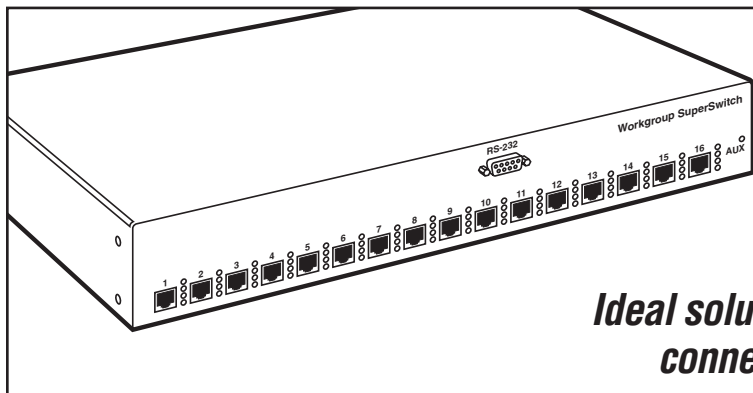


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BLACK BOX[®]

NETWORK SERVICES

16- AND 24-PORT WORKGROUP SUPERSWITCHES



Ideal solutions for increasing bandwidth and connectivity to high-speed networks.

Key Features

- ▶ **Seamlessly integrates Fast Ethernet and 10-Mbps Ethernet networks.**
- ▶ **Two 16-port models offered: with 16 autosensing 10BASE-T/100BASE-TX ports, or with 14 autosensing 10BASE-T/100-BASE-TX ports and two 100BASE-FX multimode ports.**
- ▶ **24-port version has 24 autosensing 10BASE-T/100-BASE-TX ports and one expansion slot.**
- ▶ **Extensive support for MAC addresses.**
- ▶ **Buffer accommodates heavy traffic in large-network applications.**

The new Workgroup SuperSwitch provides you with a robust switching platform that's designed to handle the most demanding of network connections.

Affordable, versatile, and powerful, the SuperSwitch allows you to efficiently integrate 10BASE-T, 100BASE-T, and 100BASE-FX in your existing network.

We offer the SuperSwitch in three versions: the 16-port model; the 16-port model that includes two 100BASE-FX multimode ports; and the 24-port switch that includes an expansion slot. You can also order expansion modules for the 24-port model.

All SuperSwitches employ Application Specific Integrated Circuit (ASIC) technology, which highly integrates all the switching functions required for multiple ports and helps the switches handle wire-speed reception and transmission on all ports.

Along with a network-enhancing Gigabit-per-second backplane, the SuperSwitch features parallel store-and-

forward architecture. With the switch's direct source-to-destination transfer, you're able to eliminate delays in data transfer.

You can deploy the SuperSwitch as either a departmental or enterprise switch. Best of all, it helps you avoid expensive changes to your desktop PC or cabling system.

The 16-Port SuperSwitch

This high-performance switch features 16 dual-speed 10/100 unshielded twisted-pair (UTP) ports with auto negotiation, or a combination of UTP and fiber-optic uplink ports for increased versatility.

The unit supports both 10 and 100 Mbps on each of its 16 ports, automatically sensing the speed of each attached device. The SuperSwitch stores the MAC addresses of up to 7,000 devices in the network architecture.

With either 16-port model, you get maximum throughput, carrying data at over 2 million packets per second/1.6 Gbps. Its 8

MB of buffer memory can handle the demands of most large networks.

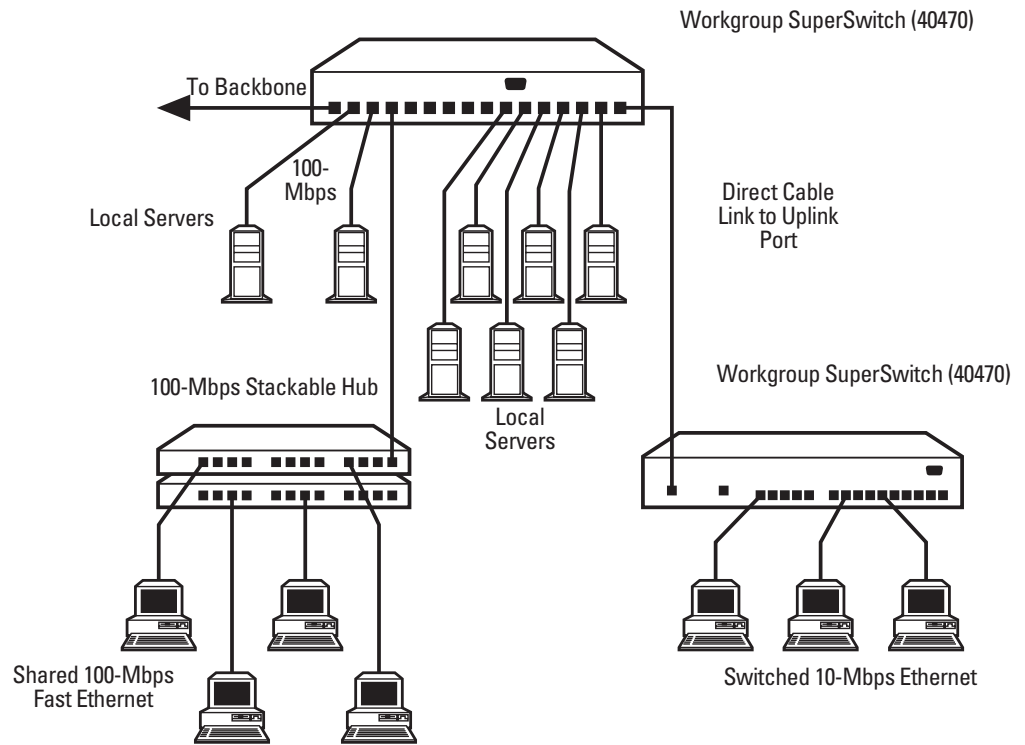
The 24-Port SuperSwitch

This switch features a base configuration of 24 dual-speed 10/100 UTP ports and a slot for optional high-speed uplinks.

The 24-port SuperSwitch incorporates an advanced backplane architecture that provides 4 Gbps of aggregate throughput. It also features a forwarding rate of over 3.6 million packets per second/2.4 Gbps, as well as 12 MB of buffer memory. These capabilities are particularly useful to large, workgroup-intensive networks.

Order the 8-port module and you can supplement the high density of the 10/100 UTP ports with eight additional 10/100-BASE-TX switched ports. Or you can order the four-port module, which complements the switch's Fast Ethernet UTP ports with four 100-BASE-FX ports and extends your network's link distance.

You can use the SuperSwitch to create a collapsed backbone. At right is one way to employ the 16-switch model in such a setup, incorporating a hub and a second switch.



Technically Speaking

The Workgroup SuperSwitch divides a large, unwieldy local network into smaller segments, insulating each from the other's local traffic and increasing bandwidth—all while retaining full connectivity.

The Superswitch is designed to be self-configuring and extremely fast, making installation simple and providing you with additional bandwidth.

The switch learns on which ports stations are located by remembering the source address of every packet received on every port. When packets are received for stations that the switch has learned, they're forwarded to only the port on which the station is located. A hub, on the other hand, sends every packet to every port.

If the SuperSwitch receives a packet addressed to a station that the switch hasn't learned, the packet is sent to every port, except the port on which it was received, just as a hub would. This ensures that full connectivity is maintained. The high port density of the SuperSwitch allows for high-performance workstation links. The 10/100BASE-TX and 100BASE-FX (if applicable) ports are designed to be connected

directly to the workstation using a standard straight-through patch cable. But to cascade switches or connect a hub to the SuperSwitch, you'll need a crossover cable. (See Ordering Information for Black Box's recommended cables.)

Individual front-panel LEDs on the SuperSwitch inform you of the status of each port, including receive link status, collision/full-duplex operation (on 16-port models only), and, for the UTP ports, 100-Mbps mode.

With the help of any SNMP-based management platform, you can perform many in-band management functions. For instance, you can access the switch's learning table and port-counter statistics; set configurations; and use built-in RMON support to analyse the data flow. You can also conduct out-of-band administration via the serial port on the front panel.

The SuperSwitch's Spanning Tree Algorithm prevents broadcast loops and provides fail-safe network redundancy. In addition, the device's extensive Virtual LAN (VLAN) support eliminates broadcast storms, a chain reaction of broadcast packets that can clog your network and shut it down.

The SuperSwitch is delivered to you as a 19-inch unit that you can rack-mount using the enclosed brackets or place on a flat surface. It's powered by a wide-range power supply for either 110 or 220 VAC operation.

A Path to Tomorrow

Links that run at more than 10 Mbps are essential between switches, because a 10-Mbps link can handle only one full-speed Ethernet stream at a time.

However, the 100-Mbps Fast Ethernet connection allows 10 full-speed, half-duplex, or 20 full-speed, full-duplex Ethernet streams to be handled simultaneously.

The SuperSwitch offers you a possible upgrade path. Initially, you can use the switch to simply segment the existing Ethernet to boost network performance. Next, with the addition of a single NIC, your file server can be migrated to Fast Ethernet, increasing its availability. And, if you like, you can move additional file servers or individual users to Fast Ethernet while leaving all other network parts running as usual. If some of the shared Ethernet segments are still congested—but don't warrant a full 100

Mbps—you can employ additional switches to further divide the shared segments, creating collapsed 100-Mbps backbone and small switched 10-Mbps segments.

Fast Ethernet works 10 times faster than regular Ethernet, and software (other than low-level drivers) works with Fast Ethernet without any modification. What's more, frames from a device using Fast Ethernet require only physical-layer conversion. The SuperSwitch combines switched 10/100-Mbps technology in a seamless integration of regular Ethernet and the IEEE 802.3u 100BASE-TX standard. With Layer-3 switching capabilities, the SuperSwitch is ideal for creating a high-performance Internet Protocol network.

Specifications

Standards — IEEE 802.3;
IEEE 802.3u (Fast Ethernet)

Filter/Forward —

- 16-Port:
2 million pps/1.6 Gbps;
- 24-Port:
3.6 million pps/2.4 Gbps

Diagnostics — LEDs:

- 24-Port: Ports: Link,
Activity;
- Global: Power,

Management, SNMP;
16-Port: Ports: 100-Mbps
mode (UTP ports),
Collision state/port
configured for full
duplex, Link, Activity;
Global: Run

Connectors —

- 40470: (16) RJ-45 10BASE-T/
100BASE-TX, (1) DB9
RS-232;

- 40471: (14) RJ-45 10BASE-T/
100BASE-TX, (2) SC
100BASE-FX, (1) DB9
RS-232;
- 40472: (24) RJ-45 10BASE-T/
100BASE-TX, (1) DB9
RS-232;
- 40473: (8) RJ-45 10BASE-T/
100BASE-TX;
- 40474: (2) SC 100BASE-FX

Power Consumption —

- 24-Port: 75 W;
- 16-Port: 50 W

Temperature Tolerance —

- Operating: 0 to 40° C
(32 to 104° F);
- Storage: -10 to +50° C
(14 to 122° F)

Humidity Tolerance —

- 85% maximum (noncondensing)

Power — 100–240 VAC, 50–60 Hz,

autosensing

Size — 8.9H x 48.3W x 37.3Dcm

(3.5"H x 19"W x 14.7"D)

Weight — 3.7 kg

Additional Items You May Need

- Crossover cable.
- Category 5 cable.

Ordering Information

ITEM	CODE
Workgroup SuperSwitches	
16-Port.....	40470
16-Port including (2) 100BASE-FX Multimode Ports	40471
24-Port with (1) Expansion Slot	40472
Modules for 24-Port Switch	
8-Port 10BASE-T/100BASE-TX.....	40473
4-Port 100BASE-FX Multimode	40474
<i>You might also want to order:</i>	
Category 5 Solid-Conductor Cable, 4-Pair, Straight-Pinned, PVC, 3.0-m (10-ft.).....EYN737MS-0010	
(Other cable lengths available. Call us!)	