

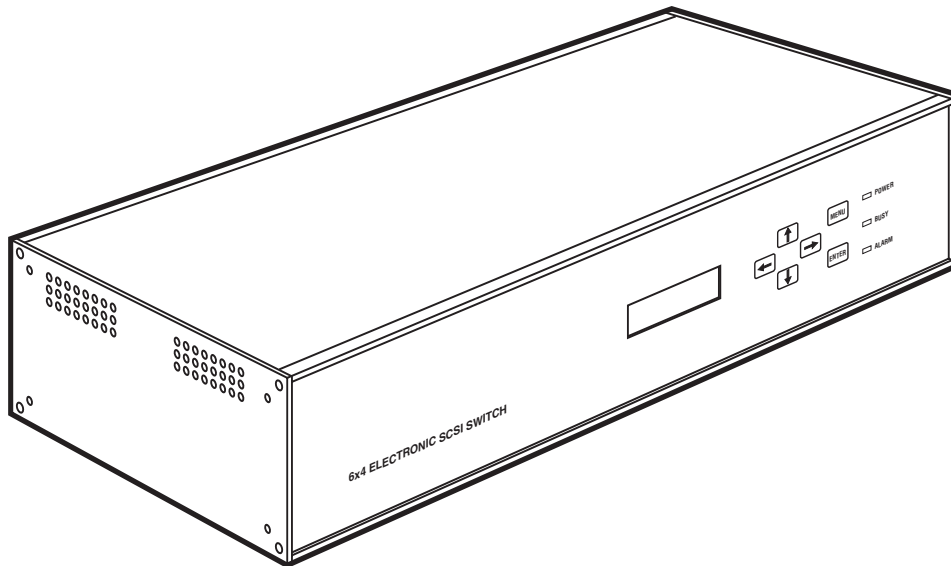


# BLACK BOX®

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Black Box Corporation.

*The World's Source for Connectivity<sup>SM</sup>*

## SCSI Matrix Switches



*Get more use out  
of your expensive  
SCSI peripherals—  
share them!*

### Key Features

► Switch up to 10 independent SCSI buses for effortless access to as many as 42 SCSI peripherals.

► Available for all SCSI interfaces—the 6x4 Electronic SCSI Switches are even compatible with Ultra, Fast-20, and Fast-40 SCSI devices.

► Compatible with Sun®, Apple®, HP®, IBM®, SGI®, Intel, DEC™, DG, and UNISYS®.

► Operates transparently. No SCSI ID needed.

► Easy to set up. Easy to use.

The SCSI Matrix Switch is an electronic crosspoint switch. You can select and electronically connect up to 10 independent SCSI buses in any combination, thanks to internal electronic switching circuits. You don't have to swap and reconfigure SCSI cables and bus terminators when a new system configuration is needed.

The Switch is easy to use. Just push buttons on the front panel to indicate which ports you want to connect or disconnect. It also has two or four independent SCSI ports that can be connected in any combination with any of the other ports.

For remote switching, use a standard RS-232 interface to control the switch with DOS, Windows®, Macintosh®, and UNIX® software. You can also use standard modem software or standalone terminals to control the Switch using ASCII control commands.

The SCSI Matrix Switch doesn't require a device ID, and it's transparent to

peripherals on the SCSI bus. You don't need any additional software either. For international use, it adapts from 105 VAC to 240 VAC.

If you need to expand, daisychain the SCSI Matrix Switches together. You can use a single RS-232 serial port to control the entire daisy chain of switches.

### Typical Application

*One four-user workgroup can share up to 42 peripherals.*

## Technically Speaking

**S**CSI (Small Computer System Interface, pronounced "scuzzy") is a standard used to connect computers to such peripherals as CD-ROM drives, hard drives, scanners, and laser printers.

SCSI devices are linked together to form a SCSI chain. Slower SCSI types such as SCSI-1 or narrow SCSI should be connected last on the SCSI bus—if they were connected first on the bus, they would slow down the faster SCSI interfaces.

A SCSI chain can contain up to seven devices plus the computer. Each device, including the computer, has its own unique SCSI ID number from 0 through 7, with the computer usually being number 7. All SCSI devices in a chain must have a different number—if more than one device has the same number, your system will crash.

It's important to be sure of the SCSI ID number of all SCSI devices whenever you

add a new device. Usually, you can change the SCSI ID with a small dial or DIP switches on the back of the unit.

The original SCSI standard—now known as SCSI-1—was approved in 1986. It supports transfer rates of up to 5 Mbps and 7 SCSI devices on an 8-bit bus. The most common connector for SCSI-1 is the Centronics® 50 or Telco 50. A Micro Ribbon 60 connector may also be used.

Approved in 1994, SCSI-2 introduced optional 16- and 32-bit buses called "Wide SCSI." The transfer rate, normally 10 Mbps, can go up to 40 Mbps when combined with Fast-Wide SCSI. SCSI-2 usually uses a MicroD 50-pin connector with thumbclips. It's also known as Mini 50 or Micro DB50. A Micro Ribbon 60 connector may also be used.

SCSI-3 (or Ultra SCSI) is found in many high-end systems. It has transfer rates of 20 Mbps (Narrow SCSI-3) or 40 Mbps (Wide SCSI-3).

SCSI-3 commonly uses a MicroD 68-pin connector

with thumbscrews. It's also known as Mini 68.

The most common bus width for SCSI-3 is 16-bit with transfer rates at 20 Mbps. SCSI-5, a new type of connector interface, is also called VHDCI (Very High-Density Connector Interface) or a 0.8-mm connector. It's similar to the SCSI-3 MD68 connector in that it has 68 pins and a much smaller footprint.

SCSI-5 is designed for next-generation SCSI connections where high performance is a key requirement. Manufacturers such as IBM® and Hewlett-Packard® are integrating this new 0.8-mm connector design in their

controller cards. It's the connector of choice for advanced SCSI multiport applications, such as Ultra SCSI Fast-20 and the new Low-Voltage Differential Signal (LVDS) technology.

Because of SCSI-5's special offset cable exit, up to four channels can be accommodated in one card slot. Connections are also easier where space is limited.



**SCSI-1**  
50-Pin Centronics



**SCSI-3**  
68-Pin High Density



**SCSI-2**  
50-Pin High Density



**SCSI-5**  
VHDCI

### Specifications

**Speed** — SC100A, SC104A–SC106A, SC110A, SC114A–SC116A: 8-Bit Narrow: Up to 20 MB per second; 16-Bit Wide: Up to 40 MB per second;  
SW485A–SW487A: 8-bit Narrow: 40 Megabytes per second; 16-bit Wide: 80 MB per second;  
Serial interface: 9600 bps to 19.2 kbps

**CE Approval** — All items listed are approved

**Connectors** — Serial interface: (1) 9-pin D-sub; SW485A–SW487A: Serial: (1) DB9 M, (1) DB9F, SCSI: (14) 68-pin SCSI-3

**Power** — SC100A, SC104A–SC106A, SC110A, SC114A–SC116A: 105–240 VAC ±10%, 48–65 Hz, 20 W;  
SW485A–SW487A: 115/230 VAC, 50/60 Hz, switch selectable

**Size** — SC100A, SC104A–SC106A, SC110A, SC114A–SC116A: 11.4 x 28.7 x 24.6 cm;  
SW485A–SW487A: 8.9 x 42.7 x 30.5 cm

**Weight** — SC100A, SC104A–SC106A, SC110A, SC114A–SC116A: 2.3 kg;  
SW485A–SW487A: 2.3 kg

## Ordering Information

*This information will help you place your order quickly.*

PRODUCT NAME	ORDER CODE
SCSI Matrix Switch	
Single-Ended	
2 x 2, Narrow, 50-Pin Centronics® (SCSI-1)	SC100A-R2
2 x 4	
Narrow, 50-Pin Centronics® (SCSI-1) .....	SC104A-R2
Narrow, 50-Pin High-Density (SCSI-2)	SC105A-R2
Wide, 68-Pin High-Density (SCSI-3).....	SC106A-R2
6 x 4, Wide, VHDCI (SCSI-5).....	SW486A
Differential	
2 x 2, Narrow, 50-Pin Centronics® (SCSI-1)	SC110A-R2
2 x 4	
Narrow, 50-Pin Centronics (SCSI-1).....	SC114A-R2
Narrow, 50-Pin High-Density (SCSI-2)	SC115A-R2
Wide, 68-Pin High-Density (SCSI-3).....	SC116A-R2
6 x 4, Wide, 68-Pin High-Density VHDCI (SCSI-5) .....	SW485A