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

IBM 8230 Controlled Access Unit

- **Provides the most granular and modular, intelligent, Token-Ring concentrators on the market**

- **Combines low cost and high functionality**

- **Provides multiple device attachment options**

- **Five models to support a variety of environments**

Model 3

Model 4

The IBM 8230 Controlled Access Unit Models 003, 013 and 213 are intelligent, Token-Ring workgroup concentrators that provide flexible connectivity for any-where from 2 to 92 devices (operating at 4 or 16 Mbps) on a Token-Ring network. The 8230 Models 04A and 04P are suitable for a variety of environments in which low-end Token-Ring concentration is required.

Product Overview

Models 003, 013 and 213

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 RI/RO functions optional. The Dual-Ring Redundancy feature is standard for Models 013 and 213. This feature is required if any of the RI/RO 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 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.

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. And 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.

Models 04A and 04P

The IBM 8230 Controlled Access Unit Models 04A and 04P are suitable for a variety of environments in which low-end Token-Ring concentration is required. Like the IBM 8228 and 8226 they offer basic concentration at a reasonable price per port. They are ideally suited for remote branch offices, for example, in the banking, insurance, real estate and transportation industries. With the addition of an RI/RO feature, and with the built-in capability for management by CMOL or SNMP, Models 04A and 04P can also participate in larger LANs, connected to other models of the 8230, 8250 and 8260. This ability to grow from a single LAN segment to participation in a fully managed, multiple LAN configuration is a key advantage of Models 04A and 04P and a protection of customer investment.

Model 04A is an active model in which the Token-Ring signal is retimed and amplified. Model 04P is for a passive configuration in which retiming is not a requirement. Both models have 16 shielded, RJ-45 ports for device attachment, an EIA-232 port for out-of-band management and a slot for the optional RI/RO feature. The copper RI/RO feature has shielded RJ-45 connectors; the optical fiber feature has ST connectors for multimode fiber. Models 04A and 04P can be installed as desktop concentrators or can be rack-mounted. Network management, described in more detail later, is available for either a CMOL application such as LAN Network Manager for OS/2 (Version 2.0 or higher) or an SNMP platform such as LAN Network Manager for AIX. Four Token-Ring RMON groups are also supported.

These models bridge the gap in product offerings between the limited-function, low-price, single-media, unmanaged offerings like the 8228 and 8226, and the higher function, fully managed, multiple-media models like the 8230 Models 003, 013 and 213.

Models 04A and 04P can operate in a small network with no management or in a managed environment supporting either CMOL or SNMP management. And 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.

Benefits

- Improved granularity and modularity (Model 003) provide affordable concentration for as few as 2 or as many as 92 devices, accommodate incremental network growth and let you tailor hub capabilities to your needs.

- Dual-Ring Redundancy feature (Model 003) reduces network downtime by providing alternate paths for all connected devices and adds two additional MACs (PI and S) to the one MAC function (PO) provided, for performing dual-ring recovery.

- Device attachment (Model 04) provides affordable concentration for as few as 1 or as many as 16 devices and accommodates incremental network growth.

- RI/RO modules provide connection between the main ring path and Models 013 or 213 (or an upgraded Model 003) base unit and support RI/-RO via optical fiber, shielded RJ-45, ICS, ICS/optical fiber and optical fiber/ICS.

- LIUs support categories 3, 4 and 5 UTP and STP cable.

- EIA 232 communications provide out-of-band SNMP initialization port via CCMF and provide CCMF function in SNMP and CMOL.

- Flash memory lets you update micro-code 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 and enables the 8230 to coexist with other Token-Ring concentrators and hubs.

- Automatic speed detection reduces errors and simplifies management, and helps avoid network interrupts.

8230 Controlled Access Unit Specifications

Physical specifications

Model	Width	Depth	Height	Weight
003	483 mm (19 in.)	362 mm (14.25 in.)	133 mm (5.25 in.)	7.7 kg (17 lb)
013	483 mm (19 in.)	362 mm (14.25 in.)	133 mm (5.25 in.)	7.7 kg (17 lb)
213	483 mm (19 in.)	362 mm (14.25 in.)	133 mm (5.25 in.)	7.7 kg (17 lb)
04A	483 mm (19 in.)	407 mm (16.02 in.)	85 mm (3.35 in.)	5.4 kg (12 lb)
04P	483 mm (19 in.)	407 mm (16.02 in.)	85 mm (3.35 in.)	5.4 kg (12 lb)

Operating environment

Model	Temperature	Relative humidity	Electrical power	Noise level
003	50° to 104°F (10° to 40°C)	8% to 80%	0.17 K VA	< 74 dB
013	50° to 104°F (10° to 40°C)	8% to 80%	0.17 K VA	< 74 dB
213	50° to 104°F (10° to 40°C)	8% to 80%	0.53 K VA	< 74 dB
04A	50° to 104°F (10° to 40°C)	8% to 80%	0.53 K VA	45 dB
04P	50° to 104°F (10° to 40°C)	8% to 80%	0.53 K VA	45 dB

Protocol	Management	Switches
IEEE 802.5 Token-Ring at 4 or 16 Mbps	SNMP or CMOL	4- or 16-Mbps ring speed SNMP or CMOL mode

Models 003, 013 and 213 optional features

Description	FC
ICS 2-port LIU	2011
UTP 3-port LIU	2008
UTP 4-port LIU	2009
ICS RI/RO (copper)	7737
Shielded RJ-45 RI/RO	2007
Optical Fiber RI/RO	2010
ICS/Optical Fiber RI/RO	7751
Optical Fiber/ICS RI/RO	7754
Dual-Ring Redundancy upgrade (Model 003 only)	2029
8230 LAM (for ICS)	5501
Shielded RJ-45 LAM (passive)	6738
Shielded UTP LAM (active)	6748

Workgroup Hubs

Token-Ring

Models 004 optional features

Description	FC
RJ-45 RI/RO	5450
Optical Fiber RI/RO	5458

Key Customer Benefits

- Low-cost, highly reliable solution
- Provides a migration path for users with low-end Token-Ring product requirements who might later require participation in larger LANs
- Models 04A and 04P serve multiple markets for low-end Token-Ring concentration
- Provides choice of network management through in-band or out-of-band connection, and a choice of CMOL or SNMP protocols.

Supplementary Information

The following sales tools are available for the 8230:

- Specification sheets:
  8230 CAU Model 3, Model 13 and Model 213, G221-4049-01
  8230 CAU Model 4A and 4P, G224-4433-00

- Information on the IBM 8230 is available at:
  www.networking.ibm.com/823/823prod.html