FRONT

PICTURE 1

IBM PS/2 EWS (Type 9533) HMM Supplement

This package contains a supplement to the IBM Personal System/2 *Hardware Maintenance Manual* (part number 52G9971, form number S52G-9971-00).

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Part Number 71G1587
Form Number S71G-1587-00

1.0 PS/2 E and PCMCIA Diagnostics

The PS/2 E Model 33 has a PCMCIA adapter that acts as a bus from the system board to the option adapters.

If the system has a problem, carefully remove and reseat the riser card, any PC Cards, and the PCMCIA adapter. If, after reseating these boards, you get an 80XX error code, replace the PCMCIA adapter. For any other symptom, continue with the steps below.

If you suspect a problem with the PCMCIA adapter, do the following.

1. Power off the system.

2. Remove all PC Cards from the four PCMCIA adapter slots.

3. If you have a PCMCIA wrap plug, insert it into slot one.

4. Insert the PS/2 E Type 9533 Advanced Diagnostics diskette into drive A.

5. Power on the system and follow the instructions on the screen.

If the PCMCIA adapter diagnostic tests find no problem, suspect a PC Card connected to the PCMCIA adapter. To test the PC Card, do the following.

1. Power off the system.

2. Insert the suspected PC Card into a rear slot in the PCMCIA adapter.

3. Insert the appropriate PC Card diagnostics diskette into drive A.

4. Power on the system and follow the instructions on the screen.

> If the PC Card diagnostic tests find no problem, power off the system and insert the PC Card into a front slot. Power on the system. If the PC Card diagnostic tests still find no problem, replace the PCMCIA adapter.

> If a PC Card fails in a front slot and it does not fail in a rear slot, replace the PCMCIA adapter.

> If a PC Card fails in both a front and a rear slot, replace the PC Card.

Note: Before you replace a PC Card, be sure its application software and any required drivers are installed correctly on the system.

2.0 Numeric Error Code

```
+-------------------------------------------------------------------------+
¦ Symptom/Error                     ¦ FRU/Action                          ¦
+-----------------------------------+-------------------------------------¦
¦ 80XX                              ¦ PCMCIA Adapter                      ¦
+-------------------------------------------------------------------------+
```

Note: See "Symptom-to-FRU Index (AT Bus)" in the PS/2 Hardware
          Maintenance manual for all other error codes.

2.0 Numeric Error Code

```
+-------------------------------------------------------------------------+
¦ Symptom/Error                     ¦ FRU/Action                          ¦
+-----------------------------------+-------------------------------------¦
¦ 80XX                              ¦ PCMCIA Adapter                      ¦
+-------------------------------------------------------------------------+
```

Note: See "Symptom-to-FRU Index (AT Bus)" in the PS/2 Hardware
          Maintenance manual for all other error codes.

3.0 PCMCIA Adapter Switch Settings

Switches on the PCMCIA adapter must be set as shown below.

PICTURE 2

3.0 PCMCIA Adapter Switch Settings

Switches on the PCMCIA adapter must be set as shown below.

PICTURE 2

4.0 PCMCIA PC Card Lock Override

PC Cards can be locked in place for security purposes with the lock
mechanism. Any of the four lock mechanisms can be unlocked manually. To
unlock a locked mechanism, use a pen or pencil to press its lock solenoid
in the direction of the arrow shown below. (Solenoids 1 and 3 are shown
locked. Solenoids 2 and 4 are shown unlocked.)

PICTURE 3

5.0 Power Supply Voltages, Model 33

If the power-on indicator is not on, check the power cord for proper
installation and continuity. (If the power-on indicator is not on, but
the system is functioning normally, replace the power switch/speaker
assembly.)

If the power cord is OK, and the system is not functioning, either the
power supply is defective or a defective device is causing the power
supply to shut off. Check the power supply voltages.

If the voltages are incorrect, replace the power supply. If the voltages
are correct, and the Symptom-to-FRU index does not solve the problem, go
to "Undetermined Problems" on page 65.

1. Check for continuity between pins 4 and 6 (switch) on P2.
2. If the switch is OK, *short* pin 4 to pin 6 on P2 and check the power
    supply voltages.

PICTURE 4

-Lead Pin	+Lead Pin	V dc Minimum	V dc Maximum
1, 2	+.5 volts	+3.75	+6.25
3, 4	Ground		

PICTURE 5

-Lead Pin	+Lead Pin	V dc Minimum	V dc Maximum
1, 2	+12.0 volts	+ 9.0	+15.0
3	Power Good		
4	On/Off Signal		
5	-12.0 volts	- 9.0	- 15.0
6	Ground		
7	-5 volts	-4.75	- 5.5

PICTURE 6

-Lead Pin	+Lead Pin	V dc Minimum	V dc Maximum
1	Ground		
2, 3	+5 volts	+3.75	+6.25

6.0 Model 33 System Board

```
  1   Display connector
  2   Pointing-device connector
  3   Keyboard connector
  4   Parallel port
  5   Serial port
  6   Control connector (Control Assembly)
  7   Power-supply connector (P2)
  8   Power-supply connector (P1)
  9   Diskette-drive connector
 10   80387SX Math coprocessor connector
 11   Hard-disk drive connector
 12   Password-override connector (J14)
 13   Bus-adapter connector
 14   System Board Memory
 15   Battery
 16   Memory-module connector 2
 17   Memory-module connector 1
```

PICTURE 7

7.0 Model 33 Parts

PICTURE 8

Index	*System Unit (33)*	
1	Top Cover	39G6572
	Key Lock	39G6577
	Floor Stand	91F1028
2	PCMCIA Adapter	40G1055
3	Riser Card	39G6435
4	Power Supply	39G6560
	Power Cord (US)	62X1045
5	Base Frame Assembly	39G6573
6	System Board	39G6453
	Coprocessor Socket	10G3975
	Diskette Drive Cable	39G6570
	Hard Disk Drive Cable	39G6571
	Battery	33F8354
7	4MB Memory Module Kit	92F0105
7	8MB Memory Module Kit	64F3606
8	Power Switch/Speaker Assembly	39G6576
	Blank Drive Bezel	39G6578
	Blank Bezel	39G6580
	Blank Bezel (PCMCIA)	68G2549
11	Door	39G6574
12	Logo (R)	39G6579
	Miscellaneous Parts Kit	39G6575
	PCMCIA Test Card (wrap plug)	35G4703

	DASD	
	105MB Hard Disk Drive (PCMCIA)	92F0429
	105MB Hard Disk Drive Carrying Case	92F0430
9	120MB 2.5 in. Hard Disk Drive	54G0135
10	1.44MB 3.5 in.Diskette Drive	96F9211

	Keyboard & Mouse	
	Keyboard w/ Pointer	61G2901
	Num Key Pad	61G2903
	Num Key Pad Cable	61G2912
	Mouse (New Style)	33G5420

8.0 Product Description Matrix

The following table provides an overview of the Model 33 computer
features. Refer to the Product Description Matrix on page 232 for
information about the features of other PS/2 computers.

Model 33 Features	
Processor (MHz)	486SLC (25/50)
Bus Architecture	AT Bus & PCMCIA Card
Standard Memory	4MB
Maximum Memory	16MB
Video	XGA-NI
Slots/Bays	4/2
SCSI	No
IML System Partition	No
Selectable Startup	Yes
Model 33 has a riser card with one slot. The 4-slot PCMCIA card connects to the riser card. The top drive bay supports a diskette drive and the bottom bay supports a hard disk drive.	

9.0 Model 33 System Features

The following are unique features that are supported on the Model 33. For
features supported on other PS/2 models, see "System Features" on page
244.

Subtopics
9.1 PCMCIA Cards

9.1 PCMCIA Cards

The Personal Computer Memory Card International Association (PCMCIA) card
is an extension to the AT bus. The PCMCIA card accepts adapters about the
size and shape of a credit card. These adapters, called PC Cards (**)
have a thickness of 3.3 mm, 5.0 mm, or 10.5 mm. Available PC Cards
include Ethernet, Token Ring, modems, 3270 emulator, FAX, memory, solid
state hardfiles, and hard disk drives.

Two key elements of PCMCIA technology are Socket Services and Card
Services. Socket Services identifies how many option slots are in the
computer and detects the insertion or removal of a PC card while the
computer is powered on. When a PC Card is inserted and detected, Card
Services immediately reconfigures the computer to give the new PC Card
access to the system memory, interrupts, and other computer functions.

 (**) Trademark of PCMCIA