

Technical Data  
HP Remote Bridge RB

Product Number

28674B

The HP Remote Bridge RB can connect one local and one remote 802.3/Ethernet LAN to form a single, integrated communications network across geographically dispersed sites. An HP Universal Interface with appropriate 5-meter interface cable to an external DSU/CSU provides access to common services, such as T1, 64-Kbit/s and 56-Kbit/s Digital Data Services. The HP Remote Bridge RB is a learning bridge that filters each packet from the local and remote segments. This will improve the throughput of the wide area link by forwarding only the necessary traffic, thus conserving bandwidth. Since the HP bridges are protocol-independent and media speed, they can be used in a multivendor environment without causing a network bottleneck.

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Coupled with HP OpenView Resource Manager, the HP Remote Bridge RB is capable of providing instrumentation-like functions across your network. This will eliminate the need for a LAN analyzer per segment. HP EASE (Embedded Advanced Sampling Environment) is a breakthrough technology that allows HP EtherTwist devices to do protocol analysis. This will identify top talkers, heavy users, errors, and communication pairs.

The bridge sends and receives packets at the Media Access Control layer, which is a sublayer of the ISO Data Link layer. From the perspective of the end nodes that are exchanging data, the bridge is invisible to higher-level protocols. The bridge listens to all traffic between the two interconnected LAN segments and inspects the source and destination addresses to decide whether the packet must be forwarded.

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## Features and Benefits

† The HP Remote Bridge RB can filter and forward data packets as fast as the network can operate; this is called **media-speed** operation. Ethernet/IEEE 802.3 is a 10-Mbit/s LAN, which is equivalent to 14,880 64-byte packets per second. To avoid a bottleneck in the LAN, a bridge needs to filter 100 percent of the packets from the local 10-Mbit/s LAN and remote link (56 Kbit/s, 64 Kbit/s, or T-1).

† The bridge conserves network capacity (bandwidth) by isolating local traffic and only forwarding packets intended for the distant nodes.

† HP Remote Bridge RBs allow connection of geographically distant LANs to form one global network. With decreasing costs of wide area links and an increasing need to improve information systems, the low-cost HP bridge is an ideal solution.

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- † HP bridges are easy-to-install, plug and play devices that are also self-configuring. An external DSU/CSU is required.
  - † Critical remote links require the high quality of HP bridges.
  - † Unlike repeaters, bridges do not propagate corrupt packets from one network to another. End-to-end data integrity is maintained.
  - † HP bridges are excellent devices for connecting LANs of different media types. For example, the corporate backbone may use fiber-optic or thick coaxial cable, and the smaller workstation subnet may use thin, coax, or twisted-pair cable. The HP Remote Bridge RB can connect these different media through the AUI and thinLAN ports.
  - † HP bridges allow for multivendor environments, since they operate at the MAC sublayer of the ISO OSI model and are invisible to higher-level protocols.
  - † HP bridges are learning bridges. They automatically learn node addresses by examining network traffic.
  - † There are LED displays on the front and back of every HP bridge for easy recognition of the bridge's operating condition. The LEDs will indicate power, activity, fault, self-test, transmit, receive, network, and bridge failure.

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HP bridges use the spanning tree algorithm developed by the IEEE 802.1 committee to support backup links between LANs in case of link failure. The spanning tree algorithm permits IEEE 802.3/Ethernet LANs be bridged in an arbitrary topology that includes alternative or redundant paths. In the event of a primary link failure, a backup link would take over thereby ensuring continued data transmission between networks. Both the HP 10:10 LAN Bridge MB and the HP Remote Bridge RB utilize this algorithm to enhance network reliability.

HP bridges can be mounted in a standard 19-inch equipment rack or on a wall using the detachable brackets that are included with every bridge.

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## Console Interface

The HP Remote Bridge RB includes an RS-232 console port for monitoring and control functions within the bridge. This easy-to-use interface allows network administrators to check bridge status, spanning tree configuration, network traffic statistics, and collisions; and to perform basic diagnostics. The console interface uses a common command set, similar to that of the HP EtherTwist Hub. New product updates to the bridge firmware can be downloaded through the console port for low-cost updates. The HP Remote Bridge RBs can be accessed using a terminal or terminal emulator connected to the console port directly or via modem.

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## Network Management

HP OpenView Interconnect Manager/DOS provides the ability to centrally monitor and control the HP 10:10 LAN Bridge MB and the HP Remote Bridge RB in an extended IEEE 802.3 or Ethernet LAN environment.

HP OpenView Interconnect Manager/DOS provides facilities to monitor network traffic conditions, help identify and diagnose network problems, enhance network security, and increase network reliability by controlling bridges serving as redundant data paths.

Bridges are frequently used to interconnect and extend local area networks. They are in an excellent position to provide information about the network and its operation. HP OpenView Interconnect Manager/DOS, as part of HP's comprehensive family of network management tools, provides a powerful and easy-to-use facility for HP bridge monitoring and control.

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## 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:** 42.54 cm by 23.5 cm by 4.34 cm (16.75 in by 9.25 in by 1.71 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

## Ordering Information

**The HP 28674B includes:** Bridge assembly, power cord, rack/wall mount kit, and installation manual.

### **Options:**

001: V.35

002: RS-232

003: X.21

004: RS-422

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



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## Warranty

HP 28674B Remote Bridge RB is warranted for one year against defects. Check with your local Hewlett-Packard Sales Office or authorized HP LAN Dealer for more information.