
Section 1. System Description

Description	1-3
System Board Features	1-5
System I/O Address Map	1-9
Specifications	1-10

Notes:

Description

The IBM Personal System/2 Model 50 is a self-contained, desktop computer system with a keyboard. The system can support two 3.5-inch diskette drives and one 3.5-inch fixed disk drive. Built into the system board is a keyboard port controller, an auxiliary device port controller, a serial port controller, a parallel port controller, and a video subsystem. The system features the Personal System/2 Micro Channel 16-bit architecture. This new channel architecture supports adapters that are physically and electrically different from IBM Personal Computer adapters. A fixed disk adapter occupies one channel connector. Three unoccupied channel connectors are provided for optional feature expansion. The keyboard is attached to the system unit by a coiled cable. The following shows the Model 50 system unit and keyboard.

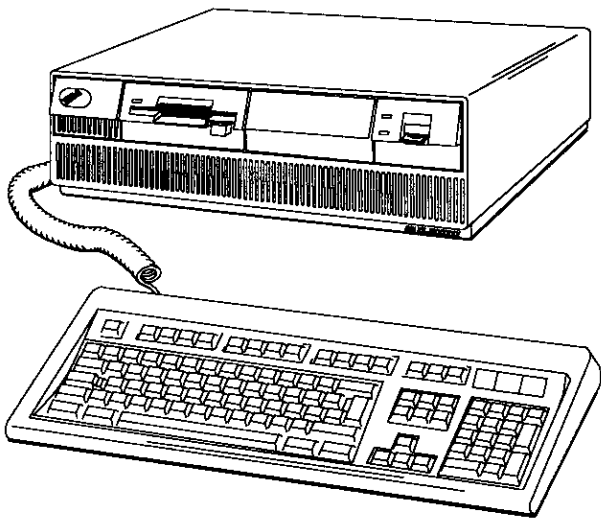


Figure 1-1. Model 50 System Unit and Keyboard

The IBM Personal System/2 Model 60 is a self-contained, floor-standing computer system with a keyboard. The system can support two 3.5-inch diskette drives and two 5.25-inch fixed disk drives. Built into the system board is a keyboard port controller, an auxiliary device port controller, a serial port controller, a parallel port controller, and a video subsystem. The system features the Personal System/2 Micro Channel 16-bit architecture. This new channel architecture supports adapters that are physically and electrically different from IBM Personal Computer adapters. A fixed disk adapter occupies one channel connector. Seven unoccupied channel connectors are provided for optional feature expansion. The keyboard is attached to the system unit by a coiled cable. The following shows the Model 60 system unit and keyboard.

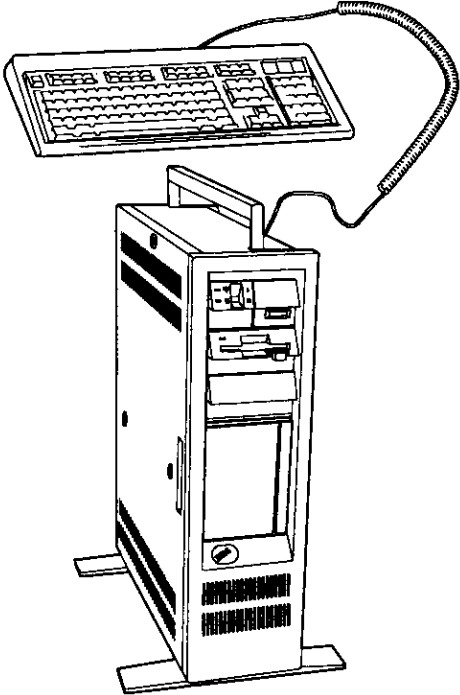


Figure 1-2. Model 60 System Unit and Keyboard

System Board Features

The system boards for the Model 50 and Model 60 incorporate very large scale integration modules and surface-mount technology.

The following is a list of the Model 50 and Model 60 system board features:

- Intel 80286 system microprocessor
- Microprocessor support
 - Eight-channel direct memory access (DMA) controller
 - 16-level interrupt system
 - System clock
 - Three programmable timers
- ROM subsystem, 128K (K = 1024)
- RAM subsystem, 1M (M = 1,048,576)
- 16-bit channel
- Real-time clock CMOS RAM with battery backup
 - Clock
 - Calendar
 - CMOS RAM
- Integrated video graphics subsystem with an auxiliary connector
- EIA RS-232-C serial communications controller and port
- Parallel port
- Audio subsystem with speaker
- Keyboard/Auxiliary device controller
- Keyboard connector
- Auxiliary device connector
- Password security
- Diskette drive controller
- Distributed arbitration mechanism with support for up to 15 devices
- Socket for the 80287 Math Coprocessor
- Four Micro Channel connectors
 - One with an auxiliary video connector
 - One connector used by the fixed disk adapter.

The Model 60 system board has the following additional features:

- 2K CMOS RAM extension with battery backup
- Four additional Micro Channel connectors for a total of eight.

The following shows the layout of the Model 50 system board.

- 1** 16-bit channel connectors
- 2** 16-bit channel connector with video extension
- 3** Fixed disk drive adapter connector
- 4** Display connector
- 5** Serial port connector
- 6** Parallel port connector
- 7** Auxiliary device connector
- 8** Keyboard connector
- 9** Fuse (keyboard/auxiliary device)
- 10** Fan assembly connector
- 11** Power supply connector
- 12** Memory module package connectors
- 13** Diskette drive connector
- 14** Battery and speaker assembly connector
- 15** 80286 Microprocessor
- 16** 80287 Math Coprocessor socket

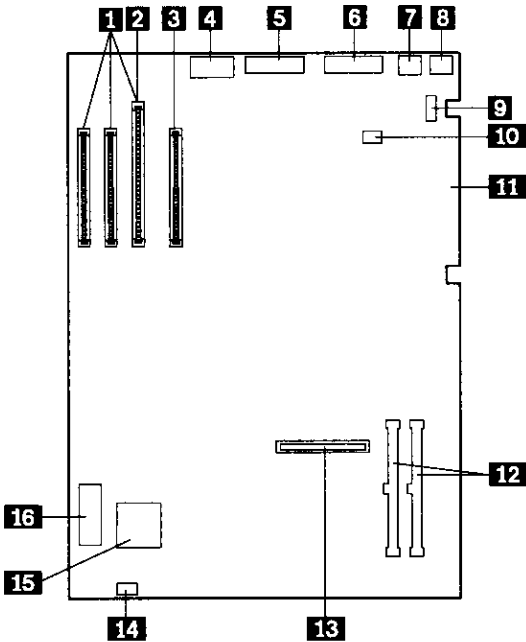


Figure 1-3. Model 50 System Board Layout

The following shows the layout of the Model 60 system board.

- 1** Fuse (keyboard/auxiliary device)
- 2** Power supply connector
- 3** Diskette drive connector
- 4** Memory module package connectors
- 5** 80286 Microprocessor
- 6** Battery and speaker assembly cable connector
- 7** 80287 Math Coprocessor Socket
- 8** 16-bit channel connectors
- 9** 16-bit channel connector with video extension
- 10** Fixed disk drive adapter connector
- 11** Display connector
- 12** Serial port connector
- 13** Parallel port connector
- 14** Auxiliary device connector
- 15** Keyboard connector

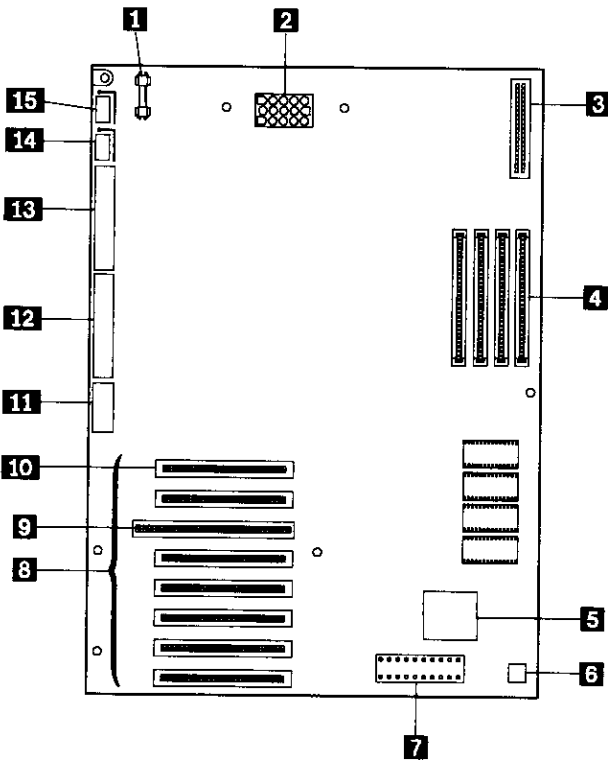


Figure 1-4. Model 60 System Board Layout

The following is a block diagram of the system boards.

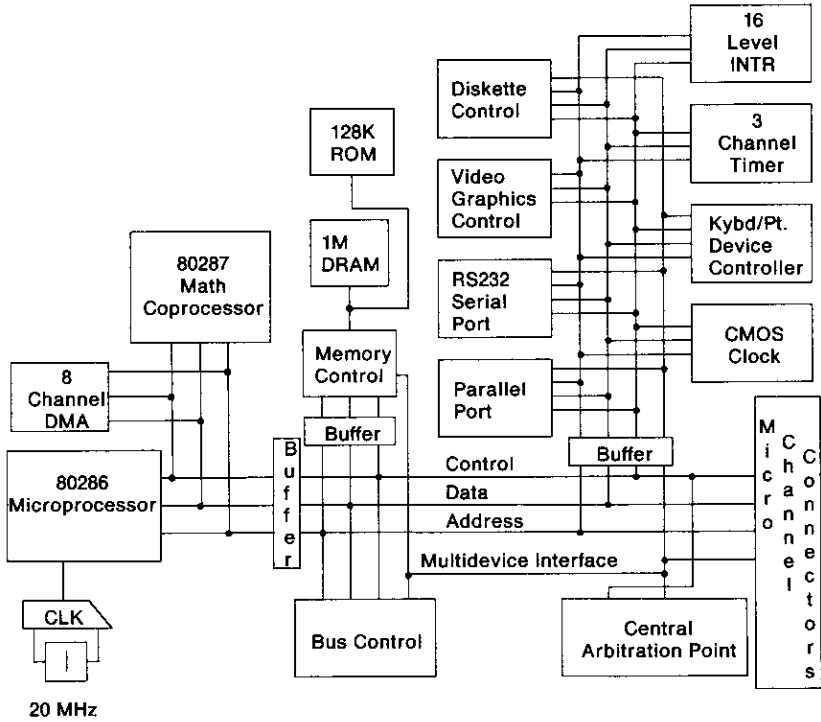


Figure 1-5. System Board Block Diagram

System I/O Address Map

The following is the address map for the various system board I/O functions.

Hex Addresses	Device
0000 - 001F	DMA Controller
0020, 0021	Interrupt Controller 1, 8259A
0040, 0042, 0043, 0044, 0047	System Timers
0060	Keyboard, Auxiliary Device
0061	System Control Port B
0064	Keyboard, Auxiliary Device
0070, 0071	RT/CMOS and NMI Mask
0074, 0075, 0076	Reserved
0081, 0082, 0083, 0087	DMA Page Registers (0 - 3)
0089, 008A, 008B, 008F	DMA Page Registers (4 - 7)
0090	Central Arbitration Control Port
0091	Card Selected Feedback
0092	System Control Port A
0093	Reserved
0094	System Board Setup
0096, 0097	POS, Channel Connector Select
00A0 - 00A1	Interrupt Controller 2, 8259A
00C0 - 00DF	DMA Controller
00F0 - 00FF	Math Coprocessor
0100 - 0107	Programmable Option Select
0278 - 027B	Parallel Port 3
02F8 - 02FF	Serial Port 2 (RS-232-C)
0378 - 037B	Parallel Port 2
03BC - 03BF	Parallel Port 1
03B4, 03B5, 03BA, 03C0 - 03C5	Video Subsystem
03CE, 03CF, 03D4, 03D5, 03DA	Video Subsystem
03C6 - 03C9	Video DAC
03F0 - 03F7	Diskette Drive Controller
03F8 - 03FF	Serial Port 1 (RS-232-C)

Figure 1-6. System I/O Address Map

Specifications

The following are specifications for the Model 50 system unit.

Size

- Width: 360 millimeters (14.1 inches)
- Depth: 420 millimeters (16.5 inches)
- Height: 140 millimeters (5.5 inches)

Weight

- 9.55 kilograms (21 pounds)

Cables

- Power Cable: 1.8 meters (6 feet)
- Keyboard Cable: 0.91 meters (3 feet)

Air Temperature

- System On: 15.6 to 32.2 degrees C (60 to 90 degrees F)
- System Off: 10.0 to 43.0 degrees C (50 to 110 degrees F)

Humidity

- System On: 8% to 80%
- System Off: 20% to 80%

Altitude

- Maximum Altitude: 2133.6 meters (7000 feet)

Heat Output

- 494 BTU/hour

Acoustical

Readings from 1 meter (3.28 feet)

- 46 dB average, operating
- 40 dB average, idle

Electrical

Automatic Ranging

- Low Range
 - Minimum - 90 Vac
 - Maximum - 137 Vac
- High Range
 - Minimum - 180 Vac
 - Maximum - 265 Vac

Electro-Magnetic Compatibility

- FCC Class B

The following are specifications for the Model 60 system unit.

Size

- Width: 165 millimeters (6.5 inches)
- Width (Feet extended): 318 millimeters (12.5 inches)
- Depth: 483 millimeters (19.0 inches)
- Height: 597 millimeters (23.5 inches)

Weight

- 20 kilograms (44 pounds) with one fixed disk drive

Cables

- Power Cable: 1.8 meters (6 feet)
- Keyboard Cable: 3.05 meters (10 feet)

Air Temperature

- System On: 15.6 to 32.2 degrees C (60 to 90 degrees F)
- System Off: 10.0 to 43.0 degrees C (50 to 110 degrees F)

Humidity

- System On: 8% to 80%
- System Off: 20% to 80%

Altitude

- Maximum Altitude: 2133.6 meters (7000 feet)

Heat Output

- 1240 BTU/hour

Acoustical

Readings from 1 meter (3.28 feet)

- 46 dB average, operating
- 40 dB average, idle

Electrical

Automatic Ranging

- Low Range
 - Minimum - 90 Vac
 - Maximum - 137 Vac
- High Range
 - Minimum - 180 Vac
 - Maximum - 265 Vac

Electro-Magnetic Compatibility

- FCC Class B

Notes: