PICTURE 1

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 55 SX.

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 91F8637 Form Number S15F-2195-02 FRONT_1 Safety Information

Refer to the Hardware Maintenance Service General Information manual for the following information: General Safety Electrical Safety Safety Inspection Guide.

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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.

IMPORTANT:

If more than one error code is displayed, diagnose the first error code first. The cause of the first error code can cause false error codes to be displayed. If you do not receive any error codes, see if the error symptom is listed in the "Symptom-to-FRU Index" in topic 12.0. 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. The LAN administrator is responsible for making the diagnostic program available to the servicer of medialess systems. Instructions for the LAN administrator are in the LAN Reference. For carry-in service on medialess systems, a diskette drive compatible to the IBM 1.44MB Diskette Drive (FRU No. 33F8211) and a diskette-drive cable compatible to the IBM Diskette-Drive Cable (FRU No. 27F4912) can be temporarily installed to run the diagnostic program using the Reference Diskette.

Note: Before returning the system to the customer, be sure to remove the diskette drive from the Installed Devices List; then remove the diskette drive and cable from the system.

+--+

|001|

- Power-off the system and all external devices.
- Check all cables and power cords.
- Make sure there are no diskettes in the drives.
- Power-on all external devices.

- Power-on the system.

Note: Watch the screen for a POST error code. If a POST error code occurs, write down the POST error code, then press F1 to continue.

```
ARE ANY EXTERNAL SCSI DEVICES ATTACHED TO THE SYSTEM?
Yes No
    -
 .
     +--+
    002
 1
    +---+
    Go to Step 005.
 -
 1
+ - - - +
003
+ - - -
DID THE POWER-GOOD LIGHT ON ALL OF THE EXTERNAL DEVICES COME ON?
Yes No
 1
    +--+
 004
     + - - - +
    Go to the external devices service pamphlet.
 005
+ - - -
DID YOU RECEIVE A POST ERROR CODE?
Yes No
    |
 1
    +---+
 -
    006
 1
    + - - - +
 -
    Continue with Step 018.
 -
+ - - - +
007
+ - - - +
IS THE FIRST POST ERROR CODE WITHIN THE RANGE OF 02080000 1901 TO 02410000
190I?
Yes No
 +--+
 1
    008
 1
     + - - - +
     Write down the error code, then continue with Step 018.
```

```
ł
+ - - - +
009
+ - - - +
ARE YOU SERVICING A LOCAL AREA NETWORK STATION?
Yes No
     -
    +--+
 1
    |010|
 1
    + - - - +
 1
    Insert the Reference Diskette and go to Step 013.
 -
+ - - - +
|011|
+ - - - +
Gain access to the diagnostic program from the file server before running
the diagnostic tests.
CAN YOU GAIN ACCESS TO THE DIAGNOSTIC PROGRAM FROM THE FILE SERVER?
Yes No
    |
 + - - - +
    |012|
 -
    +---+
    If the failure occurs during Remote Program Load (RIPL), replace the
    network adapter.
     - or -
    Go to "Symptom-to-FRU Index" in topic 12.0.
 + - - - +
013
+ - - - +
- Power-on the system and verify that the "Enable" and "Disable" settings
 are correct. For more information, go to "Enable and Disable Settings"
 in topic 6.0. If you receive a warning on the screen regarding the
 "Keep" and "Remove" settings, follow the instructions on the screen
 before continuing.
DID YOU HAVE TO CORRECT ANY OF THE ENABLE AND DISABLE SETTINGS?
Yes No
     +---+
 1
    |014|
 1
    +---+
    Go to "Symptom-to-FRU Index" in topic 12.0. Before replacing any
 -
    SCSI devices, verify there are no duplicate SCSI ID settings.
+ - - - +
015
+ - - - +
- Remove the Reference Diskette, if installed.
- Restart the system.
DID THE POST THE ERROR REMAIN?
Yes No
    |
    + - - - +
 1
    |016|
 1
    +--+
    If you suspect another problem, or want to run system checkout,
 -
    continue with Step 022.
 1
 1
+ - - - +
|017|
+ - - - +
Go to "Symptom-to-FRU Index" in topic 12.0.
_____
                                                       _____
+--+
|018|
ARE YOU SERVICING A LOCAL AREA NETWORK STATION?
Yes No
     ł
    +--+
    019
 1
    + - - - +
 -
    Insert the Reference Diskette and go to Step 022.
 -
 + - - - +
020
+ - - - +
Gain access to the diagnostic program from the file server before running
the diagnostic tests.
```

```
CAN YOU GAIN ACCESS TO THE DIAGNOSTIC PROGRAM FROM THE FILE SERVER?
Yes No
     + - - - +
    021
     +--+
    If the failure occurs during Remote Program Load (RIPL), replace the
    network adapter.
     - or
    If you received a POST error code or suspect a problem, go to
     "Symptom-to-FRU Index" in topic 12.0.
 -
+ - - - +
|022|
+ - - - +
- Press Ctrl+Alt+Del and check for the following responses:
 1. One or two short beeps.
      Note: If the Not-Ok Icon appears, press F1 to continue.
 2. IBM logo screen appears.
DID YOU RECEIVE THE RESPONSES LISTED ABOVE?
Yes No
     + - - - +
    023
 1
    +--+
    Go to "Symptom-to-FRU Index" in topic 12.0.
 + - - - +
024
+ - - - +
Note: Do not run configuration.
- 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.
     If the display has problems such as jittering, rolling, shifting, or
  3.
      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
     ł
 +--+
 1
    025
     + - - - +
    Go to "Installed Devices List" in topic 2.0.
 1
 + - - - +
026
+ - - - +
- 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. If the problem remains, go to "Undetermined Problem"
       in topic 4.0.
Yes No
     ł
     + - - - +
     027
     +--+
     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.
     You may have an intermittent problem:
         Check for damaged cables and connectors.
         Reseat all adapters, drives, and modules.
```

Check the system unit fan for proper operation.
Start an error log and run the tests multiple times.
+---+
|028|
+---+
Follow the action described on the screen. If that does not correct the
problem go to "Symptom-to-FRU Index" in topic 12.0.

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IBM PS/2 Model 55 SX HMS Installed Devices List

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.

If none of these conditions apply, go to "Undetermined Problem" in topic 4.0.

Subtopics

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

IBM PS/2 Model 55 SX HMS Automatic Configuration

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.)

IBM PS/2 Model 55 SX HMS Device Type

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.)

IBM PS/2 Model 55 SX HMS SCSI Devices

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 each SCSI 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.

IBM PS/2 Model 55 SX HMS Non-SCSI Devices

2.4 Non-SCSI Devices

Replace the missing device. 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 select View Configuration from the Set Configuration menu. Verify that the drive information on the View Configuration menu is correct, then run the Diagnostic tests.

IBM PS/2 Model 55 SX HMS Power-On Password

3.0 Power-On Password

To service a system with an active, unknown power-on password, reverse the speaker connector located on the bus adapter. The change in the connector position is detected, and the password is removed. It is not necessary to move the connector back to its previous position after service.

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

IBM PS/2 Model 55 SX HMS Undetermined Problem

- 4.0 Undetermined Problem
- Power-off the system.
 Remove or disconnect one of the following adapters or devices. Non-IBM devices
 Any external device (modem, printer, or mouse)
 Any adapter (except the Network Adapter and Bus Adapter)
 Math coprocessor
 Fixed disk or diskette drive
- Memory module kit. 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 or replaced 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.
- If you are servicing a Local Area Network Station and the problem remains, replace the network adapter. If that does not correct the problem, replace the bus adapter.

IBM PS/2 Model 55 SX HMS Power Supply Voltages / Fan

5.0 Power Supply Voltages / Fan

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

Power-off the system. Remove the power supply connectors P7 and P14 from the system board. Power-on the system and check for the voltages listed below. If the voltages are not correct, check the power cord for continuity. If the power cord is good, replace the power supply.

Power Check (P7)

PICTURE 2

Minimum	Maximum	-Lead Pin	Pin
+4.8	+5.2	₽7-5	
+4.5	+5.4	-	P7-5
+11.5	+12.6	+	P7-3
+10.8	+12.9	-	P7-8
	+	+	·

Power Check (P14)

PICTURE 3

Minimum	V dc Maximum	Pin	+Lead Pin
+4.8	+5.2	P14-1	·
+4.8	+5.2	P14-1	·
+4.8	+5.2	P14-2	·

IBM PS/2 Model 55 SX HMS Enable and Disable Settings

6.0 Enable and 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.

IBM PS/2 Model 55 SX HMS Display Self-Test

7.0 Display Self-Test

- 1. Power-off the system unit and display.
- Disconnect the display signal cable.
 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.

8503, 8512, 8513, 8514: 2-20 mm (0.08-0.79 in.) wide on one or both sides.

 $\textbf{8506:}\quad 2\text{--}35 \text{ mm} (0.08\text{--}1.38 \text{ in.}) \text{ wide on the top, or bottom, or both.}$ 8507, 8508, 8515: 2-20 mm (0.08-0.79 in.) wide on the top, or bottom, or both.

8604: 2-20 mm (0.08-0.79 in.) wide, on all four sides.

IBM PS/2 Model 55 SX HMS Display Adapter 8514/A

8.0 Display Adapter 8514/A

PICTURE 4

IBM PS/2 Model 55 SX HMS Keyboard

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 ± 5%.
                            PICTURE 5
ARE THE VOLTAGES CORRECT?
Yes No
  |
+---+
 1
 | |002|
    +--+
 1
   Possible failing FRUs are:
 Fuse, or keyboard cable
System board.
 ł
 1
ł
+ - - - +
003
+--+
Replace the keyboard.
```

IBM PS/2 Model 55 SX HMS Printer

10.0 Printer

Make sure the printer is properly connected and powered-on.
 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.

IBM PS/2 Model 55 SX HMS Memory

11.0 Memory

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

00011000 indicates a system board parity check error. Remove the memory module kit in connector 2. If the problem remains, replace the kit in connector 1; if that does not solve the problem, replace the system board. If the problem disappears after removing the memory module kit from connector 2, replace the kit; if that does not solve the problem, replace the system board.

00011100 indicates a memory expansion adapter parity check error. Remove the memory expansion adapters from the expansion slots one at a time until you no longer get a 111 error. (If all of the adapters have been removed and you still have a 00011100 error, replace the system board.) Remove the memory expansion kits from the adapter that was removed last. Install the kits one at a time until the failure returns. Replace the kit that caused the error to return; if that does not solve the problem, replace the adapter.

000**215**00, 000**216**00 indicates a failing system board memory module kit. If the error message does not indicate the location of the failing kit, follow the procedure for a 000**110**00 error, described above.

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 you are unable to correct the problem using this index, go to "Undetermined Problem" in topic 4.0.

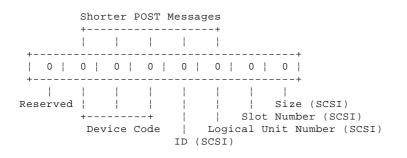
If the system displays an error message and gives an incorrect audio response, start with the FRUs listed for that error message. An "X" in an error message can be any number.

Note: If you are unable to find a symptom or 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 must be 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 and system is otherwise functional	Keyboard Keyboard Cable System Board
<pre>Changing colors (See "Display Self-Test" in topic 7.0 before replacing any FRUs.)</pre>	Display
No beep and system is otherwise functional.	Speaker Assembly System Board
<pre>No beep and system is nonfunctional (See "Undetermined Problem" in topic 4.0 before replacing any FRUS.)</pre>	System Board Power Supply Memory Module Kit
Continuous beep (See "Display Self-Test" in topic 7.0 before replacing any FRUS.)	Power Supply System Board
+ Repeating short	+

Symptom-to-FRU Index			
beeps	Keyboard (Stuck Key) System Board Power Supply		
+	·		
One long and one short beep 	Display Adapter System Board Power Supply		
One long and two short beeps Self-Test" in topic 7.0 before replacing any FRUS.)	Display Adapter System Board Power Supply Display		
<pre>One or two short beeps and a blank or unreadable display (See "Display Self-Test" in topic 7.0 before replacing any FRUS.)</pre>	System Board Display Power Supply		
	Diskette Drive (if installed) System Board Power Supply Diskette Drive Cable		
<pre>BASIC Screen appears (See "Undetermined Problem" in topic 4.0 before replacing any FRUS.)</pre>	System Board		
000 110 XX (See "Memory" in topic 11.0 before replacing any FRUS.)	System Board Memory Module Kit System Board		
	Memory Expansion Kit Memory Expansion Adapter		
000 112 XX, 000 113 XX	Any Adapter System Board		
+	Real-Time Clock Module System Board		
1	Any Device		
000 163 XX, 000 164 XX,	2KB NV-RAM Module (if installed) Real-Time Clock Module System Board		
000 166 XX	Any Adapter		
+ 000 1xx XX (not listed above) +	System Board		
000 201 XX (See "Memory" in	System Board Memory		

topia 11 0	
	Module Kit or Memory Expansion Adapter
any FRUs.)	or Memory Expansion Kit
	System Board
+	+
000 20X XX (slot 0)	System Board Memory
0)	Module Kit
	System Board
+	+
000 20X XX (slot 1	
- 3)	Adapter Memory
	Memory Adapter Bus Adapter
1	Bus Adapter
+	' +
000 215 XX,	
000 216 XX,	System Board Memory
000 221 XX	System Board
(See "Memory" in topic 11.0	
before replacing	
any FRUs.)	
+	+
000 301 XX,	
000 302 XX	Keyboard Cable
1	Keyboard Cable System Board
	I SISSEM DOULD
+	+
000 303 XX	
	System Board
1	Keyboard Keyboard Cable
+	, +
000 304 XX	
	System Board
1	Keyboard
+	' +
000 305 XX	
	Fuse
1	Keyboard Cable
+	۱ +
000 401 XX	System Board
000 602 XX	Defective Diskette
+	+
000 6XX XX	
	Diskette Drive
	System Board Diskette Drive Cable
+	+
000 7XX XX	Math Coprogessor
1	Math Coprocessor System Board
+	+
0001102XX,	duration Doord
000 1106 XX	System Board Any Serial Device
+	+
000 1107 XX	
	Communications Cable
i 	System Board
	1
+	+
+	
000 1108 XX, 000 1109 XX	System Board
	System Board Any Serial Device
000 1109 XX 000 11XX XX (not listed	Any Serial Device
000 1109 XX 000 11XX XX	Any Serial Device
000 1109 XX 000 11XX XX (not listed	Any Serial Device

1	
 +	Any Serial Device Bus Adapter
00 1207 XX	Communications Cable Dual Async Adapter/A Bus Adapter
00 1208 XX, 00 1209 XX 	Dual Async Adapter/A Any Serial Device Bus Adapter
00 12XX XX (not listed above) 	Dual Async Adapter/A System Board Bus Adapter
	Printer System Board
001780xx, 001781xx, 001782xx	Fixed Disk Bus Adapter System Board
00 1790 XX, 00 1791 XX 	Fixed Disk Fixed Disk Cable Bus Adapter
00 17XX XX (not listed above) 	Fixed Disk Fixed Disk Cable Bus Adapter System Board Power Supply
00 24XX XX	System Board
	Display System Board
002401XX, 002402XX (no changing colors)	System Board Display
00 2409 XX	Display System Board
00 2410 XX	System Board
	Multiport/2 Interface Board Multiport/2 Adapter
004612XX, 004613XX, 004640XX, 004641XX	Memory Module Package Multiport/2 Adapter
+	Multiport/2 Interface Cable
00 46xx XX	Multiport/2 Adapter Multiport/2 Interface Board Memory Module Package
00 6402 XX, 00 6405 XX, 00 6405 XX,	Ethernet Adapter/A System Board

006411XX, 006412XX,	
	1
00 6416 XX, or	1
00 6417 XX,	
+	ا +!
00 6418 XX,	Contact the LAN Administrator
00 6419 XX,	
00 6420 XX,	
00 6421 XX,	1
00 6422 XX,	
006423XX,	
00 6424 XX, or	i i
00 6425 XX	
+	+
0064XXXX	
	Ethernet Adapter/A
above)	System Board
1	
+	+
00 744X XX,	8514 Memory Module
00 745x XX	
00 746X XX,	
00 747x XX	
(See "Display	
Adapter 8514/A"	· · · · · · · · · · · · · · · · · · ·
in topic 8.0 to	· · · · · · · · · · · · · · · · · · ·
determine	
failing module.)	
+	+!
00 74xx XX	1
(not listed	Display Adapter 8514/A
above)	System Board
1	Bus Adapter
1	
+	+
00 7509 XX	
	Display
	XGA Display Adapter/A
+	+
00 7510 XX	
1	XGA Display Adapter/A
	Video-Memory Module
1	System Board
+	+
00 8601 XX,	Pointing Device
00 8602 XX	
1 000002AA	
+	' +!
+	 System Board
+	System Board
00 8603 XX	System Board
+	+
00 8603 XX	 System Board
00 8603 XX	+
00 8603 XX	 System Board
008603XX 008604XX 008604XX	 System Board
00 8603 XX	System Board Pointing Device
008603XX 008604XX 008604XX	System Board Pointing Device SCSI Adapter (with cache)
008603XX 008604XX 008604XX	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device
008603XX 008604XX 008604XX	System Board Pointing Device SCSI Adapter (with cache)
008603XX 008604XX 008604XX	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device
008603XX 008604XX 008604XX	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device
008603XX +	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device
008603XX 008604XX 008604XX 0096XXXX 0096XXXX 010002XX,	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device
008603XX 008604XX 008604XX 0096XXXX 0096XXXX 010002XX,	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board
008603XX 008604XX 008604XX 0096XXXX 0096XXXX 010002XX,	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A
008603XX 008604XX 008604XX 0096XXXX 0096XXXX 010002XX,	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device
008603XX 008604XX 008604XX 0096XXXX 0096XXXX 010002XX,	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device
008603XX 008604XX 008604XX 0096XXXX 0096XXXX 010002XX,	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device
008603XX 008604XX 008604XX 0096XXXX 0096XXXX 010002XX, 010006XX	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device
008603XX 008604XX 008604XX 0096XXXX 0096XXXX 010002XX, 010006XX	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable
008603XX 008604XX 008604XX 0096XXXX 0096XXXX 010002XX, 010006XX	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A
008603XX 008604XX 008604XX 0096XXXX 0096XXXX 010002XX, 010006XX	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable
008603XX 008604XX 008604XX 0096XXXX 0096XXXX 010002XX, 010006XX	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A
008603XX 008604XX 0096XXXX 0096XXXX 010002XX, 010006XX 010007XX	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A
008603XX 	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A Bus Adapter
008603XX 008604XX 0096XXXX 0096XXXX 010002XX, 010006XX 010007XX	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A Bus Adapter Multiprotocol Adapter/A
008603XX 	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A Bus Adapter Multiprotocol Adapter/A Any Serial Device
008603XX 	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A Bus Adapter Multiprotocol Adapter/A
008603XX 	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A Bus Adapter Multiprotocol Adapter/A Any Serial Device
008603XX 008604XX 0096XXXX 0096XXXX 010002XX, 010006XX 010007XX 010007XX 010008XX, 010009XX, 010009XX	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A Bus Adapter Multiprotocol Adapter/A Any Serial Device
008603XX 008604XX 0096XXXX 0096XXXX 010002XX, 010006XX 010007XX 010008XX, 010009XX 010009XX	<pre>System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A Bus Adapter Multiprotocol Adapter/A Any Serial Device Bus Adapter</pre>
008603XX 008604XX 0096XXXX 0096XXXX 010002XX, 010006XX 010007XX 010007XX 010008XX, 010009XX, 010009XX	System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A Bus Adapter Multiprotocol Adapter/A Any Serial Device
008603XX 008604XX 0096XXXX 0096XXXX 010002XX, 010006XX 010007XX 010008XX, 010009XX 010009XX 010009XX	<pre>System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A Bus Adapter Multiprotocol Adapter/A Any Serial Device Bus Adapter</pre>
008603XX 008604XX 0096XXXX 0096XXXX 010002XX, 010006XX 010006XX 010007XX 010008XX, 010009XX 010009XX 010009XX 010009XX 010009XX 010008XX, 010009XX 010008XX, 010009XX	<pre>System Board Pointing Device SCSI Adapter (with cache) Any SCSI Device System Board Multiprotocol Adapter/A Any Serial Device Bus Adapter Communications Cable Multiprotocol Adapter/A Bus Adapter Multiprotocol Adapter/A Any Serial Device Bus Adapter Multiprotocol Adapter/A Any Serial Device Bus Adapter</pre>

	Modem Adapter/A Any Serial Device Bus Adapter
0101xxxx (not listed above) 	Modem Adapter/A System Board Bus Adapter
010480XX, 010481XX, 010481XX, 010482XX, 010483XX	Fixed Disk Drive System Board Fixed Disk Cable Bus Adapter
010490XX 010491XX	Fixed Disk Drive Fixed Disk Cable Bus Adapter
0 104xx xx (not listed above)	Fixed Disk Drive System Board Fixed Disk Cable Bus Adapter Power Supply
0107xxxx	5.25 inch External Diskette Drive 5.25 inch External Diskette Drive Adapter/A
0112XXXX	SCSI Adapter (without cache) Any SCSI Device System Board
<pre></pre>	300/1200/2400 Modem/A Any Serial Device
0121xxxX (not listed above)	300/1200/2400 Modem/A System Board
0147xxxx, 0152xxxx	XGA Display Adapter/A Video-Memory Module System Board
016500XX	6157 Tape Attachment Adapter Bus Adapter
+	6157 Streaming Tape Drive
016540XX	6157 Streaming Tape Drive 6157 Tape Attachment Adapter
<pre> 0166XXXX, 0167XXXX, (For diagnostic information refer to the Token-Ring Network Adapter/A service information.)</pre>	Token-Ring Network Adapter/A System Board

0 194XX XX	Memory-module package on the 2-8MB 80286 Memory Expansion Option 2-8MB 80286 Memory Expan- sion Option System Board
0 200xx xx	Image Adapter/A Video-Memory Module System Board
0208XXXX (Verify there are no duplicate SCSI ID settings.)	Any SCSI Device
5	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
<pre>0215XXXX (If the failing device is an external device, go to the external devices service pamphlet.)</pre>	SCSI CD-ROM Drive SCSI Adapter SCSI Cable
+	

IBM PS/2 Model 55 SX HMS How To Use This Parts Catalog

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.

 $\boldsymbol{AR}\colon$ (As Required) indicates that the quantity is not the same for all machines.

 $R\colon$ (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

IBM PS/2 Model 55 SX HMS System Overview

14.0 System Overview

PICTURE 6

15.0 Parts

15.0 P.	arts		
Index	System Unit		
1	Top Cover	27F4172	
2	Rear Cover	27F4670	
9	Front Cover with Logo (for Mode		
9	(R) (exchange basis only) Front Cover with Logo (for Mode	27F4677	
9	(R) (exchange basis only)	33F8230	
3	Base Frame Assembly (R)	27F4167	
4	Power Supply/Fan Assembly	27F4166	
5	Power Switch Link	27F4168	
6	Drive Cradle	27F4170	
7 8	Keylock Assembly Diskette Drive Bezel (AR)	27F4169 27F4230	
8	Blank Bezel (AR)	72X7534	
8	Fixed Disk Drive Bezel		
	30MB and 40MB (AR)	27F4177	
8	Fixed Disk Drive Bezel		
	60MB, 80MB, and 160MB (AR)	27F4675	
10 11	Speaker Speaker (Manter Cuide	27F4672	
11	Speaker/Adapter Guide (without speaker)	27F4673	
12	System Board	2,1110,5	
	(for Model 55 SX)	27F4667	
	3 Amp. Fuse	72X8561	
	Real-Time Clock Module	8509237	
12	System Board	F 7 17 2 0 0 2	
	(for Models 55 LS LTO and LEO) 3 Amp. Fuse	57F3003 72X8561	
	Real-Time Clock Module	8509237	
	2KB NV-RAM Module	64F0722	
	1MB Memory Module Kit	90X8624	
	2MB Memory Module Kit	90X8625	
	4MB Memory Module Kit	87F9980	2200160
	80387SX (**) Math Coprocessor, 2KB NV-RAM Module	16 MHZ 64F0722	33F8160
13	Bus Adapter (for Model 55 LS)	64F3732	
13	Bus Adapter (for Model 55 SX)	27F4666	
14	Bus Adapter Support	27F4674	
15	Adapter Support Panel	27F4671	
	Adapter Bracket	27F4674	
	Drive Grounding Bracket Miscellaneous Parts Kit	33F8156 33F8174	
	Expansion Slot Screw (Qty 1)		
	Cover Screw (Qty 1)		
	Keyboard Cable Assembly 0.9 m (3 ft.)	61X8898
Disket	te Drive		
	B Diskette Drive(1/3 High)	33F8211	
	iskette Drive Slide (for 33F8211)	64F0156	
	tte Drive Bezel	27F4230	
	tte 1 Drive Cable	27F4912	
	tte 2 Drive Cable Inch Diskette Drive:	34F0000	
	KB External (4869-001)	72x6759	
	KB External (4869-501)	72X6768	
	MB External (4869-002)	15F7993	
	MB External (4869-502)	15F7994	
5.2	5-Inch Diskette Drive Adapter/A	15F7996	
Fixed	Disk Drive		
	Fixed Disk Drive Assembly	64F4146	
40MB	Fixed Disk Drive Assembly	56F8896	
	Fixed Disk Drive Assembly	85F0049	
	Fixed Disk Drive Assembly	56F8892	
	Fixed Disk Drive Assembly	56F8893	
	Disk Drive Bezel and 40MB (AR)	27F4177	
	Disk Drive Bezel	21171//	
	, 80MB, and 160MB (AR)	27F4675	
	Disk Drive Cable	27F4669	
Ortic	a and Adaptors		
	s and Adapters ay Adapter 8514/A	1887971	
_	mory Module (for 1887971)	1887708	
	isplay Adapter/A	75X5886	
	-Memory Module (for 75X5886)	75X5894	
	Adapter/A	07F2508	
Widoo	-Memory Module (512KB)		

	Parts	
(for 07F2508)	07F4401	
Video-Memory Module (1MB)		
(for 07F2508)	07F4403	
Dual Async Adapter/A	34F0008	
Internal 60MB Adapter/A	30F5273	
Adapter Cable (34 pin)	34F2990	
Tape Cover Plate	30F5275	
Formatted Blank Tape	30F5277	
Multiprotocol Adapter/A	90X8995	
Realtime Interface CoProcessor Multiport/2		
8-port RS232-C Electrical Interface Boar		09F1889
4-port RS232-C Electrical Interface Boar	d	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)	34F0016	
SCSI Adapter/A Without Cache	85F0002	
Terminator (for 85F0002)	57F2058	
Token-Ring Network Adapter/A	83X7488	
RPL Module (for 83X7488)	83X9180	
Token-Ring 16/4 Adapter/A	16F1144	
Token-Ring 16/4 Adapter/A with RPL Module	53F7747	
Ethernet Adapter/A	64F0217	
0-8MB Expanded Memory Adapter/A	1497253	
256KB Memory Module (for 1497253)	1497256	
1MB Memory Module (for 1497253)	74X8637	
2-8MB 80286 Memory Expansion Option	15F8292	
1MB Memory Module (for 15F8292)	90X8624	
2MB Memory Module (for 15F8292)	90X8625	
300/1200 Modem Adapter/A		
	34F0006	
Communications Cable (for 34F0006)	8285985	
300/1200/2400 Modem Adapter/A	65X1253	
Communications Cable (for 65X1253)	94X1540	
3270 Connection	74F3458	
36/38 Emulation Adapter	69X6281	
6157 Tape Adapter	92X1459	
80387SX Math Coprocessor, 16 MHz	33F8160	
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	
Keyboard Cable	61X8898	
Mouse	61X8923	
Mouse Ball and Pop-Off Retainer Mouse Ball and Twist-Off Retainer	33F8461 33F8462	
8503 Monochrome Display (with Tilt/Swivel St	and)	
110/120 V ac	68X3045	
220/240 V ac (Northern Hemisphere)	68X3045	
220/240 V ac (Northern Hemisphere)	72X7878	
Tilt/Swivel Stand	68X3061	

8506 Monochrome Display (with Tilt/Swivel Stand) 110/125 V ac (US/Canada) 39F8087 110/125 or 200/240 V ac (Northern Hemisphere) 39F

110/1	25 o	r	200/240	V	ac	(Northern	Hemisphere)	39F8088
110/1	25 o	r	220/240	V	ac	(Southern	Hemisphere)	39F8089

8507 Monochrome Display (with Tilt/Swivel Stand) 110/120 or 220/240 V ac (Universal Model) 6247808

Tilt/Swivel Stand

68X3061

8508 Monochrome Dis	play ((with Tilt,	/Swivel Stand)	
110/125 V ac (US/C	anada)	6247838	
110/125 or 200/240	V ac	(Northern	Hemisphere)	39F8067
110/125 or 220/240	V ac	(Southern	Hemisphere)	39F8068

8512 Color Display (without Tilt/Swivel Stand)

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

8513 Color Display (with Tilt/Swivel Stand)

110/120	V	ac			68X3088
220/240	V	ac	(Northern	Hemisphere)	72X7870
220/240	V	ac	(Southern	Hemisphere)	72X7877
Tilt/Sw:	ive	el S	Stand		68X3061

8514 Color Display (without Tilt/Swivel Stand) 75X5945 110/120 V ac 220/240 V ac (Northern Hemisphere) 75X5946 220/240 V ac (Southern Hemisphere) 75X5947 Tilt/Swivel Stand 75X5907

8515 Color Display (with Tilt/Swivel Stand) - Canada) - Canada) - Canada) 180/265 V ac (Northern Hemisphere) 180/265 V ac (Southern Hemisphere) 90/137 V ac (Japan, S.Korea T 38F3911 38F3912 38F3913 90/137 V ac (Southern Hemisphere) 38F3914

8604 Monochrome Display (with Tilt/Swivel Stand) 110/120 V ac 6398267

Power Cords

PICTURE 7

Index	Power Cords Warning: Use the power cord certified for your country.	
1	Power Cord, Displays	
Ŧ		68X3071
	(except 8514), for:	68X30/1
	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
-		0529201
_	France, Germany, Spain	
5	Power Cord, System Unit, for:	8529282
	Italy	
6	Power Cord, System Unit, for:	8529284
	Australia, New Zealand	

Tools and Miscellaneous Tri-Connector Wrap Plug

10015 and MISCEITANEOUS		
Tri-Connector Wrap Plug	72X8546	
Wrap Plug		
(for 6157 Tape Attachment Adapte:	r)	59X4115
Wrap Plug		
(for Token-Ring Network Adapter/	A)	6165899
Wrap Plug		
(for Ethernet Adapter/A)	85F0036	
BNC T-Connector	84F8207	
BNC 50-ohm Terminator	85F0037	
Wrap Plug (for Real-time Interface		
Co-Processor Multiport/2) 78-pin	16F2478	
Wrap Plug (for Multiport Interface	Cable)	
Direct Connect 25-pin,		
ports 0 and 1	6425494	
Wrap Plug (for Multiport Interface	Cable)	

Direct Connect 25-pin,	
ports 2 through 7	09F1799
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 8555)	83X9431

Supplemental Parts:

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