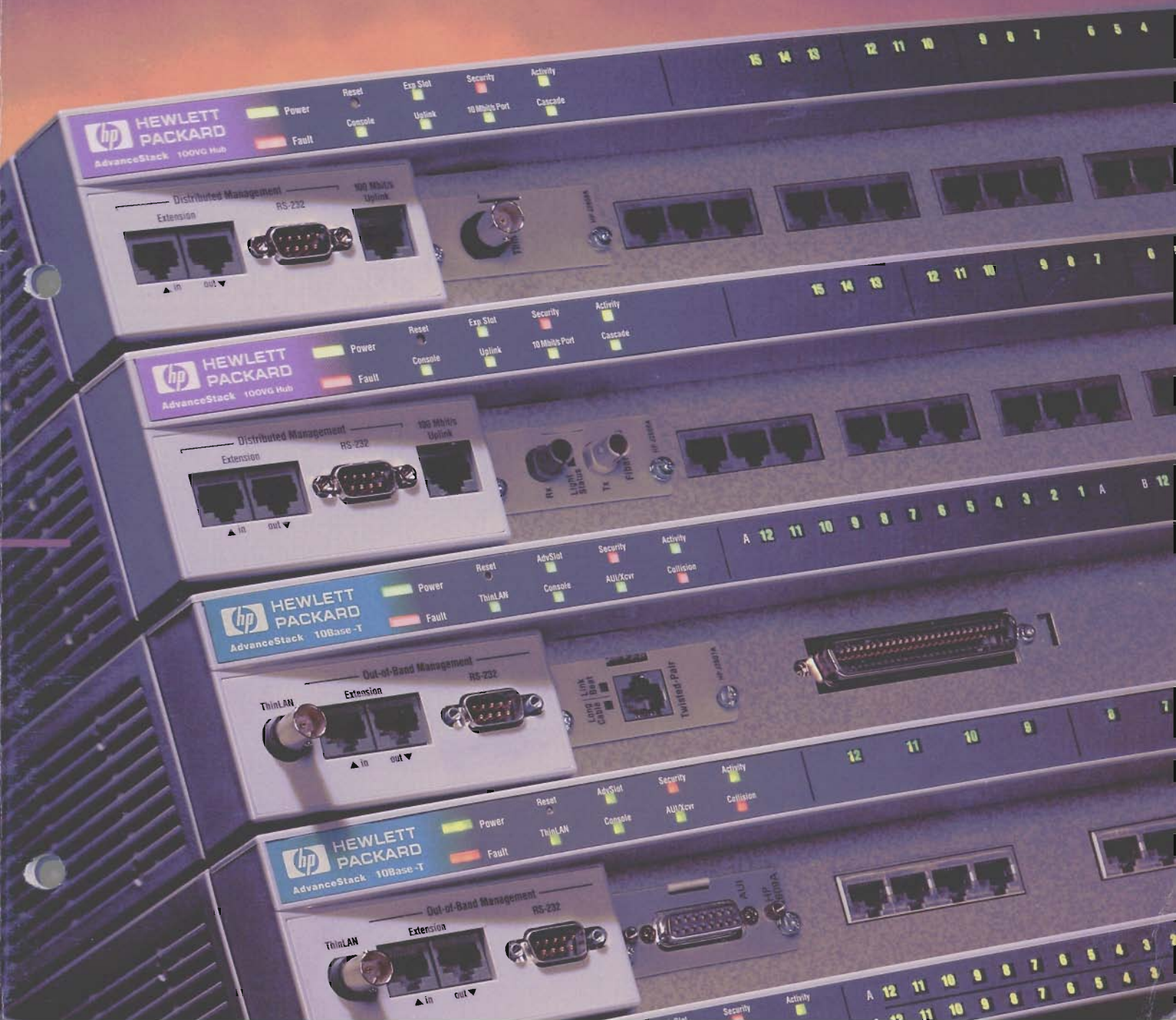


100VG – Full Speed Ahead

HP Network
Connectivity Products:
AdvanceStack 100VG



The drive that drives the technology.

Integrally involved in driving both product and technological innovation within the industry, Hewlett-Packard has pioneered advanced network connectivity solutions for more than 20 years:

- **Open Systems:** HP led the downsizing trend from a centralized information system to a more flexible distributed client/server system.
- **10Base-T:** HP was instrumental in establishing this standard for networking on twisted-pair telephone wire.
- **EtherTwist:** In 1990 HP unveiled the industry's first stackable network hubs, bridges, and routers, and is number one in sales of 10Base-T managed stackable hubs.
- **AdvanceStack:** In 1994 HP launched the next generation of feature-rich stackable and expandable networking components, including 10Mbit and 100VG hubs, adapters, switches, and routers.
- **100VG-AnyLAN:** Now HP has paved the way for this emerging standard based on the IEEE 802.12 proposal—a natural evolution of 10Base-T that brings advanced functionality to the desktop by providing 10 times the throughput and 16 times the performance using installed 10Base-T cabling systems and network designs.

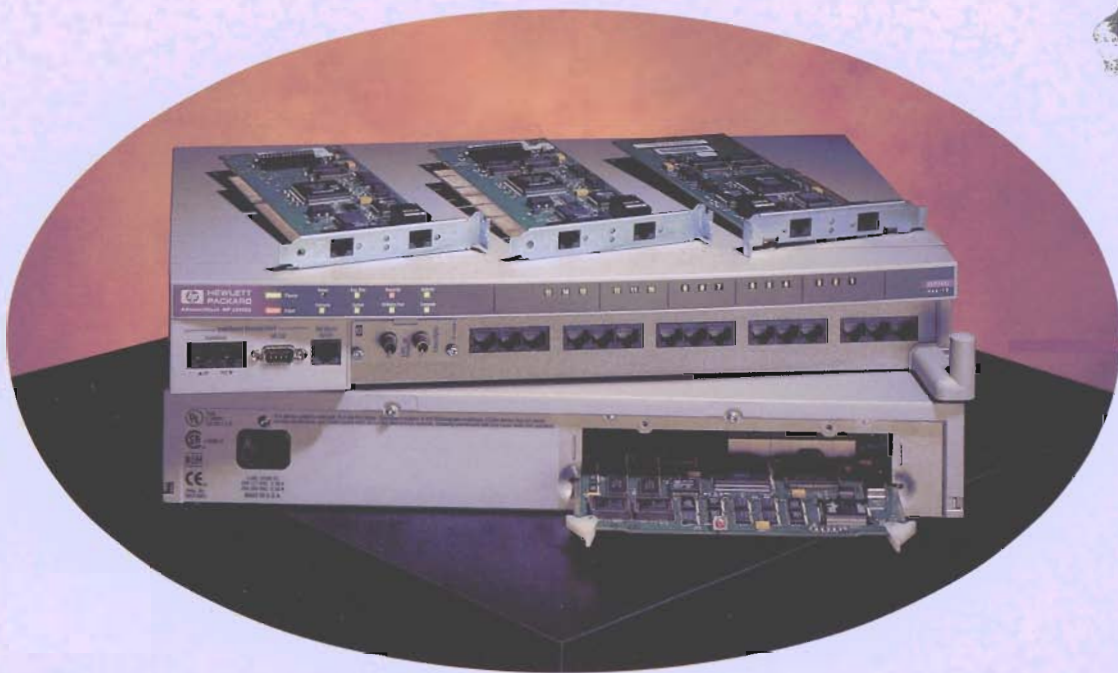
For the future, HP is integrating other high-speed technologies, such as Asynchronous Transfer Mode (ATM) which enables you to extend the benefits of 100VG-AnyLAN from the desktop to the backbone to users at remote sites.



HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

100VG-AnyLAN is what you need to accelerate your network to high speed. Without compromising your existing investment.



The HP AdvanceStack family of 100VG networking products:

- 100VG Hub-15
- 100VG SNMP/Bridge Module
- 10/100VG Selectable PC LAN Adapters

Until now, word of the industry's first 100Mbit/s products has been more rumor than reality. With Hewlett-Packard leading the way, 100VG-AnyLAN has really arrived—offering the price/performance you need for emerging and current high-speed, capacity-demanding applications.

100VG-AnyLAN solves network bottlenecks and lets you run new applications.

HP brings 100Mbit/s to the desktop thanks to a breakthrough access method developed by HP called Demand Priority. It provides LANs

with the increased bandwidth and the significantly higher transmission speed that are necessary for handling on-demand access to data-intensive and time-sensitive applications such as imaging, multimedia, and network video.

It's ATM friendly and economical.

100VG-AnyLAN complements ATM technology because its frame-switching technique is very similar to ATM's cell switching. Which makes simple integration of 100VG-AnyLAN local networks and ATM wide area networks possible.

Perhaps most important to you, 100VG-AnyLAN is more economical than other high-speed networking alternatives.

Compatible with Ethernet framing, it's technology that's sure to reassure.

With HP AdvanceStack 100VG products, there's no learning curve. They mirror 10Base-T in operation of Ethernet frame types, topologies, cabling, operating systems, and applications. And they integrate easily with any size network, from a small single-site to large distributed organizations.



"FDDI, CDDI, Fast Ethernet, and ATM were considered. On specifications, costs, and availability, HP scored by far the best. 100VG is compatible with our infrastructure which consists of Category 3 cabling. The results are astonishing. With 100VG we can now reach 97 percent of 100Mbps. 100VG also offers possibilities for expansion, so eventually we can move to ATM."

F. Gombault, IT Manager
Haarlem Business School, Amsterdam, Netherlands



"100Mbit/s technologies are becoming more affordable, but high throughput remains the key reason to buy the technology. With 100VG-AnyLAN, you can put more data across the line. It uses 85 to 90 percent of the available bandwidth. The performance is dynamite. That's where the real bang for buck is."

Jim Naufel, IS Manager
Dresser Rand Corporation, Oklahoma, USA

Why 100VG-AnyLAN is the ideal choice over other high-speed networking alternatives.

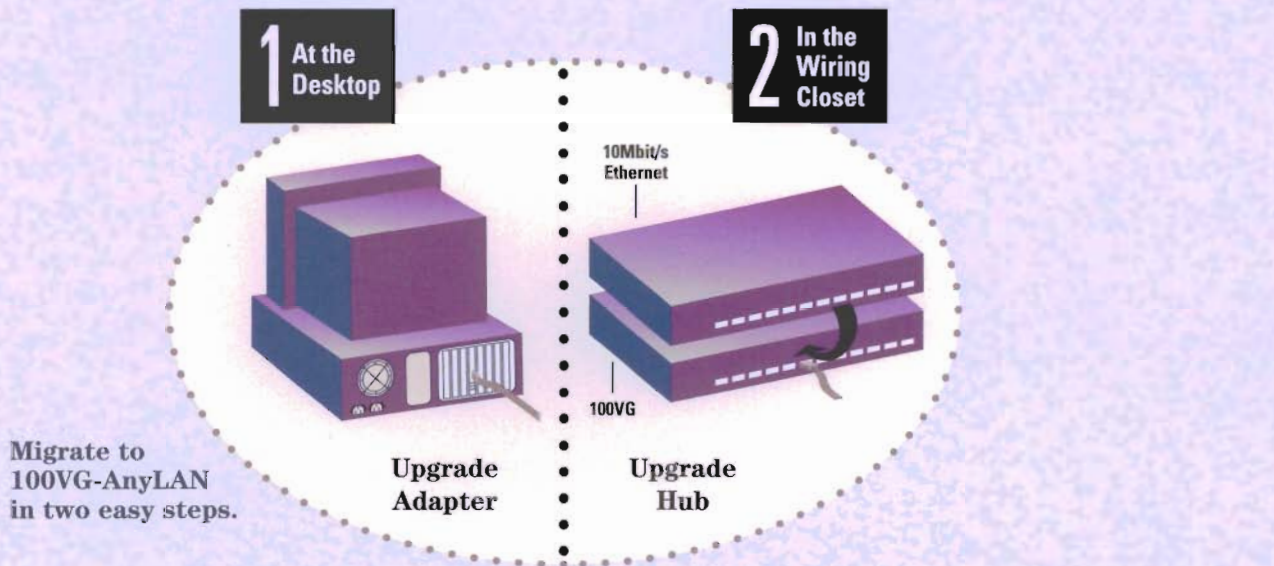
Increased bandwidth. 100VG-AnyLAN technology offers total investment protection because you can buy capacity *now* for high-speed workgroup networking today and well into the future.

Ten times faster than 10Base-T. Optimally designed for speed, 100VG-AnyLAN handles the need for high-speed file transfers and optimum performance from desktop systems.

Cost-effective, two-step migration. Migration to 100VG-AnyLAN from a 10Base-T network requires no new cabling and is accomplished in two easy steps. Simply replace the LAN adapter in each workstation with an HP 10/100VG Selectable PC LAN Adapter, then install an HP AdvanceStack 100VG Hub-15 in the wiring closet.

Standards and industry support. The HP AdvanceStack 100VG line is completely compatible with the emerging IEEE 802.12 standard for Ethernet and Token Ring framing. In addition to the complete HP portfolio of products, vendors such as Cisco Systems, Proteon, and Thomas-Conrad are also developing products based on this standard.

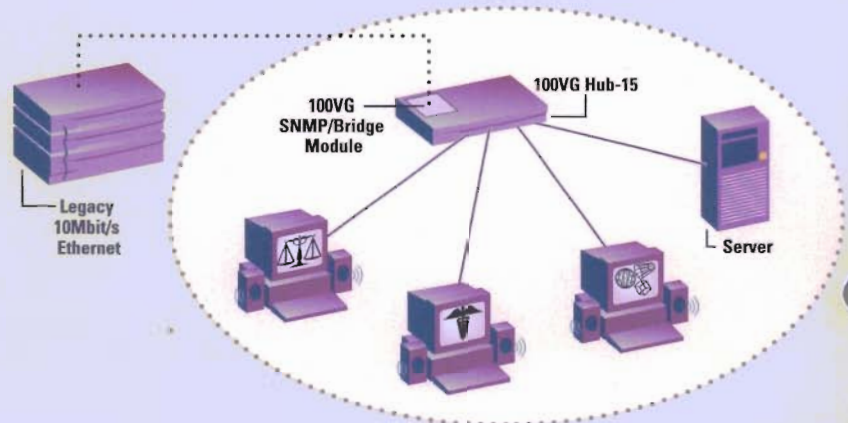
Future HP AdvanceStack products will support both Ethernet and Token Ring framing.



Examples of how you can implement 100VG-AnyLAN:

High-Performance Workgroup

Requirements	100VG-AnyLAN Advantages	Benefits To You
■ High bandwidth	Collision-free access yields 16 times the throughput of 10Base-T	Faster response time and more users per network segment
■ Low cost	Unconditional support of 10Base-T wiring plant and network designs	Simple installation since no recabling or retraining is required
■ Seamless integration	Ethernet frame type results in Network Operating System and application transparency	Compatible with existing software and applications—for simple bridging to 10Mbit/s legacy Ethernet and no new software costs



The hub's built-in expansion slot lets you add functionality.

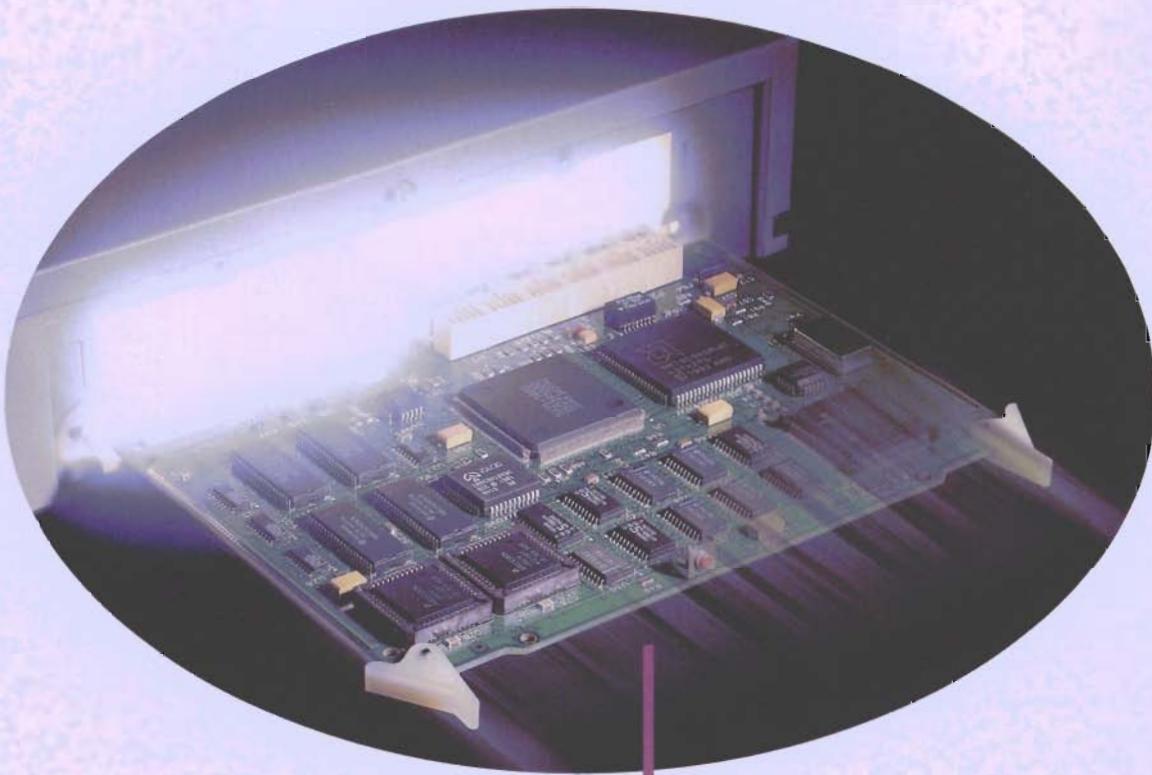
Like HP AdvanceStack 10Base-T 12/24/48 hubs, the 100VG Hub-15 features an expansion slot that provides a flexible upgrade path for future network needs—like Simple Network Management Protocol (SNMP), EASE instrumentation, bridging/routing, and more.

And you can add advanced functionality as your network's needs change, without buying redundant hardware. Simply plug the appropriate HP expansion module into the expansion slot of any HP AdvanceStack 100VG hub in your stack.

Add intelligence and manage up to 16 cascaded hubs from a single hub.

It's as easy as adding an HP AdvanceStack 100VG SNMP/Bridge Module. Combine the module with any HP OpenView Interconnect Manager software product and it does the troubleshooting for you.

Or how about your option of managing a single stack of up to 16 AdvanceStack 100VG hubs? All it takes is standard Ethernet cabling which can be extended as much as 185 meters—farther than any stackable hub in the industry.



The HP AdvanceStack 100VG SNMP/Bridge Module provides advanced bridging and SNMP management capabilities to your existing 10Mbit/s network.

Like all AdvanceStack products, HP 100VG prod

How the HP 100VG Hub-15 stacks up:



All HP AdvanceStack hubs are backed by a lifetime warranty that includes *on-site* service for the first five years.

HP J2410A 100VG Hub with 15 UTP Ports

The hub conveniently mounts in a standard 19-inch rack, on a wall, or on any horizontal surface (mounting hardware included).

Expansion Slot

Provides flexible upgrade path to additional functionality—like SNMP, EASE instrumentation, bridging, and routing.

Illuminated LEDs

Enables at-a-glance checks for security, activity, fault, power, expansion slot, transceiver, and uplink.



Distributed Management Port

Interconnects multiple hubs to allow distributed in-band (SNMP) and out-of-band management.

RS-232 Port

Links PC to a hub for basic management. PC cable provided.

Uplink Port

Allows for cascading of multiple 100VG hubs.

You can purchase your 100VG hub with or without SNMP management.

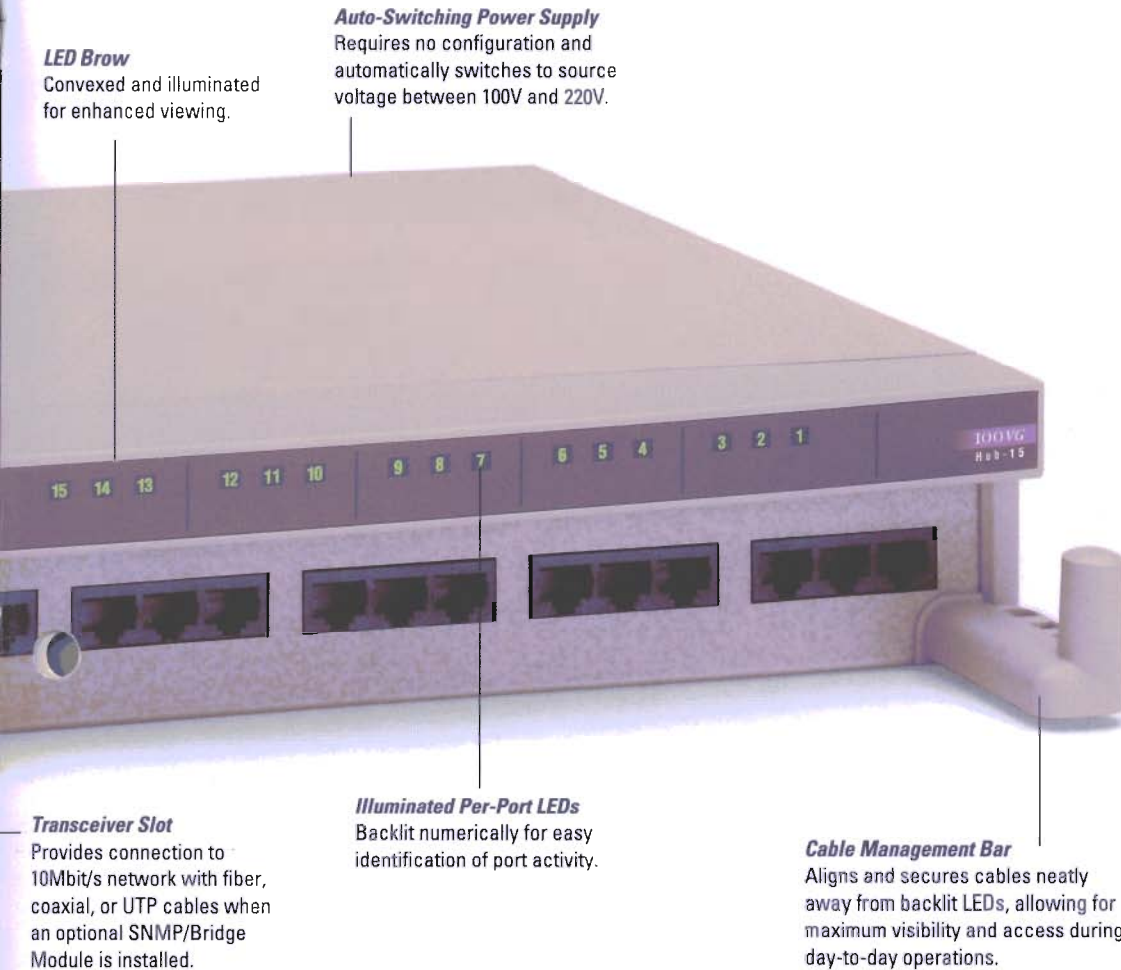
Every HP 100VG Hub-15 ships with Windows-based HP Stack Manager software for configuring, monitoring, and troubleshooting an entire stack of HP 10Base-T and 100VG hubs via direct connect or modem dial-up. Everything from turning ports on and off to displaying network traffic.

When your needs require SNMP management or network performance management, you can upgrade with ease to the industry-leading HP OpenView line of software solutions

by adding a single SNMP management module. No matter which level you choose, the user interface is always the same.



Products offer network flexibility and manageability.



LED Brow
Convexed and illuminated for enhanced viewing.

Auto-Switching Power Supply
Requires no configuration and automatically switches to source voltage between 100V and 220V.

Transceiver Slot
Provides connection to 10Mbit/s network with fiber, coaxial, or UTP cables when an optional SNMP/Bridge Module is installed.

Illuminated Per-Port LEDs
Backlit numerically for easy identification of port activity.

Cable Management Bar
Aligns and secures cables neatly away from backlit LEDs, allowing for maximum visibility and access during day-to-day operations.

Optional HP Transceiver Modules
Provide easy, secure connections to an existing 10Mbit/s Ethernet network.



Fiber-Optic Transceiver (HP J2606A)



Twisted-Pair Transceiver (HP J2607A)



ThinLAN Transceiver (HP J2608A)

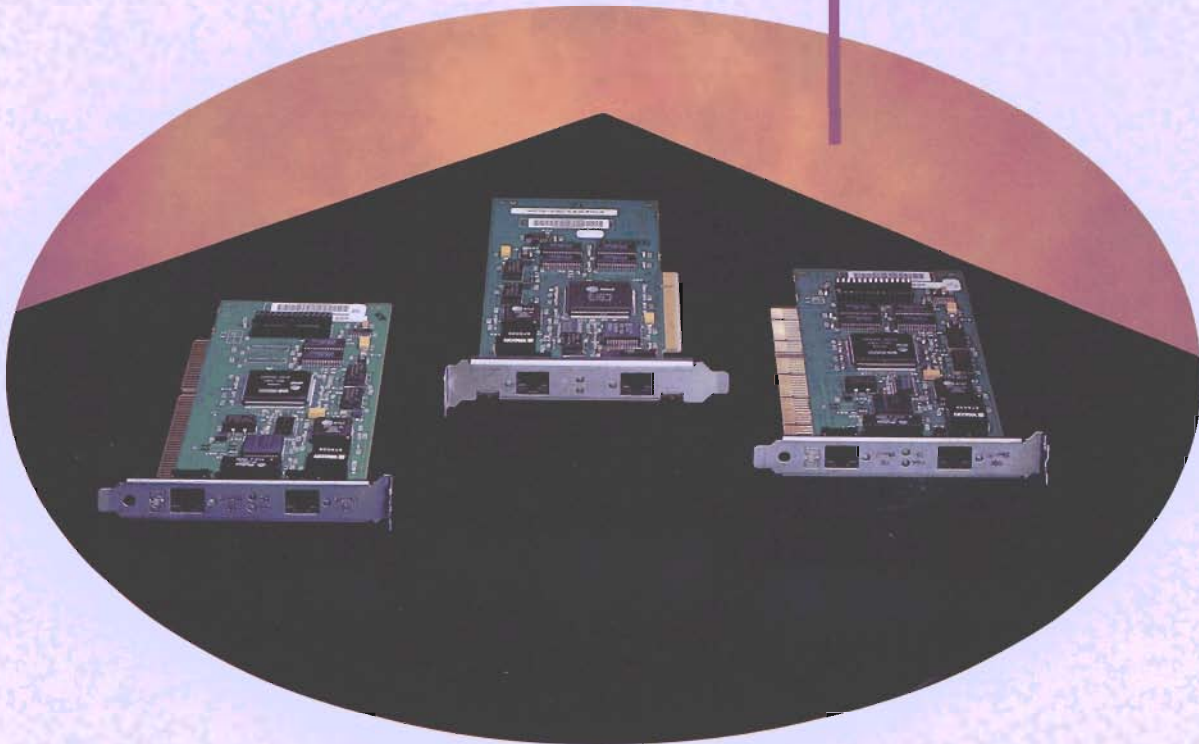


AUI Connector Module (HP J2609A)

Which level of management is right for you?

<p>Basic Management: <i>For networks that don't require SNMP management</i></p>	<p>Shipped with every HP AdvanceStack 100VG Hub-15, the Windows-based HP Stack Manager software handles basic configurations, monitoring, and troubleshooting for your entire stack — showing real-time device status and allowing quick viewing, configuring, and diagnosing of ports.</p>
<p>SNMP Management: <i>For larger, more traffic-intensive networks</i></p>	<p>For even greater management capabilities, simply add an HP AdvanceStack 100VG SNMP/Bridge Module and HP OpenView Interconnect Manager software. The combination delivers vital network management tools like in-band SNMP, standard and private MIBs, auto discovery, events/alarms, security, and upload and download of firmware.</p>
<p>Advanced Management: <i>For networks that require optimum performance</i></p>	<p>Add the power of HP Embedded Advanced Sampling Environment (EASE) technology by installing one HP AdvanceStack 100VG SNMP/Bridge Module into a single hub. When combined with applications such as Traffic Expert or Traffic Monitor, EASE instrumentation helps optimize network performance throughout the entire stack. It graphically flags potential trouble spots, identifies who uses particular network resources, and displays traffic patterns.</p>

HP 10/100VG Selectable PC LAN Adapters support both an 802.3 10Base-T mode and the proposed IEEE 802.12 standards for 100Mbit/second transmission.



When you compare HP 10/100VG Selectable PC LAN Adapters, is there really any other choice?

Operate at transmission speeds of 10Mbit/s or 100Mbit/s.

HP 10/100VG Selectable PC LAN Adapters for ISA, EISA, and PCI backplanes offer the flexibility of operating at 10Base-T or 100VG. Upgrading from 10Mbit/s to 100Mbit/s is easy. Simply move the network cable from one connector to the other and reboot the PC. No change to the driver or configuration is necessary.

That's not all. The adapters also feature large packet buffer memory: 128 Kbytes on EISA, 64 Kbytes on ISA, and 128 Kbytes on PCI. And they come with full software configuration and diagnostic support—eliminating the need for jumpers and switches.

Compare these HP adapters to regular adapters that only support 10Mbit/s, and you'll discover they're aggressively priced. You'll also have high-speed networking capability on hand when you need it.

Count on NOS compatibility and full driver support.

Driver support for HP 10/100VG Selectable PC LAN Adapters covers a full range of popular network operating systems, including Novell NetWare, Windows NT, and Microsoft LAN Manager.

Best of all, this next-generation technology requires no changes to your network configuration. Which means it can be installed today—ready when you are for new high-speed technologies.

**The HP 10/100VG Selectable PCI Adapter will be available Spring of 1995.*

Collision-free. Using Demand Priority Access, 100VG-AnyLAN ends network collisions and allows more users per segment. It also minimizes network delay and delivers 16 times more throughput than 10Base-T.

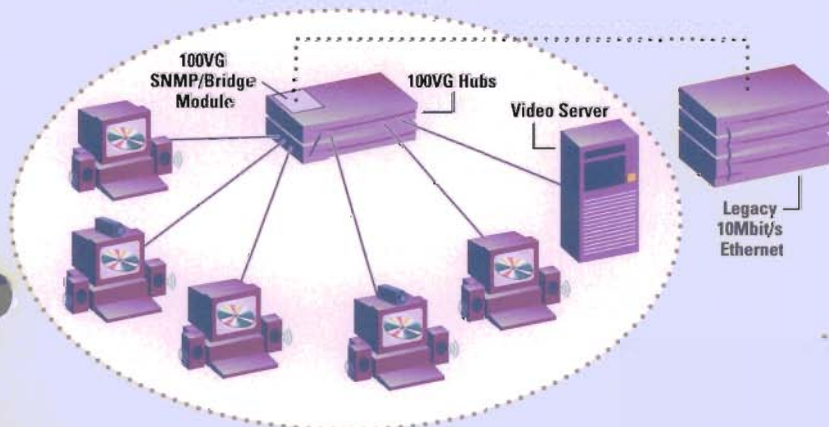
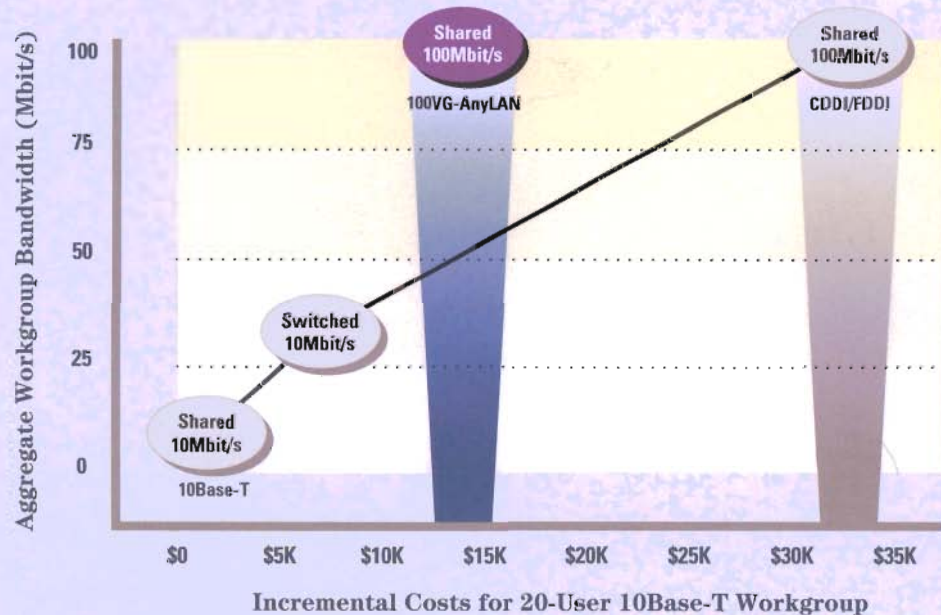
New applications. 100VG-AnyLAN relieves congestion in today's high-performance networks and simultaneously provides for new applications in the future such as multimedia and imaging.

Seamless integration. HP AdvanceStack 100VG products integrate easily with standard 10Base-T components in your workgroup. All you need is a speed-matching bridge to connect the products to your existing 10Mbit/s network.

ATM backbone integration. The benefits of 100VG-AnyLAN can also be extended to the backbone because 100VG-AnyLAN is a companion technology to ATM backbone and wide-area connections.



Price/Performance Matrix



Network Multimedia

Requirements

- Guaranteed bandwidth
- Low latency
- ATM growth path

100VG-AnyLAN Advantages

- Collision-free architecture guarantees on-time video delivery
- Extremely low delay of data crossing the network
- Companion technology to ATM

Benefits To You

- 100VG is ideal for multimedia traffic, even while servicing standard file server data
- Smooth video playback and seamless real-time video conferencing
- 100VG benefits will be extended to ATM wide-area connections

It's fast. It's versatile. It's here.

If your network has an immediate or future need for cost-effective, high-speed workgroup networking which supports high bandwidth, time-sensitive applications, and multimedia, then AdvanceStack 100VG products from Hewlett-Packard are for you.

And as the market-share leader in 10Base-T managed stackable hubs, HP brings you the most complete line of LAN and WAN workgroup components found anywhere. Products used around the world in industry, business, engineering, science, medicine, and education.

Legal

Enables digitized document imaging for referral and archiving.



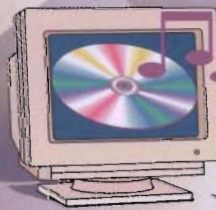
Medical

Enables large files to be accessed and moved across the network, even during remote patient monitoring.



Education

Enables multimedia-assisted education for innovative classroom training.

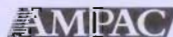


Multimedia

Enables real-time, TV-quality video traffic over the network—with the ability to support a large number of multimedia PCs on one segment.

CAD/CAM

Enables easy movement of enormous CAD/CAM files to accommodate a greater number of users.



"Hewlett-Packard's 100VG technology is the best strategic solution for us as we plan for high-volume traffic from future applications. It integrated easily with our current environment, allowing us to standardize on one standard rather than running mixed Token Ring and Ethernet."

Joe Marsella, Network Manager, Information Systems
AMPAC, Sydney, Australia



"The modular flexibility of the HP 100VG hub allows us to easily add high-performance workgroups to existing networks. It really improves the response between clients and servers."

Terry Martin, Telecommunications Analyst
National Systems & Research, New Mexico, USA

Full speed ahead.



Providing both flexibility and economy for your network's changing needs, HP AdvanceStack 100VG products are part of Hewlett-Packard's expandable-not-expendable line of network connectivity solutions.

HP also offers a full line of Windows- and UNIX-based network management software products, some of which come with the power of HP EASE.

For more information on how HP AdvanceStack 100VG products can meet your changing networking needs:

- Contact an HP reseller anywhere in the world.
- Call 1-800-533-1333 for the HP authorized dealer nearest you.
- Call 1-800-533-1333 from within the U.S. and ask for HP AdvanceStack 100VG Data Sheet P/N 5963-1080E.
- Call the HP FIRST fax-back service at 1-800-333-1917 (Document I.D. 7593) if calling from the U.S. or Canada.

HP AdvanceStack 100VG Product Specifications

J2410A AdvanceStack 100VG Hub-15

Memory (with SNMP module installed)
Flash EEPROM: 512 Kbytes
RAM: 2 Mbytes
Nonvolatile RAM: 8 Kbytes

Hardware Requirements to Run HP Stack Manager Software

Windows 3.1 or later
80386 (or higher) processor
4 Mbytes of RAM
2 Mbytes of available hard disk space

Environmental Characteristics

Operating Temperature: 0°C to 40°C
(32°F to 104°F)
Relative Humidity: 15-95% @ 40°C
(104°F) noncondensing

Physical Characteristics

Dimensions: 44.2 cm by 32.8 cm by 6.6 cm
(17.4 in. by 12.9 in. by 2.6 in.)
Weight: 4.1 kg (9 lbs.)

Electrical Characteristics

Voltage: 100-127 V ac 200-240 V ac
Current: 0.9 A max 0.6 A max
Frequency: 50/60 Hz 50/60 Hz

Standards Communications

Compatible with IEEE 802.12 proposed standard

With 100VG SNMP/Bridge Module:

RFC 1213: MIB II
RFC: 1493: Bridge MIB

With SNMP and Transceiver Modules:
10Base-T IEEE 802.3

Safety:

UL 1950
CSA 950
Verified to IEC 950/EN 60950

Emissions:

FCC Part 15 Class A
CISPR-22 (1985) Class A
EN 55022 (1988) Class A
VCCI Class 1

Immunity:

ESD: IEC 801-2: 1991 4 kV CD, 8 kV AD
Radiated Immunity: IEC 801-3: (1984) 3 V/m
EFT/Burst: IEC 801-4: 1988
0.5 kV signal lines, 1.0 kV power line

Warranty

HP J2410A AdvanceStack 100VG Hub-15 has a lifetime warranty, with the first five years on-site. **HP J2414A 100VG SNMP/Bridge Module:** First five years return to HP or reseller service. After five years the warranty is extended by registered owners to lifetime (return-to-HP).

J2573A 10/100VG Selectable ISA Adapter J2577A 10/100VG Selectable EISA Adapter J2585A 10/100VG Selectable PCI Adapter*

Environmental Characteristics

Operating Temperature: 0°C to 55°C
(32°F to 131°F)
Relative Humidity: 15-95% @ 40°C
(104°F) noncondensing
Altitude: 4,600 meters (15,000 feet)

Physical Characteristics

Dimensions: 18 cm by 8.9 cm
(7.4 in. by 3.5 in.)
Weight: 127g (4.5 oz.)

Electrical Characteristics

0.3A @ 5 V typical; 0.9 A @ 5 V maximum

Standards Communications

IEEE 802.3 Type 10Base-T (10Mbit)
IEEE 802.12 Proposed Standard
(100Mbit Ethernet Frames)

Safety:

UL 1950
CSA 950
Verified to IEC 950/EN 60950

Emissions:

FCC Part 15 Class A
CISPR-22 (1985) Class A
EN 55022 (1988) Class A
VCCI Class 1

Immunity:

ESD: IEC 801-2: 1991 4 kV CD, 8 kV AD
Radiated Immunity: IEC 801-3: (1984) 3 V/m
EFT/Burst: IEC 801-4: 1988
0.5 kV signal lines, 1.0 kV power line

Warranty

All HP PC LAN Adapters are covered by a lifetime limited warranty.

*The HP J2585A 10/100VG Selectable PCI Adapter will be available Spring of 1995.

Technical information in this document is subject to change without notice. Documentation and literature are continuously updated to ensure that HP customers are provided the most recent information. As such, requested literature part numbers will change over time. The most up-to-date information will be provided.

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(818) 505-5600

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(404) 955-1500

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(525) 326-4400

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Korea:
822-769-0114

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