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8 System Input/Output Board (SIO)

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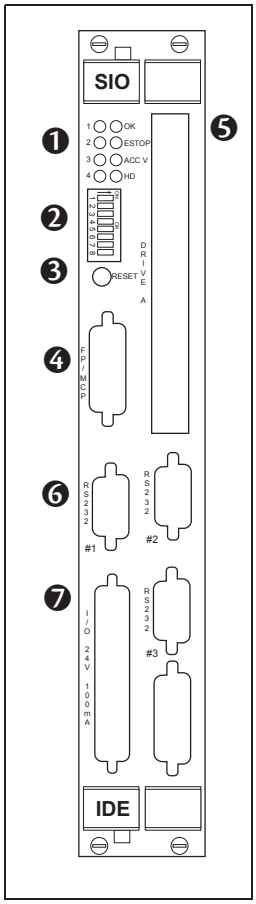
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Introduction

The System Input/Output (SIO) board is a 2-slot-wide 6U VME slave board that provides system I/O functions for the controller. It has a hard drive, floppy drive and three user RS-232 serial ports.

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Connections and Indicators



❶ Status LEDs. When lit:

OK indicates that this board has passed V^+ start-up test.

E-STOP indicates that the E-stop circuit is open.

ACC V indicates that a 3rd-party VME board has accessed the Adept VME bus improperly.

HD indicates the hard drive is active.

1 - 4 are for Adept Service use only.

❷ DIP Switch (8 position) —not used.

❸ **Reset** switch — resets all the boards on the backplane.

❹ **FP/MCP** connector — not used. The jumper plug must be in place. Otherwise, the controller will not turn on.

❺ **Drive A** — 3.5" floppy drive, 1.4 MB maximum capacity.

❻ **RS-232** — three global serial ports for general user serial I/O.

❼ **I/O 24V 100 mA** — not used. The jumper plug must be in place.

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Mass Storage

Floppy Drive

The 1.4 MB floppy drive can access both double-density (720 KB) and high-density (1.44 MB) floppy disks. Refer to the ***V+ Operating System User's Guide*** for information on formatting floppy disks.

Hard Drive

The 1.4 GB internal hard drive is located inside the SIO board. (The capacity of the hard drive is subject to change.)

Serial I/O Connectors

There are three RS-232 serial ports for general-purpose serial I/O functions. These global serial ports are referred to as devices SERIAL:1, SERIAL:2, and SERIAL:3. These serial ports can be accessed via the VME bus by any Adept system processor configured to run V+. (There are also three additional local serial ports on the AWC board and one port on the CIP.)

The connectors are DB-9P male 9-pin connectors that are pin-compatible with the serial connector for AT-compatible computers; the signal and pin information are shown in **Table 8-1** and **Figure 8-1**. The pinout for all three connectors is the same.

See the ***V+ Language User's Guide*** for information on serial I/O. Also see the ATTACH instruction in the ***V+ Language Reference Guide*** for information on serial I/O programming. Both of these manuals are optional and can be ordered from Adept. See the ***Instructions for Adept Utility Programs*** for configuration information using the CONFIG_C program. All three serial ports on the SIO board can be configured for use at up to 38,400 bps. Note: for very intensive high-speed serial operation, it may be more efficient to use the serial port(s) located on the system processor.

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Table 8-1. RS-232 Serial I/O Connector Pin Assignment on SIO Board

Pin	Signal Name	Pin	Signal Name
1	not used	6	DSR (Data Set Ready)
2	RXD (From Device)	7	RTS (Request to Send)
3	TXD (To Device)	8	CTS (Clear to Send)
4	DTR (Data Terminal Ready)	9	not used
5	SG (Signal Ground)		

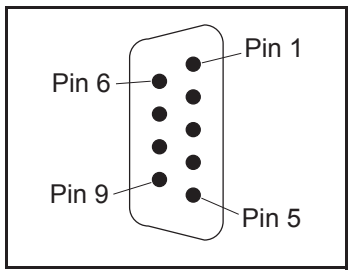


Figure 8-1. RS-232 Serial I/O Connector Pin Locations on SIO Board

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SIO Board Specifications

Table 8-2. Technical Specifications[a]

Electrical Power Consumption (Supplied from VME backplane)	
System I/O (SIO)	5 V at 4.6 A typical +12 V at 1.4 A –12 V at 50 mA
Floppy Drive	5 V at 0.23 A average (0.74 A max) 12 V not used
Hard Drive	5 V at 0.6 A average (1.1 A max) 12 V not used
Width	Occupies 2 backplane slots
Serial Ports	Three RS-232, at 300 – 38.4K bps

[a] Specifications subject to change.

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