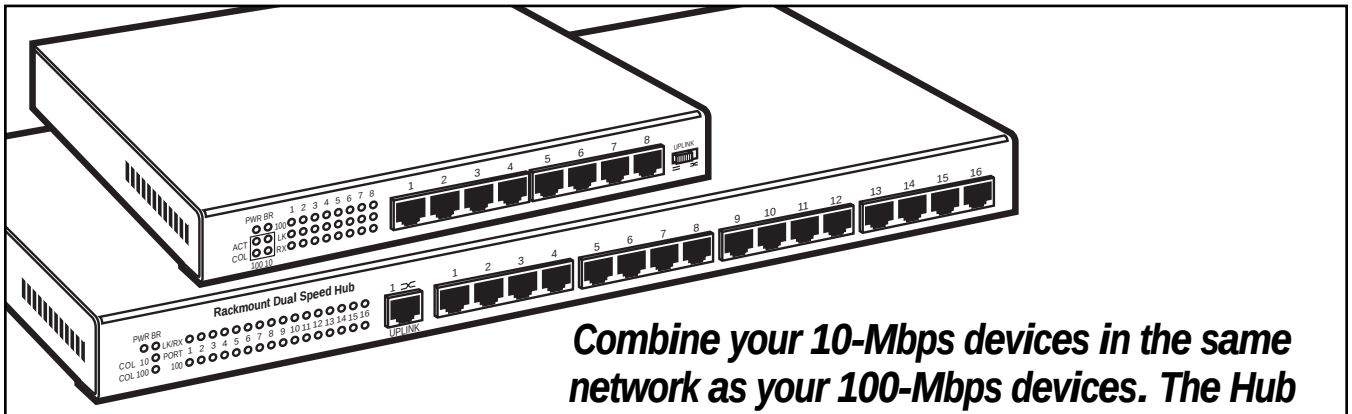
BLACK BOX® NETWORK SERVICES

DUAL-SPEED 10/100 STACKABLE HUB



Combine your 10-Mbps devices in the same network as your 100-Mbps devices. The Hub automatically senses the speed of each device.

Key Features

- ***Provides 8 or 16 RJ-45 ports per hub, each port speed-sensing for 100 or 10 Mbps.***
- ***Flexible—combines both 10-Mbps and 100-Mbps port speeds with stackability for expansion.***
- ***Supports stacks of three 16-port hubs for a maximum of 48 Ethernet ports, each 10/100 dual speed.***
- ***Complies with 10BASE-T and 100BASE-T and Ethernet standards.***

Integrate your 100-Mbps devices into the same network as your 10-Mbps devices. The Dual-Speed 10/100 Stackable Hub uses a new chip technology called speed-sensing for a dual-speed-per-port capability in a office-sized stackable hub.

The Hub is ideal for applications where there is a gradual change from 10 to 100 Mbps. Each user can independently upgrade from 10 to 100 Mbps at any time. And users can change back and forth as often as needed, which makes the Hub great for network upgrades, test situations, or classrooms.

When a user connection is made into an RJ-45 port, its speed is automatically sensed by the Hub, and the Hub then connects the user with either the 10-Mbps or 100-Mbps segment. It's like having two hubs in one—both 10 and 100 Mbps in one box.

And users can change speed—for example, from 10 to 100 Mbps—while the Hub operates, since its speed-sensing is continuous and each port is sensed independently. You don't need to power down the hub when you change the speed on a port.

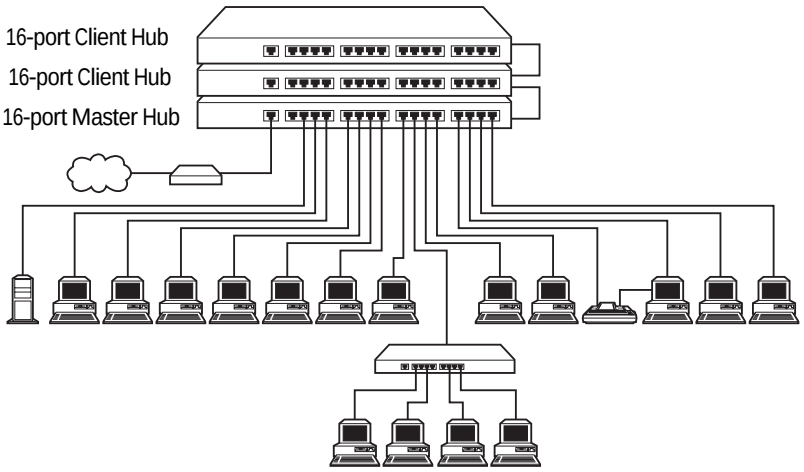
Four models are available:

- Dual-Speed 10/100 Stackable Hub Master (LH8000A-M), has a 10/100 bridge built in. It filters and forwards packets, selectively allowing specifically addressed packets to cross domains.
- Dual-Speed 10/100 Stackable Hub Client (LH8000A-C) doesn't have a bridge inside, but its 10- and 100-Mbps users can talk to each other if they're connected to a stack that includes a master unit.
- Rackmount Dual Speed 10/100 Stackable Hub Master (LH8016A-M), features 16 RJ-45 ports, each auto-sensing for 100-Mbps or 10-Mbps operation. This unit also has an internal bridge to interconnect the two speed domains in the stack.
- Rackmount Dual Speed 10/100 Stackable Hub Client (LH8016A-C) has 16 RJ-45 ports. It doesn't have a bridge inside, but its 10- and 100-Mbps users can talk to each other if they're connected to a stack that includes a master unit.

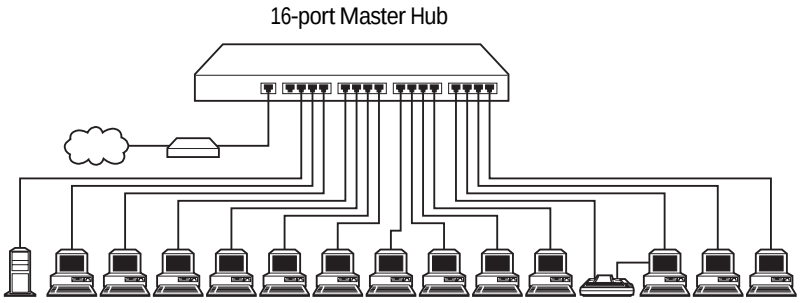
Stack up to three 8-port client hubs with one 8-port master hub for a total of 32 ports, or stack up to two 16-port client hubs with one 16-port master hub for a total of 48 ports. The master unit supports all of the units and all of the ports in that stack. However, the 8-port hub cannot be stacked with the 16-port hub. The 16-port hubs can be stacked with Mixed-Media Fiber Hubs. The LH8016A-M is compatible with the 16-Port Add-On Chassis, and the LH8016A-C is compatible with the 16-Port Base Chassis.

Typical Applications

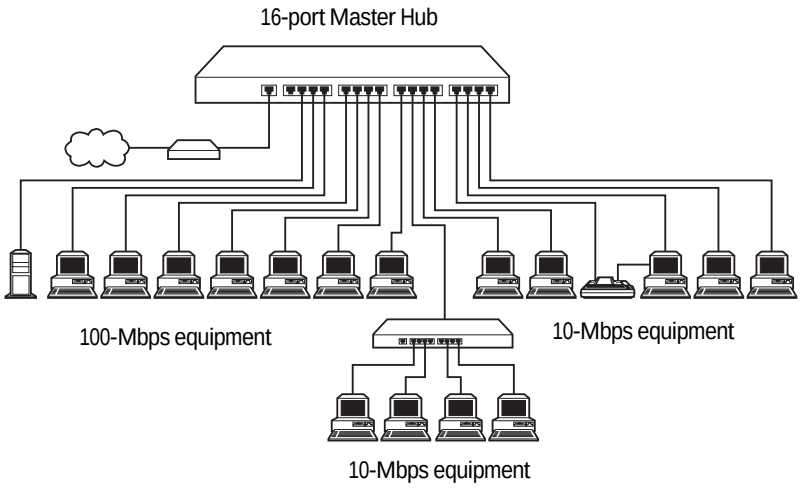
Stack one 16-port Master Hub with up to two 16-port Client Hubs for a total of 48 Ethernet ports, each operating independently at either 10 Mbps or 100 Mbps.



Perfect for small offices with mixed network speeds, the 16-port Master Hub connects any combination of 10- and 100-Mbps network devices.



Add a new 100-Mbps domain to an existing 10-Mbps network with the 16-port Master Hub.



Specifications

Performance:

Data Rate — 100 or 10 Mbps, per port, autosensing for speed. The hub supports two traffic domains, one at 10 Mbps and one at 100 Mbps, operating concurrently.

PDV (100 M Path Delay Value) — 80BT exceeds Class II specification

Auto-reconnect — Occurs after one packet of error-free reception

Internal Switch or Bridge in Master models (one Master per stack, optional, to interconnect the two traffic domains):

Processing type — Store and forward

Address table — 8 KB, self-learning

Packet buffers — 2 MB, dynamically allocated and shared on both sides

Latency (not including packet time) — 10 to 100 Mbps: 5 microseconds, 100 to 10 Mbps: 5 microseconds

Network standards:

100 Mbps — IEEE 802.3u, 100BASE-TX

10 Mbps — IEEE 802.3, 10BASE-T

Auto Speed-Sensing — IEEE 802.3u

Operating Environment:

Ambient temperature — 0 to 50°C

Storage —20 to +60°C

Ambient relative humidity — 10 to 95% (noncondensing)

Network Cable Connectors: (8) or (16) RJ-45 shielded female; 100 Mbps: Category 5 UTP/STP; 10 Mbps: Category 3, 4, 5 UTP

NOTE: Use Media Converters to connect to fiber media.

Stacking Cable: A stacking cable with 50-pin HSSI male connectors, shielded, 9 inches (23 cm) long, is included with each client unit.

Switch, Manual: Uplink: Converts RJ-45 port #8 from a regular (= position) user-segment port to a crossover (X position) uplink port for on-off connection to a central hub or another cascaded hub.

Power Supply (Internal):

AC Power Connector — IEC-type, male recessed, rear of chassis

Power Input Voltage — 90 to 260 VAC (auto ranging)

Power Input Frequency — 47 to 63 Hz

Power Consumption — 20 watts max.

48-VDC Power Supply (optional):

Input — 36 to 72 VDC (auto-ranging)

Terminal block, in rear — -, GND, +

Power Consumption — LH8000A-M & C: 20 watts; LH8016A-M & C: 30 watts

Mechanical:

Enclosure — Rugged high-strength sheet metal. Suitable for standalone or shelf-mounting. Metal brackets for optional wall-mounting included.

Cooling method — Fan cooled, internal @ 9 cfm

Size —
LH8000A-M & C:
3.5 x 21.6 x 25 cm;
LH8016A-M & C:
4.4 x 43.2 x 22.9 cm

Weight —
LH8000A-M & C:1.15 kg;
LH8016A-M & C: 1.8 kg

LED Indicators on Chassis:

PWR — Steady on when power is applied

BR — Steady on if unit has bridge inside

ACT — Common packet activity indicator, one for 100-Mbps domain and one for 10-Mbps domain

COL — Common collision indicator, one for 100-Mbps domain and one for 10-Mbps domain

LED Indicators per RJ-45 Port:

100 — Steady on when the port senses operation at 100-Mbps speed

LK — Steady on when twisted-pair link is operational

RX — Flashing when there is activity (receiving data) on the port

Technically Speaking

About cabling

For 100-Mbps connections into the Hub, you'll need to use Category 5 cable. For 10-Mbps connections, you can use Category 3, 4, or 5 cable. However, the Hub senses only the speed of the signals on the cable (it does not sense the cable type). If you use the wrong cable, the Hub won't detect it.

Auto-negotiation vs. speed-sensing

The IEEE 802.3u standard defines "auto-negotiation" or "auto-sensing" as offering all four modes of operation for point-to-point links—10-Mbps speed, 100-Mbps speed, shared (half-duplex), and full-duplex. Speed sensing differs from auto-negotiation in that it does not include full-duplex.

What The Package Includes

- (1) 8- or 16-Port Dual-Speed 10/100 Stackable Hub
- Stacking cable
- An internal power supply
- Cooling fan
- Metal brackets for shelf- or wall-mounting
- User's manual

You May Also Need

- Category 5 cable for 100-Mbps connections
- Category 3, 4, or 5 cable for 10-Mbps connections
- 48-VDC power supply (call Technical Support for ordering information)

Ordering Information

ITEM	CODE
Dual-Speed 10/100 Stackable Hub, 8-Port	
Master	LH8000A-M
Client	LH8000A-C
Rackmount Dual-Speed 10/100 Stackable Hub, 16-Port	
Master	LH8016A-M
Client	LH8016A-C