8230 Controlled Access Unit Models 003, 013, and 213



Small office or large office, your choice of models and features

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Highlights

The IBM 8230 Controlled Access Unit Models 003, 013, and 213 are intelligent, token-ring workgroup concentrators that provide flexible connectivity for anywhere from 2 to 92 devices (operating at 4 or 16 Mbps) on a token-ring network. They are an enhancement to other members of the 8230 family that deliver the management, security, and reliability of an intelligent hub at a price that is cost-effective for even the smallest workgroup.

Models 003, 013, and 213 are the most granular and modular, intelligent, token-ring concentrators on the market. They can provide economical, intelligent access for as few as 2 device attachments and as many as 92 devices in 2-, 3-, or 4-port increments using a selection of Lobe Insertion Units (LIUs) and Lobe Attachment Modules (LAMs). The affordability of Model 003 is further enhanced by making the Dual-Ring Redundancy feature and Ring-In/Ring-Out functions optional. This lets you match the unit's entry price and capabilities more closely to your needs. The Dual-Ring Redundancy feature is standard for Models 013 and 213. This feature is required if any of the Ring-In/Ring-Out modules are installed. Ring-In/Ring-Out enables connection of the 8230 to other network devices on the main ring path.

Models 003, 013, and 213 accept and integrate a variety of cable types, offer a broad range of attachment options, support industry-standard Simple Network Management Protocol (SNMP) or Common Management Information Protocol over Logical Link Control (CMOL), and provide enhanced reliability.

Because they combine low cost and high functionality, these 8230 models are ideal for use in locations such as branch offices with workgroup concentration, with or without management. You can connect remote sites to corporate networks for centralized network management and improved reliability while gaining immediate access to remote data. You

can also use 8230s to provide distributed concentration for offices spanning several floors of a building using a collapsed backbone.

Mix-and-match cabling

For maximum configuration flexibility, these 8230 models let you mix a variety of different wiring types in the same base unit. Using various LIUs and LAMs, they can support combinations of:

- Shielded twisted-pair (STP) wiring
- Categories 3, 4, and 5 unshielded twisted-pair (UTP) wiring

Flexible device attachment

Models 003, 013, and 213 give you many options for attaching devices:

- Attach up to 20 devices to the base unit using any combination of one to five 2-port, 3-port and 4-port LIUs. These LIUs let you mix and match active and passive UTP and IBM Cabling System (ICS) connections within a single Model 003, 013, or 213. This eliminates the need for a separate access unit to manage each type of connection or to manage some connections manually.
- Attach IBM Model 8228 Multistation Access Units or IBM 8226 Token-Ring RJ-45 Connections to a Model 003, 013, or 213 base unit (in a fanout mode) using ICS or RJ-45 LIUs.
- Attach up to three 8230 ICS or shielded RJ-45 LAMs to either Model 003, 013, or 213, each of which provides up to 20 passive STP or UTP station attachments.
- Attach up to three 8230 shielded UTP LAMs to Model 213, each of which provides up to 20 active UTP station attachments.
- Attach one of several Ring-In/Ring-Out modules (require Dual-Ring Redundancy feature card) to connect Model 01 in ring using ICS or RJ-45 STP or optical fiber media. Or, upgrade your Model 003 with these features.

Extended network distance

In addition to the above connections, these 8230 models let you attach an active or passive, 16-port, RJ-45 Remote LAM (RLAM) up to 100 meters (328 feet) from the base unit, which effectively increases the lobe length of RLAM-attached devices up to 200 meters (656 feet). This, in turn, reduces wiring costs and the need for additional access units, therefore lowering the cost of using collapsed backbones.

Network management

Models 003, 013, and 213 can operate in a small network with no management or in a managed environment supporting either CMOL or SNMP management. In addition, they can be managed with other vendors' equipment and do not need their own management devices. The 8230s can be centrally managed, locally or remotely, using out-of-band management available through the units' EIA 232 port.

Management of Models 003, 013, and 213 in CMOL mode is supported by Version 2 of IBM LAN Network Manager for OS/2. Local support (on the LNM for OS/2 workstation) will be offered in a PTF to LNM V2 by June of 1995 (see announcement letter 294-549). Model 003 is CMOL enabled and can be managed by LNM V2.0 and the PTF. Models 013 and 213 will be CMOL enabled and manageable by LNM V2.0 via a microcode update by September of 1995.

LNM for OS/2 V2 provides full management of the 8230s including time-of-day access control, password security for configuration changes, enabling/disabling of ports, and remote microcode update. LNM offers a graphical display of the hub with color-coded indications of port status. NetView for S/390 management of the 8230 models through an SNA session connection to LNM V2 will be enabled in a later PTF to LAN Network Manager.

NetView MultiSystem Manager will provide support of Models 003, 013, and 213 no later than 1Q96.

SNMP management of the Models 003, 013, and 213 is provided by IBM LAN Network Manager for AIX running on the NetView for AIX platform. LNM for AIX provides full management of the 8230s, including time-of-day access control, enabling/disabling of ports, remote microcode update, and token-ring segment utilization.

NetView for Windows currently supports Models 003 and 013 using the product-specific code supplied as part of the 8230 ship group. Now, the NetView for Windows platform code and the 8230 product-specific code for Models 003, 013, and 213 are available in a single package. (Please see the announcement of IBM Nways Manager for Windows for specifics.)

Improved reliability

Models 003, 013, and 213 provide a variety of capabilities that ensure your network continues to function smoothly. These include:

- Self-correcting connections that reduce downtime and automate recovery from many network faults.
- Beacon recovery algorithms that quickly isolate and remove faults that cause beaconing. This lets you restore normal operation to the network and allows applications to continue network services.
- Network management via SNMP or CMOL that lets you monitor, diagnose, and repair the network more easily. In addition, remote management saves money by reducing the need to travel to the network site to diagnose and repair problems.

- Dual-Ring Redundancy that provides backup paths to all network connections for fast recovery from network disruptions. The Dual-Ring Redundancy feature implements the 802.5 Dual-Ring standard with wrap-back reconfiguration. This means that main ring faults will be detected and the segment containing the fault will be removed within seconds. This improves availability because it eliminates manual intervention for locating and repairing the fault. When the faulty segment is repaired, it is automatically returned to the ring.
- Speed detection

What you get

The IBM 8230 Controlled Access Unit Models 003, 013, and 213 are packaged with the following items:

- Installation and Service Guide
- Service Facility Kit - includes Reference Guide and CMOL and SNMP microcode diskettes
- Power cord
- Operating instructions

For more information

To learn more about Models 003, 013, and 213 call your IBM marketing representative or IBM Direct at 1-800-IBM-CALL. Or contact your local IBM authorized remarketer.

IBM 8230 Controlled Access Unit Models 003, 013, and 213 at a glance	
Machine type	8230 Model 003, PN 59G7719 8230 Model 013, PN 59G7727 8230 Model 213, PN 25H6259
System requirements	Dual-Ring Redundancy feature is required to use any of the five Ring-In/Ring-Out modules Model 213 is required for use with shielded UTP LAM (PN 13H6748)
Protocol	IEEE 802.5 token ring at 4 or 16 Mbps (switch-selectable)
Module support	Lobe Insertion Units - ICS 2-port, UTP 3-port (active), UTP 4-port (passive); Ring-In/Ring-Out modules - ICS, shielded RJ-45, optical fiber, ICS/optical fiber, optical fiber/ICS Up to three ICS or shielded RJ-45 LAMs (Models 003, 013, 213) Up to three shielded UTP LAMs (Model 213) One active or passive Remote Lobe Attachment Module (via the RLAM LIU)

Management mode	SNMP or CMOL (Model 003 - now; Models 013 and 213 - 9/95)
Error and status displays	LEDs for Power, Ready, and LAM status (operational, not operational, bypassed by network management) Hex display for error codes and diagnostic messages
Switches	4- or 16-Mbps ring speed CMOL or SNMP management mode (appropriate microcode level is required) 115 or 230 volts
Physical specifications	Width: 483.00 mm (19.00 in.) Depth: 362.00 mm (14.25 in.) Height: 133.00 mm (5.25 in.) Weight: 7.7 kg (17.0 lb) Models 003, 013; 9.0 kg (20.0 lb) Model 213
Operating environment	Temperature: 50° to 104°F (10° to 40°C) Relative humidity: 8% to 80% Electrical power: 17 K va Models 003, 013; 53 K va Model 213 Noise level: less than 74 dB
Warranty	One year

Feature	**Benefit**
Improved granularity and modularity	Provides affordable concentration for as few as 2 or as many as 92 devices Accommodates incremental network growth Lets you tailor hub capabilities to your need
Dual-Ring Redundancy feature	Reduces network downtime by providing alternate paths for all connected devices Adds two additional MACs (PI and S) to the one MAC function (PO) provided, for performing dual-ring recovery
Ring-In and Ring-Out modules	Provide connection between the main ring path and Models 013 or 213 (or an upgraded Model 003) base unit Support RI/RO via optical fiber, shielded RJ-45, ICS, ICS/optical fiber, optical fiber/ICS
Lobe Insertion Units	Support Category 3/4/5 UTP and STP cable
EIA 232 communications	Provides out-of-band SNMP initialization port via CCMF. Provides CCMF function in SNMP and CMOL
Flash memory	Lets you update microcode via software download
Faster processor	Speeds download to flash memory
Error and status displays	Simplify troubleshooting and performance monitoring
Compatibility with other 8230 products	Preserves your equipment investment Standardizes network equipment requirements

Feature	Benefit
	Coexists with other token-ring concentrators and hubs
Automatic speed detection	Reduces errors and simplifies management Helps avoid network interrupts

Lobe Attachment Modules (LAMs)	
Option	**Part number**
Shielded RJ-45 (passive)	13H6738
Shielded UTP (active) for Model 213 only	13H6748
ICS (passive)	53F5501
Passive RLAM	73G8710
Active RLAM	04H8225
Lobe Insertion Units (LIUs)	
Shielded RJ-45 RI/O	73G2007
UTP 3-port active	73G2008
UTP 4-port passive	73G2009
Optical Fiber RI/O	73G2010
ICS 2-port passive	73G2011
ICS RI/RO	59G7737
ICS/Optical Fiber RI/RO	59G7751
Optical Fiber/ICS RI/RO	59G7754
RLAM LIU	04H8230
Other Features	
Dual-Ring Redundancy	73G2029

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