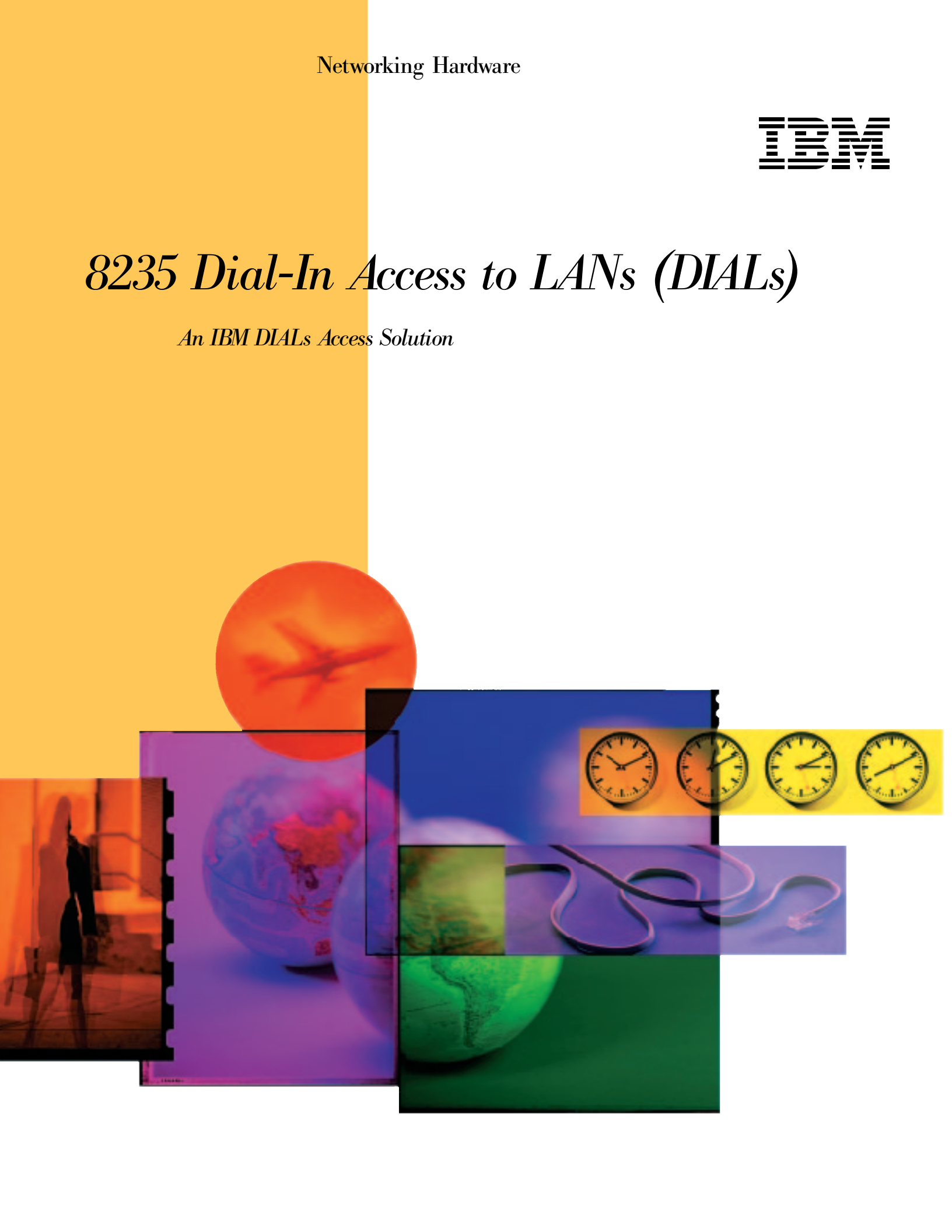


Networking Hardware



# *8235 Dial-In Access to LANs (DIALs)*

*An IBM DIALs Access Solution*





Today's sales force automation, telecommuting, **customer service,**

Internet and intranet application users demand

**fast,** *cost-effective* and **RELIABLE** connectivity.

The growing requirement for remote access is driven by user need for dial-in, dial-out

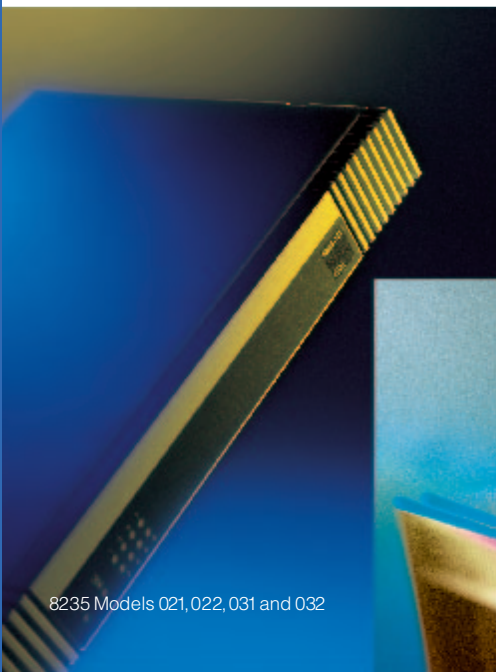
and LAN-to-LAN connectivity. Dial-in users need

**cost-effective** access to centralized LAN resources.

LAN-attached dial-out users need access to shared modems and phone lines.

And LAN-to-LAN connections are necessary as more and more

remote users depend on sharing **time-critical** information.

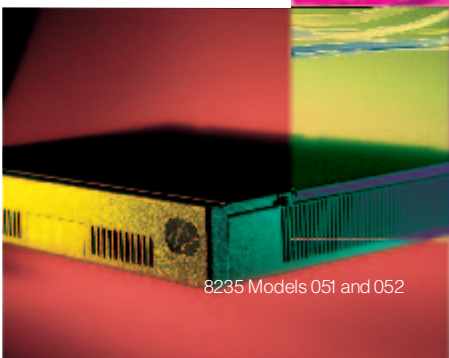


8235 Models 021, 022, 031 and 032



*The 8235 family of Dial-In Access to LANs (DIALs) products are multiprotocol, multiport, multifunction servers offering a range of remote access options for businesses ranging from small branch offices to the largest enterprises. Supporting dial-in, dial-out and LAN-to-LAN connections, the 8235 will help your remote access users connect easily, quickly, reliably and securely from wherever they are working.*

8235 Model 140 Switch



8235 Models 051 and 052

**Fast, cost-effective remote access.** IBM's 8235 DIALs family of products are dedicated, remote LAN access hardware servers for Token-Ring and Ethernet networks. The 8235 supports dial-in from remote sites, dial-out to off-site services, fax-out and LAN-to-LAN dial-up connections via high-speed analog and digital ISDN connections. The 8235 combines remote access, dial-up routing and modem-pooling in a single device that is simpler, more cost-effective and with a smaller footprint than multiple-device solutions.

8235 users can transfer files, print documents, send faxes and access the Internet, e-mail, client-server applications and databases without having to learn new commands or complicated procedures. And with support for models in varying sizes such as 2, 8 and over 100 ports, there's an 8235 for the smallest company or the largest corporation.

**Multuser, multiprotocol, multiplatform.** The 8235 provides a flexible platform for the various application requirements of your remote access users. Multiple users are supported via simultaneous operation of all ports, compression techniques and transmission speeds up to 128 Kbps with ISDN. Protocols supported include NetBIOS for LAN servers, IPX for NetWare, 802.2 LLC for 3270 and 5250, IP for TCP/IP applications, X.25 and AppleTalk on Ethernet. The 8235 comes with IBM DIALs client software that supports dial-in, dial-out and LAN-to-LAN connections for OS/2®, DOS and Windows®. Other clients supported include: Apple Macintosh, Windows 95, Windows NT® 3.5 and UNIX® clients as well as PPP and SLIP clients.

**From small businesses to large enterprises, there's an 8235 model for your needs.** The 8235 is available in seven models, with a range of management options and upgrade paths that protect your investment as your networks grow in size and complexity. Providing installation flexibility, the 8235 models can be installed as stand-alone units or can be rack-mounted.

**New software makes the best even better.** New software for all models of the 8235 features many enhancements, including support for ISDN. The software also features the addition of an OS/2 dial-out client, improved automation of remote client installation, extended management function using IP and added security support.

The new software extends IBM's dial-in technology with support for simultaneous, multiprotocol, PPP dial-in, auto-reconnection, virtual connections and channel aggregation.

The DIALs client now operates with a reduced memory requirement in a Windows VXD mode, providing a significant advantage over competitive dial-in solutions. The DIALs server is compatible with Windows NT, Windows 95, SLIP clients and most PPP protocol clients.

All earlier models of the 8235 can be upgraded to the new release level.

# connect

**Tariff Management saves time and money.** Over 85% of the cost of remote access is recurring support and telephone line charges. IBM's Tariff Management™ features help control costs and enhance performance for ISDN remote access users. The spoofing feature provides instant, on-demand reconnection to control actual connect time. By extending virtual connections and spoofing technology all the way to the user, the user's and the network's devices believe a connection exists even when the physical communications channel has been suspended. Due to the short, 1- to 3-second, build time for an ISDN connection (versus the typical 60-second build or tear-down time for an analog connection), users are reconnected on demand, with no requirement for re-logging or reentering passwords. Additional Tariff Management elements include B-channel aggregation using Multilink Protocol (MLP) for a full 128-Kbps throughput.

**Management made easy.** The 8235 DIALs Server includes Windows (or Win-OS/2) software that lets you configure, monitor and upgrade any number of 8235s from a single local or remote workstation using IP or IPX. You can also manage your 8235s using an SNMP manager. You can keep an activity log that records each incoming call from beginning to end, as well as any error conditions that exist. The activity log can be easily exported to another application for more detailed analysis. The management software also provides complete status information on all 8235s on your network.

Additional management options include support for Nways™ Manager for Windows and AIX® or management from a command shell using Telnet or an ASCII terminal as a management console.

**Designed for today's remote user.** Telecommuters, alternate work-site employees and mobile users will all benefit from the evolving technology of the IBM 8235 DIALs family of remote access servers. With integrated ISDN, enhanced management features and comprehensive security, the 8235 is the best solution for productive and cost-effective remote LANaccess. IBM can also provide education and consulting services to ensure that you specify and implement the most suitable remote access solution—as well as providing support services to operate your solution for maximum user benefit.

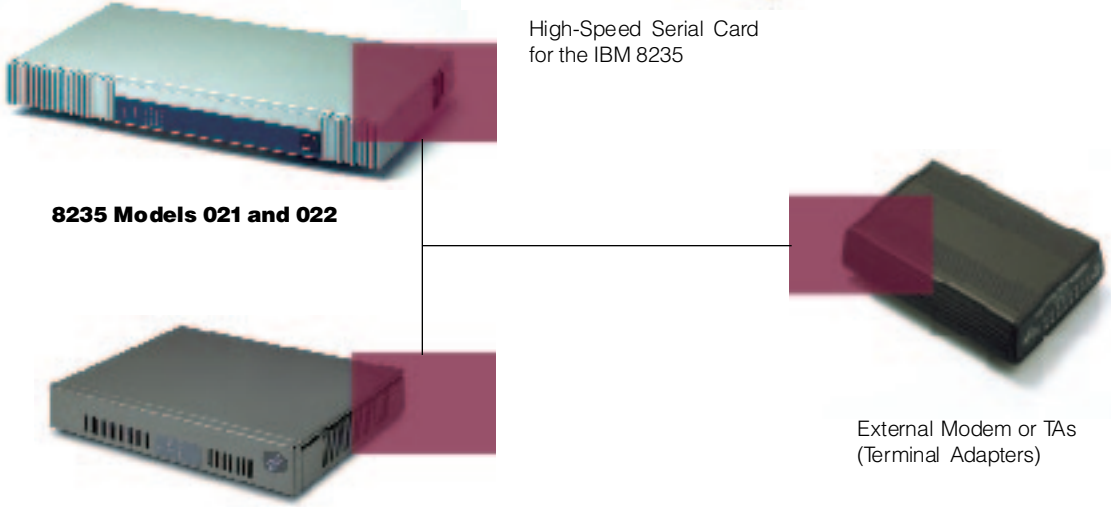
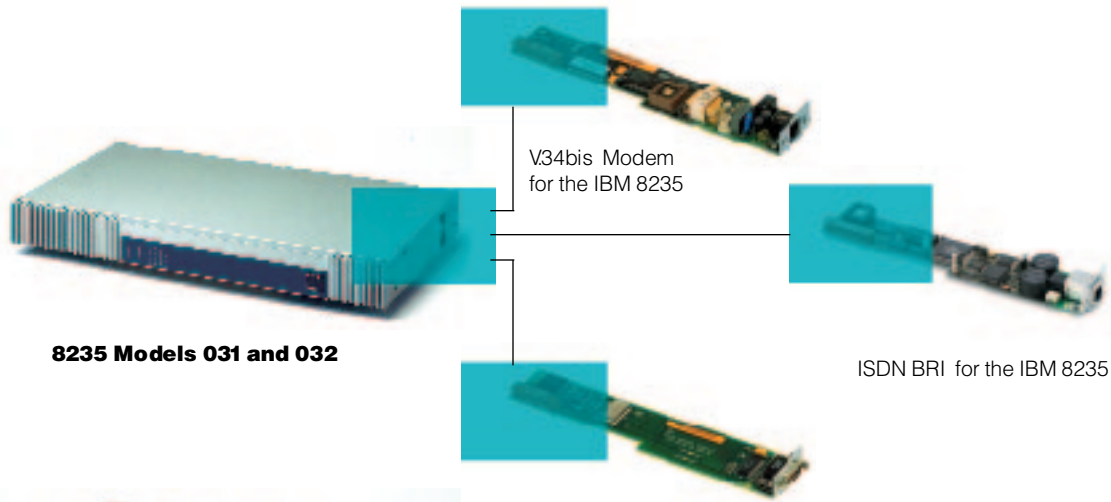
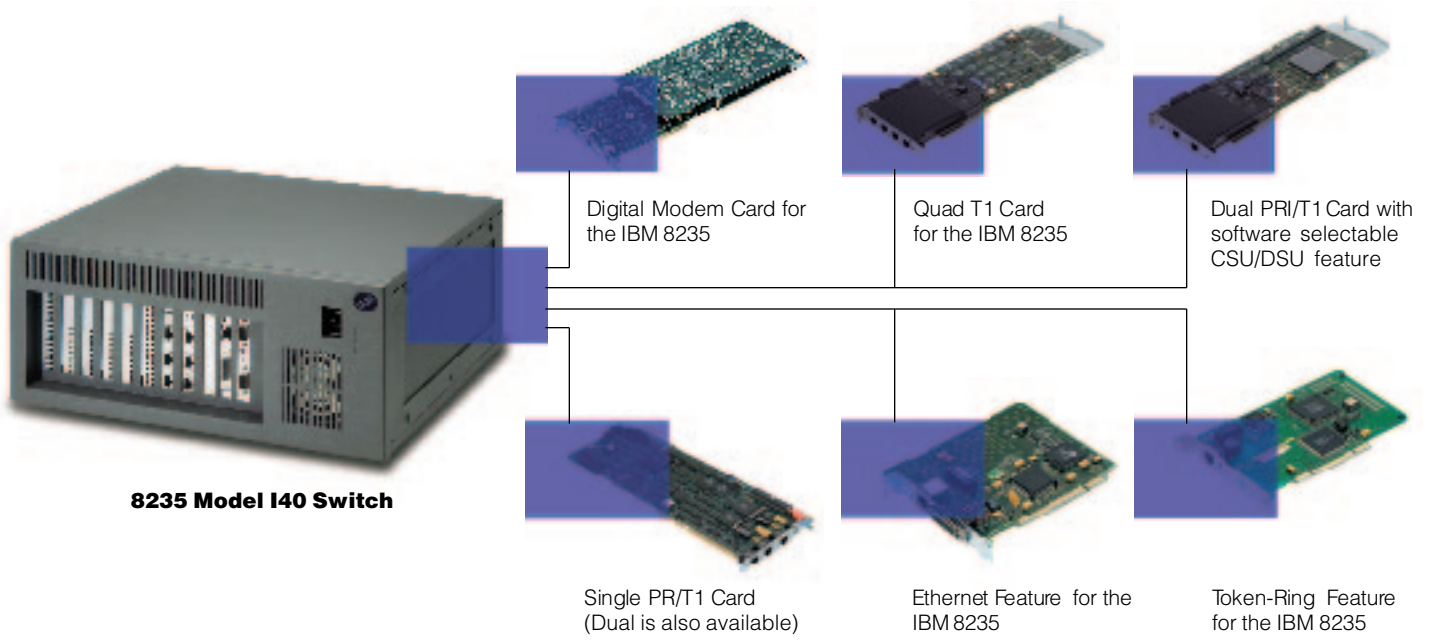
**Enhanced security options to protect your network.**

Security is a key issue for network managers. The 8235 has several security options that prevent unauthorized access to your network. The 8235 allows network managers to choose the method that works best for their organization. Included in those options are user lists, password aging, centralized 8235 user lists, administrator password, zone and device filtering and fixed and roaming dial-back.

Additional, third-party security solutions supported include SecurID Ready, NetWare Bindery, Remote Authentication Dial-in User Service (RADIUS), Blockade Systems, Digital Pathways and Terminal Access Controller Access Control System (TACACS+).

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**8235 DIALs Remote LAN Access Products**



## 8235 DIALs Remote LAN Access Products

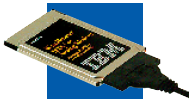
### IBM 33.6/14.4 Data/Fax Modem

The IBM 33.6/14.4 Data/Fax Modem operates at speeds up to 33.6 Kbps for data or 14.4 Kbps for fax. It is packaged as a PC Card for use in machines that have a PCMCIA Type II slot. It supports V34, V42bis and MNP 5 for high-speed data transmission with superior error correction and data compression. It features a sleep mode with remote wake-up function to conserve power. It has a modem saver feature to protect the modem from incompatible lines. It can be used with many cellular telephones by adding an optional cable kit. It has a lifetime warranty. Its high speed and low power consumption make it perfect for remote access.



### WaveRunner ISDN Digital Modem

The award-winning WaveRunner family of ISDN digital modems connects PCs over either ISDN at speeds up to 128 Kbps, or over existing telephone lines at 28.8 Kbps. Adapters for PCs with ISA or Micro Channel bus types are available, as well as the PCMCIA Type II PC Card shown on the left. These adapters are based on IBM's advanced Mwave<sup>®</sup> Digital Signal Processor to give you the best of both worlds: digital or analog. ISDN services are becoming available in many locations, often with very attractive tariffs. You can use these adapters with external ISDN Terminal Adapters for the IBM 8235 or soon with integrated ISDN support. Once you've used ISDN for remote access, you won't want to use anything else.



### 8235 Models 021 and 022:

Featuring eight 115.2-Kbps ports, Model 021 supports Token-Ring and Model 022 supports Ethernet.



Both models also support externally attached modems with connect speeds

of 28.8 Kbps and V.42bis (4x) compression, or asynchronous ISDN terminal adapters supplying two-channel aggregation with speeds up to 115.2 Kbps per port.

### 8235 Models 031 and 032:

Model 031 for Token Ring and Model 032 for Ethernet have eight plug-in slots that can be



configured with integrated modems and serial and BRI ISDN adapter

cards. The V34bis modem supports connect speeds up to 33.6 Kbps and speeds at the asynchronous port up to 115.2 Kbps with V42bis data compression and V42 error correction. The serial cards support port speeds up to 115.2 Kbps. Up to four ISDN adapters can be installed in the eight slots, providing ISDN connectivity for eight users (one user per B-channel) at speeds up to 64 Kbps each, or four users (using B-channel aggregation) at speeds up to 128 Kbps.

### 8235 Models 051 and 052:

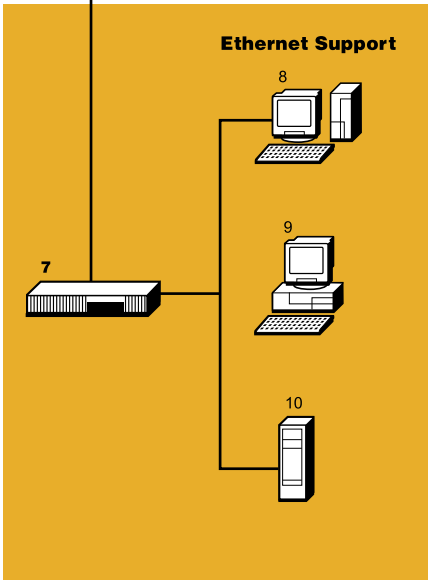
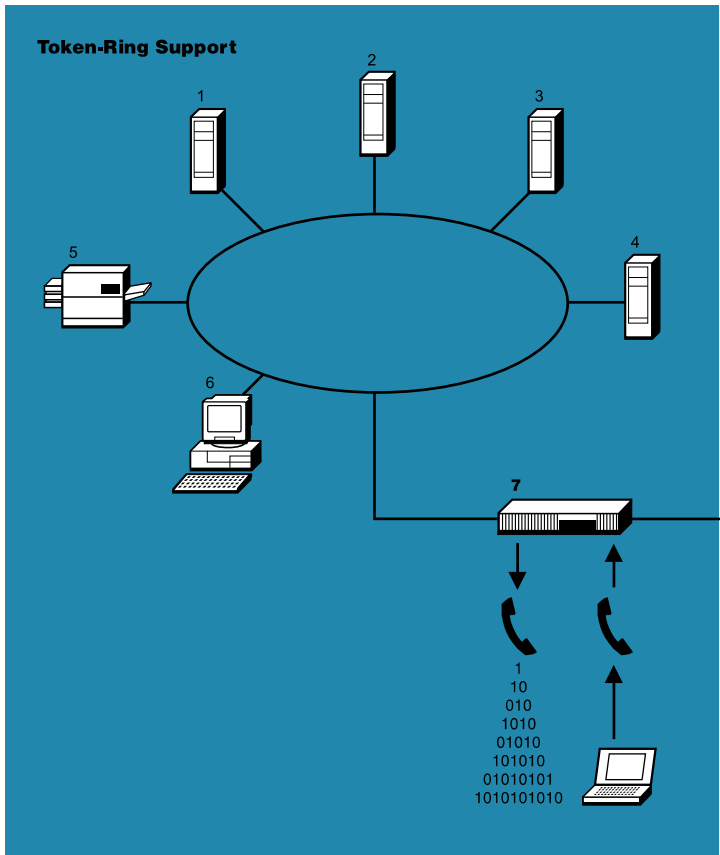
Providing full-function, remote access for small branch or home offices, the new Models 051 for Token Ring and 052 for Ethernet provide a compact, two-port version with functionality equivalent to the eight-port Models 021 and 022.



### 8235 Model I40 Switch:

Designed for the mission-critical, remote access requirements of today's larger enterprises, the 8235 Model I40 is a high-capacity, remote networking switch for large-scale ISDN and high-speed analog remote access. Providing ISDN, T1 and E1 support, the I40 is your high-bandwidth, remote access solution. The Model I40 is designed to support over 100 simultaneous, mixed ISDN/analog sessions through multiple T1, E1 and PRI access lines with maximum performance. High-performance, multiprocessor architecture with up to 200 MIPS of aggregate processing power provides unmatched performance speed and throughput.





- 1. *TCP/IP, Netware or LAN Server*
- 2. *Notes Server*
- 3. *Mail Server*
- 4. *SNA Gateway*
- 5. *Printer*
- 6. *PC or UNIX*
- 7.** *8235*
- 8. *Macintosh*
- 9. *PC*
- 10. *Server*



<b>Features</b>	<b>Benefits</b>
<b>Optimized for remote access</b>	All hardware, firmware and software components are optimized for superior end-to-end performance, especially with more than one user at a time or with slow telephone lines.
<b>Easy to use</b>	Remote users connect to the host network and work in their OS/2, Windows, Windows NT, Windows 95, DOS, Macintosh or UNIX environment without retraining or changes to their applications. Little or no training is required to install, manage or use IBM's 8235.
<b>Superior interoperability</b>	Integrates with the world's leading networks, network operating systems, servers, computers and software applications like Windows NT, Windows 95 and OS/2, LAN Server and NetWare, Notes and others. Fits right into your multiprotocol, multisupplier network.
<b>Highly scalable</b>	Support growing numbers of remote users or LAN-to-LAN connections by stacking 8235s to support multiple lines in a compact rack. The software license you receive when you purchase an 8235 can be used to connect as many clients to 8235s as you need. A complete family of products providing from 2 to over 100 ports allows additional users to be added at any time.
<b>Dial-in, dial-out with modem-pooling and LAN-to-LAN connections</b>	A total solution for remote access and small offices: one remote access server, and three ways to connect.
<b>Highly manageable remote access solutions from remote, local or centralized locations</b>	Reduces management workload and increases network availability and user satisfaction with graphical management applications using industry-standard SNMP protocols on any local or remote Windows system. Uses the built-in administration functions for NetWare. Supports centralized management for maximum efficiency. Additional support for Nways Manager for Windows and AIX.
<b>Comprehensive security with passwords, centralized authorization or dial-back</b>	The IBM 8235 has its own list of users with password protection, or you can use the NetWare Bindery for centralized authorization. The IBM 8235 also supports the Security Dynamics ACE/Server and most hand-held authentication devices. A TACACS client is also provided for DCE Kerberos users. Support for RADIUS, Blockade Systems and Digital Pathways.
<b>Dial-out for remote services and fax</b>	Users on the LAN can dial out using the same lines and modems used for incoming calls. Maximize resources and minimize costs.
<b>LAN-to-LAN connections</b>	Create multiprotocol WAN connections over analog or digital dial-up lines. It's a cost-effective way to link branch offices to the corporate LAN.
<b>Integrated or external modems</b>	Use the modems you have or use integrated modems to save space. Mix line speeds to match your users' requirements. You can mix serial cards and integrated modems to support both external and internal modems, and upgrade to higher speed lines or ISDN at your own pace.
<b>Performance</b>	STAC compression is available for use with ISDN or cellular connections to improve throughput and lower connection charges.
<b>Tariff Management</b>	Uses virtual connections, channel aggregation, call-back and compression to reduce connection costs.

**For more information**

To find out more about how the IBM 8235 DIALs Server can be your high-performance solution for remote networking, contact your IBM representative or call IBM Direct at 1-800-IBM-CALL(1-800-426-2255).

You can also obtain information from the IBM Networking Home Page at <http://www.networking.ibm.com> or from the IBM FAX Information Service by dialing 1-800-IBM-4-FAX (1-800-426-4329) in the U.S. or Canada, or by dialing (415) 855-4329 outside the U.S. and Canada.





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