
HP EtherTwist Adapter Cards

Technical Data

Product Numbers

**27245A, 27246A, 27247A,
27248A, 27267A, 27269A**

The HP EtherTwist family of LAN adapter cards includes four Type 10BASE-T cards that allow direct connections to 10-Mbit/s twisted-pair local area networks. This full line covers both clients and servers on the ISA (AT), EISA, and Micro Channel buses; and includes drivers for all the popular network operating systems (NOSs). The EtherTwist adapter cards offer industry-leading reliability, top-rated performance, and remarkable value.

The EISA Adapter Card/32 is designed for the demanding environment of an EISA server. The 16-bit Adapter Card/16 works well in server applications in an ISA (AT-type) machine. The Micro Channel Adapter Card/16 does client or server duty in Micro Channel computers. The 8-bit Adapter Card/8 is ideally suited for client nodes in ISA (AT) machines.

The Adapter Card/8 6-pack is a good starter kit for new networks: it bundles six 8-bit ISA cards with one set of manuals and drivers. The Adapter Card/16 comes in an aggressively priced 6-pack as well.

The EtherTwist adapter cards are part of the HP EtherTwist family of network components. These LAN components—adapter cards, transceivers, hubs, and bridges—provide a high-performance, low-cost hardware foundation for your network.

Features

- Connects to hubs via unshielded twisted-pair (telephone) cabling. Shielded twisted-pair cabling can also be used.
- Complies with the IEEE 802.3 Type 10BASE-T standard.
- Supports 100 meters of cable to the hub. Greater distances can be achieved with low-loss cable.

- Connects to twisted-pair cable via standard 8-pin modular (RJ-45) jacks. EISA card also offers AUI port for connection to coaxial or fiber-optic cable.
- Breaks out voice signals through 6-pin modular (RJ-11) jack for systems that route voice and data signals in the same 4-pair twisted-pair cable (all cards except EISA card).
- Provides efficient data transfer using burst DMA transfers or REP I/O.
- Provides 32 Kbytes or 64 Kbytes of onboard static RAM for packet buffering.
- Support fully HP StarLAN 10 networks through configuration of link beat signal.
- Provides drivers for Novell® NetWare®, LAN Manager (except for HP 27248A), and other popular network operating systems (NOSs).
- Meets VDE Class B standards for radiated emissions.

Specific Features of Individual Cards

EISA Adapter Card/32

- High throughput and low CPU utilization
- 32-bit EISA backplane connection
- Burst DMA data transfer (33-Mbyte/s transfer rate)
- 64 Kbytes of on-board static RAM for packet buffering
- 8-pin modular (RJ-45) jack for 10BASE-T connection
- AUI port for connection to coaxial or fiber-optic cabling
- LED indicators for transmit and receive signals

Adapter Card/16 (ISA) and Adapter Card/16 6-Pack

- 16-bit ISA (AT) backplane connection
- REP I/O data transfer
- 64 Kbytes of on-board static RAM for packet buffering
- 8-pin modular (RJ-45) jack for 10BASE-T connection
- 6-pin modular (RJ-11) jack for breakout of phone wires

Micro Channel Adapter Card/16

- 16-bit Micro Channel backplane connection
- REP I/O data transfer
- 64 Kbytes of onboard static RAM for packet buffering
- 8-pin modular (RJ-45) jack for 10BASE-T connection
- 6-pin modular (RJ-11) jack for breakout of phone wires

Adapter Card/8 (ISA) and Adapter Card/8 6-Pack

- 8-bit ISA (AT) backplane connection
- REP I/O data transfer
- 32 Kbytes of onboard static RAM for packet buffering
- 8-pin modular (RJ-45) jack for 10BASE-T connection
- 6-pin modular (RJ-11) jack for breakout of phone wires

Reliability

The HP EtherTwist adapter cards give you long-term, trouble-free operation. These adapter cards are designed for reliability, using the latest surface-mount technology with fewer parts than many competing products. They have observed

mean-time-between-failure (MTBF) rates of more than 350 years. The reliability of these adapter cards makes them highly competitive against any leading competitor's products.

Performance

The EtherTwist adapter cards are designed for superior real-world performance. In a recent *PC Magazine* evaluation of Type 10BASE-T adapter cards (October 16, 1990), the HP EtherTwist Adapter Card/8 had the highest performance of 8-bit cards under all types of network loads.

Not only is high throughput important in a LAN card, but is just as vital as low CPU utilization. The power of a CPU is needed not only to drive the adapter card, but to perform

other functions, like disk I/O, as well. HP EtherTwist adapter cards have some of the lowest CPU utilization figures in their class.

The amount of memory on an adapter card is another important performance consideration. As traffic increases, especially at the server, a card must have enough memory to buffer a number of packets. Otherwise, a full buffer will cause dropped packets, retransmission, and degradation of network performance. The EtherTwist cards have either 32 Kbytes or 64 Kbytes of memory, plenty of memory for the increasing number of applications that require packet buffering.

Finally, the software drivers for the EtherTwist cards were designed to optimize performance. The result of all this attention to detail is best-in-class performance, under all types of network loads.

Value

Because HP pays attention to the details from early concept stages through final production, the HP EtherTwist adapter cards are not only industry-leading products, but also competitively priced.

Driver Software

The EtherTwist adapter cards come with drivers for a wide variety of network operating systems (NOSs). You can choose the NOS that best meets your needs and still be able to get the benefits of HP's EtherTwist network hardware, whether you use Novell NetWare, LAN Manager, or any of the other supported NOSs. All software drivers are available at no additional charge. They are shipped with the product or are available electronically on CompuServe™ or other electronic bulletin board services. New drivers can be found on these electronic services.

HP WireTest and Cabling

HP EtherTwist local area networks use twisted-pair (telephone) cabling. Two pairs of 22, 24, or 26 AWG unshielded twisted-pair cable are required for each connection. (Standard 4-pair telephone cable allows running telephone signals in the same cable with the LAN data.) Shielded twisted-pair cable can also be used.

The HP WireTest Service is available to qualify your existing telephone cabling for a Type 10BASE-T local area network. Contact your local HP Sales and Support Office or your authorized HP LAN Dealer for information and availability of this service.

New drivers are continually being written, and different NOSs tested for HP EtherTwist products. Check with your HP Representative or authorized HP dealer for the latest software compatibility list.

Specifications

Hardware Characteristics

	27248A	27247A/ 27269A	27246A	27245A/ 27267A
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Environmental:	
Operating Temperature	0°C to +55°C (+32°F to +131°F)
Relative Humidity	15% to 95% at 40°C (104°F) noncondensing

Power Requirements:				
Typical	1.9A @ 5V	0.85A @ 5V	1.2A @ 5V	0.65A @ 5V
Maximum	2.0A @ 5V	0.95A @ 5V	1.4A @ 5V	0.70A @ 5V
Frequency	50 to 60 Hz			

Physical:				
Dimensions	22.9 cm by 12.1 cm (9.0 in by 4.75 in)	22.9 cm by 12.1 cm (9.0 in by 4.75 in)	10.5 cm by 8.6 cm (4.1 in by 3.4 in)	10.5 cm by 8.6 cm (4.1 in by 3.4 in)
Weight	147 grams (5.2 oz)	94 grams (3.3 oz)	116 grams (4.1 oz)	71 grams (2.5 oz)

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Driver Compatibility

Network Operating Systems (NOS)	27248A	27247A/ 27269A	27246A	27245A/ 27267A
Novell NetWare 286 V. 2.15	X	X	X	X
Novell NetWare 386 V. 3.0 (ODI Server)	X	X	X	X
HP LAN Manager OS/2 ¹	X	X	X	X
HP LMX	X	X	X	X
3Com 3 + Open V. 1.1	X	X	X	X
SCO UNIX ²	X	X	X	X
Banyan Vines ¹	0	0	0	0
FTP Inc. PCXTCP Plus ¹	-	0	0	0
FTP Inc. PCXTCP ³	-	0	0	0
HP OfficeShare III	-	-	X	X

1 = Via NDIS Driver

2 = Via Stream Driver (available on SCO BBS)

3 = Via Packet Driver

X = Tested by HP

0 = Software vendor claims compatibility with driver. This configuration not tested by HP.

Note: NDIS 1.0 is a generic driver specification. The LAN Manager product from Microsoft® works with it as does Banyan Vines, PC/TCP Plus, and many other products. New vendors are announcing support for this driver specification continually. Check with the NOS vendor for support of the driver specification.

Warranty

All members of the HP EtherTwist adapter card family are warranted for one year against defects. Check with your local Hewlett-Packard Sales and Support Office or your authorized HP LAN Dealer for more information.

System Requirements

The HP 27245A Adapter Card/8, HP 27267A Adapter Card/8 6-Pack, HP 27247A Adapter Card/16, and HP 27269A Adapter Card/16 6-Pack are intended for use in PCs with an ISA backplane (including HP Vectra, Compaq DeskPro, and IBM PC/XT/AT and PS/2 with AT backplanes). The HP 27246A Micro Channel Adapter Card/16 is intended for use in a PC with a Micro Channel backplane (including IBM PS/2 models with Micro Channel backplanes). The HP 27248A EISA Adapter Card/32 is intended for use in PCs with EISA backplanes

(including Hewlett-Packard and Compaq EISA computers).

Ordering Information

HP 27245A EtherTwist Adapter Card/8
 HP 27246A EtherTwist MCA Adapter Card/16
 HP 27247A EtherTwist Adapter Card/16
 HP 27248A EtherTwist EISA Adapter Card/32
 HP 27267A EtherTwist Adapter Card/8 6-Pack
 HP 27269A EtherTwist Adapter Card/16 6-Pack

Each of these products must be ordered with a local language option for documentation (no cost). One of the following options must be chosen:

Option ABA	English
Option ABD	German
Option ABE	Spanish
Option ABF	French
Option ABZ	Italian

Updates of driver software are distributed by electronic means. Refer to the "Driver Software" section of this document for more information.

Related product: One HP 28689B Troubleshooting Kit should be purchased for each LAN installation.

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