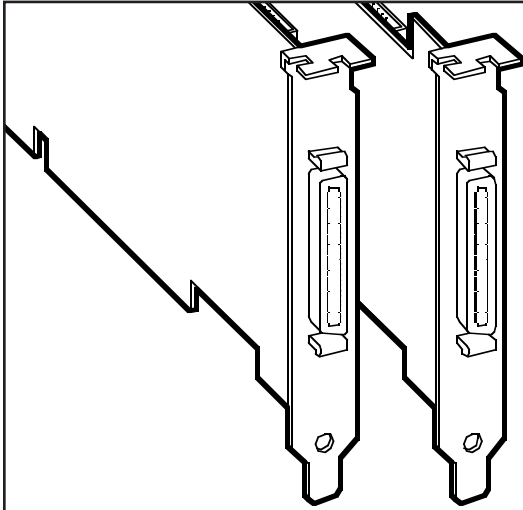# BLACK BOX®

NETWORK SERVICES

SCSI HOST ADAPTERS

Get 10-, 20, 40-, or even 80-Mbps SCSI data-transfer performance for your ISA or PCI PC.

Key Features

▶ *All models:*

- *SCSI data rates up to: 10 MB/s (IC510/11C), 20 MB/s (IC512C), 40 MB/s (IC513/14C), or 80 MB/s (IC515C).*

- *Support most major operating systems.*

▶ *PCI models:*

- *Plug-and-Play compliant.*

- *32-bit PC↔Adapter data transfer at up to 133 MB/s.*

- *SmartSCSI Setup Utility in firmware, plus a number of software drivers included.*

▶ *IC515C reaches up to 12 m (39.4 ft.) to multiple devices or 25 m (82 ft.) to a single device.*

SCSI peripherals—hard drives, CD-ROM or DVD drives, even printers and scanners—are fast and powerful. Maybe you'd like to add one or two or more to your IBM PC compatible computer system, but thinking about what a hassle that could be makes you *really* nervous…

Don't sweat it—Black Box comes to the rescue again! Our SCSI Host Adapters are fully compliant with the PC-bus (ISA or PCI) and SCSI-bus specifications, so they aren't likely to cause strange incompatibility errors like some cheap cards. They can interoperate with a wide variety of operating systems, including Microsoft® MS-DOS® and Windows® 3.1.x, 95, 98, or NT; Novell® NetWare®; IBM® OS/2®, and SCO® UNIX®. (The PCI cards support Linux® and UnixWare® too.)

The PCI cards are also Plug-and-Play compatible for simple, automatic self-configuration, and

they come with a potent Setup Utility built into their firmware.

The ISA SCSI-2 Controller (our product code IC510C) is a basic 16-bit ISA SCSI card. (It's the only ISA card among the six Host Adapters; the others are all PCI cards.) It controls as many as seven devices attached to either its 50-pin (SCSI-1 or SCSI-2) internal or its 25-pin (SCSI-1 only) external port—or both.

The Fast SCSI-2 Host Adapter (IC511C) and Ultra-Narrow SCSI-3 Host Adapter (IC512C) control as many as seven SCSI-2 or "narrow bus" SCSI-3 devices respectively, attached to either or both their 50-pin internal and micro-D50 external ports.
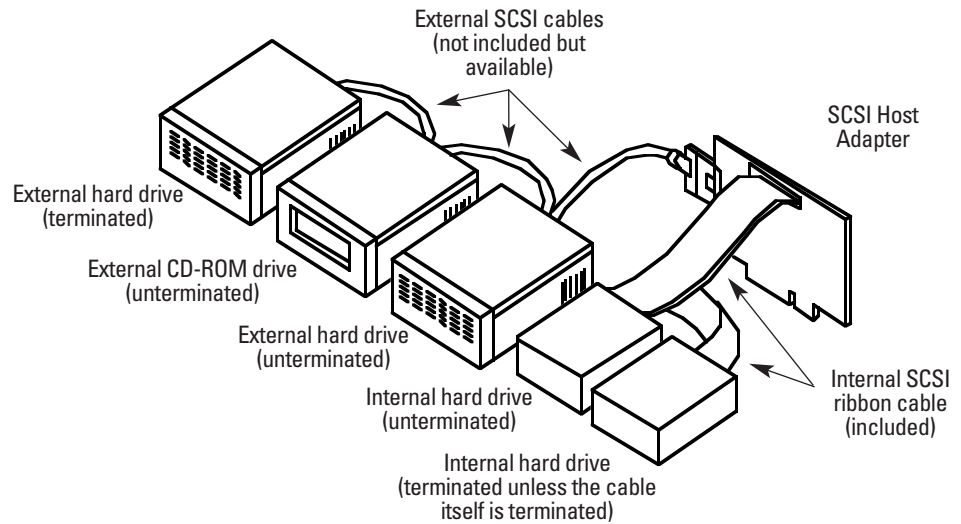
The Ultra-Wide SCSI-3 Host Adapter (IC514C) controls as many as fifteen SCSI-3 devices attached to any one or two of its three ports: "wide" micro-D68 internal, narrow 50-pin internal, and wide micro-D68 external.

The Dual-Channel Ultra-Narrow and Wide SCSI-3 Host Adapter (IC513C) can actually control two SCSI buses at the same time. As many as fifteen devices can be attached to any one or two of the three "Channel A" ports (wide micro-D68 internal, narrow 50-pin internal, and narrow micro-D50 external), and up to fifteen more devices attached to either or both of its internal "Channel B" ports (wide micro-D68 and narrow 50-pin internal).

The Ultra2 LVD SCSI Host Adapter (IC515C) is the fastest, longest-distance of these cards. It uses Low Voltage Differential (LVD) technology to transfer data at up to 80 Mbps as far as 12 m (39.4 ft.) to two or more devices or 25 m (82 ft.) to just one device. It can support as many as fifteen attached devices; these should all be Ultra2 LVD type if possible, but you can attach legacy devices if you need to (though this will limit the bus's speed and distance).

You can attach both internal and external peripherals to any of these Adapters, so your host PC will have high-speed SCSI access inside and out.

External SCSI cables (not included but available)

SCSI Host Adapter

External hard drive (terminated)

External CD-ROM drive (unterminated)

External hard drive (unterminated)

Internal hard drive (unterminated)

Internal SCSI ribbon cable (included)

Internal hard drive (terminated unless the cable itself is terminated)

Specifications

System Hardware Required — IBM PC compatible with at least one available 16-bit ISA/EISA slot (IC510C) or PCI slot (IC511-515C)

Bus Used — IC510C: ISA (16-bit); IC511-515C: PCI 2.1

Port Used — None (does not occupy any COM or LPT port)

Other Hardware Resources Used — IC510C: IRQ 9, 10, 11, or 12 (user-selectable), I/O address 340 to 347 hex or 140 to 147 hex (user-selectable); IC511-515C: Automatically self-configures interrupt, I/O address, BIOS address, etc. (Plug-and-Play compatible)

Cable Required — High-quality double-shielded

Compliance — CE; FCC Part 15 Class B, IC Class/classe B

Standard — IC511-515C: PCI 2.1

Interfaces —
IC510C: External: SCSI-1; Internal: Fast SCSI (SCSI-2), Narrow;
IC511C: Fast SCSI (SCSI-2), Narrow;
IC512C: Ultra SCSI (SCSI-3), Narrow;
IC513C: Ultra SCSI (SCSI-3): External: Narrow; Internal: Narrow and Wide;
IC514C: Ultra SCSI (SCSI-3): External: Wide; Internal: Narrow and Wide;
IC515C: Ultra2 SCSI LVD, Wide

Protocol — IC510C: Synchronous; IC511-515C: Synchronous or asynchronous

SCSI Parity —
IC510C: Always enabled;
IC511-515C: Enabled or disabled (user-selectable)

SCSI Disconnect/Reconnect —
IC510C: Always enabled;
IC511-515C: Enabled or disabled (user-selectable)

Maximum Data Rate —
IC510C: External (sync): 5 MB/s; Internal (sync): 10 MB/s;
IC511C: Sync: 10 MB/s; Async: 5 MB/s;
IC512C: Sync: 20 MB/s; Async: 5 MB/s;
IC513C: External, internal narrow: Sync: 20 MB/s; Async: 5 MB/s; Internal wide: Sync: 40 MB/s; Async: 10 MB/s;
IC514C: Internal narrow: Sync: 20 MB/s; Async: 5 MB/s; External, internal wide: Sync: 40 MB/s; Async: 10 MB/s;
IC515C: Sync: 80 MB/s to Ultra2 LVD devices; if any legacy devices are attached, the data rate is limited to that of the slowest attached device; Async: 10 MB/s

Maximum SCSI-Bus Length —
IC510-511C: 19.7 ft.;
IC512C: 9.8 ft.;
IC513-514C: 9.8 ft. with up to 4 devices attached; 4.9 ft. with up to 7 (narrow) or 15 (wide) devices attached;
IC515C: 9.8 ft. to multiple Ultra2 LVD devices; 82 ft. to a single Ultra2 LVD device; if any legacy (non-Ultra2 LVD) devices are attached, the bus length is limited to that of the shortest-distance device

User Controls —
IC510C: (5) Jumpers for interrupt, I/O address; (3) Removable terminators; Driver software;
IC511-515C: (1) or (2) Jumpers for forcing termination; Firmware configuration utility; Driver software

Indicators — IC515C: (3) Board-mounted LEDs indicating attached single-ended devices, attached LVD devices, and active vs. passive termination

LED Connectors — IC511C, IC512C, IC514C, IC515C: (1) 4-pin male for attachment to a CPU's drive-activity LED (activated by data transmission anywhere on the bus);
IC513C: (3) 4-pin male for attachment to a CPU's drive-activity LEDs: (1) Activated by data transmission anywhere on the "Channel A" bus, (1) Activated by data transmission anywhere on the "Channel B" bus, (1) Activated by data transmission anywhere on either bus

SCSI Connectors —
External:
IC510C: (1) DB25 female;
IC511-513C: (1) High-density micro-D50 female;
IC514-515C: (1) High-density micro-D68 female;
Internal:
IC510-512C: (1) 50-pin IDC header male;
IC513C: (2) High-density micro-D68 female, (2) 50-pin IDC header male;
IC514C: (1) High-density micro-D68 female, (1) 50-pin IDC header male;
IC515C: (1) High-density micro-D68 female

Power — +5 VDC from PC bus

Size —
IC510C: 5.7 x 15.6 cm;
IC511C: 8.7 x 14.6 cm;
IC512C: 10.2 x 13.4 cm;
IC513C: 9.5 x 15.9 cm;
IC514C: 9.5 x 15.9 cm);
IC515C: 9.5 x 13.4 cm)

Net Weight —
IC510C: 76 g;
IC511C: 97 g;
IC512C: 97 g;
IC513C: 148 g;
IC514C: 137 g;
IC515C: 100 g

20321

The complete package

- The Host Adapter card.
- Drivers on diskette for all major operating systems.
- A users' manual.
- Internal ribbon cable (one connector is for the Adapter, the rest are for internal peripherals):

    IC510C, IC511C, and IC512C: (1) Three-connector narrow [50-pin], unterminated;

    IC513C and IC514C: (1) Three-connector narrow [50-pin] and (1) three-connector wide [68-pin], both unterminated;

    IC515C: (1) Five-connector wide [68-pin], terminated.

What else you might need

- External SCSI cabling.
- SCSI devices.
- SCSI terminators.
- Wide-to-narrow SCSI adapters.
- A SCSI tester.

Ordering Information

ITEM	CODE
ISA SCSI-2 Controller	IC510C
Fast SCSI-2 Host Adapter	IC511C
Ultra-Narrow SCSI-3 Host Adapter	IC512C
Dual-Channel Ultra-Narrow and Wide SCSI-3 Host Adapter	IC513C
Ultra-Wide SCSI-3 Host Adapter	IC514C
Ultra2 LVD SCSI Host Adapter	IC515C

Refer to our catalog, or to our Web site at www.blackbox.com, for information about our wide range of SCSI cables, terminators, and other accessories.