

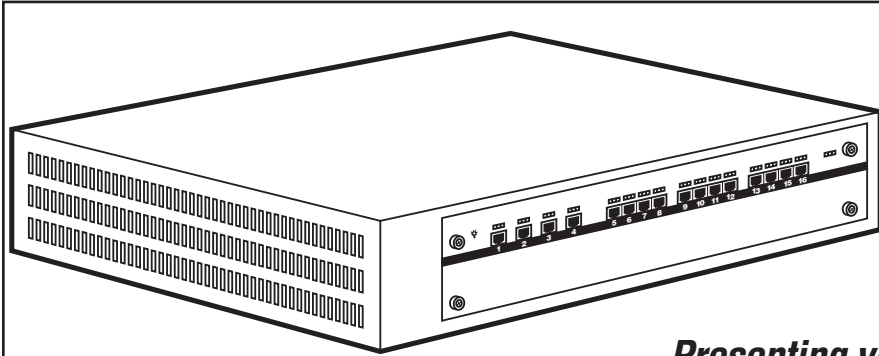


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BLACK BOX[®]

NETWORK SERVICES

PRO SERIES DUAL-SPEED MODULAR SWITCHES



Presenting your one-stop, expandable Ethernet switch for 10BASE-T, 100BASE-TX, and 100BASE-FX. Easy to manage, too!

Key Features

- ▶ **Powerful, flexible switching for 10-Mbps (10BASE-T) and 100-Mbps (100BASE-TX, 100BASE-FX) Ethernets.**
- ▶ **Autosensing half- or full-duplex network ports.**
- ▶ **Software included for terminal-based out-of-band management—either basic (serial) or advanced (SNMP).**
- ▶ **On SNMP models, our software also lets you use your Web browser for telnet-based in-band management.**

If you've been looking for a Fast Ethernet switch, maybe you've had some vendors try to sell you what you need in expensive bits and pieces:

Vendor: "100BASE-TX switch? Yeah, got that."

You: "It does 10BASE-T too, right?"

Vendor: "You haven't upgraded everybody yet? Well, you'll need our LAN Speed Converter!"

You: "I might need to run fibre as well."

Vendor: "Right. One Super Fiber Doodad, coming up."

You: "Management?"

Vendor: "We're running a sale on Network Bureaucrat."

You: "Can't I get a single package that will do all that, and expand to meet my future needs?"

Vendor: "All in one box?"

HAHAHAHAAA..."

But an integrated solution is available, right now. Our ProSeries Dual-Speed Modular Switches come in three models: One has 16 RJ-45 jacks that serve as dual-speed autosensing Ethernet ports—10BASE-T or 100BASE-TX, depending on what you attach to them.

The second model has 24 of these ports (but this is the maximum Ethernet-port configuration, so you can't add any extra Ethernet-port modules to this model).

The third model has 12 of these ports plus four pairs of multimode SC fibreoptic connectors that serve as 100BASE-FX ports.

All of these Ethernet ports normally operate in full-duplex (although they can autosense and fall back to half-duplex). This drastically reduces collisions and

makes it possible to add both nodes and distance to your network.

And if you ever need to install more ports, we have two different add-on modules that you can plug into the 16-port and 12/4-port models of the Switch. One carries eight additional 10BASE-T/100BASE-TX ports and the other carries four of these ports plus four 100BASE-FX ports.

All of the Switches also have one slot where you can install a redundant, hot-swappable power supply and another slot for a Gigabit Ethernet uplink module.

Managing these Switches is simplicity itself. Each Switch has an RS-232 serial port (a DB9 female connector) on the back and comes with password-protected management software.

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Depending on the model you order, the serial port will accept either basic terminal-based commands or powerful SNMP management from the software.

On the SNMP models of the Switch, once you've set an IP address and subnet mask for the Switch, you can run our software along with a Web browser (not included) on any PC attached to the same network to manage the Switch in-band.

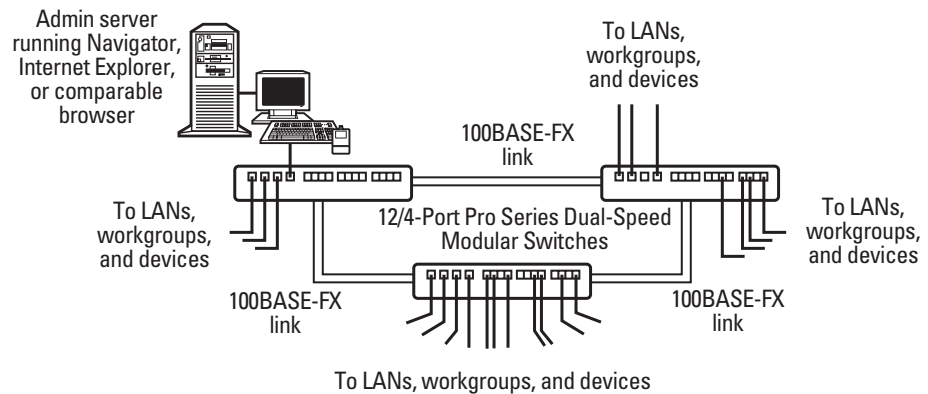
Technically Speaking

The DB9 female management port on the back of the Switch is different from the DB9 male serial port on an IBM PC type computer in two important ways: Not only is it female, it is also pinned as DCE, like a modem. So you'll use straight-pinned cable—not null-modem cable—to attach it to a computer.

What the Package Includes

- The ProSeries Dual-Speed Modular Switch itself.
- (1) CD-ROM containing management software for an IBM PC compatible computer running on the client or server versions of Microsoft® Windows® NT, Windows 95, or Windows 98.
- (2) rackmounting brackets and (4) screws.
- A users' manual.
- Shipments to North America only: (1) detachable power cord.

**Get wire-speed,
easy-to-manage
switching for Fast
Ethernet. Even
create redundant
data paths—the
ProSeries
switches use
Spanning Tree to
find the right path
automatically.**



Specifications

Standards — *Network*: IEEE 802.3, including IEEE 802.3u; ISO/IEC 8802-3; IEEE 802.1d Spanning Tree

Interfaces — *All models and both add-on modules*: Network ports: 10BASE-T and 100BASE-TX; *Serial port*: EIA/TIA RS-232 pinned as TIA-561, DCE; “-12/4” models and “-4/4A” add-on modules only: 100BASE-FX

Protocol — Serial port: Async

Data Format — *Serial port*: 8 data bits, no parity, 1 stop bit (fixed)

Operation — *Network ports*: Full- or half-duplex, autosensing; *Serial port*: Full duplex

Data Rate — *Network*: 100 Mbps on 100BASE-FX ports; 10 Mbps or 100 Mbps on 10BASE-T/100BASE-TX ports (autosensing); *Serial port*: 19,200 bps (fixed)

Bandwidth — 5 Gbps aggregate

Memory —

512 KB of shared buffer memory for each set of (4) shared ports; 64-KB MAC address table; Enough Flash ROM to store (2)

versions of the Switch firmware (you can choose which one to use)

User Controls — Commands from a terminal or terminal emulator attached to the serial port; Once you have set the Switch’s IP address and subnet mask, commands sent during telnet sessions from a terminal or terminal emulator attached to a network port

Indicators — All front-mounted LEDs: (1) Power; (1) for each port: SPD (10/100 Mbps); FDX/COL (Traffic); LINK/ACT (Link Status)

Connectors —

Front-mounted: “-16” models: (16) RJ-45 female; “-24” models: (24) RJ-45 female; “-12/4” models: (12) RJ-45 female and (4) pairs of multimode fiberoptic SC female;

“-8A” add-on module: (8) RJ-45 female; “-4/4A” add-on module: (4) RJ-45 female and (4) pairs of multimode fiberoptic SC female; Rear-mounted (on full chassis only, not add-on modules): IEC 320 male power inlet

Power — From utility-power (mains) outlet(s), through detachable power cord(s), to single or dual hot-swappable slide-in power modules (the redundant power supply is available separately):

Input: 100 to 240 VAC, 50 to 60 Hz at up to 1.5 amps; Consumption: 150 watts

Temperature Tolerance — 50 to 122°F (10 to 50°C)

Humidity Tolerance — 8 to 90% noncondensing

Size — 9H x 43W x 44.5D cm (3.5”H (2U) x 17.5”W x 17”D)

Weight — 9.1 kg

You may also require:

- A redundant power-supply module (in addition to the one that the Switch comes with).
- An add-on module for extra network ports.
- CAT5 twisted-pair cable for 100BASE-TX runs.
- Multimode fibreoptic cable for 100BASE-FX runs.
- An AC-power surge protector or uninterruptible power supply.
- Data-line surge protectors.
- SNMP models only: A Web browser for use with the Switch’s in-band management software.
- When it becomes available: Gigabit Ethernet uplink module.

Ordering Information

ITEM

CODE

ProSeries Dual-Speed Modular Switches:

With serial management...

And (16) 100BASE-TX portsLB8400A-16

And (24) 100BASE-TX portsLB8400A-24

And (12) 100BASE-TX ports plus (4) 100BASE-FX portsLB8400A-12/4

With SNMP management...

And (16) 100BASE-TX portsLB8400A-16S

And (24) 100BASE-TX portsLB8400A-24S

And (12) 100BASE-TX ports plus (4) 100BASE-FX portsLB8400A-12/4S

You might also want to order:

Add-on Modules for 16-Port and 12/4-Port Switches:

With (8) 100BASE-TX portsLB8400A-8A

With (4) 100BASE-TX ports plus (4) 100BASE-FX portsLB8400A-4/4A

Redundant Power SupplyLB8420-PS

4-Pair Straight-Through-Pinned PVC CAT5 Patch Cable, Beige, 3.1 m (10 ft.)EVMSL05-0010

Bulk Duplex 6.5/125- μ m Multimode Fiberoptic Cable, PVC, 152.4 m (500 ft.)EFN062A-0500

Straight-Through-Pinned DB9 Extension Cable, Male to Female, 3.1 m (10 ft.)EDN12H-0010-MF

UPS or AC-Power Surge Protector: Please call Black Box Technical Support to discuss your requirements.

Primary CAT5 Surge Protector (for use at the point where the 100BASE-TX line enters

the building).....SP250A

Secondary CAT5 Surge Protector (for use at the point where each 100BASE-TX line is connected to

the Switch or the attached device)SP251A