CHECK SET/RESET ONE SPACE AND CARRIAGE LOAD SPACE SPACE COUNTER (16 LINES) BELT GO SET/RESET DIAGNOSTIC MODE UP TO SPEED BELT SPEED CHECK SET/RESET RIBBON CONTROL (6 SEC RUN TIME) PRINT SUBSCAN AND HOME ODD/EVEN SUBSCAN SET/RESET SUBSCAN(1-5) INCREMENT (ODD)
<u>IU</u> TU01 TU02 TU03 TU04 TU05 TU06 TU05 TU06 TU07 TU08 TU09 TU08 TU00 TU06 TU00 TU06 TU11 TU12 TU13 TU14 TU15 TU14 TU15 TU16 TU17	LINE	PRINTER DESCRIPTION INITIAL IOS/JIO TEST BASIC PRINTER INTERRUPT PRINT BUFFER LOAD/SENSE PRINT BUFFER ADDRESS INCREMENT ALL PRINT BUFFER LOAD/SENSE PAPER CLAMP WRAP PRINTER RESET SET/RESET DIAGNOSTIC MODE SET/RESET ELAPSED TIME COUNTER INITIAL CARRIAGE FUNCTION CARRIAGE GO SET/RESET END SPACE TIME COUNTER CARRIAGE SYNC CHECK SET/RESET ONE SPACE AND CARRIAGE LOAD SPACE SPACE COUNTER (16 LINES) BELT GO SET/RESET DIAGNOSTIC MODE UP TO SPEED BELT SPEED CHECK SET/RESET RIBBON CONTROL (6 SEC RUN TIME) PRINT SUBSCAN AND HOME ODD/EVEN SUBSCAN SET/RESET SUBSCAN (1-5) INCREMENT (ODD) SUBSCAN(1-5) INCREMENT (ODD)

PAGE 3000-170

	LINE	PRINTER (CONTINUED)
ΙU		DESCRIPTION
TU19		BELT SYNC CHECK SET/RESET
TU1A		CHARACTER SET SIZE
TU1B		HAMMER CONTROL SELECT WRAP
TUIC		COIL CURRENT DIAGNOSTIC WRAP
TUID		COIL CURRENT CHECK SET/RESET
TU1E		HAMMER PARITY CHECK SET/RESET
TU1F		COIL CURRENT CHECK JIO SET/RESET
TU20		INITIAL BOX SENSE
TU21		BELT ON
TU22		CARRIAGE LOAD AND GO
TU23		HAMMER MATRIX RESET
TU24		INTERRUPT REQUEST
TU25		PRINTER OSCILLATORS
TU26		PRINT BUSY SET/RESET
TU29		PSS/IMPSS TIMING
TU2A		HAMMER MATRIX RESET
TU2C		DIAGNDSTIC HAMMER FIRE
TU2D		BLANK LINE PRINT AND BUSY TIMEOUT
TU2E		ATTACHMENT HAMMER FIRE
TU30		HAMMER DUTY CYCLE TIMING TEST
TU31		CARRIAGE TIMING
TU32		PRINTER FEATURE WRAP
TU34		FORMS JAM DETECT
TU60		H PATTERN
TU61		T PATTERN
TU62		RIPPLE PATTERN
TU64		WORST PROBABILITY PRINT
TU65		CARRIAGE SPACE SKIP
TU66		PAPER SETTLING
TU67		ONE HAMMER PRINT
TU80		AA2-Q2 TO CARRIAGE CONTROL WRAP TEST
TU81		AA2-Q2 TO AA2-R2 AND AA2-S2 WRAP STATUS TEST
TU82		AA2-Q2 TO AA2-T2 WRAP STATUS TEST
TU83		FORCE DBO PARITY CHECK
TU.84		24 VOLT CONTACTOR CHECKOUT
TU85		CONTACTOR OFF SENSE TEST
TU86		INTERLOCK SENSE TEST (TU20)
TU88		COIL CHECK WITH CONTACTOR OPEN
TU90		ANALYZE HAMMERS FIRED BY TU2C (50-155 LPM)
TU91		PRINTER RESET WORKING
TU92		PRINTER I/O WORKING
TU95		ANALYZE HAMMERS FIRED BY TU2C (285 LPM)
TUAO		UDT FEATURE CHECK

	SERIAL	PRINTER
τu		DESCRIPTION
TUA1		INITIAL ADAPTER CHECKOUT(1)
TUA2		INITIAL ADAPTER CHECKOUT (2)
TUA3		EMITTER COLUMN COUNTER TEST
TUA4		FORMS LINE COUNTER TEST
TUA5		HEAD POSITION COUNTER TEST
TUA6		WIRE LATCHES TEST
TUA7		INTERRUPT TEST
TUA8		FORMS SPACE COUNTER TEST
TUA9		RAM CHECKOUT
TUAA		RAM PATTERNS TEST
TUAB		MAR TEST
TUAC		ROS TEST
TUAD		MOTOR ELAPSE COUNTER TEST
TUAE		FORCE DBO PARITY CHECK
TUB1 ·	•. •	SINGLE FORM/LEDGER CARD SWITCH TEST
TUB2		END OF FORMS TEST
TUOI		
TU02		DIAGNOSTIC RESIDRE (H/THONADOND)
TU02		DIAGNOSTIC RESTORE (W/TURNARUND)
1005		DIAGNUSTIC PRINT LEFT (W/TURNARUUND)
TU05		DIAGNUSTIC PRINT LEFT (W/TURNARUUNU & L.MARGIN)
TUOS		DIAGNOSTIC ENDEING UNDDINTADIE CHARACTER CHECK
TH07	•	DIAGNOSTIC PORCING ONFRINTABLE CHARACTER CHECK
TUOR		DIAGNOSTIC PRINT RIGHT (W/TURNARDOND)
TUNG		DIAGNOSTIC PRINT RIGHT (W/TURNARDUND & L MARCIN)
TU10		DIAGNOSTIC PRIME RIGHT (I MARCIN)
71111		DIAGNOSTIC PRINT PICHT (I MADGIN)
TU12		DIAGNOSTIC PRINT RIGHT
TUIS		DIAGNOSTIC PRINT RIGHT
T(1) 4		DIAGNOSTIC EMITTER OUT DE ORDER CHECK
TUIS		DIAGNOSTIC EMITTER OUT DE ORDER CHECK
TUIG		DIAGNOSTIC EMITTER OUT OF ORDER CHECK
TU17		DIAGNOSTIC FALSE EMITTER CHECK
TUIB		DIAGNOSTIC PRINT HUNG CHECK
TU19		DIAGNOSTIC EMITTER TOO FAST CHECK
TU21		DIAGNOSTIC EMITTER SEQUENCES
TU22		DIAGNOSTIC PRINT/FETCH MOTOR TIME OVERLAP
TU23		DIAGNOSTIC PRINT/FORMS OPERATION OVERLAP
TU24		DIAGNOSTIC FORMS HUNG CHECK
TU25		DIAGNOSTIC 40 CPS UINDIRECTION COMMANDS

## 2. DIAGNOSTIC PROGRAM DESCRIPTIONS

THE FOLLOWING ARE DESCRIPTIONS OF DIAGNOSTIC PROGRAMS AVAILABLE.

ALL PROGRAMS, UNLESS OTHERWISE SPECIFIED: A. RESIDE ON DIAGNOSTIC DISKETTE DIAGO1 B. ARE EXECUTED BY ENTERING THE PROGRAM ID IN MAIN MENU C. ARE TERMINATED BY PRESSING 'INQ' KEY AT ANY TIME

PROG ID DESCRIPTION

ANAL33FD THIS PROGRAM READS ALL ID'S & DATA FIELDS FROM EACH CYLINDER ON THE CE DISKETTE. IT CHECKS FOR PRESENCE OF SECTORS, PROPER ID'S & NO CRC CHECKS WHILE READING ID'S OR DATA FIELDS. DISPLAY REFERENCE NUMBERS ARE 0504-0506.

- ANALDISK THIS PROGRAM READS ALL ID'S & DATA ON 62GV DISKS, CHECKS FOR CORRECT ID'S AND NO ERROR CONDITIONS IN EITHER ID OR DATA. A PRINTOUT SHOWS ALL EXCEPTIONS TO EXPECTED RESULTS. IT ALSO ALLOWS REWRITING OF SELECTED TRACKS OF ID'S AND ZERDING OF DATA ON THOSE TRACKS. DISPLAY REFERENCE NUMBERS ARE 0575-0580.
- BSCA THE PROGRAM DESCRIPTIONS FOR THIS FEATURE ARE IN THE BSCA DIAGNOSTIC SERVICE GUIDE -(3100)-
- CONFIG CONFIGURATOR PROGRAM CONFIGURES THE DISK AND THE DISKETTE FOR THE SPECIFIC OPTIONS THAT ARE ON EACH SYSTEM. DISPLAY REFERENCE NUMBERS ARE 0520-0549.
- CRT1 THE VIDEO CLOCK STEP PROGRAM CLOCK STEPS 2 CHARACTERS, AN 'A' AND AN '=', AND CHECKS FOR PROPER CHARACTER GENERATOR BITS ALONG WITH PROPER ROS AND RAM ADDRESSING. DISPLAY REFERENCE NUMBER IS 0316.
- CRT2 DISPLAY ALIGNMENT PATTERN PROGRAM DISPLAYS AN ALIGNMENT PATTERN TO PROVIDE A VISUAL CHECK FOR MISSING LINES AND/ OR RETRACE PROBLEMS. DISPLAY REFERENCE NUMBER IS 0317.
- CRT3 ALL CHARACTER PATTERN PROGRAM DISPLAYS ALL CHARACTERS FROM THE ROS TO PROVIDE A VISUAL CHECK FOR MISSING CHAR-ACTERS OR PORTIONS OF MISSING CHARACTERS. DISPLAY REF-ERENCE NUMBER IS 0318. IF DUAL CASE FEATURE IS INSTALL-ED, PRESSING THE 'CODE' KEY DURING THIS TEST WILL DISPLAY THE LOWER CASE CHARACTERS.
- CRT4 THE DYNAMIC CHARACTER RE-DISPLAY PROGRAM DISPLAYS A PATTERN OF ASTERISKS, THEN RIPPLES LINES 3 AND 4 WITH DIFFERENT CHARACTERS, THEN THE ENTIRE SCREEN IS ERASED. DISPLAY REFERENCE NUMBER IS 0319.

PAGE 3000-173

PROG ID	DESCRIPTION
CUSTOMIZ	THIS PROGRAM SELECTS APPROPRIATE MICRO-PROGRAM MODULES FROM THE MICRO-CODE SYSTEM/3 EMULATOR THAT RESIDES ON DIAGO2. IT SELECTS ACCORDING TO THE I/O DEVICES AND FEATURES DEFINED BY THE CONFIG PROGRAM. THIS INFORMATION IS THEN MOVED TO THE DISK FOR SYSTEM PROGRAMMING USE. DISPLAY REFERENCE NUMBERS ARE 0514-0516
DSPA33FD	THIS PROGRAM ALLOWS THE OPERATOR TO INDIVIDUALLY CALL ANY SECTOR OF A DIAGNOSTIC DISKETTE (INCLUDING IMPL SECTOR) AND DISPLAY OR ALTER THE DATA AND RETURN IT TO THE DISKETTE. DISPLAY REFERENCE NUMBERS ARE 0310 & 0311
DSPA62GV	THIS PROGRAM ALLOWS THE OPERATOR TO INDIVIDUALLY CALL ANY SECTOR OF THE 62GV DISK, DISPLAY AND/OR ALTER THE DATA AND RETURN IT TO THE DISK. DISPLAY REFERENCE NUMBERS ARE 0327-0328
DUMP33FD	THIS PROGRAM IS USED TO PRINT OUT ANY SECTOR(S) OF A DIAGNOSTIC DISKETTE BY SPECIFYING THE STARTING AND ENDING CYLINDER AND SECTOR NUMBER(S). DISPLAY REFERENCE NUMBERS ARE 0325-0326.
FRIEND	FRIEND PROGRAM ALLOWS THE CE TO BUILD A TABLE OF Commands to exercise the 62gv. Display reference numbers are 0660-0670.
HEADALGN	THIS PROGRAM CALCULATES 33FD HEAD POSITION VARIANCE FROM OPTIMUM BY READING WHILE SEEKING ACROSS TRACKS. DISPLAY REFERENCE NUMBERS ARE 0620-0630.
HELP	HELP PROGRAM ALLOWS CE TO SELECT A PROGRAM FROM ONE OF THE FOLLOWING CATEGORIES: MAP DIAGNOSTICS SPECIAL DIAGNOSTICS UTILITIES OTHER DIAGNOSTIC SUPPORT DISPLAY REFERENCE NUMBERS ARE 0359-0363.
INITDISK	DISK INITIALIZE PROGRAM REWRITES ALL ID'S,ZEROES ALL DATA FIELDS AND ASSIGNS ALTERNATES TO DEFECTIVE SECTORS. A LISTING OF THE CYL 2 ID CONTENTS IS PRINTED AT THE CONCLUSION OF THE PROGRAM. DISPLAY REFERENCE NUMBERS ARE 0550-0570.
KBDTOCRT	KEYBOARD TO CRT FRIENDS PROGRAM DISPLAYS A FULL SCREEN OF ANY CHARACTER DEPRESSED ON THE KEYBOARD. FUNCTION KEYS HAVE THEIR NAME DISPLAYED WHEN DEPRESSED. DISPLAY REFERENCE NUMBER IS 0309.

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PROG ID	DESCRIPTION
KEYBOARD	KEYBOARD MAP PROGRAMS ARE LOADED FROM THE CE DISKETTE EITHER BY TYPING IN THEIR PROGRAM ID, OR FOR KEYBOARD, BY SETTING THE DATA SWITCHES TO F100 AT IMPL TIME. THE THE MAP PROGRAMS ARE USED TO LEAD THE CE TO THE FRU. THERE ARE NO DISPLAY REFERENCE NUMBERS. A MAP REFERENCE NUMBER IS GIVEN TO FREELANCE WITH THE PROGRAM LISTINGS.
LIST	THIS PROGRAM ALLOWS THE OPERATOR TO PRINT A HARD COPY OF ALL PERTINENT INFORMATION ABOUT ALL PROGRAMS ON ANY DIAGNOSTIC DISKETTE. DISPLAY REFERENCE NUMBERS ARE 0312-0313.
MOVE	THE PROGRAM MOVES THE DIAGNOSTIC SUPPORT FOR THE 33FD AND ALL SYSTEM CONFIGURE INFORMATION TO THE 62GV. MOVE IS USED WITH THE CONFIG OPERATION. DISPLAY REFERENCE NUMBERS ARE 0507-0509.
PANEL	THE CE PANEL PROGRAM ALLOWS THE CE TO DISPLAY DATA Switches then prompts him to check out the remainder of The CE Panel. Display reference numbers are 0260-0279.
PATCH NOTE	THIS PROGRAM ALLOWS THE OPERATOR TO PATCH ANY PROGRAM ON A DIAGNOSTIC DISKETTE(INCLUDING RELOCATABLE)BY ENTERING THE PROGRAM ID, THE ADDRESS TO BE PATCHED, AND THE CURRENT AND NEW DATA. DISPLAY NUMBERS ARE 0510 THRU 0513. DNCE THE DISKETTE IS WRITTEN ON, THE 'INQ' KEY WILL NOT TERMINATE THE PROGRAM.
PRINTER	THE LINE PRINTER MAP PROGRAMS ARE USED TO LEAD THE CE TO THE FRU. A MAP REFERENCE NUMBER IS GIVEN FOR FREELANCING WITH THE MAP PROGRAM LISTINGS.
PRT1	LINE PRINTER PAPER CLAMP PROGRAM ALLOWS THE CE TO DPEN OR CLOSE THE PAPER CLAMP WITH EACH DEPRESSION OF THE ENTER KEY. DISPLAY REFERENCE NUMBERS ARE 0330-0331.
PRT2	THE LINE PRINTER INTERLOCK STATUS DISPLAY PROGRAM IS USED TO DISPLAY THE STATUS,OPEN OR CLOSED,OF THE END OF FORMS, COVER, AND THROAT SWITCHES. THE DISPLAY REFERENCE NUMBER IS 0335.
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PRT3 LINE PRINTER TIMINGS DISPLAY PROGRAM ALLOWS ONE OF FIVE TIMINGS TO BE DISPLAYED. THE TIMINGS ARE : 1. PSS (PRINT SUBSCAN PULSES) 2. ISS (IMPRESSION SINGLESHOT PULSES) 3. HOME 4. HAMMER (HAMMER FIRE TIME) 5. CARRIAGE (CARRIAGE ADVANCE PULSES) DISPLAY REFERENCE NUMBERS ARE 0340-0346.

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PAGE 3000-175

PROG	ID	DESCRIPTION

- PRT4 LINE PRINTER HAMMER/CHARACTER FIRE PROGRAM ALLOWS THE CE TO PRINT ANY CHARACTER(S) IN ANY PRINT POSITION(S). DISPLAY REFERENCE NUMBERS ARE 0350-0351
- PRT7 LINE PRINTER PRINT BELT ON PROGRAM ALLOWS THE CE TO START THE PRINT BELT WITH EACH DEPRESSION OF THE ENTER KEY. DISPLAY REFERENCE NUMBERS ARE 0355-0356
- PRT8 LINE PRINTER WORST PROBABILITY PRINT TEST ALLOWS FOR PRINTING A PATTERN TO TEST THE LINE PRINTER. DISPLAY REFERENCE NUMBER IS 0357.
- PRT9 LINE PRINTER H PATTERN PRINT TEST PRINTS A COMPLETE LINE OF H'S UNTIL TERMINATED BY THE 'INQ'KEY. DISPLAY REFERENCE NUMBER IS 0358.
- PRT10 LINE PRINTER 1/2 INDEX FEATURE CARRIAGE TIMING AND SET/RESET TEST. DISPLAY REFERENCES ARE 332-334 AND 336.
- PRT11 ONE HAMMER PRINT TEST FOR 1/2 INDEX FEATURE. DISPLAY REFERENCE NUMBERS ARE 0337 AND 0338.
- SDLC THE PROGRAM DESCRIPTIONS FOR THIS FEATURE ARE IN THE SDLC DIAGNOSTIC SERVICE GUIDE -(3200)-.

PAGE 3000-176

09/29/77 EC\_832050 P/N 2547690 PEC 830358

PRUG ID
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### DESCRIPTION

- SPRT1 THIS PROGRAM PRINTS THE 64 CHARACTER SET EACH TIME THE 'ENTER' KEY IS PRESSED. IF THE 'KANA ON' KEY HAS BEEN PRESSED, THE 67 KATAKANA CHARACTERS WILL BE PRINTED. DISPLAY REFERENCE IS 0375.
- SPRT2 THIS PROGRAM OVERPRINTS H'S AND I'S. A PATTERN 2 H/I CHARACTERS,FOLLOWED BY 2 BLANKS, FOLLOWED BY 2 H/I CHARACTERS IS PRINTED ACROSS THE PAGE. DISPLAY REFERENCE IS 0376.
- SPRT3 THIS PROGRAM RIPPLES THE ENTIRE 64 CHARACTER SET IN ALL PRINT POSITIONS. A BLANK IS PRINTED AFTER EVERY 3RD CHARACTER. BLANKS ARE SHIFTED ONE POSITION EACH LINE. DISPLAY REFERENCE IS 0377.
- SPRT4 THIS PROGRAM ALLOWS INPUTTING A CHARACTER TO PRINT, THE STARTING AND ENDING POSITIONS OF THE PRINT LINE, THE NUMBER OF LINES TO MOVE THE FORMS, AND THE DIRECTION TO PRINT (RIGHT, LEFT OR BOTH). DISPLAY REFERENCE IS 0378.
- SPRT5 THIS PROGRAM DOES A RIPPLE WIRE PRINT BY ALTERNATING THE CHARACTERS 'SLASH' AND 'REVERSE SLASH'. DISPLAY REFERENCE IS 0379.
- SPRT6 THIS PROGRAM PRINTS AN EVEN/ODD WIRE PATTERN CONSISTING OF CHARACTERS WHICH ARE 7 COLUMNS WIDE (THE 1ST, 3RD, 5TH, & 7TH COLUMNS CONTAIN 4 WIRES - THE 2ND, 4TH, & 6TH COLUMNS CONTAIN 3 WIRES). 3 CHAR. FOLLOWED BY 3 BLANKS PRINT ACROSS THE PAGE. DISPLAY REFERENCE IS 0380.
- SPRT7 THIS PROGRAM IS A STRESS TEST. THE CHARACTER 'H' IS PRINTED IN POSITIONS 1 THRU 10. THE NEXT LINE IT'S POSITIONS 2 THRU 11. EACH SUCCEEDING LINE IS SHIFTED TO THE RIGHT UNTIL RIGHT MARGIN IS REACHED. THEN THE PATTERN IS SHIFTED LEFT UNTIL LEFT MARGIN IS REACHED. DISPLAY REFERENCE IS 0381.
- SPRT9 THIS PROGRAM VARIES THE TIMINGS + 10 % AND PRINTS 6 LINES OF 'H'S. THEN THE TIMINGS ARE CHANGED - 10 % AND 6 LINES OF 'H'S ARE PRINTED. DISPLAY REFERENCE IS 0382.
- SPRT10 THIS PROGRAM EXECUTES HEAD RESTORES EVERY 250 MSEC. DISPLAY REFERENCE IS 0385.

SPRINT THIS PROGRAM EXECUTES THE ATTACHMENT MDI-MAP DIAGNOSTICS.

SPRINT5 THIS PROGRAM EXECUTES THE I/O BOX MDI-MAP DIAGNOSTICS.

PAGE 3000-177

PROG ID

### DESCRIPTION

- TUSELCT MDI TU TEST SELECT PROGRAM ALLOWS THE CE TO EXECUTE A GIVEN TU TEST FOR A DEVICE WITHOUT HAVING TO KNOW WHERE THE TU TEST IS LOCATED WITHIN THE MAP DIAGNOSTICS. REFER TO THE TU TEST LISTING/DESCRIPTION FOR EACH DEVICE. DISPLAY REFERENCE NUMBERS ARE 0676-0682.
  - \* NOTE : DO NOT USE AUTOMATIC LOOP MODE IF THE KEYBOARD TU TESTS ARE SELECTED.
  - \* CAUTION: THE TU TESTS ARE DESIGNED TO RUN IN SEQUENCE AS CALLED FOR BY THE MAPS. RANDOM SELECTION OF TU TESTS CAN CAUSE UNEXPECTED RESULTS FROM CERTAIN TESTS.
- 33FD DISKETTE MAP PROGRAMS ARE USED TO LEAD THE CE TO THE FRU. A MAP REFERENCE NUMBER IS GIVEN FOR FREELANCING WITH THE MAP PROGRAM LISTINGS.
- 62GV DISK MAP PROGRAMS ARE USED TO LEAD THE CE TO THE FRU. A MAP REFERENCE NUMBER IS GIVEN FOR FREELANCING WITH THE MAP PROGRAM LISTINGS.
- 3. OTHER DIAGNOSTIC SUPPORT (S/3 PROGRAM DESCRIPTIONS)

THE FOLLOWING LIST OF PROGRAMS ARE AVAILABLE TO THE CE FOR EXECUTION IN THE CUSTOMER (\$/3) ENVIRONMENT. UNLESS OTHERWISE SPECIFIED, THESE PROGRAMS: A. RESIDE ON DIAGNOSTIC DISKETTE DIAGO2 B. ARE EXECUTED BY ENTERING THE PROGRAM ID IN SCP MAIN MENU.

PROG ID	DESCRIPTION
ERAP	THIS PROGRAM ALLOWS THE OPERATOR TO PRINT OUT THE OPER- ATING AND ERROR STATISTICS OF THE CPU, AND EACH I/O DEVICE ATTACHED TO SYS/32. THIS INFORMATION WAS GATHERED IN THE CUSTOMER OPERATING ENVIRONMENT. DISPLAY REFERENCE NUMBERS ARE 0801 - 0804
SYSTST	THIS PROGRAM ALLOWS THE YOU TO RUN MOST I/O DEVICES INDIVIDUALLY OR SIMULTANEOUSLY. DISPLAY REFERENCE NUMBERS ARE 0700-0707,0710,0720,0730.
BSCA	SEE THE BSCA DIAGNOSTIC SERVICE GUIDE (MAP SECTION 3100) FOR THE DETAILED OPERATION OF THESE TESTS.
SDLC	SEE THE SDLC DIAGNOSTIC SERVICE GUIDE (MAP SECTION 3200) FOR THE DETAILED OPERATION OF THESE TESTS.

PAGE 3000-178

### 4. SYSTEM TEST MAINTENANCE STRATEGY

SYSTEM TEST WAS DESIGNED AS A SIMPLE-TO-OPERATE AND COMPREHENSIVE TOOL TO DETERMINE IF THE SYSTEM/32 AND ITS COMPONENTS ARE FUNCTIONING PROPERLY. THESE COMPONENTS ARE:

. CPU HARDWARE

. CERTAIN I/O DEVICES

• EMULATOR

. I/O MICRO-CODE

SCP

THE SYSTEM TEST EXERCISES THESE COMPONENTS IN THE SAME FASHION AS AN APPLICATION PROGRAM. I/O DEVICES CAN BE OPERATED AT THEIR FULLEST OVERLAP CAPABILITY. INDIVIDUAL OR COMBINATIONS OF I/O DEVICES CAN BE EXERCISED. THE SYSTEM TEST HAS THREE PRIMARY FUNCTIONS:

1. PASS/FAIL SYSTEM INTEGRITY TEST

 ISOLATE A FAILING I/O DEVICE.
 ISOLATE TO A FAILING FUNCTION OF AN I/O DEVICE USING BOTH SYSTEM TEST AND ERAP DUMP.

\*\*\*\*\* SINCE THE 33FD SHARES A CONTROL STORAGE AREA WITH I/O DEVICES SUCH AS MAG CARD, 1255, DATA RECORDER, \*\*\*\*\* С AND BSCA/SDLC, IT (THE 33FD) SHOULD ONLY BE ACTIVATED A \* U WITH THE 62GV. \*\*\*\*\* SYSTST IS AN 'EXERCISER' PROGRAM AND IS NOT Т \*\*\* MEANT TO BE A FAULT LOCATOR TEST. IF A PROC CHECK OCCURS DURING SYSTST, RUN DIAGNOSTICS FOR EACH FEATURE DEVICE TO ISOLATE THE FAILURE. I ≭ 0 N FRATER AND EITHER MCU OR DATA RECORDER FEATURES, YOU CANNOT ACTIVATE DATA COM. AND EITHER MCU OR DATA RECORDER ER AT THE SAME TIME DURING SYSTST. (CAUSES PROC CHECKS) \*\*\*\*\* ς

PAGE 3000-179

09/29/77 P/N 2547690 FC 832050 PEC 83035R...



MAIN MENU NOTE - IF OPTION 2 IS THE FIRST OPTION SELECTED AFTER LOADING, SYSTEM TEST WILL DEFAULT TO EXECUTING ALL DEVICES CONFIGURED EXCEPT THE 33FD. IF ANY OTHER OPTION IS SELECTED FIRST AFTER LOADING, THEN OPTION 2 WILL ONLY EXECUTE MODULES SELECTED VIA OPTION 1. IF

NONE ARE SELECTED , DISPLAY 0705 INDICATES NO DEVICES ACTIVE.

RETURN TO SCPI

I ENTER '2'

PAGE 3000-180

\_| | I 111 ---1

**IV. MISCELLANEOUS INFORMATION** 

1. 62GV FRIEND TEST NOTES.

--- SCOPE SYNC NOTES ---

- TO SET UP FOR SCOPING, DO THE FOLLOWING: 1 SET ADDRESS SWITCHES TO -0060-2 SET -STOR SEL- SWITCH TO CONTROL STORE (CTL)
  - 3 CONNECT SYNC LEAD TO AA1-J2-D12 (-ADRS COMPARE SYNC)
  - 4 CONNECT SCOPE PROBE TO DESIRED SIGNAL

ALL 62GV FRIEND MODULES USE ADDRESS -0060- FOR THE SYNC POINT EXCEPT FOR THE -SEEK TO A CYLINDER- MODULE. THIS MODULE DOES NOT CHECK FOR SCOPING, WHICH ALLOWS YOU TO SEEK TO A DESIRED CYLINDER AND THEN SCOPE LOOP ON READ/WRITE OPERATIONS.

THE +- SEEK MODULE USES ADDRESS -0060- TO SYNC ON THE + TRACK SEEK AND USES ADDRESS -0061- TO SYNC ON THE -TRACK SEEK. THEREFORE, BY CHANGING THE ADDRESS SWITCHES TO -0061- YOU CAN SYNC JUST ON THE -TRACK SEEK.

--- COMMAND TABLE BUILDING NOTES ---

ALL THE 62GV SEEK MODULES DO -NOT- ISSUE A READ ID TO SEE WHERE THE READ/WRITE HEADS ARE LOCATED BEFORE DOING THE SEEK. THE MODULES USE A STORAGE LOCATION TO KEEP TRACK OF CURRENT CYLINDER ID. THEREFORE, TO GET THE HARDWARE AND SOFTWARE 'LINED UP', YOU SHOULD ISSUE A RECALIBRATE COMMAND TO 'INITALIZE' BOTH THE HARDWARE AND THE PROGRAM.

YOU SELECT THE OPTION TO DO A WRITE ID COMMAND WITH A SPECIAL IF TEST PATTERN, BE SURE TO RESTORE THE SECTOR WITH IT'S CORRECT SECTOR ID.

PAGE 3000-181

09/29/77 EC 832050

P/N 2547690 PEC 830358

# 2. RUNNING 33FD TESTS FROM 33FD

2

- A. IMPL DISKETTE DIAGO1
- B. DEPRESS START DEPRESS 'INQ' KEY
- C. SET MODE SELECTOR SWITCH TO 'SYS INST STEP' AND PRESS CE START.
- D. TYPE IN '33FD' AND PRESS 'ENTER'
- E. SELECT ENTRY '1' AND PRESS 'ENTER'
- F. SELECT OPTION '1' AND PRESS 'ENTER'
- G. ON FIRST DISPLAY IGNORE MESSAGE TO INSERT SCRATCH DISKETTE. ANSWER QUESTION AND PROCEED THROUGH TESTS BY DEPRESSING ENTER AS INSTRUCTED ON THE CRT UNTIL TUO5 TEST MESSAGE APPEARS.
- H. REMOVE DIAGO1 AND MOUNT A SCRATCH DISKETTE
- I. PRESS 'ENTER' AS INSTRUCTED ON CRT.
- NOTE: 33FD ERRORS MAY INTERFERE WITH THE COMPLETION OF THE ABOVE AS THESE TESTS ARE NORMALLY RUN FROM THE 62GV.
  - IF INTERMITTENT TROUBLES ARE SUSPECTED:
  - 1. RESEAT AA2-K2, AA2-J2, CABLE IN AA2-B2, 33FD CARDS AND CABLES.
  - 2. VISUALLY INSPECT 33FD FOR WEAR AND DIRT ACCUMULATION.
  - 3. REPLACE CARDS IN THE FOLLOWING ORDER, IF NECESSARY: AA2-K2 AA2-J2 33FD
  - 4. DISKETTES WEARING OUT PREMATURELY CAN BE CAUSED BY A CONTINOUSLY ENERGIZED HEAD SOLENOID.

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		09/29/77	P/N 2547690
PAGE 3000-182		EC 832050	PEC 830358

3. 33FD FREELANCE SUPPORT

FIRST CHECK INTERMITTANT LIST ON PRECEDING PAGE

33FD FREELANCE SUPPORT PROGRAM 1 S 2 Е Ε I | 3 ł в 1 EL 4 1 1 15 0 W - 1 O CC X SCROLL FOR OPTION TO ENTER 06905 6 1 

ONE OF THE OPTION NUMBERS (1 -> E) MUST BE ENTERED IN PLACE OF THE 'O'.

*		LINES 2, 3, 4, & 5	-*
*	TH	HE FOLLOWING MESSAGE IS SCROLLED ON LINES 2 -> 5	≭
*-		DISPLAY 1	- *
*	1)	PRINT FIRST ID FROM EACH TRACK	×
*	2)	PRINT ALL AM'S & ID'S FOR 1 TRACK	×
≭	3)	PRINT DATA & GAPS FOR 1 TRACK	*
¥	4)	WRITE FORMAT 1 TRK (128 BYTE REC)	×
*-		DISPLAY 2	-*
×	5)	SEEK TO A SPECIFIC TRACK	*
¥	6)	LOOP: SEEK +4, CHK ID, -4, CHK ID	*
*	7)	LOOP: SEEK FORWARD CONTINOUSLY	*
*	8)	LOOP: SEEK REVERSE CONTINOUSLY	*
<b>*</b> -		DISPLAY 3	- #
¥	9)	LOOP: READ ID OP	*
¥	A)	LOOP: SHORT WRITE OP	*
×	B)	LOOP: HEAD LOAD & IO WORKING	*
¥	C)	LOOP: WRAP THRU DATA SEP	*
*-		DISPLAY 4	- *
×	D)	LOOP: CHANNEL EXERCISER	×
*	E)	WRITE FIRST ID	*
*			*
*			×
*			-*

PAGE 3000-183

\*---- ROUTINE 1 -----READS THE FIRST ID AFTER INDEX ON EVERY TRACK. THE DATA IS THEN PRINTED IN HEX THIS ENABLES CHECKING OF EVERY TRACK # ON THE DISKETTE ¥ \* ≵ FIRST TRACK # = X '00' \* LAST TRACK # = X'4C' (SUBTRACT 1 FOR EACH BAD TRK) BAD TRACK # = X'FF' \* ≭ 7 BYTES ARE PRINTED FOR EACH TRACK (AM, C, H, R, N, CRC, CRC) ÷. AN EIGHT POSITION WILL SHOW INVALID ID'S WITH '\*' 7 BYTES OF ALL ZEROS MEANS THAT NO AM WAS FOUND ON \* THIS TRACK. يد MAIN STORE DATA BUFFER STARTS AT X'1000' \*---#---- ROUTINE 2 -----SEEKS TO TRACK REQUESTED AND READS ALL THE AM'S ON THE TRACK, IT ALSO READS THE 6 DATA BYTES FOLLOWING THE \* ≭ AM. IF THE CRC IS NOT ZERO AT THIS TIME AN '\*' IS SET IN POSITION 8. \* ≭ ₽ THIS ENABLES THE CHECKING OF EVERY ID, DATA AM AND THEIR SEQUENCE ON THE DISKETTE. 7 BYTES ARE PRINTED FOR EACH AM (AM,C,H,R,N,CRC,CRC) AN EIGHT POSITION WILL SHOW INVALID ID'S WITH '\*' \* \* \* × 7 BYTES OF ALL ZEROS MEANS THAT NO AM WAS FOUND ON \* THIS TRACK. MAIN STORE DATA BUFFER STARTS AT X'1000' \* \*---- ROUTINE 3 -----SEEKS TO TRACK REQUESTED AND READS FROM FIRST AM AFTER INDEX TILL INDEX OCCURS AGAIN. THIS ENABLES THE CHECKING ≭ \* DF GAP SIZES AND SYNC FIELD SIZES ON A DISKETTE. × 7 BYTES ARE GROUPED FOR PRINTING, WITH A BLANK IN \* AN EIGHT POSITION. \* \* 7 BYTES OF ALL ZEROS MEANS THAT NO AM WAS FOUND ON THIS TRACK. \* MAIN STORE DATA BUFFER STARTS AT X 1000\* \* ±. \*---- ROUTINE 4 ------ROUTINE FORMATS THE TRACK WITH 128 BYTE SECTORS. \* THIS MAY BE USED TO WRITE A FIXED PATTERN ON 1 TRACK OF SCRATCH DISKETTE FOR USE WITH ROUTINE X\*02'. DTE: THIS MAY WRITE AN INVALID TRACK # (IF ANY WERE FLAGGED), SUCH THAT THE SCRATCH DISKETTE MUST BE INITIALISED AFTER RUNNING THIS OPTION. \* ± NOTE: ±. \*---- ROUTINE 5 -----× SEEKS TO A SPECIFIC TRACK AS REQUESTED BY 'FINDTRK'. MAY BE USED TO POSITION THE HEAD ON A DESIRED TRACK. ₽ \*-

PAGE 3000-184

09/29/77 EC 832050 PEC 830358

P/N 2547690

# SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000-185

\*---- ROUTINE 6 -----SEEKS ALTERNATELY 4 TRACKS FORWARD THEN 4 TRACKS REVERSE. IT CHECKS THE CYLINDER # OF EACH TRACK ON ARRIVAL. × \* THIS MAY BE USED FOR INTERMITTENT SEEK READ ERRORS. \* \*NOTE: THIS WILL GIVE COMPARE ERRORS (CODE X'45') IF THE DISKETTE HAS FLAGGED TRACKS. ROUTINE X'01' SHOWS FLAGGED TRACKS. \* \*---- ROUTINE 7 -----SEEKS CONTINUOSLY IN THE FORWARD DIRECTION ± THIS MAY BE USED FOR SCOPING THE SEEK LINES \* \*--\*---- ROUTINE 8 -----SEEKS CONTINUOSLY IN THE REVERSE DIRECTION \* THIS MAY BE USED FOR SCOPING THE SEEK LINES ± \*----ROUTINE LOOPS ON A SHORT READ OP THIS MAY BE USED FOR SCOPING THE READ CIRCUITS. \* ≭ \*----\_\_\_\_\_ \*---- ROUTINE A -----\_\_\_\_ ROUTINE LOOPS ON A SHORT WRITE OP \* THIS MAY BE USED FOR SCOPING THE WRITE LINES E: THIS WILL CREATE MANY IDS, SOME WITH BAD CRC'S. THE SCRATCH DISKETTE MUST BE INITIALIZED AFTER THIS OPTION. \* NOTE: \* ×---\*---- ROUTINE B -----ROUTINE LOOPS ON HEAD LOAD OPERATION WHICH ALSO SETS/RESETS IO WORKING \* \* THIS MAY BE USED FOR SCOPING HEAD LOAD/ ID WORKING × -- ROUTINE C -----\*---\* ROUTINE WRAPS WRITE DATA THRU DATA SEP & COMPARES RETURNED DATA TO WHAT IS EXPECTED \* THIS MAY BE USED FOR SCOPING DATA SEPARATER × \*----\*---- ROUTINE D -----ROUTINE EXERCISES CPU TO ATCH CHANNEL AND CLEARS \* ERROR IF POSSIBLE, THEN CONTINUES. \* THIS MAY BE USED FOR SCOPING 33FD CHANNEL LINES \*------ ROUTINE E ------**\***-ROUTINE WRITES ONLY THE FIRST ID ON THE TRACK REQUESTED THIS MAY BE USED TO WRITE AN ID FOR USE WITH ROUTINE \* \* X'03' WHEN NO AM WAS COULD BE FOUND. \*----

PAGE 3000-185

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09/29/77 EC 8320

7 P/N 2547690 EC 832050 PEC 830358

33FD	FREELANCE	SUPPORT	PROGRAM			-1	s
l					2	į	Ē
l I .					3	l	E
l					1	>	В
					4		EL
1					5		0
o cc	x			0691	6	i	
					I	-	

IF ACTION IS REQUESTED ON LINE 4, DO AS REQUESTED & THEN PRESS THE ENTER KEY.

	• <del>*</del>
* UNI DISPLATS FUR SUDMEADINGS UN LINE Z	-
* THESE ARE DISPLATED ACCORDING TO THE ROUTINE	*
	*
*	*
*INVALID	*
*PRINT 1 ID PER TRK	¥
*PRINT ALL AM'S	*
*PRINT DATA & GAPS	*
*WRITE FORMAT 128 BYTE	*
*SEEK TO TRACK	×
*SEEK 4 TRACKS	*
*SEEK FORWARD	*
*SEEK REVERSE	*
*READ LUUP	*
*SHUKI WKITE LUUP	<b>₹</b>
THEAD LUAD LUUP	*
*CON INTERENCE LOOD	
*WRITE FIRST ID	±.
*	*

		P/N 2547690	
PAGE 3000-186		EC 832050	PEC 830358
* LINE 3	*		
---	-----------------		
* LINE 3 IS BLANK	*		
*	·*		
* CRT DISPLAYS ON LINE 4 ARE EITHER 'BLANK' OR: *	*		
* *MOUNT SCRATCH DISKETTE * *	* * *		
* LINE 5 * CRT DISPLAYS ON LINE 5 IS EITHER BLANK OR, IF * DISKETTE WAS REQUESTED & NOT DETECTED:	A SCRATCH* *		
* *ERROR ** SECTOR SIZE IS NOT 128 BYTE * *	* * *		
* LINE 6	* G: *		
*	*		
* *0 CC X 33FD SEEK RECAL 0691 *	* *		
*O CC X 33FD SEEKING 0691	*		
*O CC X ENTER TO CONTINUE 0691	*		
*O CC X PRDGRAM IS EXECUTING 0691 *			

PAGE 3000-187

09/29/77 P/N 2547690 EC 832050 PEC 830358



/ \_\_\_ENTER TRACK NUMBER DESIRED, THEN DEPRESS THE ENTER KEY

* COT DICOLANC FOD SUD USADING	
* THESE ARE DISPLAYED ACC	SS ON LINE 2 *
* SELECTED DURING DISPLAY	Y 0690 *
**INVALID	¥*********************************
*PRINT 1 ID PER TRK	*
¥PRINT ALL AM'S ≠PRINT DATA & GAPS	*
*WRITE FORMAT 128 BYTE	*
*SEEK TO TRACK *SEEK 4 TRACKS	*
*SEEK FORWARD	*
*SEEK REVERSE *RFΔD LOOP	*
*SHORT WRITE LOOP	*
¥HEAD LOAD LOOP ¥WRAP THRU DATA SEP	*
*CPU INTERFACE LOOP	*
*WRITE FIRST ID	*
*WRITE FIRST ID	*
*WRITE FIRST ID * LINE 3, 4, & 5 * CRT DISPLAYS ON LINES 3 -> 5	* * 5 ARE BLANK *
*WRITE FIRST ID * LINE 3, 4, & 5 * CRT DISPLAYS ON LINES 3 -> 5 *	* * 5 ARE BLANK *
<pre>*WRITE FIRST ID * LINE 3, 4, &amp; 5 * CRT DISPLAYS ON LINES 3 -&gt; 5 * LINE 6</pre>	* * * 5 ARE BLANK * *
<pre>*WRITE FIRST ID * LINE 3, 4, &amp; 5 * CRT DISPLAYS ON LINES 3 -&gt; 5 * LINE 6 * CRT DISPLAYS FOR LINE 6 ARE *</pre>	* * * * * * * * * * * * * * * * * * *
<pre>*WRITE FIRST ID * LINE 3, 4, &amp; 5 * CRT DISPLAYS ON LINES 3 -&gt; 5 * LINE 6 * CRT DISPLAYS FOR LINE 6 ARE ** CRT DISPLAYS FOR LINE 6 ARE **</pre>	* * * 5 ARE BLANK * AS FOLLOWS: * 4 0692 *
<pre>*WRITE FIRST ID * LINE 3, 4, &amp; 5 * CRT DISPLAYS ON LINES 3 -&gt; 5 * LINE 6 * CRT DISPLAYS FOR LINE 6 ARE * *O CC X ENTER CYLINDER # IN HE&gt; ************************************</pre>	* * 5 ARE BLANK * AS FOLLOWS: * ( 0692 * 0692 *
<pre>*WRITE FIRST ID * LINE 3, 4, &amp; 5 * CRT DISPLAYS ON LINES 3 -&gt; 5 * LINE 6 * CRT DISPLAYS FOR LINE 6 ARE * *O CC X ENTER CYLINDER # IN HE&gt; * *0 CC X 33FD SEEK RECAL *</pre>	* * 5 ARE BLANK * AS FOLLOWS: * ( 0692 * 0692 * *
<pre>*WRITE FIRST ID * LINE 3, 4, &amp; 5 * CRT DISPLAYS ON LINES 3 -&gt; 5 * * LINE 6* * CRT DISPLAYS FOR LINE 6 ARE ** *O CC X ENTER CYLINDER # IN HE&gt; ** *0 CC X 33FD SEEK RECAL * ** ** ** ** ** ** ** ** ** ** ** **</pre>	* * * * 5 ARE BLANK * AS FOLLOWS: * ( 0692 * 0692 * 0692 * 0692 *

PAGE 3000-188

09/29/77 P/N 2547690 EC 832050 PEC 830358



- 1) DETERMINE THE CAUSE OF THE FAILURE (USE ERROR CODES & SENSE INFORMATION).
- 2) CHOOSE COURSE OF ACTION (RETRY, LOOP ON ERR, IGNORE ERROR).

----\* \* THE FOLLOWING MESSAGE IS SCROLLED ON THE CRT ± ×--\* \* \* \* \*---- DISPLAY 1 (LINES 2 -> 5) ------\*BIT 0--FAST BIT 4--READ OVERUN \* 1--NDT READY 5-- N/A -\* \* \* 6--WRIT DVERUN 7--WRIT PARITY 2--END OF CYL \* × 3--MISSING REC × \* × \* \*---- DISPLAY 2 (LINES 2 -> 5) ----\*''''SUBHEADING'''' OPTION # X -\* OPTION # X'%%' \* \* \*X'%%' ERROR FAILURE CODE \*REFER TO ERROR CODE TABLE ON FOLLOWING PAGES. × \* ± \* NDTE: FOR SUBHEADING, SEE DISPLAY 0690 & 0691 \* NDTE: FOR ERROR FAILURE CODES, SEE FOLLOWING PAGES. \* × ------

PAGE 3000-189

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09/29/77 EC 832050 PEC 830358

P/N 2547690

\*---- DISPLAY 3 (LINES 2 -> 5) -----\* \*X'\$\$' DATA BYTE \* \*X '22' ERR BYTE 1 ≭ \*X '%%' ERR BYTE 2 \*X '%%' 33FD CONTROL \* \* × FOR SENSE BIT DIFINITION, SEE CMND TABLE BELOW. \* NOTE: \* \* \* \*---- DISPLAY 4 (LINES 2 -> 5) -----\* \*X'%%' READ CONTROL \* \*X '%%' WRITE CONTROL \* \*X'22' BIT RINGS × \*X 1221 CNTRS & CRC REG \* \* \* \* NOTE: FOR SENSE BIT DIFINITION, SEE CMND TABLE BELOW. \* \* \* \*---- DISPLAY 5 (LINES 2 -> 5) ---------\* #X'%%' HEX 00 \* \*X %% HEX FF \* \*X \*%\* HEX OF \* \*X'%%' HEX FO \* \* \* NOTE: FOR SENSE BIT DIFINITION, SEE CMND TABLE BELOW. \* \* \* \*---- DISPLAY 6 (LINES 2 -> 5) --------\* \* × \*L TO LOOP ON FAILURE \*Y TO BYPASS ERROR \* × **\*ENTER TO CONTINUE** \* \* \* NOTE: LOOP RETURNS TO PREVIOUSLY SET START POINT & \* \* RETRYS THE FAILING SEQUENCE. \* ERROR BYPASS IGNORES THE ERROR & CONTINUES TO \* \* RUN ROUTINE. \* \* \*---- \*

PAGE 3000-190

09/29/77 P/N 2547690 EC 832050 PEC 830358

## 4. 33FD FREELANCE ERROR FAILURE CODES

÷.	El	RROR CODE
×	ERROR	FAILURE CODES REFERENCED BY (DISPLAY 2) 0693 *
×	E.	ACH ROUTINE # & ERROR CODE # SHOW A UNIQUE FAILURE *
¥	I	N THE PROGRAM. *
*•		
≭	CODE	DISCRIPTION OF ERROR *
×		*
*	00	BIT 5 OF 'IOS' (ENABLE) WAS WRONG *
≭	01	ERROR BYTE 1 WAS NOT RESET *
*	02	ERROR BYTE 2 (& IO WORKING) WAS NOT RESET *
*	03	33FD CONTROL BYTE (SNS CABLE LINES) WAS NOT RESET *
×		*
*	04	READ CONTROL CIRCUITS WERE NOT RESET *
÷	05	WRITE CONTROL CIRCUITS WERE NOT RESET *
*	06	BIT RINGS WERE NOT RESET *
×	07	COUNTERS OR CRC REG WERE NOT RESET *
¥		*
*	08	JUMP I/O NOOP JUMPED *
×	09	JUMP I/O CHIP1 DID NOT JUMP *
≭	0 A O	JUMP I/O CHIP2 DID NOT JUMP *
¥	0B	JUMP I/O CHIP3 DID NOT JUMP *
¥		*
×	00	SENSE FOR HEX 'OO' WRONG *
≭	OD	SENSE FOR HEX 'FF' WRONG *
*	0 E	SENSE FOR HEX 'OF' WRONG *
×	0F	SENSE FOR HEX 'FO' WRONG *
*		*
¥	10	SEEK TO POLE O WRONG *
≭	11	SEEK TO POLE 1 WRONG *
*	12	SEEK TO POLE 2 WRONG *
*	13	SEEK TO POLE 3 WRONG *
¥		*
*	14	ERROR DURING SEEK . *
¥	15	ERROR WHILE SEARCHING FOR ANY 'AM' *
*	16	ERROR WAITING FOR INDEX TO GO OFF *
×	17	ERROR WAITING FOR INDEX TO COME ON *
¥		*
*	18	ERROR AFTER MOUNTING SCRATCH DISKETTE *
×	19	ERROR WHILE LOOKING FOR ANY VALID ID *
¥	1 A	ERROR WHILE LOOKING FOR AN 'AM' DURING INDEX *
×	1 B	ERROR WHILE READING. WITH INDEX ON *
¥		*
*	10	ERROR WHILE LOOKING FOR AN 'AM' WITH INDEX OFF *
×	1 D	ERROR WHILE READING, WITH INDEX OFF *
×	1 E	ERROR AT THE END OF THE TRACK *
*	1F	ERROR AT THE END OF A READ OP *

PAGE 3000-191

09/29/77 EC 832050

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P/N 2547690 PEC 830358 SYSTEM/32 DIAGNOSTIC SERVICE (USER'S) GUIDE

PAGE 3000-192

ERROR WHILE WEITING INDEX TO DATA GAP 20 ERROR WHILE WRITING ID FIELD ERROR WHILE WRITING DATA FIELD \* 21 \* 22 \* 23 ERROR WHILE WRITING GAP FROM LAST SECTOR TO INDEX \* \* × 24 ERROR AT THE END OF THE TRACK \* 25 WRITE GATE ON, ERASE GATE OFF FAILED IN SYNC FIELD\* WRITE AM COMMAND WAS NOT SET ON \* \* 26 \* 27 \* WRITE GATE ON, ERASE GATE ON FAILED AT 'AM' TIME \* 28 WRITE CRC COMMAND NOT SET \*\* WRITE GATE OFF, ERASE GATE ON FAILED AT 'CRC' TIME\* ≭ 29 \* 2 A WRITE GATE OFF, ERASE GATE OFF FAILED AT 'CRC' TIM\* \* 2B \* LOW WRITE CURRENT TO 33FD FAILED TO SET \* 2C \* 2D ERROR DURING THE WRITE OP \* ≭ 2E ± \* 2F × \* \* ≭ 30 WRAP MODE DID NOT SET × 33FD CONTROL BYTE DID NOT STAY OFF × 31 ≭ \* 32 CRC FAILED TO GO TO NOT ZERO × \* 33 'FIND BIT SYNC ON ZEROS' FAILED TO SET \* \* × \* 34 "FIND BIT SYNC ON ZEROS" FAILED GO OFF \* 'SYNC DATA SEP ON DATA BITS' FAILED TO SET 'SYNC DATA SEP ON DATA BITS' FAILED GO OFF ≭ 35 \* ≭ 36 \* AM COMPARE WAS WRONG \* 37 \* \* \* ≄ 38 DATA COMPARE WAS WRONG \* \* 39 CRC CHECK WAS IN ERROR \*AM GOOD' FAILED TO SET \*AM GOOD' FAILED GO DFF ≭ 3A ≭ 3 B \* ≄ зc ERROR DURING WRAP OP \* 30 \* 3E \* 3F ≄ 40 \* \* 41 HEAD LOAD NOT SET ± \* 42 I/O WORKING NOT SET ERROR DURING HEAD LOAD 7 43 \* 44 # 45 TRACK ID (C-BYTE) DOES NOT MATCH EXPECTED VALUE × \$  $\frac{1}{2}$ F0 BLAST DUE TO MACHINE CHECK (MAR AT ERR -> X'0064')\* \*\*\*\*\*\*\*

PAGE 3000-192

09/29/77 P/N EC 832050 PEC

P/N 2547690 PEC 830358

#### 5. STORAGE DUMP PRINTOUT FROM CE PANEL

TO DUMP MAIN OR CONTROL STORAGE TO THE FOLLOWING PRINTER, THE PROCEDURE CAN BE USED:

- 1. IMPL DIAG 01.
- 2. PRESS RESET.
- 3. ALTER MAR TO '0001'.
- 4. SET DATA SWITCHES 1 AND 2 TO THE HIGH ORDER DIGITS OF A STARTING ADDRESS.
- 5. SET DATA SWITCHES 3 AND 4 TO THE HIGH ORDER DIGITS OF A STOP ADDRESS.
- 6. SET THE MODE SELECTOR SWICH TO: A. PROC RUN FOR A C/S DUMP B. S/3 INSN STEP FOR M/S DUMP
- PRESS CE START.
   PRESS CONSOLE START.

VALUES IN THE REGISTERS ARE WHAT THEY CONTAINED WHEN THE DUMP WAS CALLED. 1 1 1 1 1 2 1 2 3 3 2 1 2 1 11 • . 5. 123456 890 2 51 0 . 0 5 n 5 0 \_ -/--WR1=XXXX WR2=XXXX WR3=XXXX/ 03141 1 | XXXX | XXXXXXXX XXXXXXXX/ /xxx XXXXXXXX XXXXXXXX XXXXXXXX XXXXXX/ I XXXX /XXXXX XXXXXXXX XXXXXXXX XXXX/ XXXXXXXX IXXXX / X X X X X X X XXXXXXXX XXXXXXXX / XXXXXXXX XXXXXXX XXXX XXXXXXXX XX/ XXXXXXXX L ł .

\_HEX ADDRESS OF 1ST WORD OF THE 24 WORDS IN THIS LINE (C/S) OR, 1ST BYTE OF 48 BYTES IF THIS IS A M/S DUMP.

# PAGE 3000-193

09/29/77 P/N 2547690 EC 832050 PEC 830358

6.	33FD COM	IMANDS	
***	** 33FD *	******************** 'JIO' (CBO = X'3') MODIFIERS*	**
*			*
*	CBO N	10D	*
×			*
¥	0	JUMP ON ERROR/NOT READY	¥
*		INCLD'S: 33FD FAST	*
×		NOT READY	*
*	•	END OF CYLINDER	*
*		RECORD NOT FOUND	*
*		READ UVER RUN	¥
*		WRITE OVER RUN	*
¥		SERIAL PARITY ERROR	<b>#</b>
¥		DATA UNSAFE	¥
*		MISSING ERASE GATE	Ŧ
*	1	JUMP UN NUT AM BYTE FUUND	*
*	2	JUMP UN NUT CRC BYTE ZERU	*
*	3	JUMP UN NUT.INDEX	*
¥.	4		*
*	5	JUMP (FRUM FEI CHIP I)	*
#	6	JUMP (FRUM FEI CHIP 2)	*
*	7	JUMP (FROM FET CHIP 3)	*
*	8	SET HEAD LUAD LAICH	*
*	9	SET LOW WRITE CORRENT	Ŧ
*	A	SET ERASE GATE	*
¥	В	SET ID UREINIATION	<b>₽</b>
*	Ĺ	RESET ERRUR STATUS	<del>7</del>
*	D	NU-UP	Ŧ
₩	E E	KESEI EKASE GALE	<b>*</b>
<b>∓</b>	F	RESET SECTOR UP	Ŧ
*			
***	****	•	*
***	+ 2250 +		
***	* 070 *	(101, (100) = 1.4.)  MODIFIERS	Ţ
*			Ţ
÷			Ŧ
- 			Ŧ
÷	1	2260 ENABLE (DBO MUST BE VID-I)	÷
*	1	JUL LINDLE (DDU HUST DE X.D)	*
± N		ETTHER AN TOU OR AN TOS WILL GENERATE A 1-US	*
* 1\ *	0.2 1.	AN DE UN AN IDE NAM IDE RILL GENERATE A 1-05	*
*		INDEY COUNTER	×
***	******	*****	
* N * *	OTE 1:	EITHER AN IOL OR AN IOS WILL GENERATE A 1-US OSC PULSE THAT GOES TO WRITE CIRCUITS & INDEX COUNTER.	* * *
***	******	*******	<b>*</b>

09/29/77 P/N 2547690 EC 832050 PEC 83035R

PAGE 3000-194

\*\*\*\* 33FD \*\*\*\*\*\*\*\*\*\*\*\*\*\* 'IOS' (CBO = X'5') MODIFIERS\*\* \* CBO MOD (SEE NOTE 1) \* \* \* SENSE 33FD ENABLED (DBI BIT 5) ± + 4 \* NOTE 1: EITHER AN IOL OR AN IOS WILL GENERATE A 1-US \* OSC PULSE THAT GOES TO WRITE CIRCUITS & × \* INDEX COUNTER. \* # \* ¥ CBO MOD \* \* WRITE A DATA BYTE FROM WORK REG (SENT ON DBO) \* × 0 WRITE AN AM BYTE FROM WORK REG (SENT ON DBO) ¥ 1 × SET CNTL LOAD X'2' \* 2 \* \* 3 WRITE CRC BYTE FROM GENERATOR \* SEEK ONE TRACK OVERLAP SET 33FD WORKING \* \* 4 5 \* \* × SEEK TO NEXT TRACK ± 6 SEARCH FOR AM BYTE \* SET CE INDEX PULSE LATCH (RESET WITH JIO X'F')\* \* 7 ≭ 8 ND-DP (SET UNUSED CNTL LATCH 'IOCL X-9 LATCH) \* \* 9 CE INDEX COUNTER ADVANCE CE READY COUNTER ADVANCE \* A \* ≭ в \* \* CE SET IMPL COUNTER GATE \* С × D MANUFACTURING COUNTER ADVANCE \* SET CE STEP MODE \* \* Ε SET CE WRAP MODE ± \* F \* \*\*\*\*\*\*\*\*\*

PAGE 3000-195

09/29/77		P/N	2547690	
EC	832050	PEC	830358	

****	33FD *	**************************************	MODIFIERS**
*			*
*	CBU M		#
* *		PEAD DATA BYTE (PEAD DATA ON DRI)	+
+ #	1	FROR BYTE 1	*
*	1	DBI 0 - 33ED FAST	*
*		1 - NOT READY	*
¥		2 - END OF CYLINDER	*
*		3 - RECORD NOT FOUND	*
*		4 - READ OVERRUN	*
*		5 - RESERVED	*
*		6 - WRITE OVERRUN	*
×		7 - SERIAL WRITE PARITY	*
×	2	ERROR BYTE 2	*
*		DBI O - DATA UNSAFE	*
*		1 - MISSING ERASE GATE	*
*		2 -	<b>*</b>
*		3 -	*
7		4 - SPARE	+
* *		5 - SPAKE 4 - NO TO HOPKING	*
* *		7 - NOT 33ED WORKING	
*	3	33ED CONTROL	*
*	Ċ	DBI $O = I O A D HEAD I A TCH$	*
*		1 - LOW WRITE CURRENT	*
*		2 - WRITE GATE	*
*		3 - ERASE GATE	*
*		4 - TRACK 3 OR O	*
*		5 - TRACK O OR 1	*
*		6 - TRACK 1 OR 2	*
*		7 - TRACK 2 DR 3	*
*	4	READ CONTROL	*
*		DBI O - WRITE DATA	*
*		1 - CE WRAP MODE	*
*		2 - FIND BIT SYNC ON ZEROS	*
*		3 - SYNC ON DATA BITS	*
*		4 - AM BYTE GUUD	*
₩ ₩		D = 0	*
~ *		7 - PEAD CLOCK 1/2	*
Ŧ		I - READ CLUCK 2/5	*

## (CONTINUED ON NEXT PAGE)

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PAGE 3000-196	3000-196	
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09/29/77 P/N 2547690 EC 832050 PEC 830358

*	5	WRITE CONTROL	*
*		DBI O -	×
*		I - CE READ DATA	×
×		2 -	×
*		3 -	¥
*		4 - WRITE AM COMMAND	*
*		5 - WRITE CRC COMMAND	¥
*		6 - WRITE CLOCK 1/2	¥
×		7 - WRITE CLOCK 2/3	¥
¥	6	READ & WRITE BIT RINGS	×
×		DBI 0 - READ BIT RING 1-4	*
*		1 - READ BIT RING 2-5	¥
÷		2 - READ BIT RING 3-6	¥
*		3 - READ BIT RING 4-7	×
<b>*</b> .		4 - WRITE BIT RING 1-4	¥
×		5 - WRITE BIT RING 2-5	*
*		6 - WRITE BIT RING 3-7	*
*		7 - WRITE BIT RING 4-7	*
*	7	COUNTERS &RC REGISTERS	×
*		DBI 0 -	*
*		1 - IMPL COUNTER NOT EQUAL TO 81	*
*		2 - INDEX COUNTER POSITION 8	*
*		3 - READY COUBTER NOT = TO 170,032 USEC	*
*		4 - CRC GENERATOR NOT ALL ZEROS	¥
×		5 - CRC NOT DIVIDE	¥
*		6 - CRC REGISTER POSITION X1	×
*		7 - CRC REGISTER POSITION X16	*
*	8	CE WRITE CLOCK ADVANCE	¥
*	9	CE STANDARD READ DATA PULSE	×
*	Δ	CE STANDARD READ CLOCK PULSE	×
*	B	CE 8F READ CLOCK	×
*	č	SENSE FOR X'00' ON DBI (NO RESP FROM ANY CHIP)	¥
*	Ď	SENSE FOR X'FF' ON DBI (ALL DBI FROM CHIP 1)	¥
*	Ē	SENSE FOR X'OF' ON DBI (ALL DBI FROM CHIP 2)	×
*	F	SENSE FOR X FO ON DBI (ALL DBI FROM CHIP 3)	*
*			¥
*****	***	*****	ź



SYSTEM 32

PAGE 1 OF 13

THE MAPS HAVE BEEN DESIGNED TO ISOLATE FAILURES IN THE MINIMUM AMOUNT OF TIME AND WITHOUT ELABORATE TEST EQUIPMENT. THESE MAPS SHOULD BE USED PRIOR TO TRYING FREE-LANCE METHODS ON A PROBLEM.

THE MAPS HAVE BEEN STANDARDIZED WHEREVER POSSIBLE, USING COMMON METHODS OF REFERING TO PROBE POINTS, CARDS, CABLES, LINE NAMES, PROBE INFORMATION, ...ETC. HOWEVER, CLARITY, SIMPLICITY, AND EASE OF USE HAVE BEEN THE DVERRIDING FACTORS IN MAP DESIGN. FOR THESE REASONS THERE WILL BE DIFFERENCES BETWEEN THE MAPS FOR VARIOUS SYSTEM DEVICES.

THE MAPS EXIST IN TWO FORMS, MAP PROGRAMS AND MAP CHARTS.

MAP PROGRAMS ARE ON THE CE DISKETTE, THIS ALLOWS MOST OF THE DECISIONS TO BE MADE BY THE PROGRAM, WITH MINIMAL CE INTERVENTION. ANY INTERVENTION RECUIRED IS VIA CRT/KEYBOARD OR CRT/DATA SWITCHES.

MAP PROGRAMS RELY ON THE POWER, CPU, CHANNEL AND CRT TO BE WORKING.

MAP PROGRAMS ARE UTILIZED ON SUCH DEVICES AS THE KEYBOARD, PRINTER, DISK, DISKETTE ....ETC.

MAP CHARTS ARE IN HARD COPY OUTPUT WITH THE CE MAKING ALL DECISIONS.

THE CE IS EXPECTED TO KNOW HOW TO OPERATE ALL OF THE FUNCTIONS OF THE CE PANEL AND OPERATOR PANEL. REFERENCE MLM FOR OPERATING INSTRUCTIONS.

FOR INSTRUCTIONS ON HOW TO RUN DIAGNOSTICS, REFERENCE THE DIAGNOSTIC SERVICE GUIDE.

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23JAN76 PN2547695 EC828692 PEC828579

"AGE 3500-

PAGE 3500- 2

MAP SERVICE GUIDE

SYSTEM 32

PAGE 2 OF 13

THE FOLLOWING ITEMS MUST BE OBSERVED WHEN USING THE MAPS:

1. CHECK THE PROBE FOR CORRECT OPERATION.

WHEN USING THE GENERAL LOGIC PROBE, DO THE FOLLOWING:

- A. CONNECT BLACK LEAD TO GROUND (ANY VALID DO8 PIN) AND RED LEAD TO +5 VOLTS (ANY VALID DO3 PIN OR AA1-C5-BO2 PIN
  - FOR POWER FAILURES)
- B. SET TECHNOLOGY SWITCH TO MULTI UNLESS INSTRUCTED OTHERWISE. C. SET LATCH TO NONE
- D. SET GATE TO GND

· · · .

- E. ALWAYS CONNECT PROBE GROUND LEAD TO GND (ANY VALID DOB PIN) **\*\*\*\*\*** IF GROUND LEAD IS NOT CONNECTED \*\*\*\* \*\*\*\*\* THE PROBE WILL INDICATE INCORRECTLY \*\*\*\*\*\*\*\*\*\* F. AVOID USE OF PROBE EXTENDERS.
- \*\*\* USE OF PROBE EXTENDER WHILE PROBING 62GV \*\*\* \*\*\* SIGNAL LINES CAN CAUSE THE SYSTEM TO HANG UP \*\*\*
- 2. FOR ANY SYSTEM FAILURE OR CUSTOMER CALL, ENTER THE SYSTEM ENTRY CHART, MAP 0100-1. THIS CHART WILL EVENTUALLY DIRECT YOU TO THE FAILING I/O DEVICE, EITHER MAP PROGRAM OR MAP CHART. ONCE YOU EXIT TO THE I/O DEVICE, HOWEVER, IT IS ASSUMED THE CPU IS FUNCTIONING PROPERLY.
- 3. ALWAYS ENTER DEVICE MAP CHARTS OR MAP PROGRAM AT THE ENTRY.
- 4. DOUBLE CHECK YOUR WORK AS YOU GO. IF YOU MAKE A MISTAKE GO BACK TO THE ENTRY CHART TO RESTART. REMEMBER, THE MAPS USE A VERY SYSTEMATIC APPROACH TO ALL PROBLEMS. IF YOU ALTER THIS APPROACH OR BACK UP IN THE MAPS, THEIR ACCURACY CANNOT BE GUARANTEED. IF YOU SUSPECT A HUMAN ERROR WAS MADE IN PROCEEDING THROUGH A MAP (PROPED WEONC DIN HISPEAD OUTSTON) PROCEEDING THROUGH A MAP (PROBED WRONG PIN, MISREAD QUESTION, MISINTERPRETED ACTION STATEMENT), NOTE THE FRU THE MAP SAYS IS FAILING ON THE FIRST PASS AND GO THRU THE MAPS A SECOND TIME TO VERIFY THAT YOU HAVE NOT MADE A MISTAKE.
- 5. BEFORE REPLACING A CARD INDICATED BY THE MAPS:

A. CHECK THE VOLTAGE PLUG-ON CONNECTORS ON THE PIN-SIDE OF THE GATE. B. MAKE A VISUAL INSPECTION OF THE CARD CALLED OUT BY THE MAPS FOR BAD MECHANICAL CONNECTIONS. C. RESEAT THE CARD INDICATED BY THE MAPS.

- 6. DROP A CARD UNLESS TOLD TO DO OTHERWISE, ALWAYS POWER BEFORE REMOVING REMOVE POWER BEFORE INSTALLING A CARD.
- 7. ALWAYS INVESTIGATE AUDIBLE NOISES AND OBVIOUS ERRORS BEFORE USING MAPS.
- 8. IF YOU HAVE NOT ISOLATED THE PROBLEM WITHIN TWO HOURS, IT IS RECOMMENDED THAT YOU CALL FOR ASSISTANCE.

23JAN76	PN2547695
EC 828692	PEC828579

SYSTEM 32

PAGE 3 OF 13

THE ABOVE ITEMS SHOULD BE REVIEWED PERIODICALLY SINCE THEY ARE IMPORTANT TO A SUCCESSFUL COMPLETION OF A CALL USING THE MAPS.

### TERMINOLOGY

THE FOLLOWING TERMINOLOGY WILL BE USED THROUGHOUT THE MAP CHARTS AND MAP PROGRAMS.

TERM	EXPLANATION
DEPRESS	THIS MEANS TO DEPRESS AND RELEASE A KEY, BUTTON, SWITCHETC EXAMPLES:
n en en en an a	DEPRESS START DEPRESS SYSTEM RESET DEPRESS INQ KEY
DEPRESS AND HOLD	THIS MEANS TO DEPRESS AND HOLD A KEY, BUTTON, SWITCHETC, UNTIL INSTRUCTED TO RELEASE OR UNTIL A DECISION HAS BEEN MADE AND A QUESTION ANSWERED. EXAMPLES: DEPRESS AND HOLD START DEPRESS AND HOLD SYSTEM RESET DEPRESS AND HOLD SHIFT KEY
LOAD PROGRAM ID XXXX	THIS MEANS THAT IF NOT ALREADY DONE, THE CE DISKETTE MUST BE IMPLED AND
XXXX IS PRT2, KBDTOCRT, PRINTER, PRINTER3, CRT1,ETC.	AND THE NAME XXXX MUST BE ENTERED IN THE MAIN MENU, DISPLAY 0304, REFERENCE DIAGNOSTIC USER GUIDE FOR DETAILED INFORMATION ON LOADING PROGRAMS. EXAMPLES: LOAD PROGRAM ID PRT2 LOAD PROGRAM ID PRT2 LOAD PROGRAM ID PRINTER LOAD PROGRAM ID PRINTER3 LOAD PROGRAM ID CRT1

23 JAN76	PN2547695
EC828692	PEC828579

PAGE 3500- 4

MAP SERVICE GUIDE

SYSTEM 32

PAGE 4 OF 13

GENERAL LOGIC PROBE

THIS PROBE IS DESIGNED AS A SUBSTITUTE FOR THE SCOPE IN NORMAL SYSTEM DIAGNOSTIC TECHNIQUES.

THE GENERAL LOGIC PROBE IS DESIGNED TO GIVE A VISUAL INDICATION OF THE PRESENCE OR ABSENCE OF A MST 1, TTL, SLT, SLD, OR FET DRIVER SIGNAL LEVELS. THE PROBE CONSISTS OF A RECTANGULAR SHAPED PACKAGE APPROXIMATELY 3 IN. X 5.5 IN. X 1.3 IN., TWO INDICATING LIGHTS, A SLIDING SWITCH FOR SELECTING THE TECHNOLOGY TO BE PROBED, A SCOPE TYPE PROBE TIP WITH GROUND, TWO SLT-TYPE PINS FOR THE GATING FUNCTION, A GATE THRESHOLD SELECTOR SWITCH, A BABY-SITTING LATCH SELECTOR SWITCH, AND A POWER CABLE WHICH CONNECTS TO ANY DC POWER HAVING 4V TO 12V DIFFERENCE.

TWO LAMPS ARE PROVIDED TO INDICATE THE STATUS OF THE LINE BEING PROBED. IF THE LINE HAS AN UP LEVEL THE 'UP' INDICATOR WILL BE ON. A DOWN LEVEL WILL CAUSE THE 'DOWN' INDICATOR TO BE ON. A PULSE WILL BE SHOWN AS A FLASH OF ONE OF THE INDICATORS (DEPENDING ON THE LEVEL). A SERIES OF PULSES IS INDICATED BY BOTH LAMPS ON, OR ALTERNATELY ON, DEPENDING ON THE FREQUENCY OF THE PULSES.

EACH INDICATOR HAS ITS OWN SAMPLING CIRCUITS AND OPERATES INDEPENTENTLY OF THE OTHER INDICATOR. THUS PULSES WILL BE DETECTED AND DISPLAYED BY THE PROBE. THE PROBE WILL RESPOND TO A 5 TO 6 NANOSECOND PULSE. IF A LINE IS ACTIVE, EITHER UP OR DOWN WHEN PROBED, THE APPROPRIATE INDICATOR WILL BE TURNED ON FOR APPROXIMATELY 300 MSEC. AFTER THIS TIME THE INDICATOR WILL GO OFF AND THE LINE WILL IMMEDIATLY BE SAMPLED AGAIN. IF IT IS STILL ACTIVE THE INDICATOR WILL BE TURNED ON FOR ANOTHER 300 MS, OTHERWISE IT WILL STAY OFF UNTIL THE LINE BECOMES ACTIVE AGAIN.

THE FOLLOWING ARE TYPICAL SPECIFICATIONS PERTINENT TO THE GENERAL LOGIC PROBE. 'INBETWEEN LEVELS' ARE NOT DEFINED AND WILL VARY FROM PROBE TO PROBE.

MST 1 SPECIFICATIONS

DOWN LEVEL: -1.45V TO -2.40V	
PROTECTION: -14V TO +14 V	
RESPONSE: 5 NANOSECOND PULSE WI	DTH
INHIBIT RANGE: -3.8V > VIN >1	
(LIGHTS OFF) INPUT OPEN	

FET/TTL/SLD SPECIFICATIONS

UP LEVEL:	+1.85V TO +60.0V
DOWN LEVEL:	+0.95V TO -60.0V
PROTECTION:	-60V TO +60 V
RESPONSE:	6 NANOSECOND PULSE WIDTH

23JAN76 PN2547695 EC828692 PEC828579

SYSTEM 32

PAGE 5 OF 13

INHIBIT RANGE: +.95V < VIN < +1.85V (LIGHTS OFF) INPUT OPEN

POWER REQUIREMENTS: ANY DC POWER DIFFERENCE OF 4V TO 12V FOR EXAMPLE, A +1.25V AND A -3V COULD BE USED TO POWER THE PROBE POWER DISSIPATION: 1.2 WATTS

23JAN76	PN2547695	
EC828692	PEC828579	,
PAGE	3500- 5	

PAGE 3500-6

MAP SERVICE GUIDE

SYSTEM 32

PAGE 6 OF 13

CE AIDS PROVIDED WITH THIS SYSTEM

SINGLE PIN EXTENDERS - THE SINGLE PIN EXTENDERS SHIPPED WITH EACH SYSTEM ALLOW THE CE TO USE THE CE METER ON BOARD PINS WITHOUT SHORTING TO ADJACENT PINS. THIS EXTENDER SLIPS OVER THE PIN AND ALLOWS THE CE TO PLACE THE ALLIGATOR CLIPS OF HIS METER ON THE STUB END.

JUMPER WIRES - EIGHT JUMPER WIRES (6, 12 AND 18 INCH) ARE PROVIDED WITH EACH SYSTEM. THESE ARE USED IN CONJUNCTION WITH THE MAPS. THEY ARE ALSO USED TO INPUT SIGNALS INTO THE GENERAL LOGIC PROBE GATES AND CE SENSE BITS.

\*\*\*\*\*\*\*\*\*\*\*\*\* 1. ALWAYS USE THE SHORTEST JUMPER POSSIBLE WHEN \* ± JUMPERING SIGNAL PINS \* ≭ 2. NEVER PLACE ONE END OF A JUMPER ON A PIN AND AND TOUCH THE OPPOSITE END TO OTHER PINS AS \* × \* \* YOU COUNT THEM \* \* \*\*\*\*\*\*\*\*\*\*

FE PUBLICATIONS

THE FOLLOWING TYPES OF PUBLICATIONS WILL BE AVIALABLE FOR THE SYSTEM.

SPLIT MANUAL CONTAINING THE FOLLOWING: Α.

1. MAP CHARTS AND DIAGNOSTIC USERS GUIDE

2. MAINTAINENCE LIBRARAY MANUAL (MLM) FE AUTOMATED LOGIC DIAGRAMS (FEALD'S)

Β. FE THEORY OF OPERATIONS MANUAL (FETOM)

с.

D. ILLUSTRATED PARTS CATALOG (IPC)

PROGRAM LISTINGS Ε.

23 JAN 76	•	PN2	54	7695
EC82869	2	PEC	82	8579
	PAGE	3500-		6

SYSTEM 32

PAGE 7 OF 13

MAP CHART DESCRIPTION

MAPS ARE PRINTED IN A TWO COLUMN FORMAT. THE FIRST COLUMN (COMMAND COLUMN) CONTAINS CONCISE STATEMENTS AND QUESTIONS TO DIRECT THE CE.

THE SECOND COLUMN (SUPLEMENTARY COLUMN) TELLS THE CE THE PURPOSE OF THE CHECKS BEING PERFORMED OR, GIVES CONCLUSIONS THAT HAVE BEEN REACHED AS A RESULT OF HIS ANSWERS TO QUESTIONS IN THE COMMAND COLUMN. THE SUPLEMENTARY COLUMN IS LOCATED TO THE RIGHT OF THE COMMAND COLUMN. IF NO SUPPLEMENTARY INFORMATION EXISTS, THEN ANOTHER COMMAND COLUMN IS PUT IN THE PLACE OF THE SUPPLEMENTARY COLUMN. MAP PROGRAMS MAY HAVE ADDITIONAL INFORMATION SCROLLABLE. THIS INFORMATION IS INDICATED BY AN 'S' IN THE LOWER RIGHT HAND CORNER OF THE DISPLAY.

FORMAT OF QUESTIONS IN COMMAND COLUMN:

IST PART, PREPARE FOR QUESTION (OPTIONAL) THIS MAY BE ANY STATEMENT SUCH AS: REMOVE CABLE AA2-V3 PROBE AA2-M2-U11 TURN BELT MOTOR POWER DOWN DEPRESS START 2ND PART, QUESTION THIS MAY BE ANY QUESTION SUCH AS: LINE UP? MOTOR TURN EASILY? THERMAL LIGHT ON?

EXAMPLES:

JUMPER AA2-V3-D11 TO D12	PREPARE
REMOVE CABLE AA2-V3	PREPARE
PROBE AA2-M2-U11,	PREPARE
(-BELT GO),(DQO31)	OPTIONAL
LINE DOWN?	QUESTION
Y N	ANSWER
PROBE AA2-M2-U11,(-BELT GO)	PREPARE
LINE DOWN?	QUE STION
Y N	ANSWER
IS STOP LIGHT ON?	QUESTION
Y N	ANSWER
DOES FORMS ADVANCE KNOB	QUESTION
Y N	ANSWER

 23JAN76	PN2547695
EC828692	PEC828579
PAGE	3500- 7

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SYSTEM 32 PAGE 8 OF 13 EXAMPLES OF COMMAND AND SUPLEMENTARY COLUMN: 001 IS THE SYSTEM CLOCK ON? Y N 1 1 002 THE SYSTEM CLOCK LIGHT IS OFF . • THIS MAY BE CAUSED BY A 1 1 DEFECTIVE SYSTEM RESET KEY OR CARD IN THE CPU. E 1 T | PROBE AA1-M2-P13, | (-BLOCK PROCESSOR CLOCK) | LINE UP? Y ·N OR 001 IS THE SYSTEM CLOCK ON? YN 1 002 \*\*\*\*\* 1 T \* CHECKING INHIBIT FUNCTION \* I 1 \* ON PROCESSOR CLOCK \* L ۱ \*\*\*\* L 1 | PROBE AA1-M2-P13, | (-BLOCK PROCESSOR CLOCK) | LINE UP? 1 Y N

23JAN76	•	PN254	47695
EC82869	2	PEC 8	28579
	PAGE	3500-	8

PAGE 3500- 9

SYSTEM 32

PAGE 9 OF 13

ALL QUESTIONS ARE WRITTEN SO THEY CAN BE ANSWERED WITH YES (Y) OR NO (N). A Y AND AN N APPEARS UNDER EACH QUESTION, WITH THE Y ON THE LEFT AND THE N TO THE RIGHT. A VERTICAL LINE APPEARS UNDER THE Y TO LEAD THE CE TO THE NEXT LOGICAL STEP OR FRU IF THE QUESTION IS ANSWERED YES. IF THE QUESTION IS ANSWERED NO, THE NEXT LOGICAL STEP OR FRU APPEARS UNDER THE N AND ALIGNED WITH IT.

EXAMPLE:

001 IS THE SYSTEM CLOCK LIGHT ON? Y N 002 1 PROBE AA1-M2-P13, (-BLOCK PROC CLK) 1 LINE UP? Y N 1 1 003 1 | REPLACE AA1-M2 F ł 004 L DEPRESS SYSTEM RESET, DEPRESS CE START DID SYSTEM CLOCK LIGHT COME ON? Y N 1 1 1 I 005 | EXIT TO SYSTEM RESET CHART E

WHEN THE NEXT LOGICAL STEP OF THE MAP FLOW IS ON ANOTHER PAGE, VERTICAL LINES ARE EXTENDED FROM THE Y'S AND N'S TO THE BOTTOM OF THE PAGE AND THE LOCATION OF THE NEXT LOGICAL STEP IS GIVEN.

FOR Y TRACES, THIS OFF PAGE REFERENCE CONSISTS OF THE DESTINATION PAGE NUMBER AND AN ALPHABETIC TRACE IDENTIFIER. ON THE DESTINATION PAGE THE ALPHABETIC TRACE IDENTIFIER IS REPEATED AND THE PAGE THE TRACE CAME FROM IS IDENTIFIED.

23JAN70	FN2 34 1093
EC 828692	PEC828579
PAGE	3500- 9

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MAP SERVICE GUIDE
                                                                        PAGE 3500- 10
SYSTEM 32
PAGE 10 OF
                 13
    PROBE OPERATIONS - PROBE OPERATIONS ARE SPECIFIED IN THE FOLLOWING MANNER.
    ALL OPERATIONS REFER TO THE MULTI SETTING UNLESS SPECIFIED OTHERWISE:
        AA2-Q2-P07
        11
             I
                 PIN NUMBER
        11
        11
             1
             CARD SOCKET
        11
        11
        IBOARD NUMBER
        GATE
SOME VARIATIONS OF THIS PROBE CALLOUT ARE:
       PTR-134-45
                  PIN NUMBER
                                          THIS NUMBERING SCHEME
                                         IS FOR A PLANAR BOARD,
REFERENCE MLM, PRINTER
SECTION FOR AN EXPLANATION
OF WHAT NUMBERS REFER TO.
              CARD SOCKET
         PRINTER
      XXX-XXX-XXX
        1
             1
                  1
                  B11 - PIN NUMBER
12 - TERMINAL NUMBER
        1
             1
        1
             PC - PRINTED CIRCUIT BOARD
        1
            TB1 - TERMINAL BLOCK
J1 - PLUG CONNECTOR
Y1 - CONNECTOR
       CRT - CRT DISPLAY
       KBD - KEYBOARD
       PTR - PRINTER
DUL - DUAL LEVEL POWER SUPPLY
CEP - CE PANEL
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23JAN76	PN2547695
EC 828692	PEC828579
PAG	3500- 10

SYSTEM 32

PAGE 11 OF 13

LINE NAME AND PAGE NUMBER (OPTIONAL)

THE LINE NAME AND PAGE NUMBER FOR A PROBE OPERATION MAY FOLLOW THE PROBE AND WILL BE IN PARENTHESES. THE LINE NAME WILL CONTAIN ITS ACTIVE LEVEL, EITHER MINUS OR PLUS, AS THE FIRST CHARACTER. THE PAGE NUMBER WILL BE THE LOGIC PAGE IN WHICH THE LINE BEING PROBED IS GENERATED.

EXAMPLES:

PROBE AA2-M2-U04 (+WIGGLE) (DM040)

PROBE AA2-M2-UO3 (-VERTICAL 4) (DM045)

JUMPERING FROM ONE POINT TO ANOTHER

JUMPERING IS DONE FOR THE FOLLOWING REASONS: FROM ONE PIN TO A GROUND TO FORCE A CONDITION FROM ONE PIN TO ANOTHER PIN TO SENSE A LOGIC LEVEL FROM ONE PIN TO ANOTHER PIN TO BYPASS AN INTERLOCK

THE FORMAT IS JUMPER AA2-Q2-P07 TO AA2-R2-U11

IF JUMPERING IS DONE ON THE SAME CARD, THEN THE FORMAT IS

JUMPER AA2-G2-PO7 TO U11

OR

OR

. .

JUMPER AA2-V3-D11 TO D12 REMOVE CABLE AA2-V3

JUMPER AA2-Q2-P07 TO S13 TO SENSE -HAMMER SELECT STROBE

23JAN76	PN2547695
EC828692	PEC828579

PAGE 3500- 12

MAP SERVICE GUIDE

SYSTEM 32

PAGE 12 OF 13

CARD CALLOUTS SINGLE CARD CALLOUTS REPLACE AA2-Q2 OR REPLACE AA2-Q2 (PRINTER CONTROL) OR REPLACE KBD-PC (KEYBOARD PC BOARD) OR REPLACE PTR-13C (STEPPER DRIVER)

MULTIPLE CARD CALLOUTS THESE CALLOUTS ARE LISTED IN THE ORDER IN WHICH THEY ARE MOST LIKELY TO FAIL.

REPLACE AA2-Q2 REPLACE PTR-13A OR 1. CHECK ADJUSTMENT OF CLICKER 2. CHECK RESISTANCE OF CLICKER TO 2 OHMS 3. REPLACE KBD-PC (KEYBOARD PC BOARD)

CABLE CALLOUTS CABLES ARE ONLY ISOLATED IF THEY ARE OPEN, NO SHORTED CABLES ARE DETECTED.

REPLACE CABLE FROM AA2-U3 TO KBD-PC OR REPLACE CABLE FROM AA2-V3 TO PTR-13C

23JAN76	PN2547695	
EC828692	PEC828579	
PAGE 3500-12		

SYSTEM 32

PAGE 13 OF 13

DIAGNOSTIC PROBE INDICATIONS:

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ALL PROBES WILL REFERENCE THE LINE BEING PROBED IN THE FOLLOWING MANNER: LINE UP? -UP LIGHT IS ON, DOWN LIGHT IS OFF. -DOWN LIGHT IS ON, LINE DOWN? UP LIGHT IS OFF. LINE PULSING?. -BOTH LIGHTS ARE ON OR ALTERNATING. -UP LIGHT IS OFF, THEN FLASHES ON MOMENTARILY WHEN ACTION PERFORMED. LINE PULSE UP? NO REFERENCE IS MADE TO THE DOWN LIGHT. LINE PUESE DOWN? -DOWN LIGHT IS OFF, THEN FLASHES ON MOMENTARILY WHEN ACTION PERFORMED. NO REFERENCE IS MADE TO UP LIGHT. LINE DOWN, PULSE UP? -DOWN LIGHT IS ON AND STAYS ON. UP LIGHT IS OFF, THEN FLASHES ON MOMENTARILY WHEN ACTION PERFORMED. -UP LIGHT IS ON AND STAYS ON. DOWN LIGHT IS OFF, THEN FLASHES ON MOMENTARILY WHEN ACTION PERFORMED. LINE UP, PULSE DOWN? -DOWN LIGHT IS ON, THEN GOES OFF LINE DOWN, CHANGE UP? WHEN ACTION PERFORMED. UP LIGHT IS OFF, THEN GOES ON WHEN ACTION PERFORMED. LINE UP, CHANGE DOWN? -UP LIGHT IS ON, THEN GOES OFF WHEN ACTION PERFORMED. DOWN LIGHT IS OFF, THEN GOES ON WHEN ACTION PERFORMED. LINE DOWN, CHANGE PULSING? -DOWN LIGHT IS ON AND STAYS ON. UP LIGHT IS OFF, THEN GOES ON WHEN ACTION PERFORMED. LINE UP, CHANGE PULSING? -UP LIGHT IS ON AND STAYS ON.

DOWN	LIGHT 1	S OFF,	THEN	GOES	ON
WHEN	ACTION	PERFORM	1ED.		

23JAN	76	PN2	547695
EC 828	692	PEC	828579
	PAGE	3500-	13