HP 10:10 LAN Bridge LB

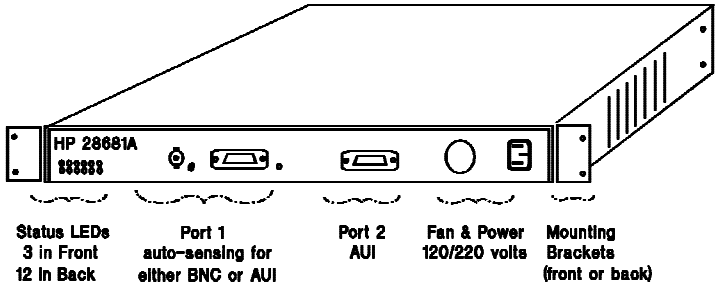
Technical Data

Product Number
28681A

The HP 10:10 LAN Bridge LB is a low-cost LAN extender for any Ethernet/IEEE 802.3 network. For nearly the same price of a repeater, use the HP 10:10 LAN Bridge LB and get the additional benefits of a high-performance, filtering bridge. By connecting multiple local networks into a single integrated communications system, the HP Bridge will improve the performance of a LAN by reducing traffic. Since the HP bridges are protocol independent, they can be used in conjunction with any other vendor's Ethernet/IEEE 802.3 devices.

Use the HP 10:10 LAN Bridge LB for:

- Isolating local traffic by filtering on MAC-addresses
- Reducing network problems by not forwarding bad packets
- Extending a LAN beyond the maximum cable distances
- Connecting different cable medias (coaxial, fiber-optic, and twisted-pair)
- Reducing the repeater "hopcount" and staying within budget
- Accessing Subnet without burdening the network server



Features and Benefits

The HP 10:10 LAN Bridge LB is easy to install by simply connecting to the network and a power source. The bridge is a "plug-n-play" device that is self-configuring.

The HP 10:10 LAN Bridge LB can filter and forward data packets close to the maximum speed at which the network can operate, and is called "near media-speed." Ethernet/IEEE 802.3 is a 10 Mbit/s LAN, which is equivalent to 14,880 64-byte packets per second. In order to avoid a bottleneck in the LAN, a bridge needs to filter packets from both LANs and forward all traffic intended for the segment without delay. Actual LANs will not operate at the theoretical maximum, but it is common to have traffic bursts at 85 percent of bandwidth. This HP bridge can filter and forward in excess of these bursts.

Unlike a repeater, the HP 10:10 LAN Bridge LB is a "MAC-Layer" device that saves network capacity by isolating local traffic and only forwarding packets intended for the distant nodes. The HP bridge automatically learns node addresses by examining network traffic. These MAC-addresses are stored for a period of 300 seconds (the default) in a table that is used for forwarding decisions. The table can hold 256 addresses, which is large enough for networks with more than 256 stations. A node address with low activity will eventually time-out, thus making room for the more active stations. Since only a finite number of stations can participate on the LAN due to the bandwidth available, it is not necessary to have excessively large table sizes.

When maximum cable lengths are reached, bridges allow you to extend a subnet into a larger network. Bridges are excellent devices for connecting LANs of different media type. For example, the corporate backbone may use fiber-optic or thick coax, and the smaller workstation subnet may use thin coax or twisted-pair. The HP bridge can connect these different media through the AUI and ThinLAN port.

End-to-end data integrity is maintained by the bridge because they do not propagate corrupt packets from one network to another. Repeaters will pass any packet through, while the bridge will perform a check (CRC/FCS) of the packet to determine the packet's integrity.

Multivendor environments are common. Since the HP Bridge operates at the MAC sublayer of the IEEE ISO model, it is transparent to higher-level protocols and can be used with any other vendor's Ethernet/802.3 products.

No other vendor offers as many different mounting configurations as the HP 10:10 LAN Bridge LB. Using the detachable brackets that are included, you can mount the HP bridge in a standard 19-inch teleco rack (four different ways), on a wall (four different ways), or on a shelf/table with the rubber mounting pads that are also included. Since the bridge is only 1¾ inch in height, it takes up very little space as well.

There are 15 status LED displays on the bridge for easy recognition of the operating condition. Three of the LEDs are located on the front of the bridge to indicate line-on (power), activity, and fault. On the back panel are 12 LEDs: power, self-test, fault, and two LEDs (port 1 and 2) for network failure, transmit, receive, transmission aborted, ThinLAN enabled, and AUI enabled.

The IEEE Spanning Tree protocol is not supported on the HP "LB" version bridge, but it can be used in a network that has other bridges using spanning tree in a redundant configuration. Network management and a console port are also not included; for these features order the HP 28673A 10:10 LAN Bridge MB.

Environmental Characteristics

Operating Temperature: 0°C to 55°C (32°F to 131°F)
Relative Humidity: 5% to 95% at 40°C (104°F) noncondensing

Physical Characteristics

Dimensions: 42.5 cm by 23.5 cm by 4.3 cm (16.8 in by 9.3 in by 1.7 in)
Weight: 2.72 kg (6.0 lb)

Electrical Characteristics

ac Voltage	100-120 V	220-240 V
Current	0.5 A max	0.25 A max
Frequency	50/60 Hz	50/60 Hz

Regulatory Classifications:
(Emissions)
FCC part 15 Class A
CISPR-22 Class A
EN 55022 Class A
VCCI Class 1
FT 1046/84 (VDE-B)

Ordering Information

The HP 28681A includes:
Bridge assembly, power cord, rack/wall mount kit, and installation manual.

The HP Bridge Troubleshooting Kit (HP 28689B) includes the following loopback connectors: (2) AUI, BNC, V.35, and RS-232/DB-25

Warranty

HP 28681A 10:10 LAN Bridge LB is warranted for one year against defects.