

FRONT

PICTURE 1

September 25, 1990

This pamphlet contains procedures for isolating problems to a FRU, a Symptom-to-FRU Index, and a parts listing for the IBM Personal System/2 Model 60.

This pamphlet is intended to be used with the IBM Personal System/2 *Hardware Maintenance Reference* manual (part number 15F2190, form number S15F-2190-00) and the IBM Personal System/2 *Hardware Maintenance Service* manual (part number 15F2200, form number S15F-2200-00).

Part Number 84F9825

Form Number S15F-2194-01

FRONT_1 Safety Information

Refer to the *Hardware Maintenance Service General Information* manual for the following information:

- General Safety
- Electrical Safety
- Safety Inspection Guide.

Second Edition (September 1990)

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1.0 *General Checkout*

The advanced diagnostic tests are intended to test *only* IBM (*) products. Non-IBM products, prototype cards, or modified options can give false errors and invalid system responses.

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Subtopics

- 1.1 How to Diagnose Combined FRUs
- 1.2 How to Use Error Messages

1.1 How to Diagnose Combined FRUs

If an adapter or device consists of more than one FRU, an error code may be caused by any of the FRUs. Before replacing the adapter or device, remove the FRUs, one by one, to see if the symptoms change.

+---+

- Remove the Reference Diskette and restart the system.

DID THE ERROR REMAIN?

Yes No

| |
| |
| +---+
| |012|
| +---+
| If you suspect another problem, or want to run system checkout,
| continue with Step 014.

+---+

|013|

+---+

Go to "Symptom-to-FRU Index" in topic 12.0.

+---+

|014|

+---+

- Insert your Reference Diskette.
- Press Ctrl+Alt+Del and check for the following responses:
 1. One or two short beeps.
 2. IBM logo screen appears.

DID YOU RECEIVE THE RESPONSES LISTED ABOVE?

Yes No

| |
| |
| +---+
| |015|
| +---+
| Go to "Symptom-to-FRU Index" in topic 12.0.
| - or -
| If that does not correct the problem, go to "Undetermined Problem" in
| topic 4.0.

+---+

|016|

+---+

- Advance to the Main Menu.
- Press Ctrl+A and run system checkout.

Notes:

1. If the system has incorrect keyboard responses, go to "Keyboard" in topic 9.0.
2. If the printer has incorrect responses, go to "Printer" in topic 10.0.
3. If the display has problems such as jittering, rolling, shifting, or being out-of-focus, go to "Display Self-Test" in topic 7.0.
4. A minimum of 512KB of memory must be active to load the diagnostic tests.

IS THE LIST OF INSTALLED DEVICES CORRECT?

Yes No

| |
| |
| +---+
| |017|
| +---+
| Go to "Installed Devices List" in topic 2.0.

+---+

|018|

+---+

- Run the diagnostic tests.

DID THE TESTS IDENTIFY A FAILURE?

Note: If the test stops and you cannot continue, replace the last device being tested.

Yes No

| |
| |
| +---+
| |019|
| +---+
| You may have an intermittent problem:

| **Note:** If you noticed an error symptom or if you received any POST
| error codes when the system was powered-on, go to
| "Symptom-to-FRU Index" in topic 12.0.

| Check for damaged cables and connectors.

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How to Use Error Messages

- Reseat all adapters, drives, and modules.
- Check the system unit fan for proper operation.
- Start an error log and run the tests multiple times.

+---+

|020|

+---+

Follow the action described on the screen. If that does not correct the problem go to "Symptom-to-FRU Index" in topic 12.0.

2.0 Installed Devices List

If an adapter or device is missing from the list, you may have one of the following conditions:

- Your Reference Diskette does not contain the module of code required to support that device.
- The missing device is a 5.25-Inch 360KB External Diskette Drive adapter or another unrecognizable adapter.
- The missing device is defective.
- An adapter is defective.

Subtopics

- 2.1 Automatic Configuration
- 2.2 Device Type
- 2.3 SCSI Devices
- 2.4 Non-SCSI Devices

2.1 Automatic Configuration

Warning: A customized setup configuration (other than default settings) may exist on the system you are servicing. Running Automatic Configuration may alter those settings. Note the current configuration settings (using the View Configuration option) and verify that the settings are in place when service is complete. (For more information about configuration, refer to the *Hardware Maintenance Reference* manual.)

2.2 Device Type

Run **Automatic Configuration** (see "Automatic Configuration" in topic 2.1 before continuing) and determine which type of device, SCSI or non-SCSI, is missing from the Installed Devices List, in Advanced Diagnostics, then continue with the following steps. (If SCSI and non-SCSI devices both are missing, go to "Undetermined Problem" in topic 4.0.)

2.3 SCSI Devices

The adapter supporting the missing device may be defective. If more than one SCSI adapter is installed, isolate them one at a time.

1. Power-off the system and disconnect all internal and external cables attached to the SCSI adapter.
2. Terminate the adapter, as required.

Warning: See "Automatic Configuration" in topic 2.1 before continuing.

3. Power-on the system and run **Automatic Configuration**. If the adapter is not on the Installed Devices List, in Advanced Diagnostics, the adapter is defective. If the adapter is on the list, run the adapter diagnostic tests.
4. If the adapter fails the tests, replace it. If the adapter passes the tests, a different adapter may be defective.
5. Reconnect the cables to the SCSI adapter, then terminate the adapter, as required.
6. Go to "Undetermined Problem" in topic 4.0 to find the problem.

2.4 Non-SCSI Devices

The missing device is defective. If that does not correct the problem, go to "Undetermined Problem" in topic 4.0.

Note: If the number of diskette drives shown on the list is incorrect, an error can occur during the tests. Restart the system and verify that the drive information on the **Set Configuration** menu is correct, then continue testing.

3.0 Power-On Password

To service a system with an active, unknown, power-on password do one of the following, depending on which battery and speaker assembly is installed.

- On the type with two pins on the side of the speaker assembly, short the pins together.
- On the type with no pins, insert a meter lead into the connector (protruding from under the battery) and short the other end of the lead to frame ground.

Power-on the system and leave the assembly shorted until completion of POST. This deactivates the password.

4.0 *Undetermined Problem*

1. Power-off the system.
2. Remove or disconnect one of the following adapters or devices:
 - Non-IBM devices
 - Any external device (modem, printer, or mouse)
 - Any adapter
 - Fixed disk or diskette drive
 - Memory module kits
 - Math coprocessor.
3. Power on the system.
4. If the symptom remains, repeat steps 1, 2, and 3 until you find the failing adapter or device.
5. If all adapters and devices have been removed and the problem remains, check the power supply voltages. If the voltages are correct, replace the system board. If the voltages are not correct, replace the power supply.

5.0 Power Supply Voltages / Fan

If the voltages are not correct, or if the fan is not running, replace the power supply.

Vdc Minimum	Vdc Maximum	-Lead Pin	+Lead Pin
-9.0	-15.0	2	9
+9.0	+15.0	2	3
+3.7	+6.2	2	1
+3.7 *	+6.2 *	B	D
+9.0 *	+15.0 *	C	A

* Disconnect the 15-pin connector from the system board before taking this reading.

PICTURE 2

6.0 *Enable, Disable Settings*

To verify that the "Enable" and "Disable" settings are correct, select **Set and View SCSI Device Configuration** from the **Set Configuration** menu, and determine if there are any "Presence Error Reporting" devices listed. The settings must be as follows:

- Devices connected to the system must be set to "Enabled."
- Devices listed but not connected must be set to "Disabled."

Change the settings by pressing the F5 key; then save them by pressing the F10 key.

7.0 *Display Self-Test*

1. Power-off the system unit and display.
2. Disconnect the display signal cable.
3. Power-on the display.
4. Turn the contrast to its maximum position.
5. Turn the brightness control to the center detent position.

The screen should be white with a black margin, as described below (some shading may occur near the edges). If the screen differs, replace the display. If the display passes the test, replace the display adapter or system board that the display is attached to.

- 8503, 8512, 8513, 8514, 8515:** 2-20 mm (0.08-0.79 in.) wide on one or both sides.
- 8506:** 2-35 mm (0.08-1.38 in.) wide on the top, or bottom, or both.
- 8507, 8508:** 2-20 mm (0.08-0.79 in.) wide on the top, or bottom, or both.

8.0 Display Adapter 8514/A

PICTURE 3

9.0 Keyboard

+---+
|001|
+---+

- Power-off the system.
- Disconnect the keyboard cable from the keyboard.
- Power-on the system and check the keyboard cable connector for the voltages shown. All voltages are $\pm 5\%$.

PICTURE 4

ARE THE VOLTAGES CORRECT?

Yes No

| |
| |
| +---+
| |002|
| +---+
| Possible failing FRUs are:
| 1. Keyboard cable
| 2. System board.
|

+---+
|003|
+---+

Replace the keyboard.

10.0 Printer

1. Make sure the printer is properly connected and powered-on.
2. Run the printer self-test.

If the printer self-test does not run correctly, the problem is in the printer. Refer to the printer service manual.

If the printer self-test runs correctly, install a wrap plug on the parallel port and run the advanced diagnostic tests to determine which of the following FRUs is failing:

- System board
- Parallel adapter
- Printer cable.

11.0 Memory

Note: Power-off the system before removing or replacing parts.

00011000 indicates a system-board parity-check error. Replace the memory modules. If that does not solve the problem, replace the system board.

00011100 indicates a memory-adapter parity-check error. Remove the memory adapters from the expansion slots, one at a time, until the error goes away. Remove the memory-expansion kits from the last adapter removed. Install the memory-expansion kits, one at a time until the error returns. Replace the last memory-expansion kit installed. If that does not solve the problem, replace the adapter.

201 memory errors display as **AAAAAA** BBBB 201. Use the following table to identify the possible failing FRUs.

AAAAAA	Possible FRUs
000000 to 0FFFFFF	1. System Board Memory 2. System Board
100000 and above	1. Memory on an adapter 2. Memory adapter

12.0 Symptom-to-FRU Index

Error symptoms and the FRUs that might be responsible for the failure are listed in the "Symptom-to-FRU index." The most-likely failing FRU is listed first.

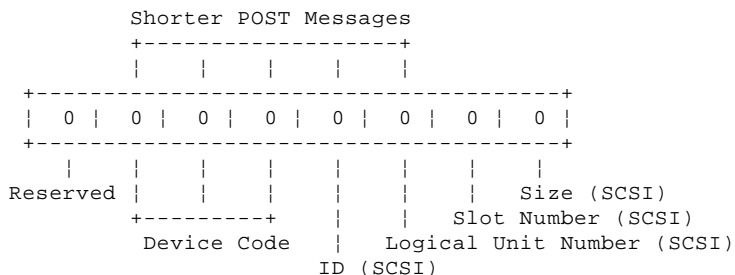
If the system displays an error message and gives an incorrect audio response, start with the FRUs listed for that error message. An "X" in an error message can be any number.

Note: If you are unable to find an error message, you have an IBM device with its own service manual or a device not supported by the advanced diagnostic tests. Refer to the manual for that device.

How to Read POST Error Messages

POST error messages are displayed on the screen as three, four, five, or eight digits. The error messages that can be displayed as shorter POST messages are highlighted in this index. Some digits will represent different information for SCSI errors versus non-SCSI errors.

The following example shows which digits display the shorter POST error messages and also defines the SCSI information in an eight-digit error message.



All SCSI devices are set to a different SCSI ID. Duplicate SCSI ID settings can generate a false error message. Use the SCSI ID to determine whether the error message is coming from an internal or an external device.

Symptom/Error	FRU/Action
One or more keys do not work	Keyboard Keyboard Cable System Board
Changing colors	Display
No beep and system is otherwise functional (See "Undetermined Problem" in topic 4.0 before replacing any FRUs.)	Speaker System Board
No beep and system is nonfunctional (See "Undetermined Problem" in topic 4.0 before replacing any FRUs.)	System Board Power Supply Speaker
Continuous beep (See "Undetermined Problem" in topic 4.0 before replacing any FRUs.)	Power Supply System Board
Repeating short beeps (See "Undetermined Problem" in topic 4.0 before replacing any FRUs.)	Keyboard (Stuck Key) System Board Power Supply
One long and one short beep (See "Undetermined Problem" in topic 4.0 before replacing any FRUs.)	Display Option Adapter System Board Power Supply

One long and two short beeps (See "Display Self-Test" in topic 7.0 before replacing any FRUs.)	Display Option Adapter System Board Power Supply Display
One or two short beeps and a blank or unreadable display (See "Display Self-Test" in topic 7.0 before replacing any FRUs.)	Display Option Adapter System Board Display Power Supply
One short beep and diskette prompt or a program loads from the fixed disk drive	Diskette Drive System Board Power Supply
Printer Problem (See "Printer" in topic 10.0 before replacing any FRUs.)	Printer System Board Option Adapter Printer Cable
000110XX (See "Memory" in topic 11.0 before replacing any FRUs.)	System Board Memory System Board
000111XX (See "Memory" in topic 11.0 before replacing any FRUs.)	Adapter Memory Memory Adapter
000112XX, 000113XX (See "Undetermined Problem" in topic 4.0 before replacing any FRUs.)	Any Adapter System Board
000161XX	Battery
000162XX (Verify the "Enable," "Disable" settings are correct before replacing any FRUs.)	Any Device
000163XX, 000164XX, 000165XX (If setting the configuration does not solve the problem, see "Installed Devices.")	Set Configuration/Features System Board
000166XX	Any Adapter
0001XXXX (not listed above)	System Board
20X (slot 0) (See "Memory" in topic 11.0 before replacing any FRUs.)	System Board Memory System Board
20X (slot 1 - 8) (See "Memory" in topic 11.0 before replacing any FRUs.)	Adapter Memory Memory Adapter
XXXXXX XXXX 201 (See "Memory" in topic 11.0 before replacing any FRUs.)	System Board Memory System Board Adapter Memory Memory Adapter
000301XX, 000302XX (See "Keyboard" in topic 9.0 before replacing any FRUs.)	Keyboard Keyboard Cable
000303XX	

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Symptom-to-FRU Index

(See "Keyboard" in topic 9.0 before replacing any FRUs.)	System Board Keyboard Keyboard Cable
000304XX (See "Keyboard" in topic 9.0 before replacing any FRUs.)	System Board Keyboard
000305XX (See "Keyboard" in topic 9.0 before replacing any FRUs.)	Fuse Keyboard Cable
000401XX	System Board
000602XX	Defective Diskette
0006XXXX	Diskette Drive System Board Power Supply Diskette Drive Cable
0007XXXX	Math Coprocessor System Board
001102XX, 001106XX	System Board Any Serial Device
001107XX	Communications Cable System Board
001108XX, 001109XX	System Board Any Serial Device
0011XXXX (not listed above)	System Board
001202XX, 001206XX	Dual Async Adapter/A Any Serial Device
001207XX	Communications Cable Dual Async Adapter/A
001208XX, 001209XX	Dual Async Adapter/A Any Serial Device
0012XXXX (not listed above)	Dual Async Adapter/A System Board
0014XXXX (See "Printer" in topic 10.0 before replacing any FRUs.)	Printer System Board
001780XX	Fixed Disk Drive C Fixed Disk Drive Adapter (ST506) System Board
001781XX	Fixed Disk Drive D Fixed Disk Drive Adapter (ST506) System Board

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001782XX	Fixed Disk Drive Adapter (ST506) System Board
001790XX	Fixed Disk Drive C Fixed Disk Drive Adapter (ST506)
001791XX	Fixed Disk Drive D Fixed Disk Drive Adapter (ST506)
0017XXXX (not listed above)	Fixed Disk Drive C or D Fixed Disk Drive Adapter (ST506) System Board Power Supply Fixed Disk Drive Cables
002401XX, 002402XX (changing colors)	Display
002401XX, 002402XX (no changing colors)	System Board Display
002409XX	Display
002410XX	System Board
004611XX, 004630XX	Multiport/2 Interface Board Multiport/2 Adapter
004612XX, 004613XX, 004640XX, 004641XX	Memory Module Package Multiport/2 Adapter
004650XX	Multiport Interface Cable
0046XXXX	Multiport/2 Adapter Multiport/2 Interface Board Memory Module Package
00744XXX, 00745XXX, 00746XXX, 00747XXX (See "Display Adapter 8514/A" in topic 8.0 to determine failing module.)	8514 Memory Module
0074XXXX (not listed above)	Display Adapter 8514/A System Board
00850XXX, 00851XXX	80286 Expanded Memory Adapter/A System Board
00852X00	Memory Module Package on the 80286 Expanded Memory Adapter/A 80286 Expanded

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Symptom-to-FRU Index

	Memory Adapter/A System Board
008601XX, 008602XX	Pointing Device
008603XX	System Board
008604XX	System Board Pointing Device
0096XXXX	SCSI Adapter (with cache) Any SCSI Device System Board
010002XX, 010006XX	Multiprotocol Adapter/A Any Serial Device
010007XX	Communications Cable Multiprotocol Adapter/A
010008XX, 010009XX	Multiprotocol Adapter/A Any Serial Device
0100XXXX (not listed above)	Multiprotocol Adapter/A System Board
010102XX, 010106XX, 010108XX, 010109XX	Modem Adapter/A Any Serial Device
0101XXXX (not listed above)	Modem Adapter/A System Board
010480XX, 010481XX, 010482XX, 010483XX	Fixed Disk Drive System Board Power Supply Fixed Disk Drive Cables
010481XX	Fixed Disk Drive D Fixed Disk Drive Adapter (ESDI) System Board
010482XX	Fixed Disk Drive Adapter (ESDI) Fixed Disk Drive C System Board
010483XX	Fixed Disk Drive Adapter (ESDI) System Board
010490XX	Fixed Disk Drive C Fixed Disk Drive Adapter (ESDI)
010491XX	Fixed Disk Drive D

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Symptom-to-FRU Index

	Fixed Disk Drive Adapter (ESDI)
0104XXXX (not listed above)	Fixed Disk Drive C or D Fixed Disk Drive Adapter (ESDI) System Board Power Supply Fixed Disk Drive Cables
0107XXXX	1.2MB 5.25 Inch Internal/External Drive 5.25 Inch Adapter
0112XXXX	SCSI Adapter (without cache) Any SCSI Device System Board
016500XX	6157 Tape-Attachment Adapter
016520XX	6157 Streaming-Tape Drive
016540XX	6157 Streaming-Tape Drive 6157 Tape-Attachment Adapter
0166XXXX, 0167XXXX (For diagnostic information refer to the Token-Ring Network Adapter/A service Information.)	Token-Ring Network Adapter/A System Board
0194XXXX	Memory-module package on the 2-8MB 80286 Memory Expansion Option 2-8MB 80286 Memory Expansion Option System Board
0208XXXX (Verify there are no duplicate SCSI ID settings.)	Any Device
0210XXXA 0210XXXB 0210XXXC 0210XXXD 0210XXXE 0210XXXU (If the failing device is an external device, go to the external devices service pamphlet.)	SCSI Fixed Disk Drive (60MB) SCSI Fixed Disk Drive (80MB) SCSI Fixed Disk Drive (120MB) SCSI Fixed Disk Drive (160MB) SCSI Fixed Disk Drive (320MB) SCSI Fixed Disk Drive (Size Undetermined) SCSI Adapter SCSI Cable
0215XXXX	SCSI CD-ROM Drive SCSI Adapter SCSI Cable

Supplemental Symptom-to-FRU Index:

13.0 How To Use This Parts Catalog

INDEX REFERENCE NUMBERS: Refer to the illustrations for index reference numbers listed in the left margin of the parts listing.

SIMILAR ASSEMBLIES: If two assemblies contain a majority of identical parts, they are broken down on the same list. Parts peculiar to one or the other of the assemblies are listed separately and identified by description.

AR: (As Required) indicates that the quantity is not the same for all machines.

R: (Restricted) indicates that the part has a restricted availability.

INDENTURE the indenture is marked by a series of dots located before the parts description. The indenture indicates the relationship of a part to the next higher assembly. For example:

Indenture Relationship of Parts

- (No dot) Main Assembly
- (One dot) Detail parts of a main assembly
- (One dot) Subassembly of the main assembly
- (Two dot) Detail part of a one-dot subassembly
- (Two dot) Subassembly of a one-dot subassembly

14.0 System Overview

PICTURE 5

15.0 Parts

Index System Unit Exterior

1	Handle	72X8569
2	Bezel/Logo (R)(Exchange Only)	72X8549
4	Diskette-Drive Bezel	72X8550
5	Base Foot	72X8565
9	Cover	72X8548
15	System Base	72X8593
	<input type="checkbox"/> 6 mm Screw	
	<input type="checkbox"/> Flat Washer	
	<input type="checkbox"/> Spring Washer (Rear Foot)	
	<input type="checkbox"/> Detent (Front Foot)	
	Blank Diskette Drive Bezel	72X8535
	Cover-Lock Assembly	72X8557
	Cover-Lock Kit	72X8572
	<input type="checkbox"/> Ring (Break-Away)	
	<input type="checkbox"/> Pawl	
	Feature Blank Bezel	72X8560

Index System Unit Interior

3	Diskette Drive (see Diskette Drives)	
6	Battery/Speaker Assembly(1) (No Battery)	72X8511
	<input type="checkbox"/> Battery	72X8498
	<input type="checkbox"/> Battery/Speaker Assembly Cable(1)	72X8558
7	Fixed-Disk Drive Support Structure	72X8527
8	Adapter (see Options and Adapters)	
10	Fixed-Disk Drive (see Fixed Disk Drives)	
11	Fixed-Disk Drive Support Structure Bracket	72X8563
12	Diskette Drive Support Structure	72X8559
13	System Board(1)	72X8538
14	225W Power Supply	72X6669
	Fuse (3 amp)	72X8561
	256KB Memory Module Package (Qty 1)	61X8906
	Diskette Drive Cable Retainer	72X8573
	Diskette Drive Cable	72X8543

(1) If the 8560 system board has a female speaker/battery connector, all three parts marked with a (1) must be replaced.

Miscellaneous Kits

Miscellaneous Parts Kit (System)	72X8578
<input type="checkbox"/> Handle Screw	
<input type="checkbox"/> Air Baffle Push Nut	
<input type="checkbox"/> 4 mm Screw	
<input type="checkbox"/> Fixed Disk Drive Ground Wire	
Miscellaneous Parts Kit (Options)	72X8579
<input type="checkbox"/> Adapter Slot Cover	
<input type="checkbox"/> Adapter Handle Bracket	
<input type="checkbox"/> Cable Clip	
Miscellaneous Hardware Kit	72X8580
<input type="checkbox"/> Knob Assembly, Fixed Disk Drive Support Structure	
<input type="checkbox"/> Knob	
<input type="checkbox"/> Washer	
<input type="checkbox"/> Insert Screw	
<input type="checkbox"/> Captive Cover Screw	
<input type="checkbox"/> Captive Cover Screw Retainer	
<input type="checkbox"/> Captive Cover Screw Washer	
Label Kit	72X8571
<input type="checkbox"/> Cover Blank Label	
<input type="checkbox"/> Power-Supply Warning Label	
<input type="checkbox"/> Weight Warning Label	
<input type="checkbox"/> Battery Warning Label	

Diskette Drives

Diskette Drive Bezel (AR)	72X8550
1.44MB Diskette Drive (AR)	72X8523
<input type="checkbox"/> Diskette Drive Slide (AR)	72X8507
1.44MB Diskette Drive Cable	72X8543
5.25-Inch Diskette Drive:	
360KB External (4869-001)	72X6759
360KB External (4869-501)	72X6768
360KB Feature Group with Adapter	72X6758
1.2MB Internal	15F6912
1.2MB External (4869-002)	15F7993
1.2MB External (4869-502)	15F7994

Parts

1.2MB Adapter/A 15F7996
 Diskette Drive Cables (see DASD Cables)

Fixed Disk Drives

44MB Fixed Disk Drive (ST506) 72X8541
 70MB Fixed Disk Drive (ESDI) 72X8519
 115MB Fixed Disk Drive (ESDI) 90X7392
 60MB Fixed Disk Drive (SCSI) 6128296
 80MB Fixed Disk Drive (SCSI) 56F8854
 120MB Fixed Disk Drive (SCSI) 6128298
 160MB Fixed Disk Drive (SCSI) 56F8851
 320MB Fixed Disk Drive (SCSI) 33F8453
 Fixed Disk Drive Adapter (ST506) 72X8540
 Fixed Disk Drive Adapter (ESDI) 15F6865
 Fixed Disk Drive Slide Tray (SCSI) 34F0031
 Fixed Disk Drive Cables (see DASD Cables)

CD-ROM

Internal CD-ROM Drive 53F3422
 Terminators (two) (for 53F3422) 59F3530
 Rail Kit (for 53F3422) 34F0041
 Ground Wire - Included in Misc Parts Kit 72X8579
 Power Cable (single) 72X8521
 Signal Cable (single) 34F0043

DASD Cables

PICTURE 6

Index DASD Cables

1	1/3 High Diskette Drive Cable	34F0036
2	Power Cable (single)	72X8521
2	Power Cable (dual)	34F0034
3	Fixed Disk Drive Ground Wire, see Miscellaneous Parts Kit (System)	
4	1.2MB Internal Cable (for 15F6912)	15F6914
5	(SCSI) Signal Cable (supports 2 devices)	64F0154
5	(SCSI) Signal Cable (supports 3 devices)	34F0035
5	(SCSI) Signal Cable (supports 4 devices)	64F0155

Options and Adapters

Display Adapter 8514/A	1887971	
□ Memory Module (for 1887971)	1887708	
Dual Async Adapter/A	34F0008	
Fixed Disk Drive Adapter (ESDI)	90X9063	
Fixed Disk Drive Adapter (ST506)	72X8540	
Internal Tape Backup Unit	30F5273	
Tape Cover Plate	30F5275	
Formatted Blank Tape	30F5277	
Multiprotocol Adapter/A	90X8995	
Realtime Interface CoProcessor Multiport/2	09F1888	
□ 8-port RS232-C Electrical Interface Board		09F1889
□ 4-port RS232-C Electrical Interface Board		09F1957
□ 4+4-port RS232-C RS422-A Electrical Interface Board	09F1890	
□ 512KB Memory Module Package	16F2267	
Multiprotocol Interface Cable (for 09F1888)		00F5524
Screen Reader Keypad	1393515	
Screen Reader Keypad Cable	72X8537	
SCSI Adapter/A With Cache	85F0000	
Terminator, External (for 85F0000)	33F8464	
Terminator, Internal (for 85F0000)	34F0025	
SCSI Adapter/A Without Cache	85F0002	
Terminator, (for 85F0002)	57F2870	
Token-Ring Network Adapter/A	83X7488	
Token-Ring 16/4 Adapter/A	16F1144	
Token-Ring Adapter/A RPL	83X9180	
300/1200 Modem Adapter/A	34F0006	
Communications Cable (for 34F0006)	8285985	
300/1200/2400 Modem Adapter/A	65X1253	
Communications Cable (for 65X1253)	94X1540	

Parts

3270 Connection	74F3464
36/38 Emulation Adapter	69X6281
6157 Tape Adapter	92X1459
0-8MB Expanded Memory Adapter/A	1497253
<input type="checkbox"/> 256KB Memory Module (for 1497253)	1497256
<input type="checkbox"/> 1MB Memory Module (for 1497253)	74X8637
2-8MB 80286 Memory Expansion Option	15F8292
<input type="checkbox"/> 1MB Memory Module (for 15F8292)	90X8624
<input type="checkbox"/> 2MB Memory Module (for 15F8292)	90X8625
80286 Memory Expansion Adapter	72X8532
<input type="checkbox"/> Memory Module (for 72X8532)	61X8906
80287 Math Co-Processor (AR)	72X8528

Keyboard / Mouse

Belgian	1392012
Canadian French	1392011
Danish	1392005
Dutch	1392013
French	1392000
German	1392001
Italian	1392002
Norwegian	1392007
Portuguese	1392008
Spanish	1392003
Spanish/Latin	1392015
Swedish	1392009
Swiss/French/German	1392010
U.K. English	1392004
U.S. English	1392090
101/102-Key Keyboard Cable	72X8537
Mouse	61X8923
<input type="checkbox"/> Mouse Ball and Pop-Off Retainer	33F8461
<input type="checkbox"/> Mouse Ball and Twist-Off Retainer	33F8462

8503 Monochrome Display (with Tilt/Swivel Stand)

110/120 Vac	68X3045
220/240 Vac (Northern Hemisphere)	68X3046
220/240 Vac (Southern Hemisphere)	72X7878
Tilt/Swivel Stand	68X3061

8506 Monochrome Display (with Tilt/Swivel Stand)

110/125 Vac (US/Canada)	39F8087
110/125 or 200/240 Vac (Northern Hemisphere)	39F8088
110/125 or 220/240 Vac (Southern Hemisphere)	39F8089

8507 Monochrome Display (with Tilt/Swivel Stand)

110/120 or 220/240 Vac (Universal Model)	6247808
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8508 Monochrome Display (with Tilt/Swivel Stand)

110/125 Vac (US/Canada)	6247838
110/125 or 200/240 Vac (Northern Hemisphere)	39F8067
110/125 or 220/240 Vac (Southern Hemisphere)	39F8068

8512 Color Display (without Tilt/Swivel Stand)

110/120 Vac	61X8924
220/240 Vac (Northern Hemisphere)	61X8928
220/240 Vac (Southern Hemisphere)	61X8927
Tilt/Swivel Stand	61X8925

8513 Color Display (with Tilt/Swivel Stand)

110/120 Vac	68X3088
220/240 Vac (Northern Hemisphere)	72X7870
220/240 Vac (Southern Hemisphere)	72X7877
Tilt/Swivel Stand	68X3061

8514 Color Display (without Tilt/Swivel Stand)

110/120 Vac	75X5945
220/240 Vac (Northern Hemisphere)	75X5946
220/240 Vac (Southern Hemisphere)	75X5947
Tilt/Swivel Stand	75X5907

8515 Color Display (with Tilt/Swivel Stand)

Model 001 (90/137 Vac, U.S. and Canada)	
with tilt/swivel and packaging set	07F6650
Model 002 (90/265 Vac, Universal voltage)	

Parts

with tilt/swivel and packaging set	07F6652
Model A01 (90/265 Vac) with	
tilt/swivel and packaging set	07F6651
Shipping material:	16F0188
<input type="checkbox"/> Box	
<input type="checkbox"/> Front cushion	
<input type="checkbox"/> Rear cushion	
Power cable, 1.8 (6 ft), U.S.	38F3968
Alternative to part number 38F3968 above	6952301

Tools and Miscellaneous

Tri-Connector Wrap Plug	72X8546
Wrap Plug	59X4115
(for 6157 Tape Attachment Adapter	
Wrap Plug	6165899
(for Token-Ring Network Adapter/A	
Wrap Plug (for Real-time Interface	16F2478
Co-Processor Multiport/2) 78-pin	
Wrap Plug (for Multiport Interface Cable)	6425494
Direct Connect 25-pin, ports 0 and 1	
Wrap Plug (for Multiport Interface Cable)	09F1799
Direct Connect 25-pin, ports 2 through 7	
Plastic Envelope (For Wrap Plug)	6138013
Data Migration Facility	61X8936
Tool (For Key Cap Removal)	6110464
Snap Tool (For Snap Removal)	72X8547
Shipping Carton (Type 8560)	72X8591

Power Cords

PICTURE 7

Index Power Cords

Warning: Use the power cord certified for your country.

1	Power Cord, Displays (except 8514), for:	68X3071
	Colombia, U.S., Venezuela	
2	Power Cord, System Unit, for:	62X1045
	Colombia, U.S., Venezuela	
3	Power Cord, System Unit, for:	8529341
	Hong Kong, Singapore, U.K.	
4	Power Cord, System Unit, for:	8529281
	France, Germany, Spain	
5	Power Cord, System Unit, for:	8529282
	Italy	
6	Power Cord, System Unit, for:	8529284
	Australia, New Zealand	

Supplemental Parts:

Printed in the United States of America