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# Displaywriter System

## Maintenance Analysis Procedures

Revised July, 1981  
S241-6250-4

**IBM 6360 Diskette Unit**  
**IBM 6580 Display Station**  
**Communications**

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## SAFETY PRECAUTIONS

*All IBM Customer Engineers are expected to take every safety precaution possible and observe the following safety practices when servicing IBM equipment.*

### *Mechanical Safety:*

1. *Safety glasses must be worn.*
2. *All safety devices, such as guards, shields, signs, ground wires, etc., must be restored after maintenance. When a guard or shield is removed to observe or make an adjustment, that shield must be replaced when work in the area is completed.*
3. *Watches, rings, necklaces, ID bracelets, etc., must be removed when servicing the machine.*
4. *Care must be used when working near moving parts. Keep hair away from moving parts. Avoid wearing loose clothing that might be caught in the machine. Shirt sleeves must be kept buttoned or rolled above the elbows. Ties must be tucked in the shirt or have a tie clasp approximately three inches from the end. Tie chains are not recommended.*

### *Electrical Safety:*

1. *The equipment referenced in this manual may use high voltages. Check voltage labels!*
2. *Safety glasses must be worn when checking energized circuits.*
3. *If a circuit is disconnected for servicing or parts replacement, it must be reconnected and tested before allowing the use of the machine.*
4. *Power should be removed from the machine for servicing whenever possible. Remember, when checking voltages, avoid contacting ground potential, such as metal floor strips, machine frame, etc.*
5. *Meter continuity checks should be used instead of voltage checks whenever possible.*
6. *Do not apply power to any part, component, or subassembly when it is not physically mounted in the machine, or its approved service position.*

### *General Safety:*

1. *Each Customer Engineer is responsible to be certain no action on his/her part makes the product unsafe or exposes customer personnel to hazards.*
2. *Store the removed machine covers in a safe, out of the way place where no one can trip over them.*
3. *If you must leave the machine in a down condition, always install the covers and disconnect the power before leaving the customer's office.*
4. *Always place CE tool kit away from walk areas where no one can trip over it.*
5. *Maintain safe conditions in the area of the machine while performing and after completing maintenance.*
6. *Before starting the equipment, make sure fellow CEs and customer personnel are not in a hazardous position.*
7. *All the machine covers must be in place before the machine is returned to the customer.*

*Note: Refer to the Safety CEMs relating to this product(s) for further safety precautions.*

## MAP REFERENCE TABLE

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MAP NO.	TITLE
0001	TABLE OF CONTENTS
0002	INTRODUCTION
0009	START-OF-CALL MAP
0010	SYSTEM ENTRY MAP
0015	ERROR LED STATUS MAP
0017	LED STATUS MAP
0019	ERROR CODE (03,06,08,09) MAP
1010	KEYBOARD ENTRY MAP
1011	SPEAKER CHECK MAP
1012	DISTRIBUTION CABLE MAP
1013	KEYLOCK ON FAILURE
1014	KEYLOCK OFF FAILURE
4011	CABLE DETECTION REPAIR- CONN. 0
4012	RECEIVE CIRCUIT REPAIR- CONN. 0
4013	TRANSMIT CIRCUIT REPAIR- CONN. 0
4211	SHARING INTERRUPT REPAIR
4212	SHARING INTERRUPT REPAIR
4213	CABLE DETECTION REPAIR- CONN. 6A
4214	RECEIVE CIRCUIT REPAIR- CONN. 6A
4215	TRANSMIT CIRCUIT REPAIR- CONN. 6A
4216	CABLE DETECTION REPAIR- CONN. 6B
4217	RECEIVE CIRCUIT REPAIR- CONN. 6B
4218	TRANSMIT CIRCUIT REPAIR- CONN. 6B
5011	CABLE DETECTION REPAIR- CONN. 0
5012	RECEIVE CIRCUIT REPAIR- CONN. 0
5013	TRANSMIT CIRCUIT REPAIR- CONN. 0
5030	FREQUENCY DRIFT ON PRINTER COMMO.
6010	POWER SUPPLY MAP

MAP NO.	TITLE
7010	COMMUNICATIONS
7020	INTERNAL EIA CABLE
7030	INTERNAL COMMUNICATIONS CABLE
7060	PORT 4 NO VOLTAGE
7061	P4A/P4B NO VOLTAGE
7062	FEATURE CARD POWER
8020	RNA START MAP
8021	READ ID ERROR MAP
8022	DISKETTE DRIVE NOT READY MAP
8025	UNSAFE WRITE CONDITION MAP
8026	NO INDEX PULSES MAP
8028	SEEK ERROR MAP
8030	NOT WRITING/WRITE ERRORS MAP
8032	H/S WRAP AND/OR CABLE WRAP ERRORS
8060	DISKETTE UNIT +5 VDC POWER MAP
8061	DISKETTE UNIT +24 VDC POWER MAP
8062	DISKETTE UNIT -5 VDC POWER MAP
8064	DISKETTE UNIT A/C POWER FAILURE
8065	DC SHORT FAILURE MAP
9010	BLANK DISPLAY MAP
9020	DISPLAY ADAPTER MAP
9030	NO VIDEO DATA MAP
9040	DISTORTED DISPLAY IMAGE MAP
9050	NO CONTRAST ADJUSTMENT MAP
	APPENDIX A - DISPLAY IMAGE FIGURES
	APPENDIX B - GLOSSARY
	APPENDIX C - CUSTOMER PRINT

INTRODUCTION

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M A P S (MAINTENANCE ANALYSIS PROCEDURES)

1. THESE MAPS ARE USED FOR TWO REASONS.

- a. They aid in diagnosing System failures.
- b. They aid in learning Diagnostic Procedures.

2. STEPS FOR USING MAPS.

- a. You should have received a Service Request Number when notified of the Call. The Service Request Number is used to determine which FRU to bring.
- b. Make a quick visual check for problems (loose or broken parts, loose connectors, etc.) A visual check may be quicker than a MAP diagnosis.
- c. You should begin in the Start-of-Call MAP. The Start-of-Call MAP will send you to an area MAP, determined by your Service Request Number or to the System Entry MAP if you do not have a Service Request Number.
- d. These MAPs aid in finding problems. An instruction or question can be read wrong. If the problem is not solved, you should start again in the MAPs and read each step very carefully. If you go through the MAPs a second time and you still have not solved the problem, it may be because the machine has two problems or an intermittent problem. The EC levels of the MAPs may not be correct. Verify the EC Level of the MAPs. If this does not solve the problem and you cannot repair it, follow your normal escalation procedure.

## INTRODUCTION

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## e. ESCALATION PROCEDURE

When it is necessary to follow your normal escalation procedure, you should be prepared in the following way:

- 1) The type of jobs or functions that fail should be listed.
- 2) You should know the sequence leading to the failure.
- 3) You should have the History Card available with all options, EC levels and CEMs listed.

## 3. BASIC MAP INFORMATION:

- a. A MAP aids you in finding a problem by using questions concerning the System symptoms. Each question is written so it can be answered YES or NO. When you answer "YES" or "NO" to a question, the MAP will lead you to a fix, a question, or another MAP.
- b. At the start of each MAP, an Entry and Exit Table specifies the locations in the MAPs of any Entry or Exit Points.

## DIAGNOSTIC PROCEDURES

## INTRODUCTION: VOLTAGE, GROUND AND CONTINUITY READINGS

The following text describes some SAFETY Procedures. It has information on voltage, ground and continuity readings. Unless you understand these MAPs, read the information below before you go to the Start-of-Call MAP.

## INTRODUCTION

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## CAUTION

ALWAYS POWER-OFF WHEN CHECKING THE PRIMARY POWER FUSE, DISCONNECTING OR CONNECTING ANY ELECTRICAL PART, UNLESS OTHERWISE DIRECTED. IT IS A GOOD IDEA TO REMOVE POWER WHEN CHECKING ANY FUSE.

## 1. VOLTAGE READINGS

- a. Every time a voltage reading is requested in these MAPs, the readings are to be taken with the CE Meter (PN 9900628). If a different meter is used in a World Trade Country, that Country must check the readings with their meter and make a conversion table if necessary. All AC voltages must be accurate to plus or minus 10% (WT: plus 8%, minus 12%).
- b. All DC voltages must be accurate to plus or minus 10%. Unless stated otherwise, all connectors should be connected normally when a voltage reading is taken.
- c. The AC line voltage on U.S. machines should be between 104 (ac) volts and 127 (ac) volts. On GBG/I machines, the voltage will differ by Country.

## 2. GROUND CHECKS

To check a ground point, measure between the ground point and a known voltage source. The reading must equal the voltage on that source if the ground is good. Continuity readings may be used to check grounds, but measure to a known ground point. Use the lowest ohm scale and check for less than two (2.0) ohms.

## CAUTION

ALWAYS REMOVE POWER BEFORE TAKING A CONTINUITY READING.

INTRODUCTION

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3. CONTINUITY READINGS

When taking continuity readings, back circuits can affect the reading. If necessary, disconnect connectors. An open circuit will read over range (A one with no decimal point or zeros). A circuit with good continuity will read less than two (2.0) ohms.

MAP 0009

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ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
-----			

No entries in this table

EXIT POINTS

-----			
EXIT THIS MAP		TO	
-----			
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
-----			

1	004	0010	A
2	012	0010	A
6	020	0010	A
6	024	0010	A

001

(ENTRY POINT A)

Do you have a Service Request Number?

Y N

002

Do you suspect any specific area of failing?

Y N

003

Is the Operator available?

Y N

3

A B C D

004

You are now directed to go to the System Entry MAP.

GO TO MAP 0010, ENTRY POINT A.

005

Instruct the Operator to use the Problem Determination Package (Problem Determination Guide and Problem Determination Diskette) to generate a Service Request Number.

Locate the Service Request Number in the Service Request Number Table and go to the MAP indicated or execute the MDI indicated.

006

Is the problem easy to identify? (loose keytops, knobs, covers, cables, etc.)

Y N

3 2

E F

F  
1  
START-OF-CALL MAP  
MAP 0009  
PAGE 2 OF 7  
007  
Do you suspect a Paper Handling problem?  
Y N  
008  
Do you suspect the Printer?  
Y N  
009  
Do you suspect the Mag Card?  
Y N  
010  
Do you suspect a Communications problem?  
Y N  
011  
Do you suspect a Shared Resource problem?  
Y N  
012  
You are now directed to go to the System Entry (Step 012 continues)

K L  
013  
GO TO MAP 0010, ENTRY POINT A.  
013  
Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.  
Select MDIs.  
Select Shared Resource ID "f" or "g".  
Run Shared Resource Tests.  
014  
Make sure all the cables from the Media Module are attached.  
POWER-ON the System.  
Load the DISPLAYWRITER SYSTEM COMMUNICATIONS DIAGNOSTICS.  
Select the Communications ID "j".  
Run Communications Tests.

H J  
MAP 0009-2  
015  
Make sure the Mag Card Cable is attached.  
POWER-ON the System.  
POWER-ON the Mag Card.  
Load the DISPLAYWRITER SYSTEM MAG CARD UNIT DIAGNOSTICS.  
Select MDIs.  
Select Mag Card ID "i".  
Run Mag Card Tests.  
016  
Make sure the Printer Cable is attached.  
POWER-ON the System.  
POWER-ON the Printer.  
Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.  
Select MDIs.  
(Step 016 continues)

MAP 0009

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(Step 016 continued)  
Select Printer ID "e".  
Run Printer Tests.

017  
Load the DISPLAYWRITER  
SYSTEM DIAGNOSTICS.  
Select MDIs.  
Select Paper Handling ID  
"h".  
Run Paper Handling Tests.

018  
Repair or Replace parts as  
necessary.  
GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

019  
Service| System Area | MAP No.  
Request| or Device | or  
Number | MDI ID

000001 | Memory | c  
000001 | Keyboard ID | NOTE \*  
000001 | Mag Card | i

(Step 019 continues)

(Step 019 continued)

Service Request Number	System Area or Device	MAP No. or MDI ID
000001	Communications Printer	j
000001	Shared Printer (Secondary)	e
000001	Shared Printer (Primary)	g
000001	Sheet Feed	f
000001	Tractor Feed	h
000001	Call operator for specific information.	h
000002	LED A,B or C "ON"	N/A
000800	LED D,E,F,G or H "ON"	6010
000801	Post-CRT Code "01"	0015
000801	Post-CRT Code "02"	1010
000801	Post-CRT Code "03"	1010
000801	Post-CRT Code "04"	0019
000801	Post-CRT Code "05"	8032
000801	Post-CRT Code "06"	8032
000801	Post-CRT Code "06"	0019

(Step 019 continues)

(Step 019 continued)

Service Request Number	System Area or Device	MAP No. or MDI ID
000801	Post-CRT Code "08"	0019
000801	Post-CRT Code "09"	0019
000900	*900* FFF0	0010
000900	*900* FFF1	0010
000900	*900* FFF2	0010
000900	*900* FFF3	0010
000900	*900* FFF4	0010
000900	*900* FFFA	0010
000900	*900* FFFF	0010
000900	*900* Other	0010
000900	*903*	N/A
000900	*90B*	N/A
021000	Memory	d
021001	Memory	c
021002	Memory	c
050002	Printer Link	e
050100	Printer	e
052002	Printwheel	e
052007	Printer	e
052008	Printwheel	e
052010	Printer	e
052010	Printwheel	e
052010	Printer	e

(Step 019 continues)

MAP 0009

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(Step 019 continued)			(Step 019 continued)			(Step 019 continued)		
Service Request Number	System Area or Device	MAP No. or MDI ID	Service Request Number	System Area or Device	MAP No. or MDI ID	Service Request Number	System Area or Device	MAP No. or MDI ID
052011	Printwheel Printer	e	180015	Diskette	d	310012	Keyboard	NOTE *
110001	Keyboard	NOTE *	180025	Diskette	d	321011	Memory	c
110004	Keyboard	NOTE *	181015	Diskette	d	321012	Memory	c
110013	Keyboard	NOTE *	190001	Display	9020	321021	Memory	c
120001	System	0010	190002	Display	9040	321022	Memory	c
120004	Memory	c	190004	Display	9020	321023	Memory	c
120005	Memory	c	210007	Keyboard	NOTE *	321024	Memory	c
120006	Memory	c	210010	Keyboard	0010	321025	Memory	c
120007	Memory	c	220008	Memory	c	321031	Memory	c
120011	System	c	220009	Memory	c	321032	Memory	c
130001	Mag Card	i	220010	Memory	0010	321033	Memory	c
130005	Mag Card	i	231004	Mag Card	i	321034	Memory	c
131001	Mag Card	i	231006	Mag Card	i	321035	Memory	c
131002	Mag Card	i	240001	See SR# 540001		331003	Mag Card	i
131021	Mag Card	i	251008	5215 Printer	e	331007	Mag Card	i
131022	Mag Card	i	252001	Printwheel Printer	e	331011	Mag Card	i
140002	Printer Sharing	g	270701	Communications	j	331016	Mag Card	i
142001	Printer Sharing	f	270743	Communications	j	332101	Mag Card	i
150001	Printer Link	e	270764	Communications	j	332103	Mag Card	i
160001	Power Supply	0010	270775	Communications	j	332202	Mag Card	i
180001	Diskette	d	270786	Communications	j	332203	Mag Card	i
170701	Communications	j	270807	Communications	j	332301	Mag Card	i
170721	Communications	j	280005	Diskette	d	332302	Mag Card	i
170722	Communications	j	281037	Diskette	d	332303	Mag Card	i
180001	Diskette	d	290003	Display	0010	332401	Mag Card	i
(Step 019 continues)			310008	Keyboard	NOTE *	332402	Mag Card	i
			310009	Keyboard	NOTE *	332403	Mag Card	i
			(Step 019 continues)			332503	Mag Card	i
						(Step 019 continues)		

MAP 0009

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(Step 019 continued)

Service Request Number	System Area or Device	MAP No. or MDI ID
332603	Mag Card	i
332703	Mag Card	i
332803	Mag Card	i
332903	Mag Card	i
342002	Printer	f
	Sharing	
342003	Printer	f
	Sharing	
352003	Printwheel	e
	Printer	
352004	Printwheel	e
	Printer	
352005	Printwheel	e
	Printer	
354001	Tractor Feed	e
370753	Communications	j
380004	Diskette	d
380006	Diskette	d
380007	Diskette	d
380026	Diskette	d
380033	Diskette	d
380037	Diskette	d
381004	Diskette	d
381006	Diskette	8020
381026	Diskette	d
381027	Diskette	d
381028	Diskette	d
381031	Diskette	d

(Step 019 continues)

(Step 019 continued)

Service Request Number	System Area or Device	MAP No. or MDI ID
381033	Diskette	d
430002	Mag Card	i
431005	Mag Card	i
431012	Mag Card	i
431013	Mag Card	i
431014	Mag Card	i
431018	Mag Card	i
431020	Mag Card	i
432001	Mag Card	i
432002	Mag Card	i
432004	Mag Card	i
432501	Mag Card	i
432601	Mag Card	i
432701	Mag Card	i
432801	Mag Card	i
432901	Mag Card	i
453003	Sheet Feed	e
	Paper Handler	
453004	Sheet Feed	e
	Paper Handler	
480008	Diskette	d
480009	Diskette	d
480016	Diskette	d
480024	Diskette	d
480034	Diskette	d
481008	Diskette	d
481009	Diskette	d
481016	Diskette	d

(Step 019 continues)

(Step 019 continued)

Service Request Number	System Area or Device	MAP No. or MDI ID
481034	Diskette	d
531008	Mag Card	i
531010	Mag Card	i
532003	Mag Card	i
532103	Mag Card	i
540001	Printer	g
	Sharing	
540003	Printer	g
	Sharing	
553001	Sheet Feed	e
	Paper Handler	
553002	Sheet Feed	e
	Paper Handler	
580010	Diskette	d
581010	Diskette	d
581011	Diskette	d
630004	Mag Card	i
632201	Mag Card	i
652009	Printwheel	e
	Printer	
680011	Diskette	d
680017	Diskette	8020
681017	Diskette	8020
730003	Mag Card	i
731015	Mag Card	i
731017	Mag Card	i
731019	Mag Card	i
732300	Mag Card	i

(Step 019 continues)

(Step 019 continued)

Service Request Number	System Area or Device	MAP No. or MDI ID
732400	Mag Card	i
752006	Printwheel Printer	e
777777	Communications	j
780018	Diskette	8020
780035	Diskette	8020
781018	Diskette	8020
781035	Diskette	8020
832200	Mag Card	i
880013	Diskette	8020
880036	Diskette	8020
881013	Diskette	8020
881036	Diskette	8020
888888	Customer made PDG error	
900004	Multiple Fault	0010
931009	Mag Card	i
932100	Mag Card	i
932500	Mag Card	i
932600	Mag Card	i
932700	Mag Card	i
932800	Mag Card	i
932900	Mag Card	i
880013	Diskette	8020
951001	5215 Printer	e
980014	Diskette	d
980019	Diskette	8020
981019	Diskette	8020

(Step 019 continues)

(Step 019 continued)

-----

\*\*\*\*\* NOTE SECTION: \*\*\*\*\*

-----

NOTE \*

Load DISPLAYWRITER SYSTEM DIAGNOSTICS.

Open and close disk handle, MDIs will load.

Open and close disk handle, keyboard tests will load.

-----

TABLE 1 MAP 0009

-----

Is your Service Request Number in the Table?

Y N

020

You are now directed to go to the System Entry MAP.

GO TO MAP 0010, ENTRY POINT A.

021

Does the Service Request Number appear in the Table more than once?

Y N

022

Go to the MAP indicated or execute the MDI listed in the Service Request Table.

023

Does the additional information you received match any of the additional information listed for that Service Request Number?

Y N

024

You are now directed to go to the System Entry MAP.

GO TO MAP 0010, ENTRY POINT A.

025

Go to the MAP indicated or (Step 025 continues)

START-OF-CALL MAP

MAP 0009-7

MAP 0009

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(Step 025 continued)  
execute the MDI listed in the  
Service Request Table.

MAP 0009-7

MAP 0010

PAGE 1 OF 7

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
-----			

All MAPs return to MAP 0010

EXIT POINTS

-----			
EXIT THIS MAP		TO	
-----			
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
-----			

4	028	0015	A
4	024	0017	A
4	027	0017	A
4	029	6010	A
6	039	8020	A
6	040	8020	A
7	046	8020	A
3	014	8064	A
5	036	9020	A
3	017	9030	A
4	021	9030	A
5	032	9040	A

001

(ENTRY POINT A)

POWER-OFF.

Remove any Diskette that may be in the Drive.

POWER-ON.

(Step 001 continues)

(Step 001 continued)

Wait 20 seconds for BAT to complete.

Is the IBM LOGO visible on the Display?

Y N

002

Is an Error Code displayed at the bottom of the screen?

Y N

003

Check the LED Indicators.

Are there any Led Indicators ON?

Y N

004

Check to see if the Fan in the Electronic Module is running.

Is the Fan in the Electronic Module running?

Y N

5 5 4 3 2  
A B C D E

005

It appears that AC Power is not present at the Power Supply.

POWER-OFF.

Remove the Primary Power Fuse from Panel 2.

Using the lowest ohms range, check the continuity (less than 2 ohms) of the Fuse.

Is the Power Supply Fuse bad?

Y N

006

DANGER

HIGH VOLTAGE IS PRESENT AT THE POWER CORD CONNECTOR.

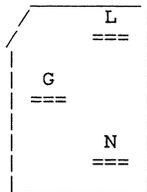
Disconnect the Power Cord Connector (9) at Panel 2.

Power Cord Connector (9) configuration.

(Step 006 continues)

3 F

(Step 006 continued)



Using the 200(ac) voltage range, measure the voltage at Power Cord Connector (9).

Connector Pins	(ac) Voltage Range
L to G	104 to 127 volts
L to N	104 to 127 volts

(WT-GBG/I refer to Voltage Chart in the Product Support Manual.)

Is the voltage in the correct voltage range?

Y N

Vertical line of characters: | | | | | | | | | |

G H

007

Disconnect the Power Cord Connector from the wall outlet.

Using the 200(ac) voltage range, measure the voltage at the outlet.

Is the voltage in the correct voltage range?

Y N

008

Inform the Customer.

009

Install a new Power Cord.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

010

POWER-OFF.

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A, to (Step 010 continues)

F SYSTEM ENTRY MAP  
 2  
 MAP 0010  
 PAGE 3 OF 7  
 (Step 010 continued)  
 Verify System Operation.  
 011  
 Install a new Fuse.  
 POWER-ON.  
 Is the Fan in the Electronic  
 Module running?  
 Y N  
 012  
 POWER-OFF.  
 Disconnect the Diskette Unit  
 AC(output) Cable Connector  
 (8) at Panel 2.  
 Install a new Fuse.  
 POWER-ON.  
 Is the Fan in the Electronic  
 Module running?  
 Y N  
 013  
 POWER-OFF.  
 (Step 013 continues)

J K

D J K  
 1  
 (Step 013 continued)  
 Install a new Power  
 Supply.  
 GO TO MAP 0010, ENTRY POINT  
 A, to Verify System  
 Operation.  
 014  
 The Problem is in the  
 Diskette Area.  
 You are now directed to go to  
 the Diskette Unit A/C Power  
 Failure MAP.  
 GO TO MAP 8064,  
 ENTRY POINT A.  
 015  
 GO TO MAP 0010, ENTRY POINT A,  
 to Verify System Operation.  
 016  
 Is the Display Screen totally  
 blank? (no illumination)  
 Y N

L M

L M MAP 0010-3  
 017  
 You are now directed to go to  
 the Display No Video Data MAP.  
 GO TO MAP 9030, ENTRY POINT A.  
 018  
 Turn the Display Brightness and  
 Contrast Control Knobs fully  
 clockwise.  
 Is the Display still blank? (no  
 illumination)  
 Y N  
 019  
 Is the IBM LOGO visible on the  
 Display?  
 Y N  
 020  
 Is an Error Code displayed at  
 the bottom of the screen?  
 Y N  
 021  
 (Step 021 continues)

4 4 4  
N P Q

MAP 0010-3

Q  
3

SYSTEM ENTRY MAP

MAP 0010

PAGE 4 OF 7

(Step 021 continued)

You are now directed to go to the Display No Video Data MAP.

GO TO MAP 9030, ENTRY POINT A.

022

Adjust the Brightness Control to obtain a correct visual level.

Select the Error Code in the following Chart and go to the indicated MAP.

Post-CRT Error Code Table

Error Code	LED Code	MAP Number	Entry Point
DEFGH			
01	00110	1010	A
02	00110	1010	A
03	00111	0019	A
04	01000	8032	A
05	01000	8032	A
06	01001	0019	A
08	01010	0019	A
09	01100	0019	A

01	00110	1010	A
02	00110	1010	A
03	00111	0019	A
04	01000	8032	A
05	01000	8032	A
06	01001	0019	A
08	01010	0019	A
09	01100	0019	A

C N P  
1 3 3

023

Adjust the Brightness Control to obtain a correct visual level.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

024

You are now directed to go to the LED Status MAP.

GO TO MAP 0017, ENTRY POINT A.

025

Are any of the A, B or C LED Indicators ON?

Y N

026

POWER-OFF.

Position the Electronic Module so the LED Indicators may be easily observed.

(Step 026 continues)

R

R

MAP 0010-4

(Step 026 continued)

While observing the LED Indicators, POWER-ON.

At the start, did all the LED Indicators light?

Y N

027

You are now directed to go to the LED Status MAP.

GO TO MAP 0017, ENTRY POINT A.

028

You are now directed to go to the Error LED Status MAP.

GO TO MAP 0015, ENTRY POINT A.

029

You are now directed to go to the Power Supply MAP.

GO TO MAP 6010, ENTRY POINT A.

MAP 0010-4

1 1

MAP 0010

PAGE 5 OF 7

030

Select the Error Code in the following Chart and go to the indicated MAP.

Post-CRT Error Code Table

Error Code	LED Code	MAP Number	Entry Point
	DEFGH		
01	00110	1010	A
02	00110	1010	A
03	00111	0019	A
04	01000	8032	A
05	01000	8032	A
06	01001	0019	A
08	01010	0019	A
09	01100	0019	A

031

Compare the Display Image to the Picture of a normal Display in Figure 1, Appendix A. (Step 031 continues)

(Step 031 continued)

Does the Display Image look normal? (Ignore any characters in the lower left corner.)  
Y N

032

You are now directed to go to the Display Distorted Image MAP.

GO TO MAP 9040, ENTRY POINT A.

033

The Diskette Unit may have one or two Diskette Drives.

Check the left Diskette Drive first.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS in the left Diskette Drive.

Did a readable CE Diagnostic Function Selection Menu appear on the Screen?

Y N

6  
S T

034

Is the IBM LOGO still visible on the Display?

Y N

035

Is the Display Screen totally blank? (no illumination)

Y N

036

You are now directed to go to the Display Display Adapter MAP.

GO TO MAP 9020, ENTRY POINT A.

037

POWER-OFF.

POWER-ON.

Load a known good Diskette. (Step 037 continues)

6  
U

U  
5

SYSTEM ENTRY MAP

MAP 0010

PAGE 6 OF 7

(Step 037 continued)

Is the Display Screen totally blank? (no illumination)

Y N

038

Obtain a new DISPLAYWRITER SYSTEM DIAGNOSTIC diskette.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

039

You are now directed to go to the RNA Start MAP.

GO TO MAP 8020, ENTRY POINT A.

040

The Problem is in the Diskette Area.

You are now directed to go to the RNA Start MAP.

GO TO MAP 8020, ENTRY POINT A.

S  
5

041

Can you select the MDI function and load it?

Y N

042

Turn the Diskette Load Lever to the left, then to the right.

The DISPLAYWRITER SYSTEM DIAGNOSTICS Procedures (MDIs) will load.

Repeat the above procedure and the Keyboard Diagnostic procedures (MDIs) will load.

Follow the instructions on the Display.

043

The System may have two Diskette Drives, left and right.

(Step 043 continues)

MAP 0010-6

(Step 043 continued)

Does the System have a right Diskette Drive?

Y N

044

Run all MDI unit tests required for your configuration.

If no unit tests failed, run the System Exerciser.

If no trouble is found, and you think the System is working correctly, return it to the customer.

If you think there is still a problem, go to the Intermittent Strategy Procedure.

045

Select Diskette ID "d".

Run Diskette Tests.

Remove the DISPLAYWRITER SYSTEM DIAGNOSTICS from the left (Step 045 continues)

MAP 0010-6

MAP 0010

PAGE 7 OF 7

(Step 045 continued)

Diskette Drive.

POWER-OFF, then POWER-ON the System.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS in the right Diskette Drive.

Did a readable CE Diagnostic Function Selection Menu appear on the Screen?

Y N

| 046

| The Problem is in the  
| Diskette Area.

| You are now directed to go to  
| the RNA Start MAP.

| GO TO MAP 8020, ENTRY POINT A.

047

Select MDIs.

Run all MDI unit tests required for your configuration.

(Step 047 continues)

(Step 047 continued)

If no unit tests failed, run the System Exerciser.

If no trouble is found, and you think the System is working correctly, return it to the customer.

If you think there is still a problem, go to the Intermittent Strategy Procedure.

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
-----			
0009	A	1	001
0010	A	1	001

001  
(ENTRY POINT A)

This MAP locates the failing part when an error occurs during the POWER-ON sequence.

The Error LED Indicators are marked by (D,E,F,G,H).

Where: 0=OFF, 1=ON

\*\*\* NOTE \*\*\*

When the "D" indicator is on, the other indicators are meaningless.

The question below has two parts. If you can answer EITHER part yes, answer the (Step 001 continues)

(Step 001 continued)  
question yes.

Is the "D" indicator "ON"

or

do the Error Indicators (D,E,F,G,H) equal (0,1,1,1,1)?  
Y N

002

Do the Error Indicators (D,E,F,G,H) equal (0,0,0,0,1)?  
Y N

003

Do the Error Indicators (D,E,F,G,H) equal (0,0,0,1,0)?  
Y N

004

Do the Error Indicators (D,E,F,G,H) equal (0,0,0,1,1)?  
Y N

9 8 6 5  
A B C D E

005

Do the Error Indicators (D,E,F,G,H) equal (0,1,1,1,0)?  
Y N

006

Do the Error Indicators (D,E,F,G,H) equal (0,0,1,0,0)?  
Y N

007

Do the Error Indicators (D,E,F,G,H) equal (0,0,1,0,1)?  
Y N

008

Select the Displayed Error Code or if it is not readable, select the LED Error Code in the following Chart and go to the indicated MAP.

(Step 008 continues)

4 4 2  
F G H

H  
1

ERROR LED STATUS MAP

MAP 0015

PAGE 2 OF 10

(Step 008 continued)

Post-CRT Error Code Table

Error Code	LED Code	MAP Number	Entry Point
DEFCH			
01	00110	1010	A
02	00110	1010	A
03	00111	0019	A
04	01000	8032	A
05	01000	8032	A
06	01001	0019	A
08	01010	0019	A
09	01100	0019	A

009

POWER-OFF.

Disconnect the Display Module Connector (2).

POWER-ON.

Wait about 10 seconds, then check the Error Indicators.  
(Step 009 continues)

(Step 009 continued)

Did the BAT fail with Error Indicators (D,E,F,G,H) equal (0,0,1,0,1)?

Y N

010

Using the 20(dc) voltage range, measure from Pin 2 (ground) to Pin 7 (+5V) of the Internal Distribution Cable Connector (2) (pin side).

Is the voltage reading between +4.6 volts and +5.5 volts?

Y N

011

Using the 20(dc) voltage range, measure from frame ground to Pin 8 of the Internal Distribution Cable Connector (P2).

Is the voltage reading between +4.6 volts and +5.5 volts?

Y N

3

J K L M

K L M

MAP 0015-2

012

POWER-OFF.

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

013

POWER-OFF.

Install a new Internal Distribution Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

014

POWER-OFF.

Install a new Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

MAP 0015-2

MAP 0015

PAGE 3 OF 10

015

Has a new Display Adapter Card been installed?

Y N

016

POWER-OFF.

Install a new Display Adapter Card.

Reconnect the Display Module Cable Connector (2).

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

017

Do you have Cards plugged in slot "A" or "C" of the Electronic Module Distribution Board?

Y N

018

POWER-OFF.

Reinstall the original Display Adapter Card.  
(Step 018 continues)

(Step 018 continued)

Install a new System Card.

Reconnect the Display Module Cable Connector (2).

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

019

POWER-OFF.

Reinstall the original Display Adapter Card.

Reconnect the Display Module Cable Connector (2).

Remove the Card(s) from slot(s) "A" and/or "C".

POWER-ON.

Do the Error Indicators (D,E,F,G,H) equal (0,0,1,0,1)?

Y N

020

POWER-OFF.

(Step 020 continues)

(Step 020 continued)

Reinstall one of the removed Cards.

POWER-ON.

If the Error Indicators (D,E,F,G,H) = (0,0,1,0,1), the Card just reinstalled is defective. If not, repeat this procedure until the failing Card is identified.

Exchange the failing Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

021

POWER-OFF.

Install a new System Card.

Reinstall Card(s) in slot(s) "A" and/or "C".

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

1  
MAP 0015

PAGE 4 OF 10

O22

Has a new Display Adapter Card  
been installed?

Y N

O23

POWER-OFF.

Install a new Display Adapter  
Card.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

O24

Do you have Cards plugged in slot  
"A" or "C" of the Electronic  
Module Distribution Board?

Y N

O25

POWER-OFF.

Install a new Electronic  
Module Distribution Board.

Reinstall the original  
Display Adapter Card.  
(Step 025 continues)

Q

Q

(Step 025 continued)

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

O26

POWER-OFF.

Remove the Card(s) from slot(s)  
"A" and/or "C".

POWER-ON.

Do the Error Indicators  
(D,E,F,G,H) equal (0,0,1,0,0)?

Y N

O27

POWER-OFF.

Reinstall one of the removed  
Cards.

POWER-ON.

If the Error Indicators  
(D,E,F,G,H) = (0,0,1,0,0),  
the Card just reinstalled is  
defective. If not, repeat  
this procedure until the  
failing Card is identified.  
(Step 027 continues)

R

F R

MAP 0015-4

1

(Step 027 continued)

Exchange the failing Card.

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

O28

POWER-OFF.

Install a new Electronic  
Module Distribution Board.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

O29

Has a New Memory Card been  
installed in slot "E"?

Y N

O30

POWER-OFF.

Install a new Memory Card in  
slot "E".

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

S

S

MAP 0015-4

MAP 0015

PAGE 5 OF 10

O31

Has a new System Card been installed?

Y N

O32

POWER-OFF.

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

O33

POWER-OFF.

Remove the Display Adapter Card and any card or cards in slot(s) "A", "C" and "F".

POWER-ON.

Do the Error Indicators (D,E,F,G,H) equal (0,1,1,1,0)?

Y N

O34

POWER-OFF.  
(Step O34 continues)

(Step O34 continued)

Reinstall one of the removed Cards.

POWER-ON.

If the Error Indicators (D,E,F,G,H) = (0,1,1,1,0), the Card just reinstalled is defective. If not, repeat this procedure until the failing Card is identified.

Exchange the failing Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

O35

POWER-OFF.

Install a new Electronic Module Distribution Board.

Reinstall all the original cards.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to (Step O35 continues)

(Step O35 continued)  
Verify System Operation.

O36

Has a new System Card been installed?

Y N

O37

POWER-OFF.

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

O38

POWER-OFF.

Remove all cards from the Electronic Module Distribution Board except the Display Adapter Card.

Reinstall the original System Card.

POWER-ON.

Do the Error Indicators (Step O38 continues)

ERROR LED STATUS MAP

MAP 0015

PAGE 6 OF 10

(Step 038 continued)  
 (D,E,F,G,H) equal (0,0,0,1,1)?

Y N

039

POWER-OFF.

Reinstall one of the removed  
 Cards.

POWER-ON.

If the Error Indicators  
 (D,E,F,G,H) = (0,0,0,1,1),  
 the Card just reinstalled is  
 defective. If not, repeat  
 this procedure until the  
 failing Card is identified.

Exchange the failing Card.

GO TO MAP 0010, ENTRY POINT A,  
 to Verify System Operation.

040

POWER-OFF.

Remove the Display Adapter Card  
 and install the Memory Card in  
 slot "E".

(Step 040 continues)

(Step 040 continued)

POWER-ON.

Do the Error Indicators  
 (D,E,F,G,H) equal (0,0,0,1,1)?

Y N

041

POWER-OFF.

Install a new Display Adapter  
 Card.

GO TO MAP 0010, ENTRY POINT A,  
 to Verify System Operation.

042

POWER-OFF.

Install a new Electronic Module  
 Distribution Board.

Reinstall all the original  
 cards.

Reconnect all the cable  
 connectors.

GO TO MAP 0010, ENTRY POINT A, to  
 Verify System Operation.

C

MAP 0015-6

1

043

Has a New Memory Card been  
 installed in slot "E"?

Y N

044

POWER-OFF.

Install a new Memory Card in  
 slot "E".

GO TO MAP 0010, ENTRY POINT A,  
 to Verify System Operation.

045

Using the 20(dc) voltage range,  
 measure from frame ground to  
 the pins in the following  
 Chart.

Conn.	Pin	Voltage Range	
E1	11	+4.6	to +5.5
E1	13	-4.6	to -5.5
E1	15	+8.245	to +8.925
E1	20	+11.04	to +13.20

----- CHART CONTINUES -----

(Step 045 continues)

MAP 0015

PAGE 7 OF 10

(Step 045 continued)

```

+----- CHART CONTINUED -----+
| Conn. | Pin | Voltage Range |
+-----+-----+-----+
| E2    | 11  | +4.6 to +5.5  |
| E2    | 13  | -4.6 to -5.5  |
| E2    | 15  | +8.245 to +8.925 |
| E2    | 20  | +11.04 to +13.20 |
+-----+-----+-----+
| E3    | 11  | +4.6 to +5.5  |
+-----+-----+-----+
| E4    | 11  | +4.6 to +5.5  |
+-----+-----+-----+
    
```

Were all the voltage measurements correct?

Y N

046

POWER-OFF.

Test Conditions:

a. Position the Electronic Module Distribution Board to permit access for making voltage measurements on Connector (A1).

b. All cables are to be (Step 046 continues)

(Step 046 continued) connected.

c. All cards are to be in place.

POWER-ON.

Using the 20(dc) voltage range, measure from each pin in the following Chart to frame ground at the Power Supply Case.

```

+----- CHART CONTINUES -----+
| Pin    | Voltage Range |
+-----+-----+
| 3      | -0.1 to +0.1  |
| 4      | -0.1 to +0.1  |
| 5      | -0.1 to +0.1  |
| 6      | -0.1 to +0.1  |
| 8      | -11.04 to -13.20 |
| 9      | +4.6 to +5.5  |
| 10     | +4.6 to +5.5  |
| 11     | +4.6 to +5.5  |
| 12     | +4.6 to +5.5  |
| 13     | -4.6 to -5.5  |
| 15     | +8.245 to +8.925 |
| 16     | -0.1 to +0.1  |
| 17     | -0.1 to +0.1  |
| 18     | -0.1 to +0.1  |
| 20     | +11.04 to +13.20 |
+-----+-----+
    
```

(Step 046 continues)

(Step 046 continued)

```

+----- CHART CONTINUED -----+
| Pin    | Voltage Range |
+-----+-----+
| 21     | +4.6 to +5.5  |
| 22     | +4.6 to +5.5  |
| 23     | +4.6 to +5.5  |
| 24     | +4.6 to +5.5  |
+-----+-----+
    
```

Were all the voltage measurements correct?

Y N

047

POWER-OFF.

Disconnect System Power Cable Connectors P1 and A1.

Using the lowest ohms range, check the continuity of each wire in the System Power Cable.

Refer to the Product Support Manual for pin assignments. (Step 047 continues)

V ERROR LED STATUS MAP  
7  
MAP 0015  
PAGE 8 OF 10  
(Step 047 continued)  
Was the cable continuity correct? (less than 2 ohms)  
Y N  
048  
Install a new System Power Cable.  
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.  
049  
Install a new Power Supply.  
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.  
050  
POWER-OFF.  
Install a new Electronic Module Distribution Board.  
Reinstall all the original cards.  
Reconnect all the cable (Step 050 continues)

U  
7  
(Step 050 continued) connectors.  
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.  
051  
Do you have a Memory Card in slot "F"?  
Y N  
052  
POWER-OFF.  
Install a new System Card.  
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.  
053  
Has a new System Card been installed?  
Y N  
054  
POWER-OFF.  
Install a new System Card.  
(Step 054 continues)

X

B W MAP 0015-8  
1  
(Step 054 continued)  
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.  
055  
POWER-OFF.  
Install a new Memory Card in slot "F".  
Reinstall all the original cards.  
Reconnect all the cable connectors.  
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.  
056  
Has a New Memory Card been installed in slot "E"?  
Y N  
057  
POWER-OFF.  
Install a new Memory Card in slot "E".  
(Step 057 continues)

9  
X

MAP 0015-8

X  
8  
ERROR LED STATUS MAP  
MAP 0015  
PAGE 9 OF 10  
(Step 057 continued)  
GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.  
058  
Has a new System Card been  
installed?  
Y N  
059  
POWER-OFF.  
Install a new System Card.  
GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.  
060  
POWER-OFF.  
Install a new Electronic Module  
Distribution Board.  
Reinstall all the original  
cards.  
Reconnect all the cable  
connectors.  
(Step 060 continues)

A  
1  
(Step 060 continued)  
GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.  
061  
Has a new System Card been  
installed?  
Y N  
062  
POWER-OFF.  
Install a new System Card.  
GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.  
063  
POWER-OFF.  
Test Conditions:  
a. Position the Electronic  
Module Distribution Board  
to permit access for making  
voltage measurements on  
Connector (A1).  
b. All cables are to be  
connected.  
(Step 063 continues)

(Step 063 continued)  
c. All cards are to be in  
place.

POWER-ON.

Using the 20(dc) voltage range,  
measure from each pin in the  
following Chart to frame ground  
at the Power Supply Case.

Pin	Voltage Range
3	-0.1 to +0.1
4	-0.1 to +0.1
5	-0.1 to +0.1
6	-0.1 to +0.1
8	-11.04 to -13.20
9	+4.6 to +5.5
10	+4.6 to +5.5
11	+4.6 to +5.5
12	+4.6 to +5.5
13	-4.6 to -5.5
15	+8.245 to +8.925
16	-0.1 to +0.1
17	-0.1 to +0.1
18	-0.1 to +0.1
20	+11.04 to +13.20

----- CHART CONTINUES -----

(Step 063 continues)

MAP 0015

PAGE 10 OF 10

(Step 063 continued)

+----- CHART CONTINUED -----+		
Pin	Voltage Range	
21	+4.6	to +5.5
22	+4.6	to +5.5
23	+4.6	to +5.5
24	+4.6	to +5.5

Were all the voltage measurements correct?

Y N

064

POWER-OFF.

Disconnect System Power Cable Connectors P1 and A1.

Using the lowest ohms range, check the continuity of each wire in the System Power Cable.

Refer to the Product Support Manual for pin assignments.

(Step 064 continues)

(Step 064 continued)

Was the cable continuity correct? (less than 2 ohms)

Y N

065

Install a new System Power Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

066

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

067

POWER-OFF.

Install a new Electronic Module Distribution Board.

Reinstall all the original cards.

Reconnect all the cable (Step 067 continues)

(Step 067 continued) connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

## ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
-----			
0010	A	1	001

001  
(ENTRY POINT A)

POWER-OFF.

Position the Electronic Module so the LED Indicators may be easily observed.

While observing the LED Indicators, POWER-ON.

At the start, did all the LED Indicators light?

Y N

002

Did "A", "B" or "C" fail to light?

Y N

||

||

||

||

||

||

3 3

A B C

## EXIT POINTS

-----			
EXIT THIS MAP		TO	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
-----			
3	018	9010	A

C

MAP 0017-1

003

Using the 20(dc) voltage range, measure from frame ground to Pin 8 of the LED Assembly Cable Connector (S2) for +4.6 volts to +5.5 volts.

Is the voltage reading between +4.6 volts and +5.5 volts?

Y N

004

Using the 20(dc) voltage range, measure from frame ground to the Pins in the following Chart.

+--SYSTEM POWER CABLE (A1)--+		
Pin	Voltage Range	
-----		
9	+4.6	to +5.5
10	+4.6	to +5.5
11	+4.6	to +5.5
12	+4.6	to +5.5
22	+4.6	to +5.5
23	+4.6	to +5.5
24	+4.6	to +5.5
-----		

Is the voltage reading between (Step 004 continues)

2

D

MAP 0017-1

(Step 004 continued)  
+4.6 volts and +5.5 volts?

Y N

005

POWER-OFF.

Using the lowest ohms range,  
measure the continuity of  
each wire in the System Power  
Cable (P1 to A1).

Refer to the Product Support  
Manual for pin assignments.

Was the cable continuity  
correct? (less than 2 ohms)

Y N

006

Install a new System Power  
Cable.

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

007

Install a new Power Supply.

(Step 007 continues)

1

(Step 007 continued)  
GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

008

POWER-OFF.

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

009

POWER-OFF.

Use a CE Meter lead for a  
jumper.

## CAUTION

Do NOT ground Pin 8. It is +5  
volts.

Connect each Pin of LED  
Assembly Cable Connector (S2)  
in the Chart to frame ground.

POWER-ON.

Verify that the respective LED  
(Step 009 continues)

(Step 009 continued)  
Indicator lights.

Pin	LED
2	D
3	E
5	F
6	G
7	H

Did each LED Indicator light?  
Y N

010

POWER-OFF.

Install a new LED Indicator  
Assembly.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

011

POWER-OFF.

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to  
(Step 011 continues)

B  
1

(Step 011 continued)  
Verify System Operation.

012

Using the 20(dc) voltage range, measure from frame ground to Pin 5 of the LED Assembly Cable Connector (L1) (still connected to the Power Supply) for +15.0 volts to +16.0 volts.

Record the measurement.

Was the voltage +15 volts to +16 volts?

Y N

013

POWER-OFF.

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

014

Using the 20(dc) voltage range, measure from frame ground to Pins 1, 2 and 3 of the LED Assembly Cable Connector (L1).  
(Step 014 continues)

A  
1

(Step 014 continued)

Record the voltage measurements.

Were all measurements 1.2 volts less than Pin 5?

Y N

015

POWER-OFF.

Install a new LED Indicator Assembly.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

016

POWER-OFF.

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

017

It should take ten (10) to twenty (20) seconds after  
(Step 017 continues)

(Step 017 continued)

POWER-ON for all LED Indicators to disappear.

Was it less than ten (10) seconds?

Y N

018

You are now directed to go to the Display Blank Screen MAP.

GO TO MAP 9010, ENTRY POINT A.

019

POWER-OFF.

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

MAP 0019

PAGE 1 OF 4

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
0009	A	1	001
0010	A	1	001
0015	A	1	001

001  
(ENTRY POINT A)

This MAP is entered from the Post-CRT Error Code Table in MAP 0010 (System Entry).

Was the Error Code 03?  
Y N

002

Was the Error Code 06?  
Y N

003

Was the Error Code 08?  
Y N

2 2  
A B C D

D

004

Was the Error Code 09?  
Y N

005

You should not be in this MAP without an Error Code. Return to MAP 0010, Entry Point A, the System Entry MAP.

006

This Error Code may occur with multiple failures.

POWER-OFF.

Install a new Memory Card in slot E.

POWER-ON.

If you get an Error Code 09, reinstall the original Memory Card.

Install a new Display Adapter Card.

(Step 006 continues)

C

(Step 006 continued)  
POWER-ON.

If you get an Error Code 09, reinstall the original Display Adapter Card.

Install a new Electronic Module Distribution Board.

POWER-ON.

If you get an Error Code 09, reinstall the original Electronic Module Distribution Board.

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

007

POWER-OFF.

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

1 1

MAP 0019

PAGE 2 OF 4

008

Have you installed a new System Card?

Y N

009

POWER-OFF.

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

010

POWER-OFF.

Install a new Memory Card in slot "E".

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

011

POWER-OFF.

Disconnect the Diskette Unit Signal Cable Connector (5) at (Step 011 continues)

(Step 011 continued)

Panel 1.

POWER-ON.

Did you get Error Code 03 again?

Y N

012

Do you have a Communications Feature Card in the Media Module?

Y N

013

POWER-OFF.

Install a new Diskette Adapter Card.

Reconnect the Diskette Unit Signal Cable Connector (5) at Panel 1.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

014

POWER-OFF.

(Step 014 continues)

(Step 014 continued)

Remove the Communications Feature Card.

Reconnect the Diskette Unit Signal Cable Connector (5) at Panel 1.

POWER-ON.

Did you get Error Code 03 again?

Y N

015

POWER-OFF.

Install a new Communications Feature Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

016

POWER-OFF.

Install a new Diskette Adapter Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

E  
2  
ERROR CODE  
MAP 0019  
PAGE 3 OF 4  
O17  
Do you have a Communications  
Feature Card in the Base  
Electronics Module?  
Y N  
O18  
Have you installed a new System  
Card?  
Y N  
O19  
POWER-OFF.  
Install a new System Card.  
Reconnect the Diskette Unit  
Signal Cable Connector (5)  
at Panel 1.  
GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.  
O20  
POWER-OFF.  
Reinstall the original System  
(Step 020 continues)

F

F  
|  
|  
| (Step 020 continued)  
| Card.  
|  
| Install a new Memory Card in  
| slot "E".  
|  
| GO TO MAP 0010, ENTRY POINT A,  
| to Verify System Operation.  
O21  
POWER-OFF.  
Remove the Communications  
Feature Card.  
POWER-ON.  
Did you get Error Code 03 again?  
Y N  
O22  
POWER-OFF.  
Install a new Communications  
Feature Card.  
Reconnect the Diskette Unit  
Signal Cable Connector (5) at  
Panel 1.  
GO TO MAP 0010, ENTRY POINT A,  
(Step 022 continues)

G

G  
MAP 0019-3  
|  
|  
| (Step 022 continued)  
| to Verify System Operation.  
O23  
Have you installed a new System  
Card?  
Y N  
O24  
POWER-OFF.  
Reinstall the Communications  
Feature Card.  
Install a new System Card.  
Reconnect the Diskette Unit  
Signal Cable Connector (5) at  
Panel 1.  
GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.  
O25  
POWER-OFF.  
Reinstall the Communications  
Feature Card.  
Reinstall the original System  
(Step 025 continues)

MAP 0019-3

ERROR CODE

MAP 0019-4

MAP 0019

PAGE 4 OF 4

(Step 025 continued)  
Card.

Install a new Memory Card in  
slot "E".

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 0019-4

KEYBOARD ENTRY MAP

MAP 1010

PAGE 1 OF 4

ENTRY POINTS

FROM | ENTER THIS MAP

MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0009	A	1	001
0010	A	1	001
0015	A	1	001

001  
(ENTRY POINT A)

This MAP is entered from the Post-CRT Error Code Table in MAP 0010 (System Entry MAP).

Was the Error Code 01 or (01 and 02)?

Y N

002

Error Code 02.

Have you installed a new Keyboard Logic Card?

Y N

2  
A B C

B C

003

POWER-OFF.

Install a new Keyboard Logic Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

004

POWER-OFF.

Disconnect the Keyboard Module Cable Connector (7) at Panel 1.

Using the lowest ohms range, measure the continuity of each wire in the Keyboard Module Cable.

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms)

Y N

005

Repair or install a new (Step 005 continues)

D

D

MAP 1010-1

(Step 005 continued)  
Keyboard Module Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

006

Disconnect the Internal Distribution Cable Connectors (P2 and B1).

Using the lowest ohms range, measure the continuity of each wire between Connectors (P2/B1) and the Internal Distribution Cable Connector (7).

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms)

Y N

007

Install a new Internal Distribution Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

2  
E

MAP 1010-1

1 1

MAP 1010

PAGE 2 OF 4

008

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

009

Is the Keyboard Module Cable  
Connector (7) connected?

Y N

010

POWER-OFF.

Reconnect the Keyboard Module  
Cable Connector (7) at Panel  
1.GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

011

POWER-OFF.

Disconnect the Keyboard Module  
Cable Connector (7) at Panel 1.Jumper Pin 1 to Pin 12 of the  
(Step 011 continues)

(Step 011 continued)

Internal Distribution Cable  
Connector (7) at Panel 1.

POWER-ON.

Observe failure.

Did you stop with an Error Code  
02 on the Display Screen?

Y N

012

POWER-OFF.

Remove the jumper from Pins 1  
and 12 of the Keyboard Module  
Cable Connector (7) at Panel  
1.Disconnect the Internal  
Distribution Cable Connectors  
(P2 and B1).Using the lowest ohms range,  
measure the continuity of  
each wire between Connectors  
(P2/B1) and the Internal  
Distribution Cable Connector  
(7).Refer to the Product Support  
(Step 012 continues)

(Step 012 continued)

Manual for pin assignments.

Was the cable continuity  
correct? (less than 2 ohms)

Y N

013

Install a new Internal  
Distribution Cable.Reconnect the Keyboard  
Module Cable Connector (7)  
at Panel 1.GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

014

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

015

POWER-OFF.

Remove the jumper from Pins 1  
and 12 of the Keyboard Module  
(Step 015 continues)

MAP 1010

PAGE 3 OF 4

(Step 015 continued)  
Cable Connector (7) at Panel 1.

POWER-ON.

Using the 20(dc) voltage range, measure from frame ground to Pin 11 of the Internal Distribution Cable Connector (7) at Panel 1 for +4.6 volts to +5.5 volts.

Is the voltage reading between +4.6 volts and +5.5 volts?

Y N

016

Using the 20(dc) voltage range, measure from frame ground to Pin 3 of the Internal Distribution Cable Connector (P2) for +4.6 volts to +5.5 volts.

Is the voltage reading between +4.6 volts and +5.5 volts?

Y N

017

POWER-OFF.

(Step 017 continues)

G H

(Step 017 continued)  
Install a new Power Supply.

Reconnect the Keyboard Module Cable Connector (7) at Panel 1.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

018

POWER-OFF.

Install a new Internal Distribution Cable.

Reconnect the Keyboard Module Cable Connector (7) at Panel 1.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

019

POWER-OFF.

Using the 200 ohms range, measure the resistance from frame ground to Pins 10 and 12 of the Internal Distribution  
(Step 019 continues)

(Step 019 continued)  
Cable Connector (7).

Was the resistance less than 2.0 ohms?

Y N

020

Install a new Internal Distribution Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

021

Using the lowest ohms range, measure the continuity of each wire in the Keyboard Module Cable.

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms)

Y N

022

Repair or install a new Keyboard Module Cable.  
(Step 022 continues)

4  
J

MAP 1010-3

MAP 1010

PAGE 4 OF 4

(Step 022 continued)

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

023

Reconnect the Keyboard Module  
Cable Connector (7) at Panel 1.

Have you installed a new Keyboard  
Logic Card?

Y N

024

Install a new Keyboard Logic  
Card.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

025

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.



MAP 1012

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
1070	A	1	001

001  
(ENTRY POINT A)

POWER-OFF.

Remove Pins 3 and 10 from the Logic Card Connector at the Keyboard Logic Card.

Reinstall the Logic Card Connector onto the Keyboard Logic Card.

POWER-ON.

Using the 20(dc) voltage range, measure from Keyboard frame ground to Pins 3 and 10 on the Keyboard Logic Card for +4.5 volts to +5.5 volts.

Is the voltage reading between (Step 001 continues)

(Step 001 continued)  
+4.6 volts and +5.5 volts?

Y N

002

POWER-OFF.

Install a new Keyboard Logic Card.

Reinsert Pins 3 and 10 in the Logic Card Connector at the Keyboard Logic Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

POWER-OFF.

Disconnect B1 from the Electronics Module Distribution Board.

Using the lowest ohms range, measure from wires 3 and 10 to ground.

(Step 003 continues)

(Step 003 continued)  
Is either wire 3 or 10 shorted to ground? (less than 2 ohms)

Y N

004

Install a new System Card.

Reinsert Pins 3 and 10 in the Logic Card Connector at the Keyboard Logic Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

Disconnect Keyboard Module Cable Connector (7) from Panel 1.

Using the lowest ohms range, measure from wires 3 and 10 to ground.

Is either wire 3 or 10 shorted to ground? (less than 2 ohms)

Y N

||  
||  
||  
||  
||

2 2  
A B

1 1

MAP 1012

PAGE 2 OF 2

006

Install a new Internal  
Distribution Cable.

Reinsert Pins 3 and 10 in the  
Logic Card Connector at the  
Keyboard Logic Card.

Reconnect all the cable  
connectors.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

007

Repair or install a new  
Keyboard Module Cable.

Reconnect all the cable  
connectors.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 1013

PAGE 1 OF 1

## ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
7070	A	1	001

001

(ENTRY POINT A)

Is there a Communications Keylock on the Displaywriter System?

Y N

002

POWER-OFF.

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

Is the Communications Keylock ON?

Y N

A B

A B

004

Turn the Communications Keylock ON.

Load the Displaywriter System Diagnostic diskette.

Select MDIs on the Function Selection menu.

Run Communications MDIs.

005

POWER-OFF.

Disconnect the Internal Distribution Cable Connector (B1) from the Electronics Module Distribution Board.

Using the lowest ohms range, measure from the Internal Distribution Cable Connector Pin 13A to frame ground.

Was the continuity correct? (less than 2 ohms)

Y N

C D

C D

MAP 1013-1

006

Install a new System Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

007

Disconnect either wire from the Communications Keylock.

Is the continuity still correct? (less than 2 ohms)

Y N

008

Install a new Communications Keylock.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

009

Repair or install a new Internal Distribution Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

MAP 1013-1

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
7070	A	1	001

001  
(ENTRY POINT A)

POWER-OFF.

Disconnect the Internal Distribution Cable Connector (B1) from the Electronics Module Distribution Board.

Using the lowest ohms range, measure from the Internal Distribution Cable Connector Pin 13A to frame ground.

Was the continuity correct? (less than 2 ohms)  
Y N

002

Are both wires connected to the (Step 002 continues)

A

(Step 002 continued)  
Communications Keylock?

Y N

003

Reconnect the wires to the terminals of the Communications Keylock.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

004

Using the lowest ohms range, measure the continuity across the Communications Keylock terminals.

Was the continuity correct? (less than 2 ohms)

Y N

005

Install a new Communications Keylock.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

B

006

Using the lowest ohms range, measure the continuity from the Communications Keylock terminal to frame ground.

Was the continuity correct? (less than 2 ohms)

Y N

007

Repair or install a new ground wire assembly.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

008

Repair or install a new Internal Distribution Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

009

Install a new System Card.

(Step 009 continues)

KEYLOCK OFF FAILURE

MAP 1014-2

MAP 1014

PAGE 2 OF 2

(Step 009 continued)  
GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 1014-2

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
-----			
4070	A	1	001

001  
(ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure from Pin B1-7B in the Internal Distribution Cable to Frame Ground.

Does the meter indicate a short? (two ohms or less)

Y N

| 002

| (Step 002 continues)

A

(Step 002 continued)

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.
2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.
3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the (Step 002 continues)

A

(Step 002 continued)

Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

MAP 4012

PAGE 1 OF 2

## ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4070	A	1	001

001  
(ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector 0 (Zero) and Pin B1-8B in the Internal Distribution Cable and then, measure between Pin 4 on Rear Panel Connector 0 (Zero) and Pin B1-9B in the Internal Distribution Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued)  
continuity for both of these measurements?

(two ohms or less)

Y N

002  
Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 0 (Zero).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues)

A

MAP 4012-1

(Step 002 continued)  
instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.
2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.
3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 0 (Zero).  
(Step 003 continues)

A

MAP 4012-1

(Step 003 continued)

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM  
DIAGNOSTICS then,  
select MDIs on the Function  
Selection Menu,  
and then press ENTER when the  
Device Selection Menu appears.

A series of tests will  
automatically begin to run to  
verify the fix and further  
instructions will be given.

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4070	A	1	001

001  
(ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 1 on Rear Panel Connector 0 (Zero) and Pin B1-10B in the Internal Distribution Cable and then, measure between Pin 2 on Rear Panel Connector 0 (Zero) and Pin B1-12B in the Internal Distribution Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued)  
continuity for both of these measurements?

(two ohms or less)

Y N

002  
Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 0 (Zero).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues)

(Step 002 continued)  
instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.
2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.
3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 0 (Zero).  
(Step 003 continues)

TRANSMIT REPAIR

MAP 4013-2

MAP 4013

PAGE 2 OF 2

(Step 003 continued)

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM  
DIAGNOSTICS then,  
select MDIs on the Function  
Selection Menu,  
and then press ENTER when the  
Device Selection Menu appears.

A series of tests will  
automatically begin to run to  
verify the fix and further  
instructions will be given.

MAP 4013-2

MAP 4211

PAGE 1 OF 1

## ENTRY POINTS

```

-----
FROM | ENTER THIS MAP
-----+-----
MAP  | ENTRY PAGE  STEP
NUMBER | POINT NUMBER NUMBER
-----+-----
 4270 | A      1      001

```

001  
(ENTRY POINT A)

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.
2. Install a new Printer Sharing Card.
3. Install a new Electronic Module Distribution Board.

(Step 001 continues)

(Step 001 continued)  
POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

MAP 4212

PAGE 1 OF 1

## ENTRY POINTS

```

-----
FROM | ENTER THIS MAP
-----+-----
MAP | ENTRY PAGE STEP
NUMBER | POINT NUMBER NUMBER
-----+-----
 4270 | A 1 001

```

001  
(ENTRY POINT A)

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.
2. Install a new System Card.
3. Install a new Electronic Module Distribution Board.

(Step 001 continues)

(Step 001 continued)  
POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

MAP 4213

PAGE 1 OF 2

## ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4270	A	1	001

001

(ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position C1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure from Pin C1-7 in the Internal Printer Sharing Cable to frame ground.

Does the meter indicate a short? (two ohms or less)

Y N

| 002

| (Step 002 continues)

A

(Step 002 continued)

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A).

POWER-ON the work station.

(Step 002 continues)

A

MAP 4213-1

(Step 002 continued)

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function (Step 003 continues)

MAP 4213-1

MAP 4213

PAGE 2 OF 2

(Step 003 continued)

Selection Menu,  
and then press ENTER when the  
Device Selection Menu appears.

A series of tests will  
automatically begin to run to  
verify the fix and further  
instructions will be given.

## ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4270	A	1	001

001  
(ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position C1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector 6A and Pin C1-8 in the Internal Printer Sharing Cable and then, measure between Pin 4 on Rear Panel Connector 6A and Pin C1-9 in the Internal Printer Sharing Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued)  
continuity for both of these measurements?

(two ohms or less)

Y N

002

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues)

(Step 002 continued)  
instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Step 003 continues)

(Step 003 continued)  
(Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM  
DIAGNOSTICS then,  
select MDIs on the Function  
Selection Menu,  
and then press ENTER when the  
Device Selection Menu appears.

A series of tests will  
automatically begin to run to  
verify the fix and further  
instructions will be given.

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4270	A	1	001

001  
(ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position C1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 1 on Rear Panel Connector 6A and Pin C1-10 in the Internal Printer Sharing Cable and then, measure between Pin 2 on Rear Panel Connector 6A and Pin C1-12 in the Internal Printer Sharing Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued)  
continuity for both of these measurements?

(two ohms or less)

Y N

002

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues)

(Step 002 continued)  
instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.
2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.
3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Step 003 continues)

(Step 003 continued)  
(Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM  
DIAGNOSTICS then,  
select MDIs on the Function  
Selection Menu,  
and then press ENTER when the  
Device Selection Menu appears.

A series of tests will  
automatically begin to run to  
verify the fix and further  
instructions will be given.

MAP 4216

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4270	A	1	001

001  
(ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position C1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure from Pin C1-19 in the Internal Printer Sharing Cable to frame ground.

Does the meter indicate a short? (two ohms or less)

Y N  
| 002

(Step 002 continues)

(Step 002 continued)

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B).

POWER-ON the work station.

(Step 002 continues)

(Step 002 continued)

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function (Step 003 continues)

MAP 4216

PAGE 2 OF 2

(Step 003 continued)

Selection Menu,  
and then press ENTER when the  
Device Selection Menu appears.

A series of tests will  
automatically begin to run to  
verify the fix and further  
instructions will be given.

MAP 4217

PAGE 1 OF 2

## ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
4270	A	1	001

001

(ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position C1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector 6B and Pin C1-21 in the Internal Printer Sharing Cable and then, measure between Pin 4 on Rear Panel Connector 6B and Pin C1-22 in the Internal Printer Sharing Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued)  
continuity for both of these measurements?

(two ohms or less)

Y N

002

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues)

A

MAP 4217-1

(Step 002 continued)  
instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Step 003 continues)

A

MAP 4217-1

(Step 003 continued)  
(Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM  
DIAGNOSTICS then,  
select MDIs on the Function  
Selection Menu,  
and then press ENTER when the  
Device Selection Menu appears.

A series of tests will  
automatically begin to run to  
verify the fix and further  
instructions will be given.

MAP 4218

PAGE 1 OF 2

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
4270	A	1	001

001  
(ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position C1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 1 on Rear Panel Connector 6B and Pin C1-23 in the Internal Printer Sharing Cable and then, measure between Pin 2 on Rear Panel Connector 6B and Pin C1-24 in the Internal Printer Sharing Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued)  
continuity for both of these measurements?

(two ohms or less)

Y N

002

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues)

(Step 002 continued)  
instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position C1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Step 003 continues)

(Step 003 continued)  
(Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM  
DIAGNOSTICS then,  
select MDIs on the Function  
Selection Menu,  
and then press ENTER when the  
Device Selection Menu appears.

A series of tests will  
automatically begin to run to  
verify the fix and further  
instructions will be given.

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
5070	A	1	001

001  
(ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure from Pin B1-7B in the Internal Distribution Cable to Frame Ground.

Does the meter indicate continuity?  
(two ohms or less)

Y N  
| |  
| |  
| |  
| |  
| |  
| |  
| |

A B

002

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Repair the ground connection on Rear Panel Connector 0 (Zero).

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the (Step 002 continues)

(Step 002 continued)  
Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module (Step 003 continues)

MAP 5011

PAGE 2 OF 2

(Step 003 continued)  
Distribution Board.

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM  
DIAGNOSTICS then,  
select MDIs on the Function  
Selection Menu,  
and then press ENTER when the  
Device Selection Menu appears.

A series of tests will  
automatically begin to run to  
verify the fix and further  
instructions will be given.

MAP 5012

PAGE 1 OF 2

## ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
5070	A	1	001

001  
(ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector 0 (Zero) and Pin B1-8B in the Internal Distribution Cable and then, measure between Pin 4 on Rear Panel Connector 0 (Zero) and Pin B1-9B in the Internal Distribution Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued)  
continuity for both of these measurements?

(two ohms or less)

Y N

002  
Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Cable to Rear Panel Connector 0 (Zero).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Cable to Rear Panel Connector 0 (Zero).

POWER-ON the work station.

(Step 003 continues)

(Step 003 continued)  
Load the DISPLAYWRITER SYSTEM  
DIAGNOSTICS then,  
select MDIs on the Function  
Selection Menu,  
and then press ENTER when the  
Device Selection Menu appears.

A series of tests will  
automatically begin to run to  
verify the fix and further  
instructions will be given.

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
5070	A	1	001

001  
(ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 1 on Rear Panel Connector 0 (Zero) and Pin B1-10B in the Internal Distribution Cable and then, measure between Pin 2 on Rear Panel Connector 0 (Zero) and Pin B1-12B in the Internal Distribution Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued)  
continuity for both of these measurements?

(two ohms or less)

Y N

002  
Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Cable to Rear Panel Connector 0 (Zero).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.
2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.
3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Cable to Rear Panel Connector 0 (Zero).

POWER-ON the work station.

(Step 003 continues)

MAP 5013

PAGE 2 OF 2

(Step 003 continued)

Load the DISPLAYWRITER SYSTEM  
DIAGNOSTICS then,  
select MDIs on the Function  
Selection Menu,  
and then press ENTER when the  
Device Selection Menu appears.

A series of tests will  
automatically begin to run to  
verify the fix and further  
instructions will be given.

MAP 5030

PAGE 1 OF 1

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
-----			
0070	A	1	001

EXIT POINTS

-----			
EXIT THIS MAP		TO	
-----			
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
-----			
1	001	0010	A

001

(ENTRY POINT A)

POWER-OFF the work station.

Install a new System Card.  
GO TO MAP 0010, ENTRY POINT A.

MAP 6010

PAGE 1 OF 7

ENTRY POINTS

-----			
FROM   ENTER THIS MAP			
-----			
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
-----			
0009	A	1	001
0010	A	1	001

001  
(ENTRY POINT A)

This MAP isolates the part causing an LED Indicator to light.

LED Indicators:

- A = Over/under voltage
- B = Overcurrent
- C = Overheat

Is the "C" LED Indicator ON?

Y N

|  
|  
|  
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|  
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|  
|  
|  
|  
|

002

(Step 002 continues)

6  
A

EXIT POINTS

-----			
EXIT THIS MAP		TO	
-----			
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
-----			
2	007	8065	A

(Step 002 continued)

```
*****
* NOTE *
* If this is your second time *
* through this map and you are *
* instructed to replace a FRU *
* that you just replaced, *
* replace the POWER *
* SUPPLY instead. *
*****
```

POWER-OFF (Wait 8 seconds).

Disconnect all cables from the rear panels of the Electronic Module except the (ac) Power Cord.

POWER-ON.

Are the "A" and/or "B" LED Indicators ON?

Y N

|  
|  
|  
|  
|  
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|  
|  
|  
|  
|  
|

003

POWER-OFF (Wait 8 seconds).

Reconnect the Keyboard Module Cable Connector (7).

POWER-ON.

(Step 003 continues)

3  
B

(Step 003 continued)

Are the "A" and/or "B" LED  
Indicators ON?

Y N

004

POWER-OFF (Wait 8 seconds).  
Reconnect the Display Module  
Cable Connector (2).

POWER-ON.

Are the "A" and/or "B" LED  
Indicators ON?

Y N

005

POWER-OFF (Wait 8 seconds).

Reconnect the Diskette AC  
Connector (8), Diskette DC  
Connector (10), Diskette  
Signal Connector (5) and  
Communications Power  
Connector (11) if present.

POWER-ON.

(Step 005 continues)

C D

D

(Step 005 continued)

Are the "A" and/or "B" LED  
Indicators ON?

Y N

006

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

007

You are now directed to go to  
the DC Short Failure MAP.

GO TO MAP 8065, ENTRY POINT A.

008

Has a new Display Module been  
installed?

Y N

009

POWER-OFF (Wait 8 seconds).

Install a new Display Module.

Reconnect all the cable  
connectors.

(Step 009 continues)

E

C E

MAP 6010-2

(Step 009 continued)

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

010

POWER-OFF (Wait 8 seconds).

Install a new Power Supply.

Reconnect all the cable  
connectors.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

011

POWER-OFF (Wait 8 seconds).

Disconnect the Keyboard Module  
Cable (Logic Card Connector) at  
the Keyboard Logic Card.

POWER-ON.

Are the "A" and/or "B" LED  
Indicators ON?

Y N

3 3  
F G

MAP 6010-2

012

POWER-OFF (Wait 8 seconds).

Install a new Keyboard Logic Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

013

POWER-OFF (Wait 8 seconds).

Repair or install a new Keyboard Module Cable.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

014

POWER-OFF (Wait 8 seconds).

Disconnect the System Power (Step 014 continues)

(Step 014 continued)

Cable Connector (P1) at the Power Supply.

POWER-ON.

Are the "A" and/or "B" LED Indicators ON?

Y N

015

POWER-OFF (Wait 8 seconds).

Reconnect the System Power Cable (P1) at the Power Supply.

Remove all the Cards from the Electronic Module Distribution Board Assembly.

POWER-ON.

Are the "A" and/or "B" LED Indicators ON?

Y N

016

POWER-OFF (Wait 8 seconds).

Reinstall the original (Step 016 continues)

(Step 016 continued)

System Card.

POWER-ON.

Are the "A" and/or "B" LED Indicators ON?

Y N

017

POWER-OFF (Wait 8 seconds).

Reinstall the original Display Adapter Card.

POWER-ON.

Are the "A" and/or "B" LED Indicators ON?

Y N

018

Do you have more than one Card left?

Y N

019

POWER-OFF (Wait 8 seconds).

(Step 019 continues)

M POWER SUPPLY MAP  
3  
MAP 6010  
PAGE 4 OF 7  
(Step 019 continued)  
Install a new Memory Card.  
Reconnect all the cable  
connectors.  
GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

020

POWER-OFF (Wait 8 seconds).

Reinstall the original Memory  
Card in slot "E".

POWER-ON.

Are the "A" and/or "B" LED  
Indicators ON?

Y N

021

Do you have more than one Card  
left?

Y N

022

POWER-OFF (Wait 8 seconds).

REPLACE REMAINING CARD  
(Step 022 continues)

N P

P  
|  
|  
| (Step 022 continued)  
| Reconnect all the cable  
| connectors.  
| GO TO MAP 0010, ENTRY POINT A,  
| to Verify System Operation.

023

One of the remaining Cards is  
shorted.

POWER-OFF.

Reinstall the original Cards  
one at a time.

POWER-ON.

When the "A" and/or "B" LED  
Indicators come on.

The last Card installed is the  
one with a short.

Exchange the failing Card.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

L N MAP 6010-4  
3

024

POWER-OFF (Wait 8 seconds).

Install a new Memory Card.

Reinstall all the original  
cards.

Reconnect all the cable  
connectors.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

025

POWER-OFF (Wait 8 seconds).

Install a new Display Adapter  
Card.

Reinstall all the original  
cards.

Reconnect all the cable  
connectors.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 6010-4

J K POWER SUPPLY MAP  
3 3  
MAP 6010  
PAGE 5 OF 7  
026  
POWER-OFF (Wait 8 seconds).  
Install a new System Card.  
Reinstall all the original cards.  
Reconnect all the cable connectors.  
GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.  
027  
POWER-OFF (Wait 8 seconds).  
Disconnect the Internal  
Distribution Cable Connector  
(D1) from the Electronic Module  
Distribution Board.  
POWER-ON.  
Are the "A" and/or "B" LED  
Indicators ON?  
Y N  
028  
(Step 028 continues)

Q

Q  
(Step 028 continued)  
POWER-OFF (Wait 8 seconds).  
Install a new Internal  
Distribution Cable.  
Reinstall all the original  
cards.  
Reconnect all the cable  
connectors.  
GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.  
029  
POWER-OFF (Wait 8 seconds).  
Disconnect the Internal  
Distribution Cable Connector  
(B1) from the Electronic Module  
Distribution Board.  
POWER-ON.  
Are the "A" and/or "B" LED  
Indicators ON?  
Y N  
030  
POWER-OFF (Wait 8 seconds).  
(Step 030 continues)

R

R MAP 6010-5  
(Step 030 continued)  
Install a new Internal  
Distribution Cable.  
Reinstall all the original  
cards.  
Reconnect all the cable  
connectors.  
GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.  
031  
POWER-OFF (Wait 8 seconds).  
Disconnect the System Power  
Cable Connector (A1) at the  
Electronic Module Distribution  
Board.  
POWER-ON.  
Are the "A" and/or "B" LED  
Indicators ON?  
Y N  
032  
POWER-OFF (Wait 8 seconds).  
(Step 032 continues)  
6  
S MAP 6010-5

(Step 032 continued)

Install a new Electronic Module Distribution Board.

Reinstall all the original cards.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

033

POWER-OFF (Wait 8 seconds).

Install a new System Power Cable.

Reinstall all the original cards.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

034

POWER-OFF (Wait 8 seconds). (Step 034 continues)

(Step 034 continued)

Disconnect the Internal Distribution Cable Connector (P2) at the Power Supply.

POWER-ON.

Are the "A" and/or "B" LED Indicators ON?

Y N

035

POWER-OFF (Wait 8 seconds).

Install a new Internal Distribution Cable.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

036

POWER-OFF (Wait 8 seconds).

Install a new Power Supply.

Reconnect all the cable connectors.

(Step 036 continues)

(Step 036 continued)

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

037

Is the Fan in the Electronic Module running?

Y N

038

POWER-OFF.

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

039

Is the Fan making any unusual noise or running slowly?

Y N

040

Is the Machine located in direct sunlight or in a very hot area?

Y N


T U V        POWER SUPPLY MAP  
6 6 6

MAP 6010-7

MAP 6010

PAGE    7 OF    7

041

POWER-OFF.

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT  
A,    to    Verify    System  
Operation.

042

Advise the Customer of the  
environmental impact on the  
machine.

043

POWER-OFF.

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 6010-7

MAP 7010

PAGE 1 OF 2

## ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
7070	A	1	001

001  
(ENTRY POINT A)

POWER-OFF.

Reinstall the original  
Communications Adapter Card.

Is the Communications Adapter  
Card in the Diskette Unit?

Y N

002

Install a new Electronic  
Module Distribution Board.

Reconnect all the cable  
connectors.

POWER-ON.

(Step 002 continues)

(Step 002 continued)

Load the Displaywriter System  
Diagnostic diskette.

Select MDIs on the Function  
Selection menu.

Does the Device Selection menu  
indicate that Communications is  
present (green dot next to ID  
letter)?

Y N

003

POWER-OFF.

Reinstall the original  
Electronics Module  
Distribution Board.

Install a new System Card.

POWER-ON.

Load the Displaywriter System  
Diagnostic diskette.

Select MDIs on the Function  
Selection menu.

Run the Communications MDIs.

(Step 003 continues)

A B

MAP 7010-1

(Step 003 continued)

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

004

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

005

Disconnect the Diskette Unit  
Signal Cable Connectors (5) and  
(A1).

Using the lowest ohms range,  
check the continuity of each  
wire in the Diskette Unit  
Signal Cable.

Refer to the Product Support  
Manual for pin assignments.

Was the cable continuity correct?  
(less than 2 ohms).

Y N

006

Install a new Diskette Unit  
Signal Cable.

(Step 006 continues)

A

B

2  
C

MAP 7010-1

C

COMMUNICATIONS

1

MAP 7010

PAGE 2 OF 2

(Step 006 continued)

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

007

Disconnect the Internal  
Diskette Signal Cable Connector  
(S1) in the Electronic Module.

Using the lowest ohms range,  
check the continuity of each  
wire between connectors (5) and  
(S1) in the Internal Diskette  
Signal Cable.

Refer to the Product Support  
Manual for pin assignments.

Was the cable continuity correct?  
(less than 2 ohms).

Y N

008

Install a new Internal  
Diskette Signal Cable in the  
Electronic Module.

Reconnect all the cable  
connectors.

GO TO MAP 0010, ENTRY POINT A,  
(Step 008 continues)

D

D

MAP 7010-2

(Step 008 continued)

to Verify System Operation.

009

Install a new System Card.

Reconnect all the cable  
connectors.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 7010-2

## ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
7060	A	1	001
7061	A	1	001

001  
(ENTRY POINT A)

POWER-OFF.

Is the Communications Adapter Card located in the Electronic Module?

Y N

002

Disconnect the Internal Communications Cable Connector (C2).

Using the lowest ohms range, check the continuity of each wire between connectors (4A) and (C2) of the Internal Communications Cable.

(Step 002 continues)

(Step 002 continued)

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms).

Y N

003

Install a new Internal Communications Cable in the Diskette Unit.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

004

Install a new Communications Adapter Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

Disconnect the Internal Communications Cable Connector (A2).

Using the lowest ohms range, check the continuity of each wire between connectors (4) and (A2) of the Internal Communications Cable.

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms).

Y N

006

Install a new Internal Communications Cable in the Electronic Module.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

B INTERNAL EIA CABLE

1 MAP 7020

PAGE 2 OF 2

007

Install a new Communications  
Adapter Card.

Reconnect all the cable  
connectors.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 7030

PAGE 1 OF 1

## ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
7075	A	1	001

001

(ENTRY POINT A)

POWER-OFF.

Disconnect the Internal Communications Cable Connector (D2 or D3) from the Diskette Unit Distribution Board.

Using the lowest ohms range, check the continuity of each wire between connectors (4B) and (D2 or D3) of the Internal Communications Cable.

Refer to the Product Support Manual for pin assignments.  
(Step 001 continues)

## EXIT POINTS

-----			
EXIT THIS MAP		TO	
-----			
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
-----			
1	003	7062	A

(Step 001 continued)

Was the cable continuity correct?  
(less than 2 ohms).

Y N

002

Reinstall the original Feature Card in Slot "D".

Install a new Internal Communications Cable in the Diskette Unit.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

003

GO TO MAP 7062, ENTRY POINT A.

MAP 7060

PAGE 1 OF 2

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----	-----	-----	-----
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----	-----	-----	-----
7074	A	1	001

001  
(ENTRY POINT A)

POWER-OFF.

Test Conditions:

- a. Position the Electronics Module Distribution Board to permit access for making voltage measurements on Connector (A1).
- b. All cables are to be connected.
- c. All cards are to be in place.

POWER-ON.

Using the 20(dc) voltage range,  
(Step 001 continues)

EXIT POINTS

-----			
EXIT THIS MAP		TO	
-----	-----	-----	-----
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
-----	-----	-----	-----
2	005	7020	A

(Step 001 continued)  
measure from each pin in the following Chart to frame ground at the Power Supply Case.

-----	
System Power Cable Connector (A1)	
-----	-----
Pin	Voltage Range (dc) Volts
-----	-----
8	-11.04 to -13.20
20	+11.04 to +13.20
-----	-----

Were all the voltage measurements correct?

Y N

002

POWER-OFF.

Disconnect System Power Cable Connectors P1 and A1.

Using the lowest ohms range, check the continuity of the System Power Cable.

Connector (A1) pin 8 to  
Connector (P1) pin 1.  
(Step 002 continues)

A  
1

PORT 4 NO VOLTAGE

MAP 7060-2

MAP 7060

PAGE 2 OF 2

(Step 002 continued)

Connector (A1) pin 20 to  
Connector (P1) pin 15.

Was the cable continuity  
correct? (less than 2 ohms)

Y N

003

Install a new System Power  
Cable.

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

004

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

005

GO TO MAP 7020, ENTRY POINT A.

MAP 7060-2

MAP 7061

PAGE 1 OF 2

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
7074	A	1	001

001  
(ENTRY POINT A)

POWER-OFF.

Test Conditions:

- a. Position the Diskette Unit Distribution Board to permit access for making voltage measurements on Connector (C1).
- b. All cables are to be connected.
- c. All cards are to be in place.

POWER-ON.

Using the 20(dc) voltage range,  
(Step 001 continues)

EXIT POINTS

-----			
EXIT THIS MAP		TO	
-----			
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
-----			
2	005	7020	A

(Step 001 continued)  
measure from each pin in the following Chart to frame ground at the Power Supply Case.

-----	
Communication Power Cable Connector (C1)	
-----	
Pin	Voltage Range (dc) Volts
-----	
5	+11.04 to +13.20
10	+8.25 to +8.93
12	-4.6 to -5.5
17	-11.04 to -13.20
-----	

Were all the voltage measurements correct?

Y N

002

POWER-OFF.

Disconnect Communication Power Cable Connectors 11 and C1.

Using the lowest ohms range, check the continuity of the Communications Power Cable.  
(Step 002 continues)

A  
1

P4A/P4B NO VOLTAGE

MAP 7061-2

MAP 7061

PAGE 2 OF 2

(Step 002 continued)

Refer to the Product Support  
Manual for pin assignments.

Was the cable continuity  
correct? (less than 2 ohms)

Y N

003

Install a new  
Communications Power Cable.

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

004

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

005

GO TO MAP 7020, ENTRY POINT A.

MAP 7061-2

ENTRY POINTS

```

-----
FROM | ENTER THIS MAP
-----+-----
MAP | ENTRY PAGE STEP
NUMBER | POINT NUMBER NUMBER
-----+-----
7030 | A 1 001
7076 | A 1 001
7077 | A 1 001
7078 | A 1 001
    
```

001  
(ENTRY POINT A)

POWER-OFF.

Reinstall the original  
Communications Feature Card in  
slot "D".  
(If you have not already done  
so.)

POWER-ON.

Using the 20(dc) voltage range,  
measure from each pin in the  
following Chart from frame  
ground to the Pins in the  
Chart.  
(Step 001 continues)

(Step 001 continued)

```

+-----+
| CONN      Voltage Range |
| D1 Pin    (dc) Volts    |
+-----+-----+
| D1 10     +8.245 to +8.925 |
| D1 14     +4.6 to +5.5     |
| D1 5      -4.6 to -5.5     |
| D1 18    -11.04 to -13.20  |
+-----+-----+
| D2 10     +8.245 to +8.925 |
| D2 14     +4.6 to +5.5     |
| D2 5      -4.6 to -5.5     |
+-----+-----+
| D3 17     +8.245 to +8.925 |
| D3 14     +4.6 to +5.5     |
+-----+-----+
| D4 14     +4.6 to +5.5     |
+-----+
    
```

Were all the voltage measurements  
correct?

Y N

002

Using the 20(dc) voltage  
range, measure from each pin  
in the following Chart from  
(Step 002 continues)

(Step 002 continued)  
frame ground to the Pins in the  
Chart.

```

+-----+
| CONN      Voltage Range |
| C1 Pin    (dc) Volts    |
+-----+-----+
| C1 5      +11.04 to +13.20  |
| C1 10     +8.245 to +8.925  |
| C1 1      +4.6 to +5.5     |
| C1 2      +4.6 to +5.5     |
| C1 13     +4.6 to +5.5     |
| C1 14     +4.6 to +5.5     |
| C1 15     +4.6 to +5.5     |
| C1 16     +4.6 to +5.5     |
| C1 12     -4.6 to -5.5     |
| C1 17    -11.04 to -13.20  |
+-----+
    
```

Were all the voltage measurements  
correct?

Y N

003

Disconnect the Communications  
Power Cable Connector (11) at  
the Power Supply.

Using the 20 (dc) voltage  
range, measure the output  
(Step 003 continues)

B	FEATURE CARD POWER	A
1	MAP 7062	1
	PAGE 2 OF 2	
	(Step 003 continued) voltage at the Power Supply Connector (11).	(Step 006 continued) POWER-OFF.
	Refer to the Product Support Manual for Pin assignments.	Install a new Diskette Unit Distribution Board.
	Were all the voltage measurements correct? Y N	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
	004	007
	POWER-OFF.	Install a new Communications Adapter Card.
	Install a new Power Supply.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	
	005	
	POWER-OFF.	
	Install a new Communications Power Cable.	
	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	
	006	
	(Step 006 continues)	

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0009	A	1	001
0010	A	1	001
8021	A	1	001
8028	A	1	001

001  
(ENTRY POINT A)

This MAP is used to isolate the failure to a specific Diskette function.

Select the RNA Diagnostics by pressing the Memory Record Button while turning the POWER Switch ON.

The functions are selected by pressing the MOVE key.

The function is executed by pressing the ENTER key.  
(Step 001 continues)

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	009	8022	A
5	021	8022	A
5	027	8026	A
5	029	8060	A
6	033	8061	A
6	031	8062	A

+-TEST L or M ERROR CODE CHART-+	
ERROR CODE	ACTION
01	GO TO MAP 8021,A
02	GO TO MAP 8022,A
04	GO TO MAP 8025,A
08 or 17	GO TO MAP 8028,A
19 or 20	GO TO MAP 8026,A

(Step 001 continued)

The D function is used for drive selection.

Pressing the ENTER key will select the desired drive.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select the Drive Set Ready Test L.

Execute test procedure L by pressing ENTER.

If an Error Code is not displayed on the screen, then execute test M.

If this is a two-drive station, execute the test on both drives. It is necessary to use the D function to select the desired drive.
---

Was an Error Code displayed on the screen?

Y N  
|  
|  
|  
|  
|

2 2  
A B

1 1

MAP 8020

PAGE 2 OF 6

002

No Error Found.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

003

Was the Error Code 03, 07, 09, 15  
or 16?

Y N

004

Is this a two Drive station?

Y N

005

POWER-OFF.

Disconnect the Diskette  
Drive Cable at the Diskette  
Adapter Card and reconnect  
the Diskette Drive Cable in  
the empty B4 Connector  
position on the Diskette  
Adapter Card.Press the Memory Record  
Button while turning the  
(Step 005 continues)6 3  
C D

(Step 005 continued)

Power Switch On.

Select the Right Drive. (You  
are selecting the B4 Drive  
Station)Execute test procedure L, if an  
Error Code is not displayed on  
the screen then execute test  
procedure M.Was an Error Code displayed on  
the screen? (Record the Error  
Code)

Y N

006

POWER-OFF.

Return the Diskette Drive  
Cable to the original  
position on the Diskette  
Adapter Card.Install a new Diskette  
Adapter Card.Verify by running the Drive  
Set Ready test L.Verify by running the Stepper  
(Step 006 continues)

E

(Step 006 continued)

Motor Phase test M.

If an Error Code occurs, go  
back to MAP 8020, Entry A.GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

007

POWER-OFF.

Return the Diskette Drive Cable  
to the original position on the  
Diskette Adapter Card.Is the Error Code which was a  
result of test L or test M in the  
Error Code Chart? (Start of MAP  
8020)

Y N

008

Was the Error Code 10?

Y N

009

Error Code 14: Check for a  
correctly seated Diskette  
and check that the Diskette  
(Step 009 continues)3 3  
F G



017

POWER-OFF.

Record failing drive left or right.

Swap Drive Cable Connectors B3 and B4 at the Diskette Adapter.

The purpose of swapping Connector B3 and B4 is to determine if the failure is on the Diskette Adapter Card or on a drive.

Press the Memory Record Button while turning the Power Switch On.

Select the left drive.

Load the DISPLAYWRITER SYSTEM DIAGNOSTS in the right drive.

Execute test L and if an Error Code is not displayed, then execute test M.

If this drive failed, then record that the right drive failed.

(Step 017 continues)

(Step 017 continued)

Select the right drive.

Load the DISPLAYWRITER SYSTEM DIAGNOSTIS in the left drive.

Execute test L and if an Error Code is not displayed, then execute test M.

If this drive failed, then record that the Left Drive failed.

Record the Error Code.

POWER-OFF.

Return Connector B3 and B4 to their original positions.

Is the same Drive failing?

Y N

018

Install a new Diskette Adapter Card.

Press the Memory Record Button, while turning the Power Switch On.

(Step 018 continues)

M

(Step 018 continued)

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

019

Is the Error Code in the Error Code Chart? (Start of MAP 8020)

Y N

020

Was the Error Code 10?

Y N

021

Error Code 14: Check for a correctly seated Diskette and check that the Diskette Load Lever is down. Execute test L and test M a few times. If Error Code 14 occurs more than once, load another Diskette and go to the Diskette Drive

(Step 021 continues)

5 5

N P

P RNA START MAP  
4 MAP 8020  
PAGE 5 OF 6  
(Step 021 continued)  
Not Ready MAP.  
GO TO MAP 8022, ENTRY POINT A.  
022  
Using the lowest ohm range,  
measure from Pin A18 (File  
Control Card Connector) to Pin  
6 (Connector B3). For a  
reading of less than 2 ohms.  
Do you measure less than 2 ohms?  
Y N  
023  
Install a new Diskette Drive  
Cable.  
Verify by running the Drive  
Set Ready test L.  
Verify by running the Stepper  
Motor Phase test M.  
GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.  
024  
(Step 024 continues)

K N  
3 4  
(Step 024 continued)  
Install a new File Control  
Card.  
Press the Memory Record  
Button, while turning the  
Power Switch On.  
Verify by running the Drive  
Set Ready test L.  
Verify by running the  
Stepper Motor Phase test M.  
GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.  
025  
Follow the instructions in  
the Error Code Chart.  
026  
Are both AC Drive Motors turning?  
Y N  
027  
You are now directed to go to  
the No Index Pulses MAP.  
(Step 027 continues)

Q MAP 8020-5  
(Step 027 continued)  
GO TO MAP 8026, ENTRY POINT A.  
028  
Using the 20(dc) voltage range,  
measure from Pin 7(-) to Pin  
14(+) at Connector B3 and  
Connector B4. Check for a  
reading of +4.6 volts to +5.5  
volts.  
Is the voltage between +4.6 volts  
to +5.5 volts?  
Y N  
029  
You are now directed to go to  
the Diskette Unit +5 Vdc Power  
MAP.  
GO TO MAP 8060, ENTRY POINT A.  
030  
Using the 20(dc) voltage range,  
measure from Pin 7(-) to Pin  
5(+) at Connector B3 and  
Connector B4. Check for a  
reading of -4.6 volts to -5.5  
(Step 030 continues)

(Step 030 continued)  
volts.

Is the voltage between -4.6 volts  
to -5.5 volts?

Y N

031

You are now directed to go to  
the Diskette Unit -5 Vdc Power  
MAP.

GO TO MAP 8062, ENTRY POINT A.

032

Using the 200(dc) voltage  
range, measure from Pin 7(-) to  
Pin 12(+) at Connector B3 and  
Connector B4. Check for a  
reading of +22.08 volts to  
+26.4 volts.

Is the voltage between +22.08  
volts to +26.4 volts?

Y N

033

You are now directed to go to  
the Diskette Unit +24 Vdc Power  
(Step 033 continues)

(Step 033 continued)  
MAP.

GO TO MAP 8061,  
ENTRY POINT A.

034

POWER-OFF.

Install a new Diskette  
Adapter Card.

Press the Memory Record  
Button, while turning the  
Power Switch On.

Verify by running the Drive  
Set Ready test L.

Verify by running the Stepper  
Motor Phase test M.

If an Error Code occurs, go  
back to MAP 8020, Entry A.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

035

POWER-OFF.  
(Step 035 continues)

(Step 035 continued)

Install a new Diskette Adapter  
Card.

Press the Memory Record Button,  
while turning the Power Switch  
On.

Verify by running the Drive Set  
Ready test L.

Verify by running the Stepper  
Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A., to  
Verify System Operation.

MAP 8021

PAGE 1 OF 9

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8020	A	1	001
8028	A	1	001
8071	A	1	001

EXIT POINTS

-----			
EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	8020	A
2	003	8028	A
3	016	8060	A
5	023	8060	A
3	014	8061	A
5	025	8061	A
7	037	8061	A
9	049	8061	A

(Step 001 continued)

Select test procedure N by pressing the MOVE key.

Execute test procedure N by pressing the ENTER key.

This moves the Head Carriage to Track 40.

Remove the Cable Guide (Warning: Do not let the Head Cable touch the Drive Belt).

The Stepping Motor Pulley is at Track 40 if the timing holes in pulley and casting are aligned.

Use the alignment pin to verify.

Press the END key to terminate test N.

Is the Stepping Motor Pulley located at Track 40?

Y N  
 | |  
 | |  
 | |  
 | |  
 | |  
 | |  
 | |  
 | |  
 | |  
 | |  
 | |

001

(ENTRY POINT A)

This MAP isolates Read failure problems.

Remove the Diskette from failing drive.

Press the Memory Record Button while turning the Power Switch On.

Select the failing drive.

(Step 001 continues)

2 2  
A B

1 MAP 8021

PAGE 2 OF 9

002

Is the head located at Track 40?  
(.020 gap, see the Product  
Support Manual)

Y N

003

You are now directed to go to  
the Seek Error MAP.

GO TO MAP 8028, ENTRY POINT A.

004

Go to the Product Support  
Manual and perform the Head  
Carriage adjustment.

You are now directed to go to the  
RNA Start MAP.

GO TO MAP 8020, ENTRY POINT A.

1

005

Is the Drive Pulley turning in a  
counterclockwise direction?

Y N

006

POWER-OFF.

Disconnect the AC Cable  
Connector 8 at Panel 2.

Discharge the AC Capacitor by  
taking a meter lead and  
connecting the clip to the  
Capacitor Terminal with two  
wires and the other end of  
the meter lead to the  
Capacitor Terminal with the  
single wire.

Install a new AC Capacitor.

Reconnect the AC Power Cord  
to the drive.

POWER-ON.

(Step 006 continues)

(Step 006 continued)

Is the Drive Pulley turning in a  
counterclockwise direction?

Y N

007

POWER-OFF.

Disconnect the AC Cable  
Connector 8 at Panel 2.

Discharge the AC Capacitor by  
taking a meter lead and  
connecting the clip to the  
Capacitor Terminal with two  
wires and the other end of  
the meter lead to the  
Capacitor Terminal with the  
single wire.

Reinstall the original AC  
Capacitor.

Install a new AC Motor.

Reconnect the AC Power Cord  
to the drive.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

C D READ ID ERROR MAP

2 2

MAP 8021

PAGE 3 OF 9

008

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

009

Load the DISPLAYWRITER SYSTEM  
DIAGNOSTICS in the failing  
drive.

Select test procedure L by  
pressing the MOVE key.

Execute test procedure L by  
pressing the ENTER key.

If an Error Code is not  
displayed on the screen, then  
execute test procedure M.

Was an Error Code displayed on  
the screen?

Y N

010

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

011

(Step 011 continues)

(Step 011 continued)

Execute test procedure L by  
pressing the ENTER key.

Does the solenoid pick and drop?

Y N

012

For a Diskette 1 Drive  
connect a meter lead between  
Pins TPC04 and TPHLD for a  
Diskette 2D Drive between  
Pins TPA07 and TPA08, located  
on the File Control Card.

This should activate the Head  
Load Solenoid.

Does the solenoid pick?

Y N

013

Using the 200(dc) voltage  
range, measure from Pin  
B03(+) to Pin A18(-) on the  
File Control Card  
Connector. Check for a  
reading +22.08 volts to  
+26.4 volts.

Is the voltage between +22.08  
(Step 013 continues)

(Step 013 continued)

and +26.4 volts?

Y N

014

You are now directed to go to  
the Diskette Unit +24 Vdc Power  
MAP.

GO TO MAP 8061, ENTRY POINT A.

015

Using the 20(dc) voltage range,  
measure from Pin B01(+) to Pin  
A18(-) at the File Control Card  
Connector. Check for a reading  
of +4.6 volts to +5.5 volts.

Is the voltage between +4.6 volts  
to +5.5 volts?

Y N

016

You are now directed to go to  
the Diskette Unit +5 Vdc Power  
MAP.

GO TO MAP 8060, ENTRY POINT A.

G  
3

READ ID ERROR MAP

MAP 8021

PAGE 4 OF 9

017

POWER-OFF.

Disconnect the Head Load Solenoid Connector from the File Control Card.

Using the 2K ohm range, check the Head Load Solenoid resistance. For a Diskette 1 Drive the resistance should be 140 to 400 ohms. For a Diskette 2D Drive the resistance should be 113 to 248 ohms.

Is the Solenoid resistance inside these limits?

Y N

018

If the solenoid resistance is below the limit, the File Control Card should also be replaced.

Install a new Head Load Solenoid.

Press the Memory Record (Step 018 continues)

H

H

(Step 018 continued)  
Button, while turning the Power Switch On.

Select Test Procedure L by pressing the MOVE key.

Execute Test Procedure L by pressing the ENTER key.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

019

Install a new File Control Card.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

F  
3

MAP 8021-4

020

POWER-OFF.

Using the lowest ohm range, measure from Pin B15 (File Control Card Connector) to Pin 17 (Connector B3/B4). Check for a reading of less than 2 ohms.

Do you measure less than 2 ohms?

Y N

021

Install a new Diskette Drive Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

022

Using the 20(dc) voltage range, measure from Pin B01(+) to Pin A18(-) at the File Control Card Connector. Check for a reading of +4.6 volts to +5.5 volts. (Step 022 continues)

MAP 8021-4

(Step 022 continued)

Is the voltage between +4.6 volts to +5.5 volts?

Y N

023

You are now directed to go to the Diskette Unit +5 Vdc Power MAP.

GO TO MAP 8060, ENTRY POINT A.

024

Using the 200(dc) voltage range, measure from Pin B03(+) to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts.

Is the voltage between +22.08 and +26.4 volts?

Y N

025

You are now directed to go to the Diskette Unit +24 Vdc Power MAP.

(Step 025 continues)

J

J

(Step 025 continued)

GO TO MAP 8061, ENTRY POINT A.

026

POWER-OFF.

Install a new File Control Card.

Press the Memory Record Button while turning the Power Switch On.

Select test procedure L by pressing the MOVE key.

Execute test procedure L by pressing the ENTER key.

Does the solenoid pick and drop?

Y N

027

POWER-OFF.

Reinstall the original File Control Card.

Install a new Diskette (Step 027 continues)

K

E K  
3

(Step 027 continued)  
Adapter Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

028

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

029

POWER-OFF.

Perform the Solenoid and Bail service adjustment as described in the Product Support Manual. Press the Memory Record Button, while turning the Power Switch On.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select test procedure M by pressing the MOVE key.

Execute test procedure M by pressing the ENTER key.

(Step 029 continues)

MAP 8021

PAGE 6 OF 9

(Step 029 continued)

Was test procedure M completed without a failure?

Y N

033

POWER-OFF.

Install a new Head Carriage Assembly.

Press the Memory Record Button, while turning the Power Switch On.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select test procedure M by pressing the MOVE key.

Execute test procedure M by pressing the ENTER key.

Was test procedure M completed without a failure?

Y N

034

POWER-OFF.

Install a new File Control Card.

Press the Memory Record (Step 034 continues)

(Step 034 continued)

Button, while turning the Power Switch On.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select test procedure M by pressing the MOVE key.

Execute test procedure M by pressing the ENTER key.

Was test procedure M completed without a failure?

Y N

035

POWER-OFF.

Install a new Diskette Adapter Card.

Press the Memory Record Button, while turning the Power Switch On.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select test procedure M by pressing the MOVE key. (Step 035 continues)

030

Is the failing Drive a type 1 Drive?

Y N

031

Remove the Diskette.

Select test procedure N by pressing the MOVE key.

Execute test procedure N by pressing the ENTER key.

Check the Head Carriage for .020 gap, see the Product Support Manual.

Is the adjustment correct?

Y N

032

Go to the Product Support Manual and make the correct adjustments.

READ ID ERROR MAP

MAP 8021

PAGE 7 OF 9

(Step 035 continued)

Execute test procedure M by pressing the ENTER key.

Was test procedure M completed without a failure?

Y N

036

Using the 200(dc) voltage range, measure from Pin B03(+) to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts.

Is the voltage between +22.08 and +26.4 volts?

Y N

037

You are now directed to go to the Diskette Unit +24 Vdc Power MAP.

GO TO MAP 8061, ENTRY POINT A.

R S

Q R S

6

038

POWER-OFF.

Install a new Head Load Solenoid.

Press the Memory Record Button, while turning the Power Switch On.

Select Test Procedure L by pressing the MOVE key.

Execute Test Procedure L by pressing the ENTER key.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

039

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

040

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

M P

6 6

MAP 8021-7

041

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

042

Check the Pressure Pad on the Head Load Arm for wear.

Is the Pressure Pad worn?

Y N

043

Remove the Diskette.

Select test procedure N by pressing the MOVE key.

Execute test procedure N by pressing the ENTER key.

Check the Head Carriage for .020 gap, see the Product Support Manual.

Is the adjustment correct?

Y N

044

(Step 044 continues)

9 8

T U

MAP 8021-7

U  
7

MAP 8021

PAGE 8 OF 9

(Step 044 continued)  
Go to the Product Support  
Manual and make the correct  
adjustments.

045

POWER-OFF.

Install a new Head Carriage  
Assembly.

Press the Memory Record Button,  
while turning the Power Switch  
On.

Load the DISPLAYWRITER SYSTEM  
DIAGNOSTICS.

Select test procedure M by  
pressing the MOVE key.

Execute test procedure M by  
pressing the ENTER key.

Was test procedure M completed  
without a failure?

Y N

046

POWER-OFF.

(Step 046 continues)

9  
V

(Step 046 continued)  
Install a new File Control  
Card.

Press the Memory Record Button,  
while turning the Power Switch  
On.

Load the DISPLAYWRITER SYSTEM  
DIAGNOSTICS.

Select test procedure M by  
pressing the MOVE key.

Execute test procedure M by  
pressing the ENTER key.

Was test procedure M completed  
without a failure?

Y N

047

POWER-OFF.

Install a new Diskette  
Adapter Card.

Press the Memory Record  
Button, while turning the  
Power Switch On.

Load the DISPLAYWRITER SYSTEM  
(Step 047 continues)

9  
W

(Step 047 continued)  
DIAGNOSTICS.

Select test procedure M by  
pressing the MOVE key.

Execute test procedure M by  
pressing the ENTER key.

Was test procedure M completed  
without a failure?

Y N

048

Using the 200(dc) voltage  
range, measure from Pin  
B03(+) to Pin A18(-) on the  
File Control Card Connector.  
Check for a reading +22.08  
volts to +26.4 volts.

Is the voltage between +22.08  
and +26.4 volts?

Y N

049

You are now directed to go to  
the Diskette Unit +24 Vdc  
Power MAP.

(Step 049 continues)

9 9  
X Y

W X Y        READ ID ERROR MAP  
8 8 8

MAP 8021

PAGE 9 OF 9

(Step 049 continued)

GO TO MAP 8061,  
ENTRY POINT A.

050

POWER-OFF.

Install a new Head Load  
Solenoid.

POWER-ON.

Select Test Procedure L by  
pressing the MOVE key.

Execute Test Procedure L by  
pressing the ENTER key.

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

051

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

052

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

L T V  
6 7 8

053

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

054

Go to the Product Support  
Manual for the correct  
Pressure Pad replacement  
procedure.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

055

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 8022

PAGE 1 OF 3

## ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
8020	A	1	001
8026	A	1	001
8071	A	1	001

001

(ENTRY POINT A)

This MAP isolates problems causing slow Diskette speed.

NOTE: A failing Diskette can cause slow Diskette speed.

POWER-OFF.

Remove the Drive Belt.

Go to the Product Support Manual and check the operator handle and the Collet Flat Spring adjustments.  
(Step 001 continues)

## EXIT POINTS

-----			
EXIT THIS MAP		TO	
-----			
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
-----			
3	016	8026	A

(Step 001 continued)

Are the adjustments correct?

Y N

002

Install/Repair the necessary parts.

Press the Memory Record Button while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

Go to the Product Support Manual and perform the Solenoid and Bail adjustment.

Verify by running the Drive Set Ready test L.

Verify by executing the Diskette MDI.

Was test procedure L and the (Step 003 continues)

(Step 003 continued)

Diskette MDI completed without a failure?

Y N

004

Check the Drive Belt.

Is the Belt in good condition?

Y N

005

Install a new Drive Belt.

Press the Memory Record Button while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

006

Remove the Diskette from the drive if one is present.

Disengage the Collet Spindle, (Step 006 continues)

(Step 006 continued)

by turning the Diskette Handle to the Unload position.

By hand turn the Drive Hub Assembly and check for binds.

Is the Hub free of binds and noise?

Y N

007

Install a new Drive Assembly.

Press the Memory Record Button while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

008

Engage the Collet Spindle, by turning the Diskette Handle to the Load position.  
(Step 008 continues)

(Step 008 continued)

By hand turn the Drive Hub assembly and check for binds.

Is the Collet Spindle free of binds?

Y N

009

Install a new Diskette Guide Assembly.

Press the Memory Record Button while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

010

Is the AC Motor Drive Pulley Set Screw tight?

Y N

011

Check the AC Drive Motor (Step 011 continues)

B  
2

DRIVE NOT READY

MAP 8022

PAGE 3 OF 3

(Step 011 continued)  
Shaft for damage.

Check to ensure the Set Screw is over the flat surface on the Motor Shaft when tightening the Set Screw.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

012

Install a new AC Drive Motor.

Press the Memory Record Button while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Was test procedure L completed without a failure?

Y N

013

POWER-OFF.

Install the original AC Drive Motor.

Using the lowest ohm range, (Step 013 continues)

C

A C  
2

MAP 8022-3

(Step 015 continued)

Was test procedure L completed without a failure?  
Y N

016

You are now directed to go to the No Index Pulses MAP.

GO TO MAP 8026, ENTRY POINT A.

017

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

018

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

019

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

(Step 013 continued)

measure from Pin B07 (File Control Card Connector) to Pin 4 (Connector B3/B4). For a reading of less than 2 ohms.

Do you measure less than 2 ohms?

Y N

014

Install a new Diskette Drive Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

015

POWER-OFF.

Install a new File Control Card.

Press the Memory Record Button while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

(Step 015 continues)

MAP 8022-3

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
8020	A	1	001
8071	A	1	001

001  
(ENTRY POINT A)

This MAP will isolate Read/Write problems. This problem occurs if a read and a write function occurs at the same time.

CAUTION

A section of the Diskette may lose data if a Read/Write failure is present.

This can cause a Diskette Load Failure.

POWER-OFF.

Using the lowest ohm range, (Step 001 continues)

(Step 001 continued)

measure from the File Control Card Connector to Connector B3/B4, using the information in the chart.

-----	
File Control Card Connector	Connector B3/B4
-----	
PIN	PIN
A01	5
B03	12
B06	3
B14	11
B09	9
B17	21
-----	

Do all the wires measure less than 2 ohms?

Y N

002

Install a new Diskette Drive Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

A

A

003

Install a new File Control Card.  
POWER-ON.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Execute the Diskette MDI Procedure.

Was the Diskette MDI test procedure completed without a failure?

Y N

004

POWER-OFF.

Reinstall the original File Control Card.

Install a new Diskette Adapter Card.

POWER-ON.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

(Step 004 continues)

2  
B

B  
1

UNSAFE WRITE COND.

MAP 8025-2

MAP 8025

PAGE 2 OF 2

(Step 004 continued)  
Execute the Diskette MDI  
Procedure.

Was the Diskette MDI test  
procedure completed without a  
failure?

Y N

005

Follow your normal  
escalation procedure.

006

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

007

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 8025-2

MAP 8026

PAGE 1 OF 14

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8020	A	1	001
8022	A	1	001
8070	A	1	001

EXIT POINTS

-----			
EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	010	8022	A
4	020	8060	A
3	018	8062	A

(Step 002 continued)

DANGER

CAUTION: AC voltage is present on the AC Motor Connector.

Using the 200(ac) voltage range, measure from Pin 6 to Pin 5 on the Diskette Drive AC Distribution Cable.

001  
(ENTRY POINT A)

This MAP isolates Missing Index Pulse problems.

POWER-ON.

Is the AC Drive Motor turning in the failing drive?

Y N

| 002

| POWER-OFF.

| Disconnect the Motor Power Cable Connector at the Motor.

| POWER-ON.

| (Step 002 continues)

3  
A

Is the voltage correct?

Y N

| 003

| Disconnect the Diskette AC Cable from the Electronic unit.

| Using the 200(ac) voltage range, measure from Pin 2 to Pin 3 at the AC out connector on panel 2.

| Is the voltage correct?

| Y N

| 004

| POWER-OFF.

| (Step 004 continues)

2 2  
B C

(Step 004 continued)  
Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

005

POWER-OFF.

Install a new Diskette AC  
Distribution Cable.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

006

POWER-OFF.

Leave the Motor Power Cable  
Connector disconnected.

Remove the Drive Belt.

Let the Motor cool for five  
minutes.

Reinstall the Motor Power Cable  
Connector.

POWER-ON.

(Step 006 continues)

(Step 006 continued)

Is the AC Drive Motor turning in  
the failing drive?

Y N

007

Give the AC Drive Motor  
Pulley a few quick turns with  
the Power ON.

Does the AC Drive Motor turn  
now?

Y N

008

POWER-OFF.

Install a new AC Drive  
Motor.

Press the Memory Record  
Button, while turning the  
Power Switch On.

Verify by running the Drive  
Set Ready test L.

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

009

POWER-OFF.

Disconnect the AC Cable  
Connector 8 at Panel 2.

Discharge the AC Capacitor by  
taking a meter lead and  
connecting the clip to the  
Capacitor Terminal with two  
wires and the other end of  
the meter lead to the  
Capacitor Terminal with the  
single wire.

Install a new AC Drive Motor  
Capacitor.

Press the Memory Record  
Button, while turning the  
Power Switch On.

Verify by running the Drive  
Set Ready test L.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

010

You are now directed to go to the  
(Step 010 continues)

1

MAP 8026

PAGE 3 OF 14

(Step 010 continued)

Diskette Drive Not Ready MAP.

GO TO MAP 8022, ENTRY POINT A.

011

Is the Drive Belt on both pulleys?

Y N

012

POWER-OFF.

Check the condition of the Belt and install a new Belt if it is damaged.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

013

Is the Diskette turning?

Y N

014

Check if the Diskette Handle is completely in the load position.

(Step 014 continues)

F

(Step 014 continued)

Is the Diskette Handle completely in the Load position?

Y N

015

Push the Diskette Handle down completely and check for binds.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

016

Go to the Product Support Manual and install a new Guide Assembly.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

017

Using the 20(dc) voltage range, measure from Pin A18(-) to Pin A01(+) at the File Control Card Connector. Check for a reading of -4.6 volts to -5.5 volts.  
(Step 017 continues)

(Step 017 continued)

Is the voltage between -4.6 volts to -5.5 volts?

Y N

018

You are now directed to go to the Diskette Unit -5 Vdc Power MAP.

GO TO MAP 8062, ENTRY POINT A.

019

Using the 20(dc) voltage range, measure from Pin B01(+) to Pin A18(-) at the File Control Card Connector. Check for a reading of +4.6 volts to +5.5 volts.

Is the voltage between +4.6 volts to +5.5 volts?

Y N

020

You are now directed to go to the Diskette Unit +5 Vdc Power MAP.

(Step 020 continues)

4  
G

MAP 8026

PAGE 4 OF 14

(Step 020 continued)

GO TO MAP 8060, ENTRY POINT A.

021

Is the failing Drive a Diskette 2D Drive?

Y N

022

LED Service Check.

This measurement is checking the LED Diode, to determine if the Diode is shorted or open.

POWER-OFF.

Set the CE meter on the 2K ohm range.

Remove the LED Cable Connector from the File Control Card.

Place a lead on each of the LED Connector Sockets.

Observe the CE meter.

(Step 022 continues)

(Step 022 continued)

Reverse the leads on the Connector Pins and observe the CE meter .

Only one of the measurements should have generated a reading of approximately 1.845K ohms.

Did you observe only one reading of approximately 1.845K ohms?

Y N

023

Install a new LED Assembly.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

024

Reconnect the LED Cable Connector to the File Control Card.

(Step 024 continues)

(Step 024 continued)

POWER-ON.

Using the 2(dc) voltage range, measure from Pin TPLED(+) to Pin TPF01(-) on the File Control Card.

Is the voltage reading between 1.0 and 2.0 volts?

Y N

025

POWER-OFF.

Install a new File Control Card.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

026

Remove the Diskette.

Using the 20(dc) voltage range, measure from Pin TPF01(-) to Pin TPC02(+) on the File Control Card.

(Step 026 continues)

(Step 026 continued)

The voltage reading should be larger than 2.5 volts.

Is the voltage reading 2.5 volts or larger?

Y N

027

Using the 20(dc) voltage range, measure from Pin TPF01(-) to Pin TPA01(+) on the File Control Card. Check for a reading of +4.6 volts to +5.5 volts.

Is the voltage between +4.6 volts to +5.5 volts?

Y N

028

POWER-OFF.

Install a new File Control Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

J K

029

POWER-OFF.

Install a new PTX Assembly.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

030

Observe the meter and insert a Diskette 1 Diskette.

Repeat this a few times.

The reading should be less than +.5 volts if the Diskette is loaded.

Is the voltage reading lower than .5 volts?

Y N

031

POWER-OFF.

Install a new PTX Assembly.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

L

032

PTX Service Check.

POWER-OFF.

Disconnect the AC Drive Motor Power Cable.

Disconnect the PTX Cable Connector at the File Control Card.

POWER-ON.

Using the 20(dc) voltage range, measure from Pin TPE03(+) to Pin TPF01(-) on the File Control Card.

Is the voltage reading less than 1.0 volts?

Y N

033

POWER-OFF.

Install a new File Control Card.

POWER-ON.  
(Step 033 continues)

6  
M

(Step 033 continued)

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

034

Leave the PTX Cable and the Motor Power Cable disconnected.

Leave the meter leads on TPE03(+) and TPF01(-).

Install one end of a jumper to Pin 3 of the PTXCP socket on the File Control Card.

Observe the CE meter while touching the other end of the jumper to Pin 1 of the PTXCP socket on the File Control Card several times.

NOTE: A wrong measurement can occur the first time the test Pin is touched.

(Step 034 continues)

(Step 034 continued)

Is the voltage reading 2.5 volts or larger?

Y N

035

POWER-OFF.

Remove the jumper.

Reinstall the AC Drive Motor Power Cable.

Install a new File Control Card.

POWER-ON.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

If Error Code 02 occurs, install a new PTX Assembly.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

036

POWER-OFF.

Using the lowest ohm range, measure from Pin B04 (File Control Card Connector) to Pin 1 (Connector B3/B4). Check for a reading of less than 2 ohms.

Do you measure less than 2 ohms?

Y N

037

Install a new Diskette Drive Cable.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

P  
6

NO INDEX PULSES MAP

MAP 8026

PAGE 7 OF 14

038

Install a new Diskette Adapter Card.

Press the Memory Record Button, while turning the Power Switch On.

Execute test procedure L.

Is an Error Code displayed on the screen?

Y N

039

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

040

POWER-OFF.

Install a new LED Assembly.

Press the Memory Record Button while turning the Power Switch On.

Verify by running the Drive Set Ready test L.  
(Step 040 continues)

H  
4

(Step 040 continued)

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

041

Is the failing Diskette a 2D Diskette?

Y N

042

LED Service Check.

This measurement is checking the LED Diode, to determine if the Diode is shorted or open.

POWER-OFF.

Set the CE meter on the 2K ohm range.

Remove the LED Cable Connector from the File Control Card.

Place a lead on each of the LED Connector Sockets, LEDCP 5 and 6.

(Step 042 continues)

1  
0  
Q

MAP 8026-7

(Step 042 continued)  
Observe the CE meter.

Reverse the leads on the Connector Sockets and observe the CE meter.

Only one of the measurements should have generated a reading of approximately 1.845K ohms.

Did you observe only one reading of approximately 1.845K ohms?

Y N

043

Install a new LED Assembly.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

044

Reconnect the LED Cable Connector to the File Control  
(Step 044 continues)

MAP 8026-7

(Step 044 continued)  
Card.

POWER-ON.

Using the 2(dc) voltage range, measure from Pin TPA07(-) to Pin TPLD1(+) on the File Control Card.

Is the voltage reading between 1.0 and 2.0 volts?

Y N

045

POWER-OFF.

Install a new File Control Card.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

046

(Step 046 continues)

(Step 046 continued)  
Remove the Diskette.

Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPB07(+) on the File Control Card.

The voltage reading should be larger than 2.5 volts.

Is the voltage reading 2.5 volts or larger?

Y N

047

Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPA09(+) on the File Control Card. Check for a reading of +4.6 volts to +5.5 volts.

Is the voltage between +4.6 volts to +5.5 volts?

Y N

048

POWER-OFF.

Install a new File Control (Step 048 continues)

(Step 048 continued)  
Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

049

POWER-OFF.

Install a new PTX Assembly.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

050

Observe the meter and insert a Diskette 1 Diskette.

Repeat this a few times.

The reading should be less than +.5 volts if the Diskette is loaded.

Is the voltage reading lower than .5 volts?

Y N

051

(Step 051 continues)

T  
8

NO INDEX PULSES MAP

U V

MAP 8026-9

MAP 8026

PAGE 9 OF 14

(Step 051 continued)  
POWER-OFF.

Install a new PTX Assembly.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

052

PTX Service Check.

POWER-OFF.

Disconnect the AC Drive Motor  
Power Cable.

Disconnect the PTX Cable  
Connector at the File Control  
Card.

POWER-ON.

Using the 20(dc) voltage range,  
measure from Pin TPA07(-) to  
Pin TPE01(+) on the File  
Control Card.

Is the voltage reading less than  
1.0 volts?

Y N

||  
||  
||  
||  
||  
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||

U V

||  
||  
||

053

POWER-OFF.

Install a new File Control  
Card.

POWER-ON.

Verify by running the Drive  
Set Ready test L.

Verify by running the Stepper  
Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

054

Leave the PTX Cable and the  
Motor Power Cable disconnected.

Leave the meter leads on  
TPA07(-) and TPE01(+).

Install one end of a jumper to  
Pin 3 of the PTXCP socket on  
the File Control Card.

Observe the CE meter while  
touching the other end of the  
(Step 054 continues)

(Step 054 continued)

jumper to Pin 1 of the PTXCP  
socket on the File Control Card  
several times.

NOTE: A wrong measurement can  
occur the first time the test  
Pin is touched.

Is the voltage reading 2.5 volts  
or larger?

Y N

055

POWER-OFF.

Remove the jumper.

Reinstall the AC Drive Motor  
Power Cable.

Install a new File Control  
Card.

POWER-ON.

Verify by running the Drive  
Set Ready test L.

Verify by running the Stepper  
Motor Phase test M.

(Step 055 continues)

1  
0  
W

MAP 8026-9

W  
9

NO INDEX PULSES MAP

MAP 8026

PAGE 10 OF 14

(Step 055 continued)  
If Error Code 02 occurs,  
install a new PTX Assembly.

Verify by running the Drive  
Set Ready test L.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

056

POWER-OFF.

Using the lowest ohm range,  
measure from Pin B04 (File  
Control Card Connector) to Pin  
1 (Connector B3/B4). Check for  
a reading of less than 2 ohms.

Do you measure less than 2 ohms?

Y N

057

Install a new Diskette Drive  
Cable.

Press the Memory Record  
Button, while turning the  
Power Switch On.

Verify by running the Drive  
(Step 057 continues)

X

(Step 057 continued)  
Set Ready test L.

Verify by running the Stepper  
Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

058

Install a new Diskette Adapter  
Card.

Press the Memory Record Button,  
while turning the Power Switch  
On.

Execute test procedure L.

Is an Error Code displayed on the  
screen?

Y N

059

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

060

POWER-OFF.

(Step 060 continues)

Q  
7

MAP 8026-10

(Step 060 continued)  
Install a new LED Assembly.

Press the Memory Record  
Button while turning the  
Power Switch On.

Verify by running the Drive  
Set Ready test L.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

061

LED Service Check.

This measurement is checking  
the LED Diode, to determine if  
the Diode is shorted or open.

POWER-OFF.

Set the CE meter on the 2K ohm  
range.

Remove the LED Cable Connector  
from the File Control Card.

Place a lead on each of the LED  
Connector Sockets, LEDCP 1 and  
3.

(Step 061 continues)

X

MAP 8026-10

(Step 061 continued)  
Observe the CE meter.

Reverse the leads on the Connector Pins and observe the CE meter .

Only one of the measurements should have generated a reading of approximately 1.845K ohms.

Did you observe only one reading of approximately 1.845K ohms?

Y N

062

POWER-OFF.

Install a new LED Assembly.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

063

(Step 063 continues)

(Step 063 continued)  
Reconnect the LED Cable Connector to the File Control Card.

POWER-ON.

Using the 2(dc) voltage range, measure from Pin TPA07(-) to Pin TPLD2(+) on the File Control Card.

Is the voltage reading between 1.0 and 2.0 volts?

Y N

064

POWER-OFF.

Install a new File Control Card.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

Y

065

Remove the Diskette.

Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPA10(+) on the File Control Card.

The voltage reading should be larger than 2.5 volts.

Is the voltage reading 2.5 volts or larger?

Y N

066

Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPA09(+) on the File Control Card. Check for a reading of +4.6 volts to +5.5 volts.

Is the voltage between +4.6 volts to +5.5 volts?

Y N

067

POWER-OFF.  
(Step 067 continues)

1  
1 2  
2 A  
Z A

1  
PAGE 12 OF 14

(Step 067 continued)

Install a new File Control Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

068

POWER-OFF.

Install a new PTX Assembly.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

069

Observe the meter and insert a Diskette 2D Diskette.

Repeat this a few times.

The reading should be less than +.5 volts if the Diskette is loaded.

Is the voltage reading lower than .5 volts?

Y N

1

070

POWER-OFF.

Install a new PTX Assembly.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

071

PTX Service Check.

POWER-OFF.

Disconnect the AC Drive Motor Power Cable.

Disconnect the PTX Cable Connector at the File Control Card.

POWER-ON.

Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPE01(+) on the File Control Card.

(Step 071 continues)

(Step 071 continued)

Is the voltage reading less than 1.0 volts?

Y N

072

POWER-OFF.

Install a new File Control Card.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

073

Leave the PTX Cable and the Motor Power Cable disconnected.

Leave the meter leads on TPA07(-) and TPE01(+).  
(Step 073 continues)

(Step 073 continued)

Install one end of a jumper to Pin 4 of the PTXCP socket on the File Control Card.

Observe the CE meter while touching the other end of the jumper to Pin 5 of the PTXCP socket on the File Control Card several times.

NOTE: A wrong measurement can occur the first time.

Is the voltage reading 2.5 volts or larger?

Y N

074

POWER-OFF.

Remove the jumper.

Reinstall the AC Drive Motor Power Cable.

Install a new File Control Card.

Press the Memory Record Button, while turning the (Step 074 continues)

A  
DA  
D(Step 074 continued)  
Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

If Error Code 02 occurs, install a new PTX Assembly.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

075

POWER-OFF.

Using the lowest ohm range, measure from Pin B04 (File Control Card Connector) to Pin 1 (Connector B3/B4). Check for a reading of less than 2 ohms.

Do you measure less than 2 ohms?

Y N

076

(Step 076 continues)

A  
EA  
E

(Step 076 continued)

Install a new Diskette Drive Cable.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

077

Install a new Diskette Adapter Card.

Press the Memory Record Button, while turning the Power Switch On.

Execute test procedure L.

Is an Error Code displayed on the screen?

Y N

078

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

1  
4  
A  
F

A  
F  
1  
3

NO INDEX PULSES MAP

MAP 8026-14

MAP 8026

PAGE 14 OF 14

|  
|  
079

POWER-OFF.

Install a new LED Assembly.

Press the Memory Record Button  
while turning the Power Switch  
On.

Verify by running the Drive Set  
Ready test L.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 8026-14

MAP 8028

PAGE 1 OF 8

## ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
-----			
8020	A	1	001
8021	A	1	001
8071	A	1	001

001

(ENTRY POINT A)

This MAP isolates Seek Error problems.

Remove Diskette.

Press the Memory Record Button while turning the Power Switch On.

Select functions by pressing the MOVE key and select test procedure N.

Execute test procedure N by pressing the ENTER key.

(Step 001 continues)

## EXIT POINTS

-----			
EXIT THIS MAP		TO	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
-----			
6	029	8020	A
8	045	8021	A
2	007	8060	A
2	009	8061	A

(Step 001 continued)

This moves the Head Carriage to Track 40.

Remove the Cable Guide (Warning: Do not let the Head Cable touch the Drive Belt).

The Stepping Motor Pulley is at Track 40 if the timing holes in pulley and casting are aligned.

Use the alignment pin to verify.

Press the END key to terminate test N.

Is the Stepping Motor Pulley located at Track 40?

Y N

| 002

| Are the four Stepping Motor mounting screws tight?

| Y N

| 003

| Tighten the mounting screws.

| (Step 003 continues)

8 2  
A B

MAP 8028-1

B  
1

SEEK ERROR MAP

MAP 8028

PAGE 2 OF 8

(Step 003 continued)

The position of the Stepping Motor may affect Head Alignment.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Execute the 6360 Head Alignment Compatibility Check, by selecting the Diskette Utility function.

Follow the instructions on the screen.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

004

Check that the Stepping Motor Tape is parallel to the pulley.

Is the tape parallel to the pulley?

Y N

005

Go to the Product Support Manual for Pulley and Tape adjustments.

(Step 005 continues)

C

C

(Step 005 continued)

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

006

Using the 20(dc) voltage range, measure from Pin B01(+) to Pin A18(-) at the File Control Card Connector. Check for a reading of +4.6 volts to +5.5 volts.

Is the voltage between +4.6 volts to +5.5 volts?

Y N

007

You are now directed to go to the Diskette Unit +5 Vdc Power MAP.

GO TO MAP 8060, ENTRY POINT A.

008

Using the 200(dc) voltage range, measure from Pin B03(+) (Step 008 continues)

MAP 8028-2

(Step 008 continued)

to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts.

Is the voltage between +22.08 and +26.4 volts?

Y N

009

You are now directed to go to the Diskette Unit +24 Vdc Power MAP.

GO TO MAP 8061, ENTRY POINT A.

010

POWER-OFF.

Remove the Diskette.

By hand, move the Head Carriage to Track 00. (toward the rear of the drive)

Press the Memory Record Button while turning the Power Switch On.

(Step 010 continues)

MAP 8028-2

(Step 010 continued)

Select functions by pressing the MOVE key.

Select the failing drive.

Select test procedure T by pressing the MOVE key.

Execute test procedure T by pressing the ENTER key.

Using the 200(dc) voltage range, measure the (dc) voltage between each File Control Card test point in the Chart (See Chart #1 or Chart #4).

NOTE: Negative lead on TPF01 for a Diskette 1 Drive or TPA07 for a Diskette 2D Drive. These points are on the File Control Card.

The Head may or may not move during this test and audible (Step 010 continues)

(Step 010 continued)

trackstep sounds may or may not be heard.

Single cycle step to Track 01 by pressing the space bar and repeat the measurements.

Repeat for Tracks 02 and 03 by pressing the space bar.

DISKETTE 1 DRIVE CHART #1				
STEPPING MOTOR TEST PINS				
	TPH01	TPH02	TPH03	TPH04
Trk 0	UP	UP	UP	DOWN
Trk 1	UP	UP	DOWN	UP
Trk 2	UP	DOWN	UP	UP
Trk 3	DOWN	UP	UP	UP
Down lev is 0 to 2.0dc volts				
Up lev is 21.6 to 26.4dc volts				

(Step 010 continues)

(Step 010 continued)

DISKETTE 2D DRIVE CHART #4				
STEPPING MOTOR TEST PINS				
	TPA01	TPA02	TPA03	TPA04
Trk 0	UP	UP	UP	DOWN
Trk 1	UP	DOWN	UP	UP
Trk 2	UP	UP	DOWN	UP
Trk 3	DOWN	UP	UP	UP
Down lev is 0 to 2.0dc volts				
Up lev is 21.6 to 26.4dc volts				

Are the results the same as in the chart?

Y N

011

POWER-OFF.

Remove Stepping Motor Cable from the Diskette File Control Card.

(Step 011 continues)

MAP 8028

PAGE 4 OF 8

(Step 011 continued)

Using the 2k ohm range, measure from Pin 1 to Pins 3,4,5,6 at the Stepping Motor Cable Connector.

Is the resistance of each of the four coils between 115 and 141 ohms?

Y N

012

Install a new 24 Volt DC Synchronous Stepper Motor.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

013

Reconnect the Stepping Motor Cable on the Diskette Control Card.

By hand move the Head Carriage to Track 00. (toward the rear of the drive.)

Press the Memory Record Button (Step 013 continues)

(Step 013 continued)

while turning the Power Switch On.

Select test procedure T, by pressing the MOVE key.

Execute test procedure T, by pressing the ENTER key.

Using the 20(dc) voltage range, measure from Pin TPE01 to TPF01 for a Diskette 1 Drive or from Pin TPC01 to TPA07 for a Diskette 2D Drive. These points are on the File Control Card.

Slowly press the Space Bar four times while observing the CE Meter.

Was one or more results less than 0.4 volts and one or more results larger than 2.5 volts?

Y N

014

POWER-OFF.

Using the lowest ohm range, measure from Pin B10 (File (Step 014 continues)

(Step 014 continued)

Control Card Connector) to Pin 13 (Connector B3/B4). For a reading of less than 2 ohms.

Did the wire (Access 0) have continuity?

Y N

015

Install a new Diskette Drive Cable.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

016

Install a new File Control Card.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M. (Step 016 continues)

(Step 016 continued)

Was test procedures L and M completed without a failure?

Y N

017

POWER-OFF.

Install the original File Control Card.

Install a new Diskette Adapter Card.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

018

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

019

(Step 019 continues)

(Step 019 continued)

Using the 20(dc) voltage range, measure from Pin TPC01 to TPFO1 for a Diskette 1 Drive or from Pin TPD01 to TPA07 for a Diskette 2D Drive. These points are on the File Control Card.

Slowly press the Space Bar four times while observing the CE Meter.

Was one or more results less than 0.4 volts and one or more results larger than 2.5 volts?

Y N

020

POWER-OFF.

Using the lowest ohm range, measure from Pin B13 (File Control Connector) to Pin 10 (Connector B3/B4). Check for a reading of less than 2 ohms.

Did the wire have continuity?

Y N

021

Install a new Diskette Drive Cable.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

022

Install a new File Control Card.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

Was test procedures L and M completed without a failure?

Y N

023

POWER-OFF.  
(Step 023 continues)

(Step 023 continued)

Install the original File Control Card.

Install a new Diskette Adapter Card.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

024

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

025

POWER-OFF.

Install a new File Control Card.

Select test procedure M by pressing the MOVE key.

(Step 025 continues)

(Step 025 continued)

Execute Test Procedure M by pressing the ENTER key.

Was test procedure M completed without a failure?

Y N

026

POWER-OFF.

Install a new Diskette Adapter Card.

Verify by running the Stepper Motor Phase test M.

Was an Error Code displayed on the screen?

Y N

027

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

028

Is the Error Code 08 or 17?

Y N

029

You are now directed to go to the RNA Start MAP.

GO TO MAP 8020, ENTRY POINT A.

030

Install the original Diskette Adapter Card.

Install a new 24 Volt DC Synchronous Stepper Motor.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

031

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

032

POWER-OFF.  
(Step 032 continues)

MAP 8028

PAGE 7 OF 8

(Step 032 continued)

Remove the Diskette.

Remove the Upper Guide Rod screws and slide the rod from left to right a few times.

Is there free movement?

Y N

033

Clean the Guide Rods.

Check the Guide Rods for free movement.

Is there free movement?

Y N

034

Are both Guide Rods in good condition?

Y N

035

Install a new Guide Rod(s).

Verify by running the (Step 035 continues)

(Step 035 continued)

Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

036

Install a new Head Carriage Assembly.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

037

Reinstall the Guide Rod.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

038

Reinstall the Guide Rod.

Go to the Product Support Manual and perform the Head Carriage Adjustment.

Press the Memory Record Button while turning the Power Switch On.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select Test Procedure M by pressing the MOVE key.

Execute Test Procedure M by pressing the ENTER key.

Was test procedure M completed without a failure?

Y N

039

POWER-OFF.

Install a new Diskette Adapter Card.

(Step 039 continues)

A R SEEK ERROR MAP

S

MAP 8028-8

1 7

MAP 8028

PAGE 8 OF 8

(Step 039 continued)

Verify by running the Drive  
Set Ready test L.

Verify by running the  
Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

040

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

041

Is the head located at Track 40?  
(.020 gap, see the Product  
Support Manual)

Y N

042

Go to the Product Support  
Manual and perform the Head  
Carriage Adjustment.

Verify by running the Stepper  
Motor Phase Test M.

Was test procedure M completed  
(Step 042 continues)

|

S

|

(Step 042 continued)  
without a failure?

Y N

| 043

Go to the Product Support  
Manual and perform the  
Stepper Drive Band  
adjustment.

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

| 044

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

045

At this point it has been  
determined that there is a read  
failure .

You are now directed to go to the  
Read ID Error MAP.

GO TO MAP 8021, ENTRY POINT A.

MAP 8028-8

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8071	A	1	001

001  
(ENTRY POINT A)

This MAP will isolate Write problems in the Diskette Unit.

POWER-OFF.

Install a new File Control Card.

POWER-ON.

Execute the Diskette MDI. Return to this MAP and continue with this step.

Was the Diskette MDI test procedure completed without a failure?

Y N

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|

2  
A B

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|

002

POWER-OFF.

Install the original File Control Card.

Using the lowest ohm range, and using the information in chart #13 or chart #14, Check for a reading of less than 2 ohms.

```

+-----+
| DISKETTE 1 DRIVE CHART#13 |
+-----+
|File Control Card  Connector|
| Connector          B3/B4  |
+-----+
| PIN B17           PIN 21  |
| PIN B08           PIN 18  |
+-----+
    
```

```

+-----+
|DISKETTE 2D DRIVE CHART#14 |
+-----+
|File Control Card  Connector|
| Connector          B3/B4  |
+-----+
| PIN B17           PIN 21  |
| PIN B16           PIN 8   |
+-----+
    
```

(Step 002 continues)

(Step 002 continued)

Is there continuity in the wire?  
Y N

|

003

Install a new Diskette Drive Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

|

004

Install a new Diskette Adapter Card.

POWER-ON.

Execute the Diskette MDI.

Was the Diskette MDI test procedure completed without a failure?

Y N

|

005

POWER-OFF.

Install the original Diskette Adapter Card.

(Step 005 continues)

|  
|  
|  
|

2  
C

A C  
1 1

WRITE PROBLEMS

MAP 8030-2

MAP 8030

PAGE 2 OF 2

(Step 005 continued)

Install a new Head Carriage  
Assembly.

Press the Memory Record  
Button, while turning the  
Power Switch On.

Verify by running the Drive  
Set Ready test L.

Verify by running the  
Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

006

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

007

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 8030-2

MAP 8032

PAGE 1 OF 7

## ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
0009	A	1	001
0010	A	1	001
0015	A	1	001

001

(ENTRY POINT A)

This MAP will isolate data flow problems in the Diskette Unit.

Error code 04

The failing part is most likely the System Card. You may install it now if there is a replacement System Card at your present location.

To verify system operation, go (Step 001 continues)

## EXIT POINTS

-----			
EXIT THIS MAP		TO	
-----			
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
-----			
4	019	8060	A
6	034	8060	A
2	008	8061	A
3	014	8061	A
4	017	8061	A
2	006	8062	A
3	012	8062	A
4	021	8062	A

(Step 001 continued)

to MAP 0010, entry point A.

The MAP should be followed to a repair statement before obtaining any parts from the Distribution Center.

Error code 05

The failing part is most likely the Diskette Adapter Card. You may install it now if there is a replacement Diskette Adapter Card at your present location.

To verify system operation, go to MAP 0010, entry point A.

The MAP should be followed to a repair statement before obtaining any parts from the Distribution Center.

POWER-OFF.

Remove the Communications Adapter Card from the Media Module, if one is present.

POWER-ON.

(Step 001 continues)

(Step 001 continued)  
Is the Error Code 04 or 05?

Y N

002

Install a new Communications Adapter Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

POWER-OFF.

Reinstall the Communications Adapter Card.

POWER-ON.

Is the Error Code 04?

Y N

004

POWER-OFF.

Disconnect Cable B3 at the Diskette Adapter Card.

POWER-ON.

(Step 004 continues)

(Step 004 continued)  
Is the Error Code 05?

Y N

005

POWER-OFF.

Reconnect Cable B3 at the Diskette Adapter Card.

POWER-ON.

Using the 20(dc) voltage range, measure from Pin A18(-) to Pin A01(+) at the File Control Card Connector. Check for a reading of -4.6 volts to -5.5 volts.

Make this measurement on the Left Drive.

Is the voltage between -4.6 volts to -5.5 volts?

Y N

006

You are now directed to go to the Diskette Unit -5 Vdc Power MAP.

(Step 006 continues)

(Step 006 continued)

GO TO MAP 8062, ENTRY POINT A.

007

Using the 200(dc) voltage range, measure from Pin A18(-) to Pin B03(+) of the File Control Card Connector. Check for a reading of 22.08 volts to 26.4 volts.

Make this measurement on the Left Drive.

Is the voltage between +22.08 volts to +26.4 volts?

Y N

008

You are now directed to go to the Diskette Unit +24 Vdc Power MAP.

GO TO MAP 8061, ENTRY POINT A.

009

POWER-OFF.

(Step 009 continues)

B  
2

H/S WRAP ERRORS

MAP 8032

PAGE 3 OF 7

(Step 009 continued)

Install a new File Control Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

010

POWER-OFF.

Reconnect Cable B3 and disconnect Cable B4 at the Diskette Adapter Card.

If Cable B4 is not present (on a single drive station), then answer the next question yes.

POWER-ON.

Is the Error Code 05?

Y N

011

POWER-OFF.

Reconnect Cable B4 at the Diskette Adapter Card.

POWER-ON.

(Step 011 continues)

D

D

MAP 8032-3

(Step 011 continued)

Using the 20(dc) voltage range, measure from Pin A18(-) to Pin A01(+) at the File Control Card Connector. Check for a reading of -4.6 volts to -5.5 volts.

Make this measurement on the Right Drive.

Is the voltage between -4.6 volts to -5.5 volts?

Y N

012

You are now directed to go to the Diskette Unit -5 Vdc Power MAP.

GO TO MAP 8062, ENTRY POINT A.

013

Using the 200(dc) voltage range, measure from Pin A18(-) to Pin B03(+) of the File Control Card Connector. Check for a reading of 22.08 volts to 26.4 volts.

Make this measurement on the (Step 013 continues)

(Step 013 continued)

Right Drive.

Is the voltage between +22.08 volts to +26.4 volts?

Y N

014

You are now directed to go to the Diskette Unit +24 Vdc Power MAP.

GO TO MAP 8061, ENTRY POINT A.

015

POWER-OFF.

Install a new File Control Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

016

POWER-OFF.

Leave Cable B4 disconnected at the Diskette Adapter Card. (Step 016 continues)

MAP 8032-3

(Step 016 continued)

Disconnect Cable B3 at the Diskette Adapter Card.

POWER-ON.

Is the Error Code 05?

Y N

017

You are now directed to go to the Diskette Unit +24 Vdc Power MAP.

GO TO MAP 8061, ENTRY POINT A.

018

Using the 20(dc) voltage range, measure from Pin 15(-) to Pins 1,2,3,13,14 (+ all) of Connector B2 at the Diskette Adapter Card. Check for a reading of +4.6 volts to +5.5 volts.

(Step 018 continues)

(Step 018 continued)

Is the voltage between +4.6 volts to 5.5 volts on each Connector Pin indicated?

Y N

019

You are now directed to go to the Diskette Unit +5 Vdc Power MAP.

GO TO MAP 8060, ENTRY POINT A.

020

Using the 20(dc) voltage range, measure from Pin 15(-) to Pin 5(+) of Connector B2 at the Diskette Adapter Card. Check for a reading of -4.6 volts to -5.5 volts.

Is the voltage between -4.6 volts to -5.5 volts?

Y N

021

You are now directed to go to the Diskette Unit -5 Vdc Power (Step 021 continues)

E

(Step 021 continued)

MAP.

GO TO MAP 8062, ENTRY POINT A.

022

POWER-OFF.

Reconnect the Drive Cable.

If you have installed a new Diskette Adapter Card at the start of this MAP, do not install another Diskette Adapter Card. Reinstall the original Diskette Adapter Card. Continue with the next step.

Install a new Diskette Adapter Card.

POWER-ON.

Is an Error Code displayed on the screen?

Y N

023

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

5

F

F  
4

H/S WRAP ERRORS

MAP 8032-5

MAP 8032

PAGE 5 OF 7

024

POWER-OFF.

Reinstall the original Diskette Adapter Card.

Install a new External Diskette Signal Cable.

POWER-ON.

Is an Error Code displayed on the screen?

Y N

025

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

026

POWER-OFF.

Install the original External Diskette Signal Cable.

Using the lowest ohm range, measure from the File Control Card Connector to Connector B3/B4, using the information in (Step 026 continues)

(Step 026 continued)  
the chart.

File Control Card Connector	Connector B3/B4
PIN	PIN
B06	3
B14	11
B09	9
B17	21

Do all the wires measure less than 2 ohms?

Y N

027

Install a new Diskette Drive Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

028

Install a new System Card.

POWER-ON.  
(Step 028 continues)

(Step 028 continued)

Is an Error Code displayed on the screen?

Y N

029

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

030

POWER-OFF.

Install a new Internal Diskette Signal Cable in the Electronic Module.

POWER-ON.

Is an Error Code displayed on the screen?

Y N

031

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

032

Follow your normal escalation (Step 032 continues)

MAP 8032-5

2

MAP 8032

PAGE 6 OF 7

(Step 032 continued)  
procedure.

033

Using the 20(dc) voltage range, measure from Pin 15(-) to Pins 1,2,3,13,14 (+ all) of Connector B2 at the Diskette Adapter Card. Check for a reading of +4.6 volts to +5.5 volts.

Is the voltage between +4.6 volts to 5.5 volts on each Connector Pin indicated?

Y N

034

You are now directed to go to the Diskette Unit +5 Vdc Power MAP.

GO TO MAP 8060, ENTRY POINT A.

035

If you have installed a new System Card at the start of this MAP, do not install another System Card. Reinstall (Step 035 continues)

(Step 035 continued)  
the original System Card.  
Continue with the next step.

POWER-OFF.

Install a new System Card.

POWER-ON.

Is an Error Code displayed on the screen?

Y N

036

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

037

POWER-OFF.

Install the original System Card.

Install a new Diskette Adapter Card.

POWER-ON.

(Step 037 continues)

(Step 037 continued)

Is an Error Code displayed on the screen?

Y N

038

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

039

POWER-OFF.

Install the original Diskette Adapter Card.

Install a new External Diskette Signal Cable.

POWER-ON.

Is an Error Code displayed on the screen?

Y N

040

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

7  
G

G H/S WRAP ERRORS  
6 MAP 8032  
|  
| PAGE 7 OF 7  
|  
|  
041

POWER-OFF.

Install the original External  
Diskette Signal Cable.

Install a new Internal Diskette  
Signal Cable in the Electronic  
Module.

POWER-ON.

Is an Error Code displayed on the  
screen?

Y N

|  
| 042

| GO TO MAP 0010, ENTRY POINT A,  
| to Verify System Operation.

|  
043

Follow your normal escalation  
procedure.

MAP 8060

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8020	A	1	001
8021	A	1	001
8026	A	1	001
8028	A	1	001
8032	A	1	001

001  
(ENTRY POINT A)

This MAP will isolate +5 (dc) voltage problems in the Diskette Unit and external DC Power Cable.

Remove the Diskette(s) if one is present.

POWER-OFF.

Disconnect the Diskette DC Power Cable from Connector 10, Panel 2.

POWER-ON.

(Step 001 continues)

(Step 001 continued)

Using the 20(dc) voltage range, measure from Pin 7(-) to Pins 1,2,3,4,14 (all + ) of Connector 10 at Panel 2. Check for a reading of +4.6 volts to +5.5 volts. (measure at the Panel).

Is the voltage between +4.6 volts to 5.5 volts on each Connector Pin indicated?

Y N

| 002

| POWER-OFF.

| Install a new Power Supply.

| GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

POWER-OFF.

Reinstall the Diskette DC Power Cable to Connector 10, at Panel 2.

POWER-ON.

(Step 003 continues)

(Step 003 continued)

Using the 20(dc) voltage range, measure from Pin 15(-) to Pins 1,2,3,13,14 (all + ) of Connector B2, at the Diskette Adapter Card. Check for a reading of +4.6 volts to +5.5 volts.

Is the voltage between +4.6 volts to 5.5 volts on each Connector Pin indicated?

Y N

| 004

| POWER-OFF.

| Install a new Diskette Unit DC Power Cable.

| GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

Using the 20(dc) voltage range, measure from Pin 7(-) to Pin 14(+) at Connector B3 and Connector B4. Check for a reading of +4.6 volts to +5.5 volts.

(Step 005 continues)

(Step 005 continued)

Is the voltage between +4.6 volts  
to +5.5 volts?

Y N

| 006

| POWER-OFF.

| Install a new Diskette  
| Adapter Card.| Press the Memory Record  
| Button, while turning the  
| Power Switch On.| Verify by running the Drive  
| Set Ready test L.| Verify by running the Stepper  
| Motor Phase test M.| GO TO MAP 0010, ENTRY POINT A,  
| to Verify System Operation.

| 007

Using the 20(dc) voltage range,  
measure from Pin B01(+) to Pin  
A18(-) at the File Control Card  
Connector. Check for a reading  
of +4.6 volts to +5.5 volts.

(Step 007 continues)

(Step 007 continued)

Is the voltage between +4.6 volts  
to +5.5 volts?

Y N

| 008

| POWER-OFF.

| Install a new Diskette Drive  
| Cable.| Press the Memory Record  
| Button, while turning the  
| Power Switch On.| Verify by running the Drive  
| Set Ready test L.| Verify by running the Stepper  
| Motor Phase test M.| GO TO MAP 0010, ENTRY POINT A,  
| to Verify System Operation.

| 009

| POWER-OFF.

| Install a new File Control  
| Card.

(Step 009 continues)

(Step 009 continued)

Verify by running the Drive Set  
Ready test L.

Verify by running the Stepper  
Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 8061

PAGE 1 OF 2

## ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
-----			
8020	A	1	001
8021	A	1	001
8026	A	1	001
8028	A	1	001
8032	A	1	001

001  
(ENTRY POINT A)

This MAP will isolate +24 (dc) voltage problems in the Diskette Unit and external DC Power Cable.

Remove the Diskette if one is present.

POWER-OFF.

Disconnect the Diskette Unit DC Power Cable from Connector 10, Panel 2.

POWER-ON.  
(Step 001 continues)

(Step 001 continued)

Using the 200(dc) voltage range, measure from Pin 7(-) to Pin 13(+) at Connector 10 at Panel 2. (Measure at the Panel) Check for a reading of +22.08 volts to +26.4 volts.

Is the voltage between +22.08 volts to +26.4 volts?

Y N

| 002

| POWER-OFF.

| Install a new Power Supply.

| GO TO MAP 0010, ENTRY POINT A,  
| to Verify System Operation.

003

POWER-OFF.

Reinstall the Diskette Unit DC Power Cable to Connector 10, at Panel 2.

POWER-ON.

Using the 200(dc) voltage  
(Step 003 continues)

(Step 003 continued)

range, measure from Pin 15(-) to Pin 12 (+) of Connector B2, at the Diskette Adapter Card. Check for a reading of +22.08 volts to +26.4 volts.

Is the voltage between +22.08 volts to +26.4 volts?

Y N

| 004

| POWER-OFF.

| Install a new Diskette Unit  
| DC Power Cable.

| GO TO MAP 0010, ENTRY POINT A,  
| to Verify System Operation.

005

Using the 200(dc) voltage range, measure from Pin 7(-) to Pin 12(+) at Connector B3 and Connector B4. Check for a reading of +22.08 volts to +26.4 volts.

(Step 005 continues)

MAP 8061

PAGE 2 OF 2

(Step 005 continued)

Is the voltage between +22.08  
volts to +26.4 volts?

Y N

006

POWER-OFF.

Install a new Diskette  
Adapter Card.

Press the Memory Record  
Button, while turning the  
Power Switch On.

Verify by running the Drive  
Set Ready test L.

Verify by running the Stepper  
Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

007

Using the 200(dc) voltage  
range, measure from Pin B03(+)  
to Pin A18(-) on the File  
Control Card Connector. Check  
for a reading +22.08 volts to  
(Step 007 continues)

(Step 007 continued)

+26.4 volts.

Is the voltage between +22.08 and  
+26.4 volts?

Y N

008

POWER-OFF.

Install a new Diskette Drive  
Cable.

Press the Memory Record  
Button, while turning the  
Power Switch On.

Verify by running the Drive  
Set Ready test L.

Verify by running the Stepper  
Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

009

POWER-OFF.

Install a new File Control  
Card.

(Step 009 continues)

(Step 009 continued)

Verify by running the Drive Set  
Ready test L.

Verify by running the Stepper  
Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 8062

PAGE 1 OF 2

## ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
8020	A	1	001
8026	A	1	001
8032	A	1	001

001

(ENTRY POINT A)

This MAP will isolate -5 (dc) voltage problems in the Diskette Unit and external DC Power Cable.

Remove the Diskette if one is present.

POWER-OFF.

Disconnect the Diskette Unit DC Power Cable from Connector 10, at Panel 2.

POWER-ON.

Using the 20(dc) voltage range, (Step 001 continues)

(Step 001 continued)

measure from Pin 7(-) to Pin 12(+) on Connector 10 at Panel 2. (Measure at the Panel) Check for a reading of -4.6 volts to -5.5 volts.

Is the voltage between -4.6 volts to -5.5 volts?

Y N

| 002

| POWER-OFF.

| Install a new Power Supply.

| Reconnect all the cable connectors.

| GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

| 003

| POWER-OFF.

| Reinstall the Diskette Unit DC Power Cable to Connector 10, at Panel 2.

| POWER-ON.

(Step 003 continues)

(Step 003 continued)

Using the 20(dc) voltage range, measure from Pin 15(-) to Pin 5(+) of Connector B2, at the Diskette Adapter Card. Check for a reading of -4.6 volts to -5.5 volts.

Is the voltage between -4.6 volts to -5.5 volts?

Y N

| 004

| POWER-OFF.

| Install a new Diskette Unit DC Power Cable.

| GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

| 005

Using the 20(dc) voltage range, measure from Pin 7(-) to Pin 5(+) at Connector B3 and Connector B4. Check for a reading of -4.6 volts to -5.5 volts.

(Step 005 continues)

(Step 005 continued)

Is the voltage between -4.6 volts to -5.5 volts?

Y N

| 006

| POWER-OFF.

| Install a new Diskette Adapter Card.

| Press the Memory Record Button, while turning the Power Switch On.

| Verify by running the Drive Set Ready test L.

| Verify by running the Stepper Motor Phase test M.

| GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

| 007

Using the 20(dc) voltage range, measure from Pin A18(-) to Pin A01(+) at the File Control Card Connector. Check for a reading of -4.6 volts to -5.5 volts.

(Step 007 continues)

(Step 007 continued)

Is the voltage between -4.6 volts to -5.5 volts?

Y N

| 008

| POWER-OFF.

| Install a new Diskette Drive Cable.

| Press the Memory Record Button, while turning the Power Switch On.

| Verify by running the Drive Set Ready test L.

| Verify by running the Stepper Motor Phase test M.

| GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

| 009

POWER-OFF.

Install a new File Control Card.

(Step 009 continues)

(Step 009 continued)

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

MAP 8064

PAGE 1 OF 3

## ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0010	A	1	001

001

(ENTRY POINT A)

This MAP isolates AC short problems in the Diskette Unit.

Reconnect the Diskette Unit AC Cable Connector 8 at Panel 2.

POWER-OFF.

Disconnect the Diskette Unit AC Cable from the Diskette Unit. This is done by disconnecting the AC Motor Connector or Connectors (two drives) and the AC Fan Connector in the Diskette Unit.

POWER-ON.

Is the Fan in the Electronic (Step 001 continues)

(Step 001 continued)

Module running?

Y N

| 002

| POWER-OFF.

| Install a new Diskette Unit AC Cable. Install a new Fuse.

| Reconnect the AC Power Cable.

| GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

Is this a two Drive station?

Y N

| 004

| POWER-OFF.

| Disconnect the AC Cable Connector 8 at Panel 2.

| Discharge the AC Capacitor by taking a meter lead and connecting the clip to the Capacitor Terminal with two

(Step 004 continues)

2  
A

(Step 004 continued)

wires and the other end of the meter lead to the Capacitor Terminal with the single wire. Using the lowest ohm range, place a meter lead on each of the black AC wires on the AC Motor Connector.

Record the reading.

Leave the meter leads connected.

Disconnect the blue wire (single wire) from the AC Capacitor.

Did the meter reading increase?

Y N

| 005

| Install a new AC Drive Motor.

| Reconnect the AC Cable to Connector (8) at Panel 2.

| GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

006

(Step 006 continues)

A DISKETTE UNIT A/C  
1 MAP 8064  
PAGE 2 OF 3  
(Step 006 continued)  
Install a new AC Drive Motor Capacitor.  
Reconnect the AC Cable to Connector (8) at Panel 2.  
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

007

POWER-OFF.

Reconnect the Fan in the Diskette Unit.

POWER-ON.

Is the Fan in the Diskette Unit running?  
Y N

008

POWER-OFF.

Install a new Fan in the Diskette Module. Install a new Fuse.

Reconnect the AC Motor Connector on both drives.  
(Step 008 continues)

B

B  
|  
|  
| (Step 008 continued)  
| GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

009

POWER-OFF.

Connect the Right Drive AC Cable.

POWER-ON.

Is the AC Motor turning on the Right Drive?  
Y N

010

The Right Drive is the failing Drive.

POWER-OFF.

Disconnect the AC Cable Connector 8 at Panel 2.

Discharge the AC Capacitor by taking a meter lead and connecting the clip to the Capacitor Terminal with two wires and the other end of  
(Step 010 continues)

3  
C

MAP 8064-2

(Step 010 continued)  
the meter lead to the Capacitor Terminal with the single wire.

Using the lowest ohm range, place a meter lead on each of the black AC wires on the AC Motor Connector.

Record the reading.

Leave the meter leads connected.

Disconnect the blue wire (single wire) from the AC Capacitor.

Did the meter reading increase?  
Y N

011

Install a new AC Drive Motor Capacitor.

Reconnect the AC Cable to Connector (8) at Panel 2.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

3  
D

MAP 8064-2

MAP 8064

PAGE 3 OF 3

012

Install a new AC Drive Motor.

Reconnect the AC Cable to Connector (8) at Panel 2.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

013

The Left Drive is the failing Drive.

POWER-OFF.

Disconnect the AC Cable Connector 8 at Panel 2.

Discharge the AC Capacitor by taking a meter lead and connecting the clip to the Capacitor Terminal with two wires and the other end of the meter lead to the Capacitor Terminal with the single wire.

Using the lowest ohm range, place a meter lead on each of the black AC wires on the AC Motor Connector.

(Step 013 continues)

(Step 013 continued)

Record the reading.

Leave the meter leads connected.

Disconnect the blue wire (single wire) from the AC Capacitor.

Did the meter reading increase?

Y N

014

Install a new AC Drive Motor.

Reconnect the AC Cable to Connector (8) at Panel 2.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

015

Install a new AC Drive Motor Capacitor.

Reconnect the AC Cable to Connector (8) at Panel 2.

GO TO MAP 0010, ENTRY POINT A, to (Step 015 continues)

(Step 015 continued)  
Verify System Operation.

ENTRY POINTS

FROM	ENTER THIS MAP
MAP NUMBER	ENTRY POINT NUMBER STEP NUMBER
6010	A 1 001

001  
(ENTRY POINT A)

This MAP isolates DC short problems in the Diskette Unit.

POWER-OFF (Wait 8 seconds).

Disconnect the Communications DC Voltage Cable Connector 11 (if present) from Panel 2.

Disconnect all cables from the Connector Strip or from the Diskette Unit Distribution Board.

Remove the Diskette Adapter Card.

Remove if present remaining cards from the Diskette Unit (Step 001 continues)

(Step 001 continued)  
Distribution Board.

POWER-ON.

Are the "A" and/or "B" LED indicators ON?

Y N

002

Reconnect the Communications DC Voltage Cable Connector 11 to Panel 2.

If this cable is not present, then answer NO to this question.

Are the "A" and/or "B" LED indicators ON?

Y N

003

POWER-OFF.

Reconnect Cable B2.

Reconnect if present Cable C1 to the Diskette Unit Distribution Board.

(Step 003 continues)

(Step 003 continued)  
POWER-ON.

Are the "A" and/or "B" LED indicators ON?

Y N

004

POWER-OFF (Wait 8 seconds).

Reinstall the original Diskette Adapter Card.

POWER-ON.

Are the "A" and/or "B" LED indicators ON?

Y N

005

If the Communications feature is not present in the Media Module, then answer NO to this question.

Reinstall the remaining original cards one at a time.

Power-On after installing each card.

(Step 005 continues)

(Step 005 continued)

Record the part number or card type of the failing card.

Did the A and/or B LED Indicators remain on after installing each card?

Y N

006

Is this a two Drive station?

Y N

007

POWER-OFF.

Reconnect the Drive Cable.

Disconnect the Head Load Solenoid Connector from the File Control Card.

Disconnect the Stepping Motor Connector from the File Control Card.

POWER-ON.

(Step 007 continues)

(Step 007 continued)

Are the "A" and/or "B" LED indicators ON?

Y N

008

POWER-OFF.

Reconnect the Head Load Solenoid in the failing Drive.

POWER-ON.

Are the "A" and/or "B" LED indicators ON?

Y N

009

POWER-OFF.

Reconnect the Stepping Motor Connector in the failing Drive.

POWER-ON.

(Step 009 continues)

(Step 009 continued)

Are the "A" and/or "B" LED indicators ON?

Y N

010

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

011

POWER-OFF (Wait 8 seconds).

Install a new Stepping Motor.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

012

POWER-OFF (Wait 8 seconds).

Install a new Head Load Solenoid in the failing Drive.

POWER-ON.

(Step 012 continues)

(Step 012 continued)

Are the "A" and/or "B" LED indicators ON?

Y N

013

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

014

POWER-OFF (Wait 8 seconds).

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

015

POWER-OFF (Wait 8 seconds).

Install a new File Control Card in the failing Drive.

POWER-ON.  
(Step 015 continues)

(Step 015 continued)

Are the "A" and/or "B" LED indicators ON?

Y N

016

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

017

POWER-OFF (Wait 8 seconds).

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

018

POWER-OFF.

Reconnect the Left Drive Cable to Connector B3 on the Diskette Adapter Card.

Are the "A" and/or "B" LED indicators ON?

Y N

||  
||  
||  
||  
||  
||

019

This isolates to a failing Right Drive.

POWER-OFF.

Reconnect the Right Drive Cable to Connector B4 on the Diskette Adapter Card.

Disconnect the Head Load Solenoid Connector from the File Control Card on the failing drive.

Disconnect the Stepping Motor Connector from the File Control Card on the failing drive.

POWER-ON.

Are the "A" and/or "B" LED indicators ON?

Y N

020

POWER-OFF.

Reconnect the Head Load Solenoid in the failing (Step 020 continues)

MAP 8065

PAGE 4 OF 6

(Step 020 continued)  
Drive.

POWER-ON.

Are the "A" and/or "B" LED  
indicators ON?

Y N

O21

POWER-OFF.

Reconnect the Stepping Motor  
Connector in the failing  
Drive.

POWER-ON.

Are the "A" and/or "B" LED  
indicators ON?

Y N

O22

POWER-OFF.

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

O23

(Step 023 continues)

(Step 023 continued)  
POWER-OFF (Wait 8 seconds).

Install a new Stepping Motor.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

O24

POWER-OFF (Wait 8 seconds).

Install a new Head Load  
Solenoid in the failing Drive.

POWER-ON.

Are the "A" and/or "B" LED  
indicators ON?

Y N

O25

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

O26

POWER-OFF (Wait 8 seconds).

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A, to  
(Step 026 continues)(Step 026 continued)  
Verify System Operation.

O27

POWER-OFF (Wait 8 seconds).

Install a new File Control  
Card in the failing Drive.

POWER-ON.

Are the "A" and/or "B" LED  
indicators ON?

Y N

O28

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

O29

POWER-OFF (Wait 8 seconds).

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

O30

(Step 030 continues)



MAP 8065

PAGE 6 OF 6

038

POWER-OFF (Wait 8 seconds).

Install a new File Control  
Card in the failing Drive.

POWER-ON.

Are the "A" and/or "B" LED  
indicators ON?

Y N

039

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

040

POWER-OFF (Wait 8 seconds).

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

041

POWER-OFF (Wait 8 seconds).

(Step 041 continues)

(Step 041 continued)  
Install a new Card.GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

042

POWER-OFF (Wait 8 seconds).

Install a new Diskette  
Adapter Card.GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

043

Is a Diskette Unit Distribution  
Board present?

Y N

044

POWER-OFF (Wait 8 seconds).

Install a new Connector  
Strip.GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

045

POWER-OFF (Wait 8 seconds).

Install a new Diskette Unit  
Distribution Board.GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

046

POWER-OFF (Wait 8 seconds).

Install a new Communications  
DC Voltage Cable.GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

047

POWER-OFF (Wait 8 seconds).

Install a new Diskette Adapter  
DC Power Cable.GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0017	A	1	001

001  
(ENTRY POINT A)

The most probable failing FRU is the Display Module. You may replace it now if there is a replacement Display Module at your present location. Follow the MAPs to a fix statement before obtaining any parts from the distribution center.

DANGER

WARNING: DO NOT REMOVE THE DISPLAY MODULE COVERS. Operating voltages up to 14,000 volts are present inside the Display (Note: no bleeder resistor provided). Use CAUTION when handling the Display Module. The Display (Step 001 continues)

(Step 001 continued)  
Screen is glass and will implode if cracked or broken.

Disconnect the Display Module Connector (2) from Panel 1.

Using the 20(dc) voltage range, measure from Pin 2 (ground) to Pin 3 (+12V) of Panel 1 Connector (2), (Pin side).

Is the voltage between +11.0 volts and +13.2 volts?

Y N

002

Using the 20(dc) voltage range, measure from frame ground to Pin 10 of Internal Distribution Cable Connector (P2).

Is the voltage between +11.0 volts and +13.2 volts?

Y N

003

POWER-OFF.

Install a new Power Supply. (Step 003 continues)

(Step 003 continued)

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

004

POWER-OFF.

Repair or install a new Internal Distribution Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

POWER-OFF.

Remove the Electronics Module top cover.

Reconnect the Display Module Connector (2).

POWER-ON with the Memory Record Button pressed.

Using the 20(dc) voltage range, measure from frame ground to Pin 13 of the Internal Distribution Cable Connector (Step 005 continues)

MAP 9010

PAGE 2 OF 2

(Step 005 continued)  
 (2) (wiring side).

Is the voltage between +4.0 volts  
 and +5.5 volts?

Y N

006

POWER-OFF.

Install a new Display Module.

GO TO MAP 0010, ENTRY POINT A,  
 to Verify System Operation.

007

Using the 20(dc) voltage range,  
 measure from frame ground to  
 Pin 4 of the Internal  
 Distribution Cable Connector  
 (D1).

Is the voltage between +4.0 volts  
 and +5.5 volts?

Y N

008

POWER-OFF.

Repair or install a new  
 (Step 008 continues)

C

|

(Step 008 continued)  
 Internal Distribution Cable.

GO TO MAP 0010, ENTRY POINT A,  
 to Verify System Operation.

009

POWER-OFF.

Install a new Display Adapter  
 Card.

GO TO MAP 0010, ENTRY POINT A, to  
 Verify System Operation.

ENTRY POINTS

```

-----
FROM | ENTER THIS MAP
-----
MAP | ENTRY PAGE STEP
NUMBER | POINT NUMBER NUMBER
-----
0009 | A 1 001
0010 | A 1 001
9030 | A 1 001
9040 | A 1 001
    
```

001  
(ENTRY POINT A)

DANGER

WARNING: DO NOT REMOVE THE DISPLAY MODULE COVERS. Operating voltages up to 14,000 volts are present inside the Display (Note: no bleeder resistor provided). Use CAUTION when handling the Display Module. The Display Screen is glass and will implode if cracked or broken.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

(Step 001 continues)

(Step 001 continued)  
Select and run the Display MDI.  
Note: The Keying sequence is:

```

"A"
"ENTER"
(Wait two to five seconds for
a diskette access.)
"A"
"ENTER"
(Wait two to five seconds for
a diskette access.)
"ENTER"
    
```

(If a wrong key is pressed during the keying sequence, press "END" and restart the sequence.)

Did the Display MDI test fail? (Failure is indicated by a Display message and/or LED Indicators "F" and "H" ON.)

Y N

| 002

| Has a new Display Module been installed?

| Y N

| 003

| (Step 003 continues)

(Step 003 continued)  
POWER-OFF.

Install a new Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

004

POWER-OFF.

Install a new Display Adapter Card.

Reinstall the original Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

POWER-OFF.

Install a new Display Adapter Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

MAP 9030

PAGE 1 OF 3

## ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
0010	A	1	001

001  
(ENTRY POINT A)

The most probable failing FRU is the Display Module. You may replace it now if there is a replacement Display Module at your present location. Follow the MAPs to a fix statement before obtaining any parts from the distribution center.

## DANGER

WARNING: DO NOT REMOVE THE DISPLAY MODULE COVERS. Operating voltages up to 14,000 volts are present inside the Display (Note: no bleeder resistor provided). Use CAUTION when handling the Display Module. The Display  
(Step 001 continues)

## EXIT POINTS

-----			
EXIT THIS MAP		TO	
-----			
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
-----			
3	010	9020	A

(Step 001 continued)  
Screen is glass and will implode if cracked or broken.

Is there a single horizontal or vertical line on the Display?  
(Refer to Figure 2, Appendix A)  
Y N

002

Turn the Contrast and Brightness Control Knobs fully clockwise.

Turn the Brightness Control Knob slowly counterclockwise until the Display raster is not visible.

Is there an Image on the Display Screen?

Y N

003

Using the 2(dc) voltage range, measure from frame ground to Pin 10 of the Internal Distribution Cable Connector (2) (wiring side).

(Step 003 continues)

3 3  
A B

MAP 9030-1

MAP 9030

PAGE 2 OF 3

(Step 003 continued)

Do NOT disconnect Display  
Module Connector (2).

Is the voltage between +1.2 volts  
and +1.8 volts?

Y N

004

POWER-OFF.

Disconnect Internal  
Distribution Cable Connector  
(D1).

POWER-ON with the Memory  
Record Button pressed.

Using the 2(dc) voltage  
range, measure from frame  
ground to Pin 10 of the  
Internal Distribution Cable  
Connector (2) (wiring side).

Do NOT disconnect Display  
Module Connector (2).

Is the voltage between +1.2  
volts and +1.8 volts?

Y N

||  
||  
||  
||  
||  
||  
||  
||  
||  
||

C D E

005

POWER-OFF.

Reconnect Internal  
Distribution Cable  
Connector (D1).

Install a new Display  
Module.

GO TO MAP 0010, ENTRY POINT  
A, to Verify System  
Operation.

006

POWER-OFF.

Install a new Display Adapter  
Card.

Reconnect Internal  
Distribution Cable Connector  
(D1).

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

007

Using the 2(dc) voltage range,  
(Step 007 continues)

(Step 007 continued)

measure from frame ground to  
Pin 1 of the Internal  
Distribution Cable Connector  
(D1).

Is the voltage between +1.2 volts  
and +1.8 volts?

Y N

008

POWER-OFF.

Repair or install a new  
Internal Distribution Cable.

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

009

POWER-OFF.

Install a new Display Adapter  
Card.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

A B NO VIDEO DATA MAP

MAP 9030-3

1 1

MAP 9030

PAGE 3 OF 3

010

You are now directed to go to  
the Display Display Adapter  
MAP.

GO TO MAP 9020, ENTRY POINT A.

011

POWER-OFF.

Install a new Display Module.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

MAP 9030-3

MAP 9040

PAGE 1 OF 3

ENTRY POINTS

-----			
FROM	ENTER THIS MAP		
-----			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
-----			
0009	A	1	001
0010	A	1	001

001  
(ENTRY POINT A)

The most probable failing FRU is the Display Module. You may replace it now if there is a replacement Display Module at your present location. Follow the MAPs to a fix statement before obtaining any parts from the distribution center.

DANGER

WARNING: DO NOT REMOVE THE DISPLAY MODULE COVERS. Operating voltages up to 14,000 volts are present inside the Display (Note: no bleeder resistor provided). Use CAUTION when handling the (Step 001 continues)

EXIT POINTS

-----			
EXIT THIS MAP		TO	
-----			
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
-----			
1	003	9020	A

(Step 001 continued)  
Display Module. The Display Screen is glass and will implode if cracked or broken.

Turn the Display Brightness and Contrast Control Knobs fully clockwise.

Compare the Display Image to the Pictures in Figure 5, Appendix A.

Does the Image on the Display match any of the pictures?

Y N

| 002

| Is the Display Image rolling?  
| (Refer to Figure 4, Appendix  
| A.)

| Y N

| 003

| You are now directed to go to  
| the Display Display Adapter  
| MAP.

| GO TO MAP 9020,  
| ENTRY POINT A.

3 2  
A B

004

Using the 20(dc) voltage range, measure from frame ground to Pin 12 of the Internal Distribution Cable Connector (2) (wiring side).

Do NOT disconnect Display Module Connector (2).

Record the voltage.

Is the voltage between +4.0 volts and +5.5 volts?

Y N

005

POWER-OFF.

Install a new Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

006

POWER-OFF.

Disconnect the System Power Cable Connector (P1).  
(Step 006 continues)

(Step 006 continued)

POWER-ON.

Using the 20(dc) voltage range, measure from frame ground to Pin 12 of the Internal Distribution Cable Connector (2) (wiring side).

Do NOT disconnect Display Module Connector (2).

Did the voltage measurement increase +0.3 volts to +0.7 volts above the recorded voltage?

Y N

007

Using the 20(dc) voltage range, measure from frame ground to Pin 3 of the Internal Distribution Cable Connector (D1) (wiring side).

Is the voltage between +4.5 volts and +5.5 volts?

Y N

008

POWER-OFF.  
(Step 008 continues)

(Step 008 continued)

Install a new Internal Distribution Cable.

Reconnect the System Power Cable Connector (P1).

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

009

POWER-OFF.

Install a new Display Adapter Card.

Reconnect the System Power Cable Connector (P1).

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

010

POWER-OFF.

Install a new Display Module.

Reconnect the System Power Cable Connector (P1).  
(Step 010 continues)

A DISTORTED DISP IMAGE

1

MAP 9040

PAGE 3 OF 3

(Step 010 continued)

GO TO MAP 0010, ENTRY POINT A,  
to Verify System Operation.

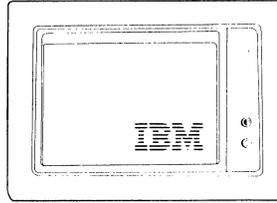
011

POWER-OFF.

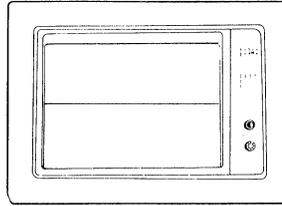
Install a new Display Module.

GO TO MAP 0010, ENTRY POINT A, to  
Verify System Operation.

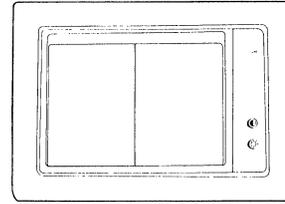




Normal display image after BAT completion  
Figure 1

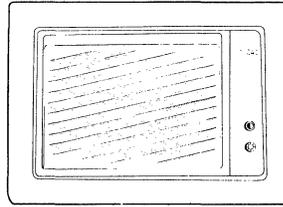


Single horizontal line  
(solid or broken)



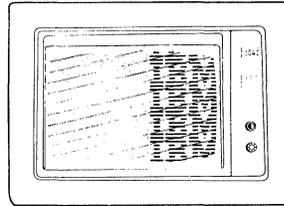
Single vertical line  
(may be flashing)

Figure 2



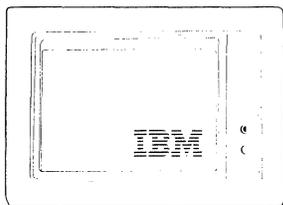
Display raster

Figure 3

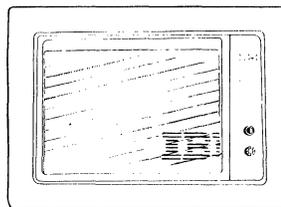


Display image rolling

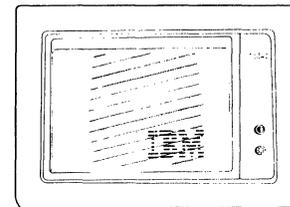
Figure 4



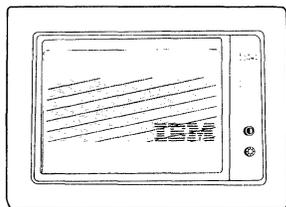
Too dim



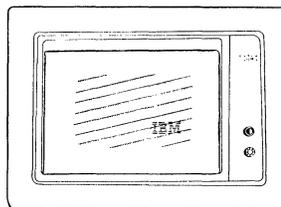
Too wide



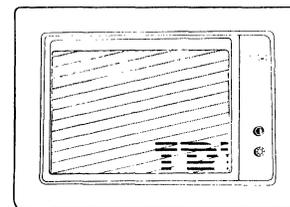
Too narrow



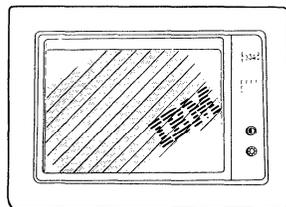
Too short



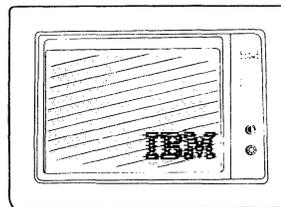
Shrunk



Changes size when Brightness control turned



Tilted



Out of focus

Figure 5 - Distorted Display Images

## Glossary

This glossary includes definitions developed by the American National Standards Institute (ANSI) and the International Organization for Standardization (ISO). This material is reproduced from the *American National Dictionary for Information Processing*, copyright 1977 by the Computer and Business Equipment Manufacturers Association, copies of which may be purchased from the American National Standards Institute, 1430 Broadway, New York, NY, 10018.

ANSI definitions are preceded by an asterisk. The symbol "(SCI)" at the beginning of a definition indicates that it is reprinted from an early working document of ISO Technical Committee 97, Subcommittee 1 and that agreement has not yet been reached among its members.

The glossary does not include terms that are defined in non-technical dictionaries and that have no special meaning in data processing. Some terms may have different meanings in other contexts, or to people not familiar with data processing industry usage.

In the interest of clarity and consistency of style, the glossary uses the same method of arranging, organizing, and cross-referencing entries as the *American National Dictionary for Information Processing*.

## A

**assigning printer.** The action taken by the Primary work station to allow a Secondary work station to control the printer.

## B

**Basic Assurance Test (BAT).** A series of tests executed in sequence that are automatically started at POR.

**BAT.** Basic Assurance Test.

**bleeder resistor.** A resistor located in an electrical circuit which will quickly lower that voltage when power is removed.

**break condition.** Condition of a Data Link in which no current flow is detected.

## C

## D

**Data Link.** The physical connection and the connection protocols between the host and communication controller nodes via the host data channel.

**Display Station.** A display station consists of a display module, an electronics module and a keyboard module.

## E

**escape.** Horizontal movement of the printer carrier.

**escapement.** See escape.

## F

**Field Replaceable Unit (FRU).** A part which can be installed in a customer's office.

**FRU.** FRU — Field Replaceable Unit.

## G

## H

**half index.** A 1/2 unit vertical paper movement.

## I

**I/O.** input/output.

**ID.** Identifier.

**\*identifier.** (ISO A character or group of characters used to identify or name an item of data and possible to indicate certain properties of that data.

**implode.** To inwardly explode with force.

**index.** A unit vertical paper movement.

**initialize.** (1) To set counters, switches, addresses, or contents of storage to zero or other starting values. (2) To prepare a diskette for use by naming the diskette.

**\*input/output (I/O).** Pertaining to a device or to a channel that may be involved in an input process, and at a different time, in an output process.

## J

## K

## L

**\*Link.** See Data Link.

**locator.** Interface board component locator, used to locate test points.

**logo** The name, symbol or trademark of a company.

## M

**MAP Diagnostic Integration (MDI).** A diagnostic program on the CE Diagnostic Diskette that is a combination of MAPs and CE loadable diagnostics.

**MCU** Mag Card Unit

**MCU Link** An electrical circuit which communicates with the Mag Card Unit.

**MDI.** MAP Diagnostic Integration.

**MENU.** In computer graphics, options listed in a display image that can be selected by the user of the display device.

**multitrack.** The function which allows writing on both sides of a diskette with one command.

## N

## O

```

"A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ _ ` a b c d e f g h i j k l m n o p q r s t u v w x y z { | } ~ "
B C C C D F F F G H H H I J K L M M N O P Q R R R S T U V V
C C C F G H H L M M O P Q R R R T U V V W W
d e e f h h i i j k l m n n o p q r s s t u v w w x x
e * 1 9 h h i i j k l m n n o p q r s s t : + # w x y y
* ! @ 6 6 s % c & & ( ) * + + * + + # # ? * *
! @ 6 6 s % c & & ( ) * + + * + + # # ? * *
1 2 3 3 4 5 6 6 7 7 8 8 9 9 0 0 1 1 0 0 = ; , ' / / 0 0 , 1 1 2 2
3 3 4 4 5 5 6 6 7 7 8 8 9 9 0 0 1 1 0 0 = ; , ' / / 0 0 , 1 1 2 2 3

```

-

--

abcde \_\_\_\_\_ abcde Zz

## P

**Printer Link.** An electrical circuit which communicates with the printer.

**Problem Determination Diskette.** The diskette on which the automated and semi-automated problem determination tests are stored.

**Problem Determination Guide.** The manual used by the customer when executing Problem Determination Procedures.

**PSM.** Product Support Manual.

**PTXCP.** Photo transistor checkpoint on the File Control Card.

## Q

## R

**raster.** A predetermined pattern of scanning lines that provides uniform coverage of a display space.

**reinitialize.** A procedure used to format tracks on a Diskette. See initialize.

**Repair Verify MDI.** An MDI which is performed to verify a specific repair action.

**RNA.** Resident Non-Automatic Diagnostics.

**Resident Non-Automatic Diagnostics.** Diagnostics contained in the system electronics that do not run during BAT.

## S

**sector.** That portion of a track that can be accessed by a magnetic head during a read/write operation.

**Sharing Link.** An electrical circuit which communicates with another work station.

for automatically feeding individual sheets of paper.

**soft error.** An error that can be recovered from by an automatic repeat of the failing operation.

**system.** The IBM Displaywriter System.

## T

**tab.** A multiple unit horizontal movement.

**TPHLD.** Head Load test point.

**TPLED.** Light Emitting Diode test point.

**trace.** In diagnostics, the tracking of MDI steps on the display.

**Tractor Feed.** An attachment for the printer for feeding continuous form paper.

## U

**Universal Synchronous Asynchronous Receiver Transmitter (USART).** A device used to send and receive data.

**USART.** Universal Synchronous Asynchronous Receiver Transmitter.

## V

## W

**Work station.** A display station and a single or dual diskette unit.

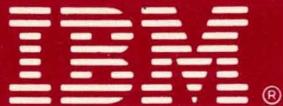
## X

## Y

## Z

## Machine Types

**5218 Printer.** "Printwheel" Element Printer.



International Business Machines Corporation  
Customer Service Division

S241-6250-4

Printed in USA (Revised) July, 1981