Choose the simple, reliable, high-performance Ethernet solution that's right for you

IBM 8237 Ethernet Stackable Hub

Highlights

Model 001:

- ***17-port 10BASE-T stackable hub/ 170 ports per stack***
- ***A full range of migration solutions***
- ***Management using the 8237 Model 002 or Model 003***
- ***Support for redundant port links***
- ***Jabber/excessive collision control featuring automatic partition and reconnection***
- ***Optional Fast Ethernet connectivity***
- ***Comprehensive EtherWatch™ LED display***
- ***Only one IP address required for each stack***
- ***Intrusion and eavesdropping security with automatic address learning mode***
- ***Modular design for today's needs and tomorrow's growth***

Model 002:

- ***All the features of Model 001 plus —***
- ***SNMP agent that provides in-band and out-of-band management for a full 10-unit stack***
- ***EIA 232-C management port***
- ***Easily installed upgrade to RMON management***

Model 003:

- ***All the features of Model 002 plus —***
- ***RMON agents (full 9 groups)***

Hub stack

- ***Maximum 10 hubs per stack (170 ports)***
- ***Hot-swappable***
- ***3 backplanes (3 segments per stack)***
- ***Redundant management capability***
- ***Manage Model 001s using Model 002 or Model 003***

Creating, expanding or improving your network can be a tough job, but today's thriving enterprises rely on LAN utilization and growth. At IBM we're designing products to simplify the task, because if you don't succeed, we don't succeed. Our unsurpassed experience in networking products can help you meet the demands of starting or growing your network. And now we offer unrivaled network management options that let you take your network where you want to go. What could be simpler?

The IBM 8237 Ethernet Stackable Hub provides the features, functions and flexibility you need — when you need them. It has the most robust feature set in its class and a product design geared to you, the user. A modular design approach lets you purchase just what you need today, then add on as you grow. What's in it for you? You get an industry-leading product and investment protection without the burden of additional up-front costs for features you don't need right away. A simple concept and a design based on your needs. The 8237 family of stackable hubs lets you make the right choices for your network and your budget.



Understanding your needs
The basic building block of Ethernet networks is the 10-Mbps network. Why? Because the 10-Mbps network is the most cost-effective solution for providing ample bandwidth for most workgroup applications. The technology is a widely accepted standard for networking and is currently the basis for most network creation and expansion.

The 8237 doesn't change the building blocks of your network, it just makes the existing blocks better. You get an industry-leading price/performance ratio in a flexible, easy-to-use package. And with the 8237 we'll help you migrate to advanced functions and features when it makes sense for you. Understanding your needs allows us to provide the best solutions to your problems.

The 8237 is available in three models with a range of management options and upgrade paths that protect your investment as your networks grow in size and complexity. This allows you to start small and grow your network as demand requires. Start with a single, manageable Model 001 and add more hubs as needed. Then when you want the management horsepower of SNMP or RMON, simply add a Model 002 or Model 003 and you can manage up to nine Model 001s encompassing up to three separate segments.

A robust and reliable platform
Network uptime isn't just a concept, it's a requirement that can't be compromised. At IBM we recognize this and focus our efforts to bring you the most reliable products available. But our focus extends beyond testing: IBM delivers the goods when it comes to network uptime. The results of our efforts in this area are clear:

- 3 separate internal Ethernet backplanes (segments)
- Up to 18 pairs of redundant links can be configured to connect the 8237 system to other devices. One link of the pair is active and the other serves as a backup link for improved availability of your mission-critical devices.
- Multiple Model 002 or Model 003 management units can be installed in an 8237 stack. If the primary management unit must be taken out of service, the backup management unit automatically takes over with no loss of management function or management data.
- All models of the 8237 are hot-pluggable; they can be replaced individually without disrupting the other hubs in the stack.
- Configuration data is stored in nonvolatile memory and is automatically restored after power disruption.
- Excessive collision protection: the 8237 will partition (disable) any of the 10BASE-T ports when more than 32 consecutive collision-causing frames are transmitted from that port. While the port is disabled transmissions from the network to that device are maintained. The port is automatically re-enabled when the condition clears.
- Jabber protection: the 8237 partitions a port when a node transmits continuously for 6.5 milliseconds. The port is automatically re-enabled when transmission from that port stops for 9.6 microseconds.

And all 8237 models also offer these intelligent features to protect your network and keep it running.

Scalable options and easy upgrades for cost-effective evolution
Each stand-alone 8237 provides workstation ports with shielded RJ-45 connectors. The maximum number of 8237s in a stack is 10, for a whopping total of 170 ports. And each 8237 in the stack can be assigned to one of three internal Ethernet backplanes for effective and flexible bandwidth management. As your network grows the 8237 provides a variety of flexible scaling options. And the 8237's Expansion Port lets you interconnect up to ten 8237 stacks or other LAN segments for a very large network.

Because the optional Fast Expansion Modules provide a switched interface, they are able to isolate the local collision domain from the remote LAN, and thus can greatly expand your network bandwidth and topology options. The number of 8237 systems that can be connected between two end stations is then limited only by network performance considerations.

Expand your network connectivity
The Expansion Port with one of the optional Media Expansion Ports or Fast Expansion Modules installed supports your choice of the following standard Ethernet transmission media.

Media Expansion Ports:
- AUI/10BASE2
- 10BASE-FL/FOIRL

Fast Expansion Modules:
- 10BASE-T/100BASE-TX with auto-negotiation and MDI and MDI-X port connections
- 100BASE-FX connection

The sixteenth port on the 8237 supports both MDI and MDI-X wiring configurations, allowing connection to other devices using standard, straight-through UTP cables. The 8237 supports 100-ohm categories 3, 4 and 5 UTP, FTP and 150-ohm STP cabling (with appropriate impedance-matching devices). The stack units can be located up to 75 m (246 ft) apart using a category 5 STP stack link cable. The 8237 conforms to the IEEE 802.3 10BASE-T Ethernet standard for repeaters, ensuring interoperability with other 10BASE-T compatible devices, including network interface adapters, switches, routers and other internetworking equipment.

Network management made easy
How do you make high-performance networking equipment user-friendly? The 8237 has the answers. We start with the installation process and then help you monitor, manage and ultimately upgrade your LAN. By offering a sophisticated range of management features, the 8237 lets you decide how and when you implement network management.

Installation and setup are painless when you have all these standard features working for you:

- An EIA 232-C communications port for configuration (Model 002 and Model 003 only)
- 38.4-Kbps modem support
- Automatic hub ID setting and display
- Automatic termination of stack end units
- Automatic detection and correction of cabling polarity reversals at receive port
- Automatic configuration update and backup

All models have front-mounted visual displays to aid in problem determination and isolation. This includes EtherWatch Network Utilization and Collision bar graph displays, two LEDs per port and eight LEDs for Hub ID, power and termination. And all models feature statistics monitoring functions at the port, segment and hub level.

The Model 002 Basic Management Unit supports four open MIBs: SNMP MIB II (RFC 1213), the hub repeater MIB (RFC 1516), Ethernet MIB (RFC 1643) and the Novell Hub MIB (RFC 1289). These MIBs can be managed by most network management applications, including IBM Nways™ Manager. Model 002 can manage up to nine Model 001s in a stack. And a user-installed field upgrade allows the Model 002 to incorporate the same RMON management capability as the Model 003.

Raw management power with RMON
The Model 003 Advanced Management Unit contains, in addition to the SNMP management features of the Model 002, a remote monitoring agent that supports all nine groups of the RMON MIB. This agent employs a dedicated 386 processor with 4-MB RAM standard (20 MB maximum).

RMON serves as a tool for network planning and troubleshooting by revealing detailed network status. It's able to monitor any single Ethernet segment connected to one of the 8237 stack backplanes. RMON MIB groups supported include: Statistics, History, Alarm, Host, Host Top 'N', Matrix, Filter, Packet Capture and Event.

Remote management gives you greater control
Centralized management of remote sites or branch offices is provided by the 8237's out-of-band support via SLIP. Dial-up management of the remote 8237 system and devices on the remote network is possible, and the 8237 is password-protected to both out-of-band access and in-band access. It's also possible to remotely download software upgrades, using a dial-up or in-band connection. And because the entire 8237 stack requires only one IP address, it can be managed as a single entity.

Built-in security for intrusion protection
At IBM we recognize that security has grown in importance as the use of networks has increased. You want data protection while still maintaining the flow of vital data throughout your business. The 8237 offers the security features that will ensure peace of mind. The 8237 provides intrusion protection at the port level and password protection at the management interface. And the 8237 features eavesdropping protection with automatic address-learning mode.

Intrusion protection is enabled by assigning a preferred-source address to each 8237 repeater port authorized to access the network through that port. If the source address of an incoming packet does not match the preferred-source address for that port, the system can be configured to send an SNMP warning message or to disable the port at the same time.

For more information
To find out more about the IBM 8237 Ethernet Stackable Hub and other high-performance IBM communications networking products, contact your IBM representative or call IBM Direct at 1 800 IBM-CALL (1 800 426-2255). You can also access the IBM Networking Home Page at http://www.networking.ibm.com.

Copies of this and other related product specification sheets can be obtained from the IBM FAX Information Service by dialing 1 800 IBM-4-FAX (1 800 426-4239) in the U.S. or Canada or by dialing (415) 855-4329 outside the U.S. and Canada.

The 8237 Ethernet Stackable Hub at a glance

Part numbers	85H8840	• Ethernet Stackable Hub Model 001 — unmanaged
	85H8850	• Ethernet Stackable Hub Model 002 — basic (SNMP) management
	85H8860	• Ethernet Stackable Hub Model 003 — advanced (SNMP and RMON) management
	85H8854	– 10BASE-T/100BASE-TX Fast Expansion Module
	85H8856	– 100BASE-FX Fiber Fast Expansion Module
	85H8864	– AUI/10BASE-2 Media Expansion Port
	85H8866	– 10BASE-FL/FOIRL Media Expansion Port
	85H8969	– Advanced Management Module Upgrade Kit (for Model 002 only)
LAN ports		Sixteen 10BASE-T Ethernet station ports 1 modular expansion port offering media interface flexibility
Physical specifications	Width:	440 mm (17.3 in.)
	Depth:	290 mm (11.4 in.)
	Height:	65 mm (2.6 in.)
	Weight:	4.8 kg (10.5 lb) Model 001 and Model 002 5.1 kg (11.2 lb) Model 003 Fast Expansion Module adds 0.185 kg (0.4 lbs) Media Expansion Module adds 0.165 kg (0.4 lb) RMON Management upgrade kit adds 0.300 kg (0.7 lb)
Operating clearances	Front:	150 mm (6 in)
	Sides:	50 mm (2 in.)
	Rear:	305 mm (12 in.)
Operating environment	Operating temperature:	10° to 40°C (50° to 104°F)
	Storage temperature:	-25° to 70°C (-13° to 158°F)
	Relative humidity:	80% maximum
Power		The internal, auto-ranging power supply supports standard voltages throughout the world. The nominal input voltage and frequency ranges are 100 to 240 V ac and 50 to 60 Hz, respectively. The 8237 power supplies meet IEC 1000-3-2 and JEIDA requirements.
Power dissipation (maximum)	Model 001:	25 watts (82 BTU/hour)
	Model 002:	29 watts (97 BTU/hour)
	Model 003:	40 watts (134 BTU/hour)
	Expansion module adds:	17 watts (58 BTU/hour)
LED displays		Network utilization Collision rate
Standards compliance		ANSI/IEEE Standard 802.3: 1996
Management	Model 001:	• Model 001 is unmanaged. It can be implemented as an unmanaged unit, or it can be managed by a Model 002 or Model 003.
	Model 002:	• Model 002 provides basic SNMP management.
	Model 003:	• Model 003 provides advanced RMON management (9 groups).
Management protocols	Model 002:	• SNMP (RFC 1157), Concise MIB (RFC 1212), MIB II (RFC 1213), Traps (RFC 1215), Repeater MIB (RFC 1516), Ethernet MIB (RFC 1643), Telnet (RFC 854-859), SNMP over IPX (RFC 1289), Novell HMI Specifications.
	Model 003:	• All protocols for Model 002, plus RMON (RFC 1757).

Certifications	EMC	• FCC Part 15, Subpart B, Class A • VCCI Class 1 ITE • Council Directive 89/36/EEC (EMC); EN55 022 (CE Mark) • (CISPR 22:1993), Class A
	Safety	• UL 1950, 2nd Edition • CE certified (European Community) • CSA certified (CSA 22.2 No. 950; Second Edition) • Council directive 73/23/EEC (Low Voltage Directive); (IEC 950, 2nd Edition), including Amendments 1, 2, and 3 and specific country requirements
	Quality	• EN 29001/ISO 9001
Supported cable types		100-ohm category 5 UTP, FTP, ScTP per ANSI/TIA/EIA 568-A. With appropriate impedance-matching devices: category 5, 120-ohm FTP, 150-ohm STP cables as specified in the ISO/IEC 11801 standard or CSA T529 IBM Cabling System types 1, 6, or 9 150-ohm STP or STP-A cable.
Installation		On a flat surface or rack-mounted. Rack-mounting brackets are included with the 8237.
Publications	GA27-4186	*IBM 8237 Ethernet Stackable Hub Installation and Planning Guide*
Warranty		One year



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