



---

# The HP EtherTwist Family of Network Hubs

## Technical Data

**Product Numbers**  
**HP 29691A, 28684B,**  
**28688B, J2355A, 28699A,**  
**28692A, 28682A**

---

Whether your workgroup is large or small, self-contained or integrated into a larger organization, HP's EtherTwist hubs provide the ideal means to connect your workgroup to an Ethernet/IEEE 802.3 network. These hubs offer a range of port counts and types; most come with full network management features; and all have an excellent cost per port.

Hewlett-Packard has long been known for the reliability of its products, and the EtherTwist hubs carry on that tradition. Because the reliability of these hubs is so strong, we back them with an industry-leading lifetime limited warranty, with onsite service for the first five years.

**Flexible Connections—**  
For small organizations HP offers the EtherTwist Hub/8 and Hub/12—unmanaged hubs with 8 and 12 twisted-pair ports, respectively. The Hub/12 is a good choice if your organization is likely to grow, as it can easily be upgraded to include full network management functions. Both hubs allow easy connection to additional hubs.

Where network management is important, HP offers managed hubs in 12, 24, and 48 twisted-pair ports. The 24-port hub includes advanced features such as an i960 processor and security and is ready to accommodate future network management standards. The 48-port hub is an excellent choice for large departments, and it offers the best price per managed port. Twisted-pair connections can be made via 50-pin Telco connectors (for easy connection to your cross-connect panels) or via individual RJ-45 jacks.

For networks that use backbones of coaxial or fiber-optic cable, HP provides a 9-port thin coaxial hub and an 8-port fiber-optic hub.

All of the HP hubs include a BNC connector for attachment of thin coaxial cable, which can be used as an external bus to connect several hubs in a single, simultaneously active location (such as a rack). In addition, all hubs except the Hub/8 have a standard AUI port, which allows connection of an extra twisted-pair, thin coaxial, or fiber-optic cable via transceiver.

**Network Management—**  
The "Plus" designation on most hub models indicates that these hubs have the ability to be managed by SNMP and are compatible with MIB-II. Plus hubs also include instrumentation firmware called HP EASE (Embedded Advanced Sampling Environment), which allows the hubs to sample and report, on traffic patterns in the network.

---

Managed hubs can be managed by any SNMP-compatible management station, including industry-leading HP OpenView stations.

#### **Ease of Use—**

HP EtherTwist scalable hubs are “plug-and-play” devices in most typical network installations, with simple configuration steps for using the more advanced features. As your organization grows, adding new capacity is easy: just add a new hub to the stack, connect, it to the others with standard twisted-pair or thin coaxial cable, and plug in the power.

## **Common Features**

### **All hubs**

Except as noted, HP EtherTwist hubs do the following:

- Support Ethernet and IEEE 802.3.
- Operate transparently to network operating system (NOS) software.
- Support thin coaxial connections via BNC port; fiber-optic or thick coaxial connections via transceiver to AUI port (except Hub/8); or twisted-pair cascading.
- Support up to 100m of twisted-pair cable on each twisted-pair port; low-loss cable can allow greater distances. Voice and data signals can run in the same bundle.
- Provide an RS-232 console port, (all except Hub/8) for configuring ports and viewing hub statistics.
- Provide LEDs for Port Status, Activity, Collisions, Fault, and Power. Hub Plus/24 S adds Security LED.
- Provide a self-test.
- Segment malfunctioning ports automatically; restore ports automatically when fault is corrected.
- Detect and compensate for polarity faults in twisted-pair wiring.
- Mount in standard 19" rack (Hub/8 requires shelf), on wall, or on shelf or table. Brackets included.
- Install easily in minutes.
- Allow upgrade via flash EEPROM.
- Provide lifetime limited warranty (5 years onsite).

### **Plus hubs**

HP EtherTwist hubs with “Plus” in their names all do the following:

- Support SNMP/IP and SNMP/IPX network management under HP OpenView network management products and management via standard SNMP MIB browsers.
- Support HP EASE (Embedded Advanced Sampling Environment) traffic sampling.
- Allow one redundant link per hub for backup over a separate path.
- Hub Plus/24 S's 1 Mbyte of RAM ensures compatibility with developing future network management standards.

## Comparative Features

	Hub/8	Hub/12	Hub Plus	Hub Plus/24 S	Hub Plus/48	ThinLAN Hub Plus	Fiber-Optic Hub Plus
Ports							
twisted-pair	8	12	12	24	48	—	—
BNC (thin coaxial)	1	1	1	1	1	9	1
AUI	—	1	1	1	1	1	1
fiber-optic (ST pairs)	—	—	—	—	—	—	8
Modular adapter (breaks out 50-pin twisted-pair ports to RJ-45 jacks)	N/A	included	included	order HP 28638A	order HP 28638A		
RS-232 console port		•	•	•	•	•	•
HP EASE traffic sampling		•	•	•	•	•	•
SNMP/IP/IPX management		upgrade with HP J2351A	•	•	•	•	•
Configurable for backup link		upgrade with HP J2351A	•	•	•	•	•
Configurable for port security				•			
Rack space required	1 unit (on shelf)	1 unit (1.75")	1 unit (1.75")	2 units (3.5")	2 units (3.5")	2 units (3.5")	1 unit (1.75")
Warranty (industry-leading)	lifetime 5 yrs onsite	lifetime 5 yrs onsite	lifetime 5 yrs onsite	lifetime 5 yrs onsite	lifetime 5 yrs onsite	lifetime 5 yrs onsite	lifetime 5 yrs onsite

### HP 29691A EtherTwist Hub/8

Entry-level hub for networks where cost is critical and network management is not required.

### HP 28684B EtherTwist Hub/12

Inexpensive, unmanaged hub for small workgroups. This hub can be upgraded to a fully managed hub.

### HP 28688B EtherTwist Hub Plus

A full-featured managed hub for small to large departments or for combining multiple hubs together.

### HP J2355A EtherTwist Hub Plus/24 S

Managed hub for small to large workgroups. Also provides advanced features, such as security, increased memory, and an i960 processor.

### HP 28699A EtherTwist Hub Plus/48

Best-value managed hub for medium to large departments. Mix 12-, 24-, or 48-port hubs for required port counts in large workgroups.

### HP 28692A ThinLAN Hub Plus

Managed hub for environments that are fully cabled with thin coax, or as the center of a thin coaxial backbone.

### HP 28682A Fiber-Optic Hub Plus

Managed hub for electrically noisy environments, or for a backbone where noise immunity, security, or long cables is important. Preferred for campus environments.

Technical information in this document is subject to change without notice.

Copyright © Hewlett-Packard Company 1993. All rights reserved. Reproduction, adaptation, or translation without prior written permission is prohibited, except as allowed under the copyright laws.

Printed in the U.S.A.