FRONT

Options and Adapters (Non-Micro Channel)

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1.0 General Purpose Interface Bus Adapter

The General Purpose Interface Bus Adapter is designed for the IBM Personal System/2 Model 30. It provides an interface between the IBM Processor and the IEEE-488 General Purpose Interface Bus (GPIB), allowing control of up to 48 devices or instruments (such as plotters, multimeters, and disk drives).

The adapter has the following features:

- Designed to the ANSI/IEEE-488 standard, including the 488-1980 supplement
- Supports up to 14 devices or instruments
- Provides a direct memory access data rate of up to 300Kbps and programmed I/O data rate of up to 10Kbps.
- Allows the user to select interrupt level and memory access channels.

Subtopics
1.1 Specifications

1.1 Specifications

Environment

- Temperature:

  - Operating: 15.6° to 32.2°C (60° to 90°F)
  - Stored: 10° to 43°C (50° to 110°F).

- Humidity:

  - Operating: 8% to 80%
  - Stored: 5% to 100%

Electrical Output

Voltages: +.5Vdc

2.0 Data Acquisition and Control (DAC) Adapter

The Data Acquisition and Control (DAC) Adapter provides analog input/output channels and digital input/output ports to receive data from and send data to instruments and devices. The adapter provides four analog input channels with throughput to memory at 15,000 conversions per second, two analog output channels with throughput to memory at 25,000 conversions per second (both with 12-bit resolution and user-selectable unipolar or bipolar modes), 16 digital input lines and 16 digital output lines with programmed or interrupting mode of operation for analog input/output channels, and programmed I/O mode for digital input/output. Prerequisites: An available slot in the PS/2 Model 30 for each adapter desired. Maximum: Three.

3.0 Data Acquisition and Control Adapter Distribution Panel

The Data Acquisition and Control Adapter Distribution Panel provides easy access to the I/O signals, voltages, and grounds of the Data Acquisition and Control Adapter and is connected to that adapter by a shielded 34-inch long flat cable that is permanently connected to the panel. The distribution panel is a printed circuit board with four barrier-type screw terminal strips, which provide a total of 88 terminations. The circuit board is housed in a metal enclosure that is slotted to allow user cabling to enter and exit the panel. This panel can be used to quickly connect, change, or remove instruments and/or control points being used.
Prerequisites: A Data Acquisition and Control Adapter for each panel desired.

4.0 Serial/Parallel Adapter

The Serial/Parallel Adapter provides a serial port and a parallel port. It occupies only one expansion slot. The serial portion is fully programmable and supports asynchronous communications from 50 to 9600 bps. The back of the adapter has a 9-pin D-shell connector that is classified as an RS-232-C port. When the optional 10-foot serial adapter cable or 10-inch serial adapter connector is connected to the adapter, the 25-pin end of the cable or connector has all the signals of a standard EIA RS-232-C interface. The parallel portion of the adapter provides the ability to attach various devices that accept eight bits of parallel data. The parallel port is provided by a 25-pin, D-shell connector.

Limitations: This adapter does not support current loop operation.

5.0 Binary Synchronous Communications Adapter

The Binary Synchronous Communications Adapter provides an EIA RS-232-C interface. A maximum of two adapters may be installed. However, only one adapter may be installed if an SDLC Adapter is installed. This adapter requires one expansion slot.

6.0 Synchronous Data Link Communications (SDLC) Adapter

The Synchronous Data Link Communications (SDLC) Adapter provides an EIA RS-232-C interface. Only one SDLC Adapter may be installed. This adapter requires one expansion slot.

7.0 Game Control Adapter

The Game Control Adapter can have up to two joysticks or up to four game paddles attached. This adapter can also be used as a general-purpose I/O card with four analog (resistive) inputs plus four digital input points. This adapter requires one expansion slot.

8.0 2MB Expanded Memory Adapter

The 2MB Expanded Memory Adapter is designed for the IBM Personal System/2 Models 25 and 30. The adapter provides 2MB of expanded memory function and a standard parallel printer port. The 2MB Expanded Memory Adapter supports the device drivers resident within the 3270 Workstation Program, Version 1.0 or 1.1, which provide application programs with expanded memory support, an Expanded Memory Specification (EMS) interface, and up to two PC DOS virtual disk interfaces.

The 2MB Expanded Memory Adapter:

- Can be installed in any full length expansion slot
- Has a diskette that has advanced diagnostic tests.

9.0 Personal System/2 Multifunction Adapter

The Personal System/2 Multifunction Adapter is designed for the IBM Personal System/2 Model 30 286. The adapter provides an additional serial port, an additional parallel printer port and up to 12MB of extended memory. The Multifunction Adapter is sold without any installed memory and is expandable up to 3Mb with 0.5Mb Memory Module Kits or up to 12Mb with 2Mb Memory Module Kits. Up to two Multifunction Adapters can be installed in an IBM PS/2 Model 30 286 providing a maximum of 15Mb of additional memory, two additional parallel printer ports, and one additional asynchronous serial communications port.

The Personal System/2 Multifunction Adapter:

- Can be installed in any full length expansion slot
- Has a diskette that has advanced diagnostic tests.

10.0 Realtime Interface Coprocessor Multiport/2

The Realtime Interface Coprocessor Multiport/2 adapter is a multiple device interface subsystem for the IBM Personal System/2 family. This adapter has the facilities to support applications (for example, communications control, data/protocol conversion, and nonstandard device interface) that require a real-time, multitasking environment.

The Realtime Interface Coprocessor Multiport/2 has the following features:

- Software-selectable configuration option
- Installation possible in any available expansion slot
- Operation of up to eight ports concurrently
- Multiport interface cable
- Dual-ported coprocessor memory
- Microcode support of up to 253 concurrent tasks running on the coprocessor
- Dynamic memory management
- Up to 255 software timers with increments of 5 milliseconds to 327 seconds
- Dispatch queue functions
- Watchdog timer support.

Subtopics

10.1 Specifications

Environment

- Temperature:

  - Operating: 0° to 50°C (32° to 122°F)
  - Stored: -20° to 70°C (-4° to 158°F).

- Humidity:

  Operating: 5% to 90%.

Electrical Output

- Voltages:
  - + 4.5 Vdc to + 5.5 Vdc
  - +10.8 Vdc to +13.2 Vdc
  - -10.8 Vdc to -13.2 Vdc.

10.2 Repair Information

Electrical Interface Board Removal

To remove the electrical interface board:

1. Remove the plastic screw on the back side of the adapter.

2. Gently pry the rear of the electrical interface board off the coprocessor adapter and slide it forward.

11.0 Personal System/2 Mouse

The Personal System/2 Mouse is a two-button cursor positioning device. A rubber-coated ball and two mechanical encoders indicate horizontal and vertical movement to the system. Two push-button switches transmit their states to the system. The ball is removable for cleaning.

A diskette is supplied with the Mouse. This diskette contains a device driver, which is necessary when using the Mouse with some programs. The device driver can be loaded only as a DOS command and *cannot* be loaded as a DOS device driver from the CONFIG.SYS file.

The Mouse has the following features:

- Support for all Video Graphics Array modes
- Graphics and text cursor functions
- Light pen emulation mode
- Selectable *xy*-to-picture element ratio
- Three data modes: stream (default), remote, and wrap
- Seven sampling rates, from 10 to 200 per second
- Four degrees of resolution, from one to eight per mm
- Self-test at power-on or on receipt of a Reset command
- 2.7-m (9-ft) cable that is keyed to a matching connector on the rear of the system unit.

PICTURE 1

Subtopics
11.1 Connector Information
11.2 Specifications

11.1 Connector Information

The Personal System/2 Mouse uses a shielded four-conductor cable. The pin numbering and signal assignments are as follows:

	Pin	**Signal**
	1	Data
	2	No Connection
	3	Ground
	4	+ 5 Vdc
	5	Clock
	6	No Connection

PICTURE 2

11.2 Specifications

Environment

- Air Temperature:
  - Operating: 15.6° to 32.2°C (60° to 90°F)
  - Stored: 0.6° to 60°C (33° to 140°F)
- Humidity:
  - Operating: 5% to 95%
  - Stored: 5% to 95%.

Electrical

Optimum voltage: +4.5 to +5.5Vdc.

11.3 Repair Information

The ball inside the Mouse controls cursor motion as it rolls over the operating surface. Anything that sticks to the ball or the operating surface can affect the performance.

To clean the ball, do the following:

1. The retaining ring 1 is marked with an arrow. Push on the arrow to release the retaining ring and remove the ball 2.

2. Clean the ball with soap and water, then wipe it dry with a lint-free cloth.

3. Replace the ball, and snap the retaining ring back into place.

PICTURE 3

Notes: