

7012-355 IBM RS/6000 Model 355

IBM Canada Sales Manual
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Table of contents

↓ Product life cycle dates	↓ Technical description
↓ Abstract	↓ Publications
↓ Highlights	↓ Features
↓ Description	↓ Accessories
↓ Models	↓ Supplies

Product life cycle dates

Type	Announced	Available	Marketing	Service
Model			Withdrawn	Discontinued
7012-355	1993-02-02	1993-02-26	1994-10-26	2012-12-31

↑ [Back to top](#)

Abstract

IBM UNIX systems consist of the IBM eServer pSeries and IBM RS/6000 product lines. Providing unprecedented value, these innovative systems feature IBM's leading-edge technology and run the top-rated UNIX operating system, AIX. This broad product line ranges from powerful workstations ideal for mechanical design; to mission-critical symmetric multiprocessing (SMP) servers for ERP, SCM, CRM, transaction processing, and Web serving; up to parallel RS/6000 SP systems that can handle demanding scientific and technical computing and business intelligence tasks. These platforms provide the power to create change and the flexibility to manage it, with thousands of applications that provide real value. More than 1,000,000 systems have shipped to over 135,000 businesses worldwide.

Model abstract 7012-355

The 355 system is a newly-packaged desktop workstation member of the RS/6000* family and is excellent in the areas of price and performance for a broad range of technical workstation applications, including Electrical Design Automation (EDA), Entry Mechanical Computer Aided Design (MCAD), and Architecture/Engineering/Construction (AEC). The Model 355 offers a 41-MHz processor, 16-MB to 128-MB memory, 400-MB to 4-GB internal disk, two Micro Channel Feature Card slots, the POWERdisplay 16 or POWERdisplay 19 high resolution colour display, the POWER Gt3i - a 2D colour graphics adapter, and 1-2 user AIX/6000 and AIXwindows 2D licenses. The IBM POWERdisplay 17-inch monitor has an actual viewable screen size of 16.1 inches when measured diagonally. The IBM POWERdisplay 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally. Customers can select up to a 3D graphics adapter or the POWER GTO Accelerator. The Model 355 also offers a wide range of optional workstation features allowing the system to be configured as a powerful and attractively priced workstation.

Note: The 7012 Model 355 is shipped with a POWERdisplay 16 as a "standard feature". The IBM POWERdisplay 16-inch monitor has an actual viewable screen size of 14.8 inches when measured diagonally. The POWERdisplay 19 may be ordered as a select feature in place of the POWERdisplay 16 on the initial plant order at an additional charge. The IBM POWERdisplay 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally. The IBM 6091 displays referenced in the following text is no longer required on the initial system order. However, they remain as a supported display.

Note: The 7012 355 is shipped with a POWERdisplay 17 as a :q.standard feature:eq.. The POWERdisplay 19 may be ordered as a select feature in place of the POWERdisplay 17 on the initial plant order for an additional charge. The IBM POWERdisplay 17-inch monitor has an actual viewable screen size of 16.1 inches when measured diagonally. The POWERdisplay 16 and IBM 6091 displays referenced in the previous text are no longer available on these systems.

↑ [Back to top](#)

Highlights

See Model Highlights.

Model highlights 7012-355

- Desktop Model with both vertical or horizontal orientation
- IBM POWER or PowerPC Architecture
- Multiple distributed I/O processors
- Memory - 16 MB to 128 MB
- Internal Disk - 400 MB to 4 GB
- Integrated SCSI Controller
- Integrated Ethernet Interface
- Micro Channel* Feature Card Slots (2 to 4)
- One 3.5-inch 1.44-MB Internal Diskette Drive
- Two Serial Ports
- One Parallel Printer Port
- Processor - 41 MHz
- Instruction Cache size of up to 32 KB

[↑ Back to top](#)

Description

The Model 355 package is a powerful technical workstation offering for interactive 2D applications. Intensive applications such as card design, chip design, digital, and analog simulation, mechanical and architectural design and drafting are supported on this system. Feature selects are available to replace the standard POWER Gt3i 2D graphics adapter with a 3D adapter or the POWER GTO Accelerator, to support interactive 3D graphics applications. The 355 has a processor capable of higher levels of performance and productivity than previously available RS/6000 desktop systems.

The 355 is packaged for easy configuration and ordering and have been designed to grow with the customer's needs. The standard memory of 16MB on the Model 355, can be increased to 128MB. The single memory expansion slot in these systems can be configured with the base standard memory, or a memory card of greater capacity, up to 128MB. One internal 400MB SCSI disk is standard. Two disk drives can be installed in the system for up to 4 GB of internal disk. The POWER Gt3i utilizes one of the two Micro Channel slots available. The other Micro Channel slot is available for an additional feature, such as an additional SCSI controller, expanded graphics capability, or communications.

Three different colour monitors are selectable, all offering 1280 x 1024 colour capability. The 6091-016 and 6091-19i are 16-inch and 19-inch, respectively, high resolution colour monitors which support International Organization for Standardization (ISO) 9241 Part 3 recommendations for Video Display Terminal (VDT) ergonomics, with respect to screen flicker and character appearance. The IBM 6091 16-inch monitor has an actual viewable screen size of 14.8 inches when measured diagonally. The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally. When used with the appropriate graphics adapter at 77Hz (such as the standard POWER Gt3i), these monitors offer a high-quality, flicker reduced display. The 6091-023 is a 23-inch high resolution colour monitor which does not support the ISO recommendations above. The IBM 6093 23-inch monitor has an actual viewable screen size of 21.4 inches when measured diagonally. Included with the package is a 1-2 user license for AIX/6000 version 3.2.3 Extended and AIXwindows 2D. A feature select is available for AIXwindows 2D to add the AIX Windows 3D feature, if a 3D adapter and applications require it.

Note: The 7012 355 is shipped with a POWERdisplay 17 as a :q.standard feature:eq.. The POWERdisplay 19 may be ordered as a select feature in place of the POWERdisplay 17 on the initial plant order for an additional charge. The POWERdisplay 16 and IBM 6091 displays referenced in the previous text are no longer available on these systems.

Designed with IBM's POWER Architecture, the system unit contains a Processor Board with an integrated SCSI I/O controller and Ethernet interface, system board, memory board, power supply, cooling fans, clock battery, disk, diskette drive, and operator panel. The integrated SCSI-1 I/O controller supports up to two internal SCSI disk drives and up to five external SCSI devices. The integrated Ethernet interface is compatible with IEEE 802.3 and Ethernet external interfaces. The integrated Ethernet interface is standard with a Thick/Thin cable connector. A Twisted-Pair cable connector is

available by ordering Specify Code #9001 on the initial plant order. Connection to the network is the standard cables supplied by the customer.

Reliability, availability, and serviceability are key considerations in the design of the RS/6000 systems. CPU chips have data parity in their data paths and on internal arrays, CPU chip to chip data buses have parity, and the Micro Channel bus supports parity on some adapters. CPU chips implement a unique built-in self test to detect CPU errors during power up. The memory subsystem is also tested extensively during power up. The memory subsystem provides Error Correction Code (ECC) designed to detect double bit errors and detection and correction of single bit errors. Memory Control also supports hardware assisted memory scrubbing for removal of soft failures.

The Operator Panel contains a Key operated Mode switch, Reset pushbutton, and three 7-segment LED indicators. The LED indicators can be rotated by 90 degrees to provide the proper orientation for the vertical or horizontal position. The key operated Mode switch has three positions and helps to provide logic security to the system. The lock helps to provide physical security and prevent cover removal when in the locked position.

One optional, additional 3.5-inch disk may be installed internally. Additional external media devices may also be attached. For a detailed description of these products reference the "Devices Supported" section of this Sales Manual for those devices.

Standard Features Include:

- 16MB of memory on the 355
- One 1.44MB 3.5-inch Diskette Drive
- One 400MB 3.5-inch SCSI Disk Drive
- One integrated SCSI-1 I/O Controller, supports up to seven devices, two internal and five external
- One integrated Ethernet interface
- 2D (POWER Gt3i) colour Display Adapter
- One Micro Channel Feature Card Slot is available for expansion
- Keyboard
- Mouse
- Standard Device Ports/Connectors:
 - Tablet
 - Two Serial Ports
 - Parallel Printer Port

Note: MB is 1,048,576 bytes (two to the twentieth power) when referring to memory; in all other cases it is 1,000,000 (ten to the sixth power). GB is 1,073,741,824 bytes (two to the thirtieth power) when referring to memory; in all other cases it is 1,000,000,000 (ten to the ninth power).

[↑ Back to top](#)

Models

Model summary matrix

Model	CPU In MHZ	Memory	Internal Disk	Micro Channel	SCSI Controller
355	41	16MB to 128MB	400MB to 4GB	2 slots	Yes

Model	Ethernet Interface	Diskette Drive	Std Dev Ports & Connection	Graphics Adapter	Color Display
355	Yes	Yes	Yes	Gt3i	Yes

Customer setup (CSU)

Yes. IBM continues to install and service all MES features and model conversions.

Effective for machines installed after December 31, 1993, customers can initially install their own machines or choose to have IBM perform this service for an additional fee. Customers who want to have IBM initially install their machines must pay an additional fee at the IBM hourly classification.

IBM hourly service may be obtained by calling the IBM service/exchange communications centre at 800/IBM-SERV. The IBM hourly service is available at the applicable rate and terms, including element exchange price if applicable.

All other terms and conditions are the same as those applicable to the RS/6000 system in which the feature is installed.

Devices supported

RS/6000 System Rack:

Attachment of the 7015-R00 rack is supported for mounting rack drawers that are supported by this system. The R00 System Rack provides mounting space and power for those drawers. The 1.6 metre rack meets the requirements of the Electronics Industries Standards (EIA) EIA-310C standard. An EIA is a unit measure of vertical mounting space that equals 44.45 mm (1.75 inches). The R00 System Rack has 32 EIA units of vertical mounting space. Each drawer installed in the R00 rack requires a placement code to designate assignment to a particular rack.

External I/O

- IBM 3490E Models E01 and E11 Tape Subsystem
- IBM 3494 Model B18 Virtual Tape Server
- IBM TotalStorage Virtual Tape Server Model B10
- IBM TotalStorage Virtual Tape Server Model B20
- IBM Magstar MP Tape Subsystem
- IBM Magstar MP 3570 Model C00 Tape Subsystem
- IBM Magstar MP 3570 Model C01 Tape Subsystem
- IBM Magstar MP 3570 Model C02 Tape Subsystem
- IBM Magstar MP 3570 Model C11 Tape Subsystem
- IBM Magstar MP 3570 Model C12 Tape Subsystem
- IBM Magstar MP 3575 Tape Library Dataserver Model L06
- IBM Magstar MP 3575 Tape Library Dataserver Model L12
- IBM Magstar MP 3575 Tape Library Dataserver Model L18
- IBM Magstar MP 3575 Tape Library Dataserver Model L24
- IBM Magstar MP 3575 Tape Library Dataserver Model L32
- IBM 3590-B11 Magstar Silo Compatible Frame
- IBM 3590-B1A Magstar Silo Compatible Frame
- IBM 3590-C12 Magstar Silo Compatible Frame
- IBM 3995 Model C60 Optical Library
- IBM 3995 Model C62 Optical Library
- IBM 3995 Model C64 Optical Library
- IBM 3995 Model C66 Optical Library
- IBM 3995 Model C68 Optical Library
- IBM 7203 External Portable Disk Drive Model 001
- IBM 7204 External Disk Drive Model 001
- IBM 7204 Model 112 1.1GB External Disk Drive
- IBM 7204 Model 113 2.2 GB External Disk Drive
- IBM 7204 Model 114 4.5 GB External Disk Drive
- IBM 7204 18.2 GB External Disk Drive Model 118
- IBM 7204 Model 139 9.1GB External Disk Drive
- IBM 7204 2GB External Disk Drive Model 215
- IBM 7204 2GB External Disk Drive Model 315
- IBM 7204 Model 317 2.2GB External Disk Drive
- IBM 7204 External Disk Drive Model 320
- IBM 7204 Model 325 4.5GB External Disk Drive
- IBM 7204-339 External Disk Drive
- IBM 7204-402 External Disk Drive
- IBM 7204-404 External Disk Drive

- IBM 7204 18.2 GB External Disk Drive Model 418
- IBM 7206 4mm External Tape Drive Model 001
- IBM 7206 Model 110 12 GB External 4mm DDS-3 Tape Drive
- IBM 7206 Model 220 External 20 GB 4mm DDS-4 Tape Drive
- IBM 7207 150MB External 1/4-inch Cartridge Tape Drive Model 001
- IBM 7207 Model 011 525MB External 1/4-inch Cartridge Tape Drive
- IBM 7207 1.2GB External 1/14-inch Cartridge Tape Drive Model 012
- IBM 7207 Model 122 4 GB Ext SLR5 QIC Tape Drive
- IBM 7207 13GB 1/4-Inch Tape Drive Model 315
- IBM 7208 2.3GB External 8mm Tape Drive Model 001
- IBM 7208 5.0GB 8mm External Tape Drive Model 011
- IBM 7208-341 20GB External 8mm Tape Drive
- IBM 7209 Optical Disk Drive Model 001
- IBM 7209 2.6GB Optical Disk Drive Model 003
- IBM 7210 External CD-ROM Drive Model 001
- IBM 7210 External CD-ROM Drive Model 005
- IBM 7210 8X CD-ROM Drive Model 015
- IBM 7331 Model 205 8mm Tape Library
- IBM 7331-305 8mm Tape Library
- IBM 7332 Model 110 4mm DDS-3 Tape Cartridge Autoloader
- IBM 7336 Model 205 4mm Tape Library
- IBM 9348 Model 012 Magnetic Tape Unit (1/2-inch 9-Track) (Requires 9348 Specify Code #9994)
- IBM 9334 Model 500 Deskside Expansion Unit (Maximum of one, which may be attached to the integrated SCSI)

X Stations

- IBM 7010 Model 120
- IBM 7010 Model 130
- IBM 7010 Model 150
- VISUAL 640 XDS**

Displays

- IBM 5081 16-inch Color Display (#1280 is required)
- IBM 5081 19-inch Color Display (RPQ 8K1680 is required)
- IBM 6091 16-inch Color Monitor The IBM 6091 16-inch monitor has an actual viewable screen size of 14.8 inches when measured diagonally.
- IBM 6091 19-inch Color Display (1280 x 1024 60 Hz only) The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally.
- IBM 6091 19i 19-inch Color Display The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally.
- IBM 6091 23-inch Color Display (1280 x 1024 60 Hz only) The IBM 6091 23-inch monitor has an actual viewable screen size of 21.4 inches when measured diagonally.
- IBM 8508 19-inch Mono Display (1280 x 1024 67 Hz only)
- IBM POWERdisplay 20 The IBM POWERdisplay 20-inch monitor has an actual viewable screen size of 19.1 inches when measured diagonally.
- IBM POWERdisplay 17 The IBM POWERdisplay 17-inch monitor has an actual viewable screen size of 16.1 inches when measured diagonally.

Trunk Processors

- IBM 9291 Model 010 Single Digital Trunk Processor
- IBM 9295 Models 010 020 Multiple Digital Trunk Processor

Graphic Processors

- IBM 5085 All Models
- IBM 5086 Model 001

- IBM 5086 Model 01i
- IBM 5086 Model 002
- IBM 7235 Model 001
- IBM 7235 Model 002
- IBM 7235 Model 01i
- IBM 7235 Model 02i
- IBM 7250 Model 001
- IBM 7250 Model 002

Dials

- IBM 6094-010 (requires 6094 cable #4015 for attachment to a Graphics Input Device Adapter #2810) (Requires 6094 feature #4060 for attachment to a standard serial port) (6094 feature #4061 may also be required)
- IBM 6094 Model 30 Spaceball

Digitizers

- IBM 5084-M1
- IBM 5084-M2
- IBM 5084-M3

Lighted Program Function Keyboard

- IBM 6094-020 (requires 6094 cable #4015) (Requires 6094 feature #4060 for attachment to a standard serial port) (6094 feature #4061 may also be required)

Note: If either standard serial port is configured for attachment of Dials or a Lighted Programmable Function Keyboard, the remaining standard serial port is unavailable for use by devices other than Dials or Lighted Programmable Function Keyboard.

Tablets

- IBM 5083 Model 021 (requires 5083 cable feature #4015)
- IBM 5083 Model 022 (requires 5083 cable feature #4015)
- IBM 6093 Tablet Model 011 (requires 6093 cable feature #4015)
- IBM 6093 Tablet Model 012 (requires 6093 cable feature #4015)

Plotters

- IBM 6180 M1 Color
- IBM 6182 Color
- IBM 6184 Color
- IBM 6185 Model 1 Color
- IBM 6185 Model 2 Color
- IBM 6186 Color
- IBM 6187
- IBM 7372

Modems

Modem support is provided to allow communication through common carrier telephone networks using dial-up or leased lines with asynchronous protocols or the synchronous half-duplexed SDLC protocols. Not all of the features supported by the listed modems are supported by AIX Version 3.2 for RS/6000.

Modems	Protocols	Standards
IBM 5822 DSU up to 56K bps	SYNC	CCITT V.35

IBM 5841 1200bps	ASYNC	SYNC	EIA-232D
IBM 5853 2400bps	ASYNC	SYNC	EIA-232D, CCITT V.24
IBM 5865 9600bps		SYNC	EIA-232D, CCITT V.24
IBM 7855 up to 19.2 Kbps	ASYNC		CCITT v.32, V.22 bis
		Bell 103, 212	
IBM 7861 up to 19.2KBps	ASYNC	SYNC	EIA-232D, CCITT V.24
IBM 7868 up to 19.2KBps	ASYNC	SYNC	EIA-232D, CCITT V.24
Hayes Smartmodem 1200**	ASYNC		EIA-232D
Hayes Smartmodem 2400	ASYNC	SDLC	EIA-232D, CCITT V.24
Hayes V-Series 9600	ASYNC	SDLC	EIA-232D, CCITT V.24
Racal-Vadic 1200PA**	ASYNC		EIA-232D
Racal-Vadic 1200VP	ASYNC		EIA-232D
Racal-Vadic VI2422	ASYNC		EIA-232D
Racal-Vadic 2400PA	ASYNC		EIA-232D
Racal-Vadic 2400VP	ASYNC		EIA-232D
Racal-Vadic VI2222VP	ASYNC		EIA-232D
Telebit Trailblazer Plus	ASYNC		EIA-232D

Printers

- IBM 2380-001 Personal Printer II
- IBM 2381-001 Personal Printer II
- IBM 2390-001 Personal Printer II
- IBM 2391-001 Personal Printer II
- * IBM 3112-001 Page Printer
- * IBM 3116-001, -002, -003 Page Printers
- * HP Color LaserJet
- * HP LaserJet 4/4M
- * HP LaserJet 4Si/4Si MX
- * HP LaserJet 4 Plus/4M Plus
- * HP LaserJet 4V/4MV
- * Lexmark 4039-10R LaserPrinter Plus 10R
- * Lexmark 4039-12L LaserPrinter Plus 12L
- * Lexmark 4039-12R LaserPrinter Plus 12R
- * Lexmark 4039-16L LaserPrinter Plus 16L
- * Lexmark 4047-05E ValueWriter 600
- * Lexmark 4076-02C ExecJet IIc
- * Lexmark 4079-001 Color JetPrinter Plus
- * Lexmark Optra Laser Printer Lxi, Lx, Rx, L, R
 1. * AIX 4.1.3 or later releases are required for these printers.
- IBM 3812-002 Page Printer (Note 1)
- IBM 3816-01D and 01S Page Printer (Note 2)
- IBM 3930-03D and 03S Page Printer
- IBM 4019-001 LaserPrinter (Note 3)
- IBM 4019-E01 LaserPrinter E (Note 3)
- IBM 4029-010 LaserPrinter 5E
- IBM 4029-020 LaserPrinter 6
- IBM 0429-022 LaserPrinter
- IBM 4029-030 LaserPrinter 10
- IBM 4029-040 LaserPrinter 10L
- IBM 4029-042 LaserPrinter
- IBM LaserPrinter 4039-12R, -12L, and -16L Plus, emulating the IBM 4039 LaserPrinter
- Lexmark 4047 5E, emulating the IBM 4039 LaserPrinter
- IBM 4070 IJ Printer Model 1
- IBM 4072-001 ExecJet* Printer
- IBM 4201-002 Proprinter* II
- IBM 4201-003 Proprinter III
- IBM 4202-002 Proprinter II XL
- IBM 4202-003 Proprinter III XL

- IBM 4207-002 Proprinter X24E
- IBM 4208-002 Proprinter XL24E
- IBM 4212-001 Proprinter 24P
- IBM 4216-031 Personal Page Printer II
- IBM 4224-301, 302, 3C2 and 3E3 Serial Printer
- IBM 4226-302 Printer
- IBM 4230 Models 4X3 and 5X3 Impact Matrix Printer
- IBM 4230 Impact Printer Models 4S3, 4I3, 5S3, and 5I3, emulating the Proprinter III XL
- IBM 4232-302 Impact Dot Matrix Printer, emulating the Proprinter II XL
- IBM 4232-302 Impact Matrix Printer
- IBM 4234-009 Line Dot Matrix Printer
- IBM 4234-13 Line Dot Matrix Printer
- IBM 5202-001 Quietwriter* III
- IBM 5204-001 Quickwriter*
- IBM 6252 Impactwriter AP2* (7012: #2936, #2937, or #3100 required)
- IBM 6252-AS2 (7012: #2936, #2937, or #3100 required)
- IBM 6252 Impactwriter* (Native mode)
- IBM 4247-A00 Serial Matrix Printer
- IBM 4247-001 Serial Matrix Printer
- IBM 4247-002 Serial Matrix Printer
- IBM 6262 A12, A14, A22
- IBM 6400 Line Matrix Printer All Models
- IBM 6408-A00, CTA Line Matrix Printer
- IBM 6412-A00, CTA Line Matrix Printer
- IBM 6412 Model CTA Line Matrix Printer, emulating the IBM 4234 Line Dot Matrix Printer

The following OEM printers are also supported:

- HP LaserJet Series II**
- HP LaserJet Series III**
- TI Omnilaser 2115**
- DATAPRODUCTS LZR 2665**
- PRINTRONIX P9012**
- DATAPRODUCTS BP 2000**
- QMS** Colorscript 100 Model 20

PRINTER PERIPHERALS

- Token Ring for HP JetDirect Network Attachment

Printer notes:

1. Feature code #3155 for the IBM 3812 printer is required for attachment to the RS/6000 system.
2. Feature code #7652 for the IBM 3816 printer is required for attachment to the RS/6000 system.
3. When using the serial ports, the IBM 4019 requires feature code #9143 (System serial interface adapter) for attachment to the RS/6000 system.
4. The IBM RS/6000 system supports Code Page 850. The Code Page 850 cartridge must be installed on the IBM 5202 printer to fully utilize the full characters sets of the system. For details on available cartridges, refer to the IBM 5202 Sales Manual pages. Other IBM printers have Code Page 850 resident.
5. For optimum system performance, high-speed serial printers should be attached to the native ports or 64 Port Async Controller.
6. The parallel printer port is provided for the convenience character printer. High-speed printers or applications requiring a large amount of data transfer per page (e.g., high density graphics) should use the serial interface for optimum system performance.
7. Impactwriter A models emulate the IBM 4202-3 printer for traditional line printing of simple text and numbers. Graphics, all points addressable, and large characters cannot be printed.

Printer Peripherals

- 4033-001 IBM LAN Connection for Printers and Plotters (Token-Ring)

- 4033-002 IBM LAN Connection for Printers and Plotters (Ethernet, Twisted Pair)
- 4033-003 IBM LAN Connection for Printers and Plotters (Ethernet, Thick and Thin)

Model conversions

The 355 has conversion capability to the 365 Processor and both the 355 and 365 have conversion capability to the 375 processor.

The 375 requires a minimum of 32MB of memory. Memory increments are available in 16, 32, 64, and 128MB. Replacement memory must be purchased to meet the 32MB minimum configuration.

All other currently supported Micro Channel cards, external and internal devices supported by the system are supported after the model conversion.

The Model Conversion MESs contain some or all of the following items and are ordered through the configurator.

- Processor replacement
- As required engineering changes
- Installation instructions
- New publications
- New labels
- New Diagnostics

Note: Parts removed become the Property of IBM.

National language support

The IBM RS/6000 3xx support US English and the following National Languages:

- Dutch
- Danish
- French
- Finnish
- German
- Norwegian
- Portuguese
- Spanish
- Swedish
- Italian
- Canadian French
- French/Belgian
- Japanese-Kanji
- UK English

[↑ Back to top](#)

Technical description

↓ [Physical specifications](#)
 ↓ [Operating environment](#)
 ↓ [Limitations](#)

↓ [Hardware requirements](#)
 ↓ [Software requirements](#)

Physical specifications

- Horizontal:

Width: 456mm (18 inches)
Depth: 523mm (20.6 inches)
Height: 162mm (6.4 inches)
Weight: 12.7-15.4 kg (28-34 lbs)

- Vertical:

280mm (11 inches) at pedestal
532 (20.6 inches)
466mm (18.3 inches) with pedestal

- Voltage:

100 to 125V, 200 to 240V Nominal
Auto Ranging; 50/60 Hz

- Power Supply: 265 Watts output (peak)
- Thermal output: 750 BTUs per hour
- Power Source loading: 0.34 KVA
- Noise level (average at 1 metre position - typical machine):

Desktop position: 41 dBA operating, 41 dBA idle
Floor-standing position: 38 dBA operating, 38 dBA idle

- EMC Conformance Classification:

- USA - FCC Class A
- Germany - IOP
- Europe - CISPR 22
- Japan - VCCI-1

- Temperature: 16 to 32C (60 to 90F)
- Relative Humidity: 8 to 80 (percent)
- Maximum Wet Bulb: 23C (73F)
- Noise level (average at 1 metre position - typical machine):

Desktop position: 41 dBA operating, 41 dBA idle
Floor-standing position: 38 dBA operating, 38 dBA idle

Environmental Impact Assessment Number 617P-3

The RS/6000 Model 355 was developed in compliance with corporate policy letter number 139 (Environmental Affairs).

Environmental Impact Assessment:

Compliance with Corporate Standard C-S 3-0527-002 (1991-06) Control of Chemicals in IBM Facilities, Requirements and Responsibilities.

Product Safety/Country Testing/Certification:

- USA - UL
- Canada - CSA
- Germany - GS Mark (Safety, TUV)
- Europe - EN60-950

Telecom Environmental Testing (Safety and EMC):

IBM RS/6000s and applicable features meet the environmental testing requirements of the country TELECOM. The testing and approval process is ongoing.

Country	Environmental Safety	Test EMC
-----	-----	-----
Canada	CSA	
Chile	Telecom	
Finland	EIF	
France	LCIE	LCIE
Hong Kong	Telecom	
Ireland	Telecom	
Italy	Telecom	
Japan	Telecom	
Korea	Telecom	
Malaysia	SIRIM	
Mexico	Telecom	
Netherlands	Telecom	
New Zealand	Telecom	Telecom
Norway	NEMKO	
Spain	Ministry of Industry	
Sweden	SEMKO	
Switzerland	SEV	
U.K.	BABT	

ISO 9000 Certification, IBM Locations:

Santa Palomba, Italy
Havant, England

Supported IBM Monitors Complying to ISO 9241 Part 3.

6091 Model 016 The IBM 6091 16-inch monitor has an actual viewable screen size of 14.8 inches when measured diagonally.
6091 Model 19i The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally.

Operating environment

Not available.

Limitations

Limits for Disk Storage Adapters and Subsystems Models 3X5

ASSUMPTIONS:

```
SCSI-2 SE CONTROLLER ----- 9334-SE
9334-SE: 1x2GB + 3x2.41GB = 9.23GB
SCSI-2 DIFF CONTROLLER ----- 9334-DIFF(1st) + 9334-DIFF(2nd)
9334-DIFF(1st): 4x2GB = 8GB
9334-DIFF(2nd): 3x2GB = 6GB
(CALCULATE AS 7GB / 9334)
SCSI-2 DIFF CONTROLLER ----- 7135 + 7135
RAID7135: 30x2GB > 48GB (ASSUME PROTECTED MODE)
SERIAL CONTROLLER ----- 9333
9333: 4x2GB = 8GB
```

DESCRIPTION:

INTEG SCSI - INT DISK
INTEG ETHERNET

LIMIT VALUES:

1 - SCSI-2 DIFF CONTROLLERS
0 - SERIAL CONTROLLERS

1 I/O SLOT

1 - SCSI-2 SE CONTROLLERS
1 - SCSI-2 SE + SCSI-2 DIFF
2 - RAID7135 SUBSYSTEMS

CALCULATED STORAGE LIMITS:

MAX W/O RAID 18 GB(B)
MAX W/RAID 100 GB(B)

CONFIGURATIONS:

#	CONTROLLERS	INTERNAL & RAID7135	9333 & 9334 DRAWERS

BASE + SCSI		TOTAL	CONFIG >> 18.00 GB(B)
0	SCSI-2 SE	INTERNAL @ 4 GB	0 -9334 @ 9.23 GB
1	SCSI-2 DIFF	0 -RAID7135 @ 48 GB	2 -9334 @ 7.00 GB
0	SERIAL		0 -9333 @ 8.00 GB
BASE + SCSI-SE		TOTAL	CONFIG >> 13.23 GB
1	SCSI-2 SE	INTERNAL @ 4 GB	1 -9334 @ 9.23 GB
0	SCSI-2 DIFF	0 -RAID7135 @ 48 GB	0 -9334 @ 7.00 GB
0	SERIAL		0 -9333 @ 8.00 GB
BASE + RAID		TOTAL	CONFIG >> 100.00 GB(B)
0	SCSI-2 SE	INTERNAL @ 4 GB	0 -9334 @ 9.23 GB
1	SCSI-2 DIFF	2 -RAID7135 @ 48 GB	0 -9334 @ 7.00 GB
0	SERIAL		0 -9333 @ 8.00 GB

(B) Match

Hardware requirements

- IBM supported graphics adapter, display, and keyboard.

The LAN dependent function has menu translations in the following languages:

- Belgium/Dutch
- English
- French
- German
- Italian
- Norwegian
- Spanish
- Swedish

Software requirements

AIX Version 3.2.3 Extended for RS/6000 (5756-030), at the most current level, is a requirement for the operation of the RS/6000 355.

Programming Requirements of the POWERdisplay 17: The software to support the POWERdisplay 17 is determined by the software requirements of the graphics adapter used with the display. The IBM POWERdisplay 17-inch monitor has an actual viewable screen size of 16.1 inches when measured diagonally. Therefore, refer to the product announcement of the graphics adapter for programming requirements.

Programming Requirements of Graphics Adapters: Refer to Product Announcement ZG93-0395, dated September 21, 1993 for the programming requirements of the POWER Gt4xi 8-bit Adapter (#2711) POWER Gt4xi 24-bit Adapter (#2712), and the POWER Gt4 24-bit Adapter (#2713).

[↑ Back to top](#)

Publications

The following publications are shipped with the product. Additional copies are available.

- SC23-2401 Quick Reference
- GC23-2377 System User's Guide
- SA23-2690 Customer Support Information
- SC23-2456 Documentation Overview
- SA23-2623 7012 Operator Guide
- SA23-2687 Common Diagnostics and Service Guide
- SA23-2624 7012 Installation and Service Guide
- SA23-2702 7012 Hardware Setup Guide (English)
- SA11-1248 7012 Hardware Setup Guide (French)
- SA12-4431 7012 Hardware Setup Guide (German)
- SA13-1832 7012 Hardware Setup Guide (Italian)
- SA88-6714 7012 Hardware Setup Guide (Japanese)
- SA14-2854 7012 Hardware Setup Guide (Swedish)
- SA23-2691 Supplemental Service Information for the Environmentally Hardened 7012
- SA23-2652 System Unit Safety Information
- SC23-2433 AIX Version 3.2 Diskless Workstation Management Guide

For a current list of publications, contact your local IBM representative.

The following publications are available from the Software Publications Center (SPC). Contact your IBM representative to determine availability date. Translated Publications: If translated publications are not available, US English is shipped instead. A shipment of translated publications is shipped, when they become available, to those customers who order a national language shipment and received US English due to the unavailability of national language publications.

Title	Order Number	Language
IBM RS/6000 System Overview	GC12-2111	German
	GA82-1005	Belgian/ Dutch
	GA82-1004	Belgian/ French
IBM RS/6000 Planning for Your System Installation	GC12-2112	German
Quick Reference	SC11-0875	French
	SC12-2118	German
	SB82-4010	Belgian/ Dutch
	SE10-9008	Korean
System User's Guide	GC11-0848	French
	GC12-2092	German
	GA15-4335	Norwegian
	GC14-4078	Swedish
	GB82-4005	Belgian/ Dutch
	GC11-0848	Belgian/ French
Documentation Overview	SC12-2158	German
7012 Operator Guide	SA11-0921	French
	SA12-4121	German
	SA13-1583	Italian
	SA14-2863	Swedish
AIX Version 3.2 Diskless workstation Management Guide	SC11-0897	French
	SC12-2127	German
Problem Solving Guide and Reference	SC11-0783	French
	SC12-2076	German

IBM RS/6000 System Overview	GC23-2406	English
IBM RS/6000 Planning for Your System Installation	GC23-2407	English
Quick Reference	SC23-2401	English
System User's Guide	GC23-2377	English
Customer Support Information	SA23-2690	English
Documentation Overview	SC23-2456	English
7012 Operator Guide	SA23-2623	English
Common Diagnostics and Service Guide	SA23-2687	English
7012 Installation and Service Guide	SA23-2624	English
System Unit Safety Information	SA23-2652	English
AIX Version 3.2 Diskless Workstation Management Guide	SC23-2433	English
Problem Solving Guide and Reference	SC23-2204	English
7012 Models 34x, 35x, 36x, and 37x Hardware Technical Information	SA23-2680	English
Hardware Technical Information - General Architecture	SA23-2643	English
RS/6000s Hardware Technical Information Options and Devices	SA23-2646	English
CD-ROM Hypertext Information Base Library for AIX Version 3.2	SC23-2163	English

[↑ Back to top](#)

Features

↓ Features - No charge	↓ Feature descriptions
↓ Features - Chargeable	↓ Hardware requirements
↓ Feature descriptions	↓ Feature exchanges

Features - No charge

- (#9000) Ethernet Thick/Thin Connector Specify: Defines the standard Thick/Thin connector of the integrated Ethernet interface on the initial plant order.
- (#9001) Ethernet Twisted-Pair Connector Specify: Defines the Twisted-Pair connector for the integrated Ethernet interface in place of the standard Thick/Thin connector on the initial plant order.
- (#9221) 3.5-inch Diskette Specify: Defines the standard 3.5-inch Diskette. Specify code 9221 must be on the initial plant order. (For IBM US, No Longer Available as of August 15, 2000)
- (#9234) 16MB HD3 Memory Specify: Defines the standard 16MB memory on the Model 355. Specify code 9234 must be on the initial plant order when standard memory is desired. (For IBM US, No Longer Available as of May 20, 1996)
- (#9244) 400MB Disk Drive Specify: If the first disk drive is the standard 400MB SCSI Disk Drive, Specify code 9244 must be on the initial plant order. (For IBM US, No Longer Available as of October 25, 1996)
- (#9610) POWERdisplay 16 Specify: Specify code 9610 must be on the initial plant order for the standard POWERdisplay 16. The IBM POWERdisplay 16-inch monitor has an actual viewable screen size of 14.8 inches when measured diagonally. (For IBM US, No Longer Available as of December 21, 1993)
- (#9612) POWERdisplay 17 Specify: Specify code 9612 must be on the initial plant order for the standard POWERdisplay 17. The IBM POWERdisplay 17-inch monitor has an actual viewable screen size of 16.1 inches when measured diagonally. (For IBM US, No Longer Available as of December 12, 1995)
- (#9988) POWER Gt3i Specify: Specify code 9988 must be on the initial plant order for the standard POWER Gt3i Adapter. (For IBM US, No Longer Available as of May 20, 1996)

The IBM RS/6000 7012 Model 355/365/375 uses a universal power supply.

- 100V to 125V, 200V to 240V Nominal Auto Ranging; 50Hz - 60Hz
- Thermal Output: 1200 BTUs per hour
- Power Consumption: 0.7 KVA

The Feature Codes for Power Cords and Language Group must be specified on the order. Defaults are supplied by the Configurator for the country standard Power Cord/Language Group based on the country code of the order. The specify codes included in the Sales Manual must be used when an alternative to the Configurator is required.

Language Group

- (#9300) English language group for Nomenclature and Standard Publications shipped with the IBM RS/6000 300 series.

Ordering Country		Default Option Feature Code	
C/C	Country	Group	Code
613	Argentina	AG	9831
619	Bahamas	AG	9800
621	Barbados	AG	9800
627	Bermuda	AG	9800
629	Bolivia	AG	9800
649	Canada	AG	9800
655	Chile	AG	9830
661	Colombia	AG	9800
663	Costa Rica	AG	9800
681	Dominican Republic	AG	9800
829	El Salvador	AG	9800
683	Ecuador	AG	9800
731	Guatemala	AG	9800
640	Guyana	AG	9800
735	Honduras	AG	9800
759	Jamaica	AG	9800
781	Mexico	AG	9800
791	Netherlands Antilles	AG	9800
811	Panama	AG	9800
815	Peru	AG	9833
843	Surinam	AG	9800
859	Trinidad	AG	9800
869	Uruguay	AG	9834
871	Venezuela	AG	9800
616	Australia	AP	9831
615	Bangladesh	AP	9829
643	Brunei	AP	9825
672	China	AP	9831
738	Hong Kong	AP	9825
744	India	AP	9825
749	Indonesia	AP	9820
760	Japan	AP	9800
761	Japan (PDS)	AP	9800
766	Korea	AP	9800
	Macao	AP	9825
778	Malaysia	AP	9825
646	Myanmar (Burma)	AP	9829
796	New Zealand	AP	9831
818	Philippines	AP	9800
834	Singapore	AP	9825
652	Sri Lanka	AP	9829
858	Taiwan	AP	9800
856	Thailand	AP	9833
618	Austria	EMEA	9820
620	Bahrain (NEO)	EMEA	9825
624	Belgium	EMEA	9820

	Botswana	EMEA	9820
678	Denmark	EMEA	9821
865	Egypt	EMEA	9820
698	Ethiopia	EMEA	9830
702	Finland	EMEA	9820
706	France	EMEA	9820
724	Germany west	EMEA	9820
723	Germany, west (PDS)	EMEA	9820
725	Ghana	EMEA	9825
726	Greece	EMEA	9820
742	Iceland	EMEA	9820
752	Iraq	EMEA	9825
754	Ireland	EMEA	9825
756	Israel	EMEA	9827
758	Italy	EMEA	9830
762	Jordan	EMEA	9825
764	Kenya	EMEA	9825
767	Kuwait	EMEA	9825
768	Lebanon	EMEA	9820
	Malawi	EMEA	9825
788	Netherlands	EMEA	9820
802	Nigeria	EMEA	9825
806	Norway	EMEA	9820
805	Oman (Sult)	EMEA	9825
808	Pakistan	EMEA	9829
822	Portugal	EMEA	9820
823	Qatar	EMEA	9825
832	Saudi Arabia	EMEA	9800
864	South Africa	EMEA	9829
838	Spain	EMEA	9820
842	Sudan	EMEA	9820
846	Sweden	EMEA	9820
848	Switzerland	EMEA	9828
851	Tanzania	EMEA	9825
862	Turkey	EMEA	9820
857	Uganda	EMEA	9825
680	United Arab Emirates	EMEA	9825
866	United Kingdom	EMEA	9825
	Zaire	EMEA	9820
	Zimbabwe	EMEA	9820
883	Zambia	EMEA	9825

IBM RS/6000 7012 Model 355/365/375 Keyboards

(No Longer Available as of February 6, 1998)

Keyboard Type	Country	Feature Code	Specify Code
Soft Touch (select)	U.S. English	1010	-
Soft Touch	U.S. English	1110	-
101	United States of America	6010	9010
102	United Kingdom (English)	6023	9023
	France	6010	9015
	Italy	6017	9017
	Germany	6016	9016
	Sweden/Finland	6014	9014
	Portugal	6020	9020
	Denmark	6013	9013
	Norway	6019	9019
	Spain	6021	9021
	Switzerland (French/German)	6022	9022
	Belgium (Dutch/French)	6011	9011
	Canadian French	6012	9012
	Iceland (Icelandic)	6024	9024
	Turkey	6025	9025
	Greece	6026	9026
	Dutch	6034	9034
	Turkish	6035	9035

104	Brazil (Portuguese)	6018	
106	Japan (Kanji)	6030	9030
106	Korean	6031	9031
106	Chinese Traditional-Taiwan	6033	9033

IBM RS/6000 7012 Model 355/365/375 Language Groups

Language Group	Feature Code
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US English	9300
Dutch	9700
French	9703
German	9704
Norwegian	9706
Spanish	9708
Italian	9711
Canadian French	9712
French Belgian	9713
Japanese	9714

Features - Chargeable

Special Features - Plant and/or Field Installable

- ADAPTERS
 - (#2756) - ESCON Control Unit Adapter
 - (#2921) - ARTIC960 Coprocessor (1 MB)
 - (#2924) - ARTIC960 Coprocessor (4 MB)
 - (#2928) - ARTIC960 Coprocessor (8 MB)
 - (#2929) - ARTIC960 Coprocessor, 8-port EIA-232
 - (#2935) - ARTIC960 Coprocessor, 6-port V.36
 - (#2938) - ARTIC960 Coprocessor, 8-port X.21
 - (#2984) - TURBOWAYS 100 ATM Adapter
 - (#2989) - TURBOWAYS 155 ATM Adapter
 - (#2992) - Ethernet/FDX 10 Mbps TP/AUI MC Adapter
 - (#2993) - Ethernet 10Mbps BNC MC Adapter
 - (#7022) - IBM Realtime Interface Co-Processor: Multiport/2 4-Port RS-232 Int
 - (#7024) - IBM Realtime Interface Co-Processor: Multiport/2 6-Port RS-232-C S
 - (#7026) - IBM Realtime Interface Co-Processor: Multiport/2 8-Port RS-232 Int
 - (#7028) - IBM Realtime Interface Co-Processor: Multiport/2 8-Port RS-422-A I
 - (#7030) - IBM Realtime Interface Co-Processor: Multiport/2 RS-232/RS-422 Int
 - (#6300) - Digital Trunk Adapter
 - (#6305) - Digital Trunk Dual Adapter
- CABLES
 - (#8136) - Rack Mountable Remote Asynchronous Node 16-Port EIA-232
 - (#2923) - Cable Option EIA 530 RS 422
 - (#2926) - Cable Option ISO 4902 V.36
 - (#2927) - Cable Option ISO 4903 X.21
 - (#2939) - ARTIC960 8-port EIA-232 Cable
 - (#2941) - ARTIC960 6-port V.36 Cable
 - (#2942) - ARTIC960 8-port X.21 Cable
 - (#7102) - IBM Realtime Interface Co-Processor: EIA RS-232-C Multiport Interf
 - (#7104) - IBM Realtime Interface Co-Processor: Synchronous Interface Cable
 - (#7107) - IBM Realtime Interface Co-Processor: V.35 Network Cable
 - (#7111) - IBM Realtime Interface Co-Processor: X.21 Network Cable
 - (#2934) - Asynchronous Terminal/Printer Cable EIA-232
- KEYBOARDS
 - (#6599) - Optional Keyboard Cable with Speaker
 - (#6600) - Quiet Touch Keyboard, US English, #103P
 - (#6601) - Quiet Touch Keyboard, French, #189
 - (#6602) - Quiet Touch Keyboard, Italian, #142
 - (#6603) - Quiet Touch Keyboard, German/Austrian, #129

- (#6604) - Quiet Touch Keyboard, UK English, #166
- (#6605) - Quiet Touch Keyboard, Spanish, #172
- (#6606) - Quiet Touch Keyboard, Japanese, #194
- (#6607) - Quiet Touch Keyboard, Brazilian Portuguese, #275
- (#6608) - Quiet Touch Keyboard, Canadian French, #058
- (#6609) - Quiet Touch Keyboard, Belgian/French, #120
- (#6610) - Quiet Touch Keyboard, Belgian/UK-Flemish, #120
- (#6611) - Quiet Touch Keyboard, Swedish/Finnish, #153
- (#6612) - Quiet Touch Keyboard, Danish, #159
- (#6613) - Quiet Touch Keyboard, Bulgarian, #442
- (#6614) - Quiet Touch Keyboard, Swiss,French/German, #150f/g
- (#6616) - Quiet Touch Keyboard, Norwegian, #155
- (#6617) - Quiet Touch Keyboard, Dutch, #143
- (#6618) - Quiet Touch Keyboard, Portuguese, #163
- (#6619) - Quiet Touch Keyboard, Greek, #319
- (#6620) - Quiet Touch Keyboard, Hebrew, #212
- (#6621) - Quiet Touch Keyboard, Hungarian, #208
- (#6622) - Quiet Touch Keyboard, Icelandic, #197
- (#6623) - Quiet Touch Keyboard, Polish, #214
- (#6624) - Quiet Touch Keyboard, Romanian, #446
- (#6625) - Quiet Touch Keyboard, Slovakian, #245
- (#6626) - Quiet Touch Keyboard, Czech, #243
- (#6627) - Quiet Touch Keyboard, Turkish, #179
- (#6628) - Quiet Touch Keyboard, Turkish, #440
- (#6629) - Quiet Touch Keyboard, LA Spanish, #171
- (#6630) - Quiet Touch Keyboard, Arabic, #238
- (#6632) - Quiet Touch Keyboard, Serbian-Cyrillic, #118
- (#6633) - Quiet Touch Keyboard, Korean, #413
- (#6634) - Quiet Touch Keyboard, Chinese/US, #467
- (#6635) - Quiet Touch Keyboard, French Canadian, #445
- (#6636) - Quiet Touch Keyboard, Thailand, #191
- (#6638) - Quiet Touch Keyboard, Russian, #443
- (#6639) - Quiet Touch Keyboard, Croatian, #105
- (#6640) - Quiet Touch Keyboard, US English ISO9995, #103P(EMEA)

Feature descriptions

Attributes, as defined in the following feature descriptions, state the interaction of requirements among features.

Minimums and maximums are the absolute limits for a single feature without regard to interaction with other features. The maximum valid quantity for MES orders may be different than for initial orders. The maximums listed below refer to the largest quantity of these two possibilities.

The order type defines if a feature is orderable only on initial orders, only on MES orders, on both initial and MES orders, or if a feature is supported on a model due to a model conversion. Supported features cannot be ordered on the converted model, only left on or removed from the converted model.

(#2756) ESCON Control Unit Adapter

This adapter provides the ability to attach the RS/6000 systems to the IBM Enterprise Systems Connection (ESCON) channels of the System/390 mainframe. The ESCON Control Unit adapter attaches directly to an ESCON channel providing fibre optical links using LED technology, and also attaches to ESCON Directors (fibre optic switches) to allow for large numbers of connections. Host operating systems supported includes VM/ESA, MVS/ESA, and AIX/ESA.

This adapter requires two slots, and a maximum of two adapters are supported per system.

Characteristics:

- Supported on AIX Version 3 with separate feature code and AIX Version 4.1.4 with LPP Program Number 5765-603
- Supports VM, MVS, and VSE (SNA only environments)
- Supports attachment to either 10MB or 17MB ESCON channels
- Maximum distance supported using a combination of LED and LASER ESCON links is 43 Km
- Supported on AIX Version 3 and AIX Version 4.1.4

- Requires user-written application programs for CLAW or 3088 methods of attachment
- May be used in conjunction with up to 2 Block Multiplexer Channel Adapter
- Requires ESCON external cabling
- S/390 TCP/IP support is available in:
 - - IBM TCP/IP V2R2 or later for VM (5735-FAL)
 - - IBM TCP/IP V2R2.1 or later for MVS (5735-HAL)
-

The following are not supported:

- Multi-path

Attributes provided: 1 ESCON channel

Attributes required: 2 Micro Channel slot

(#2921) ARTIC960 Coprocessor (1 MB)

This feature includes the following:

- Artic960 Coprocessor (1MB)
- 4-Port multi-interface Application Interface Board (AIB)
- AIB wrap plug
- Runtime environment diskette
- Stand-alone diagnostic diskette
- Guide to operations
- 4-port AIB Supplement to the Guide to Operations.

The IBM ARTIC960 Coprocessor is a high-speed, high throughput co- processor adapter with multiple memory options designed to operate in 32-bit Micro Channel compatible systems. The IBM ARTIC960 Coprocessor relieves the host from compute-intensive tasks associated with I/O communication applications and protocols. It also provides bus-mastering capabilities for peer to peer transfers across the Micro Channel. The IBM ARTIC960 Coprocessor's wide bandwidth provides co-processor performance at least 4-6 times that of previously released IBM ARTIC co- processors.

Note: An AIX Developer's Kit, including a daughter card developer's guide, application program information, on line technical assistance, and Q A service is provided by a Developer's Assistance Program which can be reached at artic@vnet.ibm.com (internet) or direct at 1-407-443-7948. Toll free numbers are 1-800-IBM-3333 ext. ARTIC160 (U.S.) or 1-800-465-2222 (Canada).

Attributes provided: 4 ports selectable EIA530/V.36/X.21

Attributes required: 1 Micro Channel slot

(#2923) Cable Option EIA 530 RS 422

This feature provides the following:

- 1.8 metre cable connecting to the 100pin AIB connector, providing 4 connectors with EIA530 physical interface.
- EIA530 wrap plug

Attributes provided: 4 EIA 530 ports

Attributes required: 4-port AIB from ARTIC960 (2921, 2924, or 2928)

(#2924) ARTIC960 Coprocessor (4 MB)

This feature provides the following:

- Artic960 Coprocessor (4MB)
- 4-Port multi-interface Application Interface Board (AIB)
- AIB wrap plug

- Runtime environment diskette
- Stand-alone diagnostic diskette
- Guide to operations
- 4-port AIB Supplement to the Guide to Operations.

The IBM ARTIC960 Coprocessor is a high-speed, high throughput co-processor adapter with multiple memory options designed to operate in 32-bit Micro Channel compatible systems. The IBM ARTIC960 Coprocessor relieves the host from compute-intensive tasks associated with I/O communication applications and protocols. It also provides bus-mastering capabilities for peer to peer transfers across the Micro Channel. The IBM ARTIC960 Coprocessor's wide bandwidth provides co-processor performance at least 4-6 times that of previously released IBM ARTIC co-processors.

Note: An AIX Developer's Kit, including a daughter card developer's guide, application program information, on line technical assistance, and Q A service is provided by a Developer's Assistance Program which can be reached at artic@vnet.ibm.com (internet) or direct at 1-407-443-7948. Toll free numbers are 1-800-IBM-3333 ext. ARTIC160 (U.S.) or 1-800-465-2222 (Canada).

Attributes provided: 4 ports selectable - EIA530/V.36/X.21
 Attributes required: 1 Microchannel slot

(#2926) Cable Option ISO 4902 V.36

This feature provides the following:

- 1.8 metre cable connecting to the 100pin AIB connector, providing 4 connectors with V.36 physical interface.
- V.36 wrap plug

Attributes provided: 4 ports of V.36
 Attributes required: 4 port AIB from ARTIC960 (2921, 2924, 2928)

(#2927) Cable Option ISO 4903 X.21

This feature provides the following:

- 1.8 metre cable connecting to the 100pin AIB connector, providing 4 connectors with X.21 interface.
- X.21 wrap plug

Attributes provided: None
 Attributes required: None

(#2928) ARTIC960 Coprocessor (8 MB)

This feature includes the following:

- Artic960 Coprocessor (8MB)
- 4-Port multi-interface Application Interface Board (AIB)
- AIB wrap plug
- Runtime environment diskette
- Stand-alone diagnostic diskette
- Guide to operations
- 4-port AIB Supplement to the Guide to Operations.

The IBM ARTIC960 Coprocessor is a high-speed, high through-put co-processor adapter with multiple memory options designed to operate in 32-bit Micro Channel bus compatible systems. The IBM ARTIC960 Coprocessor relieves the host from compute-intensive tasks associated with I/O communication applications and protocols. It also provides bus-mastering capabilities for peer to peer transfers across the Micro Channel bus. The IBM ARTIC960 Coprocessor's wide bandwidth provides co-processor performance at least 4-6 times that of previously released IBM ARTIC co-processors.

Note: An AIX Developer's Kit, including a daughter card developer's guide, application program information, on line technical assistance, and Q A service is provided by a Developer's Assistance Program which can be

reached at artic@vnet.ibm.com (internet) or direct at 1-407-443-7948. Toll free numbers are 1-800-IBM-3333 ext. ARTIC160 (U.S.) or 1-800-465-2222 (Canada).

Attributes provided: 4 ports selectable - EIA530/V.36/X.21
Attributes required: 1 Micro Channel slot

(#2929) ARTIC960 Coprocessor, 8-port EIA-232

The ARTIC960 Co-Processor family of adapters is now expanded beyond the current 4-port Selectable interface with these new features providing increased number of wide area network (WAN) ports at T1/E1 speeds while maintaining the high performance characteristics of the ARTIC960 platform.

The ARTIC960 family supports developers of wide area network (WAN) applications for AIX solutions which offload compute intensive tasks such as protocol processing and network management. The results are WAN communications at link speeds to 2 Mbps while maximizing system performance.

Each feature is made up of a base card (ARTIC960) and associated physical interface (EIA232, V.36, or X.21) on a daughter card and occupies a single Micro Channel slot. Each feature includes 4 MB of memory.

Each cable feature includes a single cable connecting to the daughter card on one side and fanning out to either 6-or 8-ports depending on the physical interface. A wrap plug is provided with each cable.

Note: An AIX Developer's Kit, including a daughter card developer's guide, application program information, on line technical assistance, and Q A service is provided by a Developer's Assistance Program which can be reached at artic@vnet.ibm.com (internet) or direct at 1-407-443-7948. Toll free numbers are 1-800-IBM-3333 ext. ARTIC160 (U.S.) or 1-800-465-2222 (Canada).

Characteristics:

- Micro Channel bus form factor, occupying a single slot.
- Up to 2 Mbps supported on V.36 or X.21 ports.
- Synchronous support on EIA232 ports.
- Intel 80960ca 25 MHz processor and 4 MB of memory on card.
- Support for DMA 32-bit bus master and peer to peer capability on the Micro Channel.
- Performance characteristics at 4-6 times that of previously released Portmaster products.

Attributes provided: Multiple high performance WAN ports to 2 Mbps
Attributes required: 1 Micro Channel bus slot

(#2934) Asynchronous Terminal/Printer Cable EIA-232

(No longer available as of December 31, 2020)

The Asynchronous Printer/Terminal Cable is used for attaching printers, plotters, and terminals that support the EIA-232 standard to any asynchronous adapter. This cable is the equivalent of the combination of FC 2936 (modem cable) and FC 2937 (printer/terminal interposer) and replaces this method of printer/terminal attachment.

This cable is 3m (9.8 feet) long, uses DB25 connectors and is supported on all RS/6000 systems using any asynchronous ports. It is used in conjunction with :

- FC 2995 (8-port fanout box).
- FC 2996 (16-port fanout box).
- FC 6401 + 6402 (16-port Async Concentrator + RJ45-DB25 converter cable).
- FC 8130/8134 + 8133 (16-port Remote Async Node + RJ45-DB25 converter cable).
- FC 2931 (8-port Async Adapter EIA232, ISA Bus)

Attributes provided: EIA232 device attachment capability
Attributes required: Any RS/6000 Asynchronous port

For 7012-355:

Minimum required: 0

Maximum allowed: No maximum
AIX level required:
Initial Order/MES/Both/Supported: both

(#2935) ARTIC960 Coprocessor, 6-port V.36

The ARTIC960 Co-Processor family of adapters is now expanded beyond the current 4-port Selectable interface with these new features providing increased number of wide area network (WAN) ports at T1/E1 speeds while maintaining the high performance characteristics of the ARTIC960 platform.

The ARTIC960 family supports developers of wide area network (WAN) applications for AIX solutions which offload compute intensive tasks such as protocol processing and network management. The results are WAN communications at link speeds to 2 Mbps while maximizing system performance.

Each feature is made up of a base card (ARTIC960) and associated physical interface (EIA232, V.36, or X.21) on a daughter card and occupies a single Micro Channel slot. Each feature includes 4 MB of memory.

Each cable feature includes a single cable connecting to the daughter card on one side and fanning out to either 6-or 8-ports depending on the physical interface. A wrap plug is provided with each cable.

Note: An AIX Developer's Kit, including a daughter card developer's guide, application program information, on line technical assistance, and Q A service is provided by a Developer's Assistance Program which can be reached at artic@vnet.ibm.com (internet) or direct at 1-407-443-7948. Toll free numbers are 1-800-IBM-3333 ext. ARTIC160 (U.S.) or 1-800-465-2222 (Canada).

Note: The V.36 interface is compatible with V.35 interface but requires a connector change (to DB37). For customers who order this feature but need V.35 interface, FC 7106 (6-port V.35 breakout box for Portmaster) can be used.

Characteristics:

- Micro Channel bus form factor, occupying a single slot.
- Up to 2 Mbps supported on V.36 or X.21 ports.
- Synchronous support on EIA232 ports.
- Intel 80960ca 25 MHz processor and 4 MB of memory on card.
- Support for DMA 32-bit bus master and peer to peer capability on the Micro Channel.
- Performance characteristics at 4-6 times that of previously released Portmaster products.

Attributes provided: Multiple high performance WAN ports to 2 Mbps

Attributes required: 1 Micro Channel bus slot

(#2938) ARTIC960 Coprocessor, 8-port X.21

The ARTIC960 Co-Processor family of adapters is now expanded beyond the current 4-port Selectable interface with these new features providing increased number of wide area network (WAN) ports at T1/E1 speeds while maintaining the high performance characteristics of the ARTIC960 platform.

The ARTIC960 family supports developers of wide area network (WAN) applications for AIX solutions which offload compute intensive tasks such as protocol processing and network management. The results are WAN communications at link speeds to 2 Mbps while maximizing system performance.

Each feature is made up of a base card (ARTIC960) and associated physical interface (EIA232, V.36, or X.21) on a daughter card and occupies a single Micro Channel slot. Each feature includes 4 MB of memory.

Each cable feature includes a single cable connecting to the daughter card on one side and fanning out to either 6-or 8-ports depending on the physical interface. A wrap plug is provided with each cable.

Note: An AIX Developer's Kit, including a daughter card developer's guide, application program information, on line technical assistance, and Q A service is provided by a Developer's Assistance Program which can be reached at artic@vnet.ibm.com (internet) or direct at 1-407-443-7948. Toll free numbers are 1-800-IBM-3333 ext. ARTIC160 (U.S.) or 1-800-465-2222 (Canada).

Characteristics:

- Micro Channel bus form factor, occupying a single slot.
- Up to 2 Mbps supported on V.36 or X.21 ports.
- Synchronous support on EIA232 ports.
- Intel 80960ca 25 MHz processor and 4 MB of memory on card.
- Support for DMA 32-bit bus master and peer to peer capability on the Micro Channel.
- Performance characteristics at 4-6 times that of previously released Portmaster products.

Attributes provided: Multiple high performance WAN ports to 2 Mbps
 Attributes required: 1 Micro Channel bus slot

(#2939) ARTIC960 8-port EIA-232 Cable

See ARTIC960 Coprocessor, 8 Port EIA-232

Attributes provided: Fan-out cable 8-ports EIA-232
 Attributes required: ARTIC960 Coprocessor, 8 Port EIA-232

(#2941) ARTIC960 6-port V.36 Cable

See ARTIC960 Coprocessor, 6 Port V.36

Attributes provided: Fan out cable 6 ports V.36
 Attributes required: ARTIC960 Coprocessor, 6 Port V.36

(#2942) ARTIC960 8-port X.21 Cable

See ARTIC960 Coprocessor, 8 Port X.21

Attributes provided: Fan out cable 8 ports X.21
 Attributes required: ARTIC960 Coprocessor, 6 Port X.21

Special Features - Plant and/or Field Installable

- ADAPTERS
 - (#2412) - Enhanced SCSI-2 Differential Fast/Wide Adapter/A

Feature descriptions

Attributes, as defined in the following feature descriptions, state the interaction of requirements among features.

Minimums and maximums are the absolute limits for a single feature without regard to interaction with other features. The maximum valid quantity for MES orders may be different than for initial orders. The maximums listed below refer to the largest quantity of these two possibilities.

The order type defines if a feature is orderable only on initial orders, only on MES orders, on both initial and MES orders, or if a feature is supported on a model due to a model conversion. Supported features cannot be ordered on the converted model, only left on or removed from the converted model.

(#2412) Enhanced SCSI-2 Differential Fast/Wide Adapter/A

(For IBM US, No Longer Available as of November 16, 1999)

The IBM Enhanced SCSI-2 Differential Fast/Wide Adapter/A is a dual ported fast (10 MHz) and wide (2 bytes wide) SCSI Micro Channel Adapter that can provide synchronous SCSI bus data rates of up to 20 megabytes per second. The Enhanced SCSI-2 Differential Fast/Wide Adapter/A provides high performance attachment to Differential SCSI disks, disk subsystems, tape devices and read/write optical subsystems. The maximum data rate depends on system and

application configurations. The IBM Enhanced SCSI-2 Differential Fast/Wide Adapter/A has one internal single ended port and one external Differential port. The internal port is capable of attaching up to six single ended devices; the external port is capable of addressing up to fifteen differential devices. The number of physical devices attached to each port is limited by SCSI bus cabling restrictions. The internal port of this adapter supports either 8-bit or 16-bit devices via an 8-bit or a 16-bit connector. Only one of these two connectors may be used at one time. (Devices of different bus attachment widths cannot be connected/used at the same time.) The external Differential SCSI bus is capable of supporting cable lengths of 25 meters (82 feet).

Additional system, subsystem and high availability connections are also available with the differential system-to-system and Y-cable features.

Note: System IPL cannot occur from a device attached through this adapter.

Characteristics:

- Controller conforms to ANSI Doc X3T9.2/86-109 rev 10h
- Accepts multiple commands per device from system
- SCSI-2 data rate of up to 20 MB per second (synchronous protocol)
- Up to 1200 operations per second of 4 Kbyte data block transfers; actual performance levels depend on system and application configurations.
- Acts as SCSI initiator (command issuer)
- SCSI parity support
- Micro Channel Interface
 - 4 byte (32-bit) Bus Master
 - Streaming Data Support (40 MB/sec burst)
 - Address and Data Parity Support
- Occupies one Micro Channel slot
- Supports Command Tagged Queuing (as SCSI initiator)

Attributes provided: 1 SCSI-2 external Differential 16-bit fast/wide port AND 1 SCSI-2 internal SE fast/wide port

Attributes required: 1 Micro Channel slot

For 7012-355:

Minimum required: 0

Maximum allowed: 1

AIX level required: AIX 4.1.3, 3.2.5 with all PTFs installed

Initial Order/MES/Both/Supported: both

Other Features

(#2582) 2 GB SCSI-2 Disk Drive Select

(For IBM US, No Longer Available as of October 25, 1996)

This disk drive may be ordered in place of the standard disk on the initial plant order.

(#2391) 540 MB SCSI-2 Disk Drive Select

(For IBM US, No Longer Available as of October 25, 1996)

This disk drive may be ordered in place of the standard disk on the initial plant order.

(#2642) GT3I to 7250 Attachment Adapter Select

This feature is necessary when replacement of the standard graphics adapter on the initial plant order of the RS/6000 Model 355, 365, 375 to the 7250 POWER GXT1000 is desired. The POWER GXT1000 must then be ordered separately. See feature 2820 for a description of the 7250 Attachment Adapter.

(#2805) POWER Gt4e Graphics Adapter Select

(For IBM US, No Longer Available as of May 20, 1996)

This select feature replaces the standard POWER Gt3i Adapter with the POWER Gt4e Graphics Adapter on the initial plant order.

(#2806) POWER Gt4 8-Bit Adapter Feature Select

(For IBM US, No Longer Available as of December 21, 1993)

This select feature replaces the standard POWER Gt3i Adapter with the POWER Gt4 8-Bit Adapter Feature on the initial plant order.

(#2807) POWER Gt4x 8-Bit Adapter Feature Select

(For IBM US, No Longer Available as of December 21, 1993)

This select feature replaces the standard POWER Gt3i Adapter with the POWER Gt4x 8-Bit Adapter Feature on the initial plant order.

(#2714) POWER Gt4xi 8-Bit Select

(For IBM US, No Longer Available as of May 20, 1996)

Effective October 15, 1993, this select feature replaces the standard POWER Gt3i Adapter with the POWER Gt4xi 8-Bit Adapter on the initial plant order. This new select feature replaces #2807 above.

(#2718) POWER Gt4i 24-Bit Select

(For IBM US, No Longer Available as of September 19, 1995)

Effective October 15, 1993, this select feature is available in place of the standard POWER Gt3i Adapter and replaces it with the POWER Gt4i 24-Bit 3D Color Graphics Adapter (#2713) on the initial plant order.

(#2719) POWER Gt4xi 24-Bit Select

(For IBM US, No Longer Available as of May 20, 1996)

Effective October 15, 1993, this select feature is available in place of the standard POWER Gt3i Adapter and replaces it with the POWER Gt4xi 24-Bit 3D Color Graphics Adapter (#2712) on the initial plant order.

(#2808) 7235 POWER GTO Accelerator Feature Select

(For IBM US, No Longer Available as of November 4, 1994)

This select feature replaces the standard POWER Gt3i Adapter with the 7235 POWER GTO Accelerator Feature on the initial plant order.

(#3602) POWERdisplay 19 Select

(For IBM US, No Longer Available as of December 21, 1993)

This select feature replaces the standard POWERdisplay 16 with the 19-inch POWERdisplay 19 on the initial plant order. The IBM POWERdisplay 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally. The IBM POWERdisplay 16-inch monitor has an actual viewable screen size of 14.8 inches when measured diagonally.

(#3606) POWERdisplay 19 Select

(No Longer Available as of February 25, 1994;replaced by POWERdisplay 20)

Effective October 15, 1993, this select feature replaces the standard POWERdisplay 17 with the 19-inch POWERdisplay 19 on the initial plant order. The IBM POWERdisplay 17-inch monitor has an actual viewable screen size of 16.1 inches

when measured diagonally. The IBM POWERdisplay 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally. This new select feature replaces #3602 above.

(#4068) 32MB HD3 Memory Select Feature

(For IBM US, No Longer Available as of May 20, 1996)

This select feature replaces the standard 16MB HD3 memory on the Model 355 with 32MB HD3 memory on the initial plant order.

(#4074) 64MB HD3 Memory Select Feature

(For IBM US, No Longer Available as of May 20, 1996)

This select feature replaces the standard 16MB memory on the Model 355 with 64MB HD3 memory on the initial plant order.

(#4091) 128MB Memory Select Feature

(For IBM US, No Longer Available as of May 20, 1996)

This select feature replaces the standard 16MB memory on the Model 355 with 128MB memory on the initial plant order.

The following features may be ordered for plant or field installation.

Memory Options

The 355 is standard with one memory card in the one available memory card slot. If a memory card feature is ordered, the standard card must be removed for installation of the new card.

(#4066) 16-MB HD3 Memory Card

(For IBM US, No Longer Available as of December 21, 1993)

This feature provides 16MB of memory. This feature requires one memory card location on the system board. 16MB of memory is standard on the 355.

(#4067) 32-MB HD3 Memory Card

(For IBM US, No Longer Available as of January 30, 1998)

This feature provides 32MB of memory. This feature requires one memory card location on the system board.

(#4069) 64-MB HD3 Memory Card

(For IBM US, No Longer Available as of December 31, 1999)

This feature provides 64MB of memory. This feature requires one memory card location on the system board.

(#4090) 128-MB Memory Card

This feature provides 128MB of memory. This feature requires one memory card location on the system board.

Memory SIMM Kits

These features are for field installation (MES) only and are not available for plant installation.

AIX/6000 Version 3.2 with PTF U410257 or later is required for the installation of 128MB memory.

Determining memory board EC level

Prior to placing an order, an IBM representative must use `lscfg -vl mem* |pg` on the installed machine to determine the card EC level. This determines if SIMM kits can be used on the installed memory boards.

Acceptable EC levels for memory boards for SIMM Kit installation are:

For 64MB SIMM Kit:
00, 20, 21 or 33

If 00, there must be data not equal to 00 in device specific Z3 and Z2 field.

For the 32 or 128MB SIMM Kit:
20, 21, or 33

Some models require that memory be installed in pairs. For these machines; it is necessary for the total memory on each memory board in the pair be equal after SIMM Kit installation.

Parts removed become the property of IBM and must be returned to IBM.

(#5032) 32-MB Memory SIMM Kit

(For IBM US, No Longer Available as of January 8, 1998)

This provides 32MB memory on installed boards. Available as MES only.

(#5064) 64-MB Memory SIMM Kit

Available as MES only. This provides 64MB memory on installed boards.

(#5128) 128-MB Memory SIMM Kit

This provides 128MB memory on installed boards. Available as MES only. Requires AIX/6000 3.2 or later.

Disk Storage

(#2560) 400-MB SCSI Disk Drive

(For IBM US, No Longer Available as of September 19, 1995)

Provides an additional 400MB of internal disk drive storage.

Characteristics:

- Formatted Capacity: 400MB
- Form Factor: 3.5-inch
- Average Seek Time: 11.5 ms
- Average Latency: 6.95 ms
- Rotational Speed: 4318 RPM
- Data Transfer Rate:

Media - 2.0 MB/Sec
SCSI Bus - 5.0 MB/Sec (max)

- Interface: SCSI (Single Ended) Synchronous

(#2555) 1-GB SCSI-2 Disk Drive

(For IBM US, No Longer Available as of May 12, 1997)

Provides 1 GB of SCSI-2 disk drive storage. (Operates at SCSI-1 performance when attached to SCSI-1 interface.)

Characteristics:

- Formatted Capacity: 1.00GB
- Form Factor: 3.5-inch
- Average Seek Time: 9.8 ms
- Average Latency: 6.95 ms
- Rotational Speed: 4316 RPM
- Data Transfer Rate:

Media - 3.0 MB/Sec

SCSI Bus - 10.0 MB/Sec (max)

- Interface: SCSI-2 (Single Ended) Synchronous
- Supports Command Reordering
- Supports Back to Back Write operation

(#2390) 540-MB SCSI-2 Disk Drive

(For IBM US, No Longer Available as of October 25, 1996)

This feature provides an additional 540 MB of disk drive storage.

Characteristics:

- Formatted capacity: 540 MB
- Form factor: 3.5-inch
- Average seek time: 8.5 ms
- Average latency: 4.76 ms
- Rotational speed: 6300 RPM
- Data transfer rate: media--4.70 MB/sec (maximum)

SCSI bus--10 MB/sec (maximum).

- Interface: SCSI-2 (single-ended) synchronous

(#2580) 2-GB SCSI-2 Disk Drive

(For IBM US, No Longer Available as of May 12, 1997)

This feature provides an additional 2-GB of disk drive storage.

Characteristics:

- Formatted capacity: 2 GB
- Form factor: 3.5-inch
- Average seek time: 9.5 ms
- Average latency: 5.56 ms
- Rotational speed: 5400 rpm
- Data transfer rate:
 - Media: 5.22 MB/sec (maximum)
 - SCSI bus: 10 MB/sec (maximum)
- Interface: SCSI-2 (single ended) synchronous

I/O Adapters

For detailed information on adapters and devices, reference the publication: "Hardware Technical Information Options and Devices" (SA23-2646).

(#2404, #2405) IBM Ultimedia Video I/O Adapter

(For IBM US, No Longer Available as of January 8, 1998)

The Ultimedia Video I/O adapter for the RS/6000 provides a broad based solution for video enablement on the RS/6000. The Video I/O adapter is comprised of two cards: a base Micro Channel feature card which provides video in and video out (#2404) and a guest card which provides hardware assisted video data compression or decompression (#2405). Each card is separately orderable; however, it is required to have the base card installed as a prerequisite to the guest card. The Video I/O adapter requires only one Micro Channel slot of space with either the base card or the base and guest card installed.

The Ultimedia Video I/O adapter provides support for numerous multimedia applications requiring video. Support is provided for these application requirements: still or full motion video, NTSC, PAL or S-video standards and YUV or RGB colour spaces. A variety of image sizes are supported in the video capture mode and one busmaster DMA channel is offered to enhanced system throughput. A further benefit is the savings obtained through the use of the compression and decompression algorithm provided on the guest card which provides considerable assistance with regards to transporting video data internally in the system or across the network, as only the compressed data need be sent. The compression algorithm supported in hardware is M-JPEG, a universal video compression/decompression format. The compression/decompression hardware is fully programmable to allow the user to select the compression level desired.

The Ultimedia Video I/O adapter provides the required support for applications such as multimedia enabled training, authoring, desktop publishing, video collaboration (still or live), and video distribution.

Details of Supported Functions

Video Formats Supported

- Analog Video In: NTSC, PAL or S-video
- Analog Video Out NTSC, PAL or S-video
- Digital Video YUV 4:2:2 (16 bit) RGB (8 bit) RGB (24 bit)

Base Card Functions (FC2404)

The Ultimedia Video I/O base Adapter directly supports several programmable functions and in addition provides the system level interface for the guest compression/decompression card. The functions provided on the base card include: analog to digital conversion with video capture support, digital to analog conversion with video out support, selectable colour space conversion for video in, monitoring of incoming video images with a supported IBM graphics adapter and/or an external video monitor, scaling the size of the incoming video image, and DMA transfer of the digital image data to and from the card.

- Video Capture: The adapter will provide video capture on a frame by frame (or field by field) basis of "live" video from a single source. Selection of S-video or CVBS input formats is enabled. The captured video is converted from NTSC (PAL) to YUV. The YUV digital video may be converted to 24 bit RGB, 8 bit dithered RGB or remain YUV.
- Video Output: The base adapter supports transfer of digital YUV (4-2-2 16 bit) data. Via the guest card, both digital YUV and compressed M-JPEG data are supported from the system to be output as PAL or NTSC in both S-video or CVBS format. The Video I/O adapter accepts input from the system as 320 x 240 or 640 x 240 pixel fields which are output as full size NTSC (640 x 480) images to a display or recorder. Likewise, PAL images are output as 768 x 576 pixel images from 384 x 288 or 768 x 288 pixel field input. If the compression/decompression card is used, the M-JPEG format is accepted from the system in the same field sizes as above, an output as full size NTSC or PAL images.
- Scaling: Captured video input may be scaled down from a maximum NTSC or PAL resolution (640 x 480, 768 x 576) in even increments to the minimum resolution desired.
- Video Monitoring: The monitoring of incoming video data is supported with an IBM supported graphics adapter and/or a video monitor. The following image sizes as shown in table #1 are supported for viewing with a supported graphics adapter.

8 BIT DITHERED MODE SELECTED ON GRAPHICS ADAPTER AND VIDEO I/O

NTSC SOURCE

640 X 480
320 X 240
160 X 120

PAL SOURCE

FULL SIZE 768 X 576
CIF SIZE 384 X 288
QCIF SIZE 192 X 144

24 BIT RGB MODE SELECTED ON GRAPHICS ADAPTER AND VIDEO I/O

NTSC SOURCE

320 X 240
160 X 120

PAL SOURCE

CIF SIZE 384 X 288
QSIF SIZE 192 X 144

Table #1 Video Monitoring with a supported graphics adapter

Compression/Decompression Guest Card (FC2405)

The compression/decompression of video is supported with the M-JPEG algorithm in either the compression or decompression mode. This card supports full motion video capture and video out utilizing the enablements provided by the base video card mentioned previously. Video monitoring concurrent with M-JPEG compression is supported.

When compression is required, the quality or compression information is provided by the user through a software interface whereas the decompression file sent to the adapter contains the necessary information for software to automatically interpret the necessary command and control information for the user.

Video out images may be accepted as either full size NTSC or PAL or CIF size NTSC or PAL from the system. Scaling of the CIF size images to full size NTSC, PAL or S-video images for video out is featured through support on the base card.

The Video I/O adapter supports M-JPEG compression and capture of video in to CIF or full size frames with concurrent monitoring of the video. The video may be viewed in an X-window in 8 bit dithered or 24 bit RGB on a supported graphics adapter at CIF size (320 x 240 NTSC. 384 x 288 PAL).

External Connections

Four external connectors are provided for video:

- S-VHS mini din jack for video in
- C-VBS RCA type jack for video in
- S-VHS mini din jack for video out
- C-VBS RCA type jack for video out

System Interface

The Video I/O adapter card functions as a 32 bit Micro Channel bus master accepting streaming data and address in 32 bit widths. Parity checking is enabled on both address and data lines. Programmable Option Select (POS) is provided for software initialization.

Cabling

No cabling is supplied with the Video I/O adapter.

Programming Interface

Ultimedia Services for AIX 1.2 or later supplies the necessary device driver API and support GUI interfaces.

Hardware requirements

IBM Ultimedia Video I/O Adapter

- One Micro Channel slot is required for the IBM Ultimedia Video I/O Adapter
- One Incremental Cooling Fan (#6506) is required for the IBM Ultimedia Video I/O Adapter (#2404) on machine type 7013.
- If the IBM Video I/O compression/decompression Guest Card is attached, only one Micro Channel slot is required for both cards.

POWER GXT155L

One 601 slot is required for the GXT155L Graphics Adapter.

IBM Ultimedia Audio Adapter

One half length Micro Channel slot is required for the IBM Ultimedia Audio Adapter.

Programming Requirements

IBM Ultimedia Video I/O Adapter

- AIX/6000* Version 3.2.5 for RS/6000 (5756-030)
- AIXwindows Environment/6000 (5601-257) Version 1.2.3.
- Ultimedia Services for AIX 5696-709) Version 1.2.1 or later

or

- AIX/6000(R) Version 4.1 (5765-393) with AIXwindows 2D and SOMobject Base Tool Kit installed
- Ultimedia Services for AIX (5696-906) Version 2.1.1 or later

IBM Ultimedia Audio Adapter Select

- AIX/6000* Version 3.2.5 for RS/6000 (5756-030)
- AIXwindows Environment/6000 (5601-257) Version 1.2.3.
- Ultimedia Services for AIX 5696-709) Version 1.2 or later

or

- AIX/6000* Version 4.1 (5765-393) with AIXwindows 2D and SOMobject Base Tool Kit installed
- Ultimedia Services for AIX (5696-906) Version 2.1 or later

POWER GXT155L

- AIX Version 3.2.5 for RS/6000 enhancement 6, (5756-030)

AIXwindows Environment/6000 Version 1.2.5 (support for X11R5) (5601-257) or higher is required for installation of this graphics adapter. For customers requiring 3D software support for OpenGL, PEX and PHIGS, the AIXwindows 3D feature is required.

OR

- IBM AIX Version 4.1.1 or later, at the level, including any updates, that is current at the time these features are available. For customers requiring 3D software support for OpenGL, OpenGL and GL 3.2 Version 4.1 for AIX is required. For customers requiring 3D software support for PEX and PHIGS, PEX and PHIGS Version 4.1 for AIX is required.

Physical Interface Specifications

- Key Input Parameters
 - NTSC composite video, digitized to 4:2:2 YCrCb, 75 ohms
 - PAL composite video, digitized to 4:2:2 YCrCb, 75 ohms
 - NTSC S-video input

- PAL S-video input
- Key Output Parameters
 - NTSC composite video, 75 ohms, S/N 45db typical
 - PAL composite video, 75 ohms, S/N 45db typical
 - NTSC S-video output
 - PAL S-video output
- Connector Type
 - CVBS In RCA Jack
 - CVBS Out RCA Jack
 - S-video In 4 position S-video MINI-DIN Jack
 - S-video Out 4 position S-video MINI-DIN Jack

(#2835) SCSI High-Performance External I/O Controller

(For IBM US, No Longer Available as of July 6, 1999)

Provides high-performance attachment of single ended SCSI disk drives, CD-ROM, and tape devices. This feature and the appropriate cables provides for the attachment of up to seven SCSI devices external to the system unit (6 meters, 19.6 feet maximum).

Characteristics:

- The adapter conforms to ANSI Doc X3.131 - 1986
- Accepts multiple commands per device at a time from system
- SCSI burst data rate 4.0MB per second (synchronous protocol)
- Acts as SCSI initiator (command issuer)
- SCSI parity support
- Micro Channel Interface:
 - 4 byte (32-bit) Bus Master
 - Streaming Data Support
 - Address and Data Parity Support
- Standard Micro Channel form factor card

(#2410) SCSI-2 High-Performance External I/O Controller

(For IBM US, No Longer Available as of January 10, 1997)

Provides high-performance attachment of external single ended SCSI and SCSI-2 devices. The SCSI-2 Controller allows up to 10MB per second data rate for SCSI-2 devices and supports Command Tagged Queuing. This feature provides for the attachment of one IBM 9334 Expansion Unit or up to four external IBM supported SCSI devices with IBM supported cables. Maximum SCSI bus length of 3.75 meters (12.3 feet) with IBM supported cables (#2836 and #3130) or 3.0 meters (9.8 feet) with non-IBM supported cables. Maximum cable length for the attachment of the IBM 9334 Expansion Unit is approximately 6 meters (19.6 feet) with the IBM supported cables.

Characteristics:

- Adapter conforms to ANSI Doc X3T9.2/86-109 rev 10h
- Accepts multiple commands per device at a time from system
- SCSI-2 data rate of up to 10.0MB per second (synchronous protocol)
- Acts as SCSI initiator (command issuer)
- Acts as SCSI target to commands from another initiator
- SCSI parity support
- Standard Micro Channel form factor card
- Micro Channel Interface:
 - 4-byte (32-Bit) Bus Master
 - Streaming Data Support
 - Address and Data Parity Support
- Supports Command Tagged Queuing (as SCSI initiator)

(#2415) IBM SCSI-2 Fast/Wide Adapter/A

(For IBM US, No Longer Available as of November 16, 1999)

The IBM SCSI-2 Fast/Wide Adapter/A is a dual ported fast (10 MHz) and wide (2 bytes wide) SCSI-2 Micro Channel Adapter that can provide synchronous SCSI bus data rates of up to 20 megabytes per second. It provides high performance attachment to single ended (SE) SCSI disks, CD-ROMs, tape devices, read/write (R/W) optical devices, and storage subsystems. The maximum data rate is dependent on the maximum data rate of the devices.

The IBM SCSI-2 Fast/Wide Adapter/A has one internal SE port and one external SE port. Each SE port is capable of addressing up to seven SE SCSI devices. The number of physical devices attached to each port is limited by SCSI bus cabling restrictions. The internal port of this adapter supports either 8-bit or 16-bit devices via a 8-bit or 16-bit connector. Only one of these two connectors may be used at one time. (Devices of different bus attachment widths cannot be connected/used at the same time.) External cabling may be up to 6 meters (19.6 feet) when attached to the 9334-010 or 9334-500, 3 meters when attached to anything else and is supplied by the attaching device.

Characteristics:

- Controller conforms to ANSI Doc X3T9.2/86-109 rev 10h
- Accepts multiple commands per device from system
- SCSI-2 data rate of up to 20 MB per second (synchronous protocol)
- Acts as SCSI initiator (command issuer)
- SCSI parity support
- Micro Channel Interface
 - 4 byte (32-Bit) Bus Master
 - Streaming Data Support (40 MB/sec burst)
 - Address and Data Parity Support
- Occupies one Micro Channel slot
- Supports Command Tagged Queuing (as SCSI initiator)

Note: System IPL cannot occur from a device attached through this adapter.

(#2416) IBM SCSI-2 Differential Fast/Wide Adapter/A

(For IBM US, No Longer Available as of January 30, 1998)

The IBM SCSI-2 Differential Fast/Wide Adapter/A is a dual ported fast (10 MHz) and wide (2 bytes wide) SCSI Micro Channel Adapter that can provide synchronous SCSI bus data rates of up to 20 megabytes per second. The SCSI-2 Differential Fast/Wide Adapter/A provides high performance attachment to Differential SCSI disks, disk subsystems, tape devices, and read/write optical subsystems. The maximum data rate is dependent on the maximum data rate of the device. The IBM SCSI-2 Differential Fast/Wide Adapter/A has one internal single ended port and one external Differential port. The internal port is capable of addressing up to seven single ended devices, the external port is capable of addressing up to seven differential devices. The number of physical devices attached to each port is limited by SCSI bus cabling restrictions. The internal port of this adapter supports either 8-bit or 16-bit devices via a 8-bit or 16-bit connector. Only one of these two connectors may be used at one time. (Devices of different bus attachment widths cannot be connected/used at the same time.) The external Differential SCSI bus is capable of supporting cable lengths of 25 meters (82 feet).

Additional system, subsystem, and high availability connections are also now available with the differential system-to-system and Y-cable features.

Characteristics:

- Controller conforms to ANSI Doc X3T9.2/86-109 rev 10h
- Accepts multiple commands per device from system
- SCSI-2 data rate of up to 20 MB per second (synchronous protocol)
- Acts as SCSI initiator (command issuer)
- SCSI parity support
- Micro Channel Interface
 - 4 byte (32-bit) Bus Master
 - Streaming Data Support (40 MB/sec burst)
 - Address and Data Parity Support
- Occupies one Micro Channel slot

- Supports Command Tagged Queuing (as SCSI initiator)

Note: System IPL cannot occur from a device attached through this adapter.

(#2420) SCSI-2 Differential High-Performance External I/O Controller

(For IBM US, No Longer Available as of January 10, 1997)

The SCSI-2 Differential High-Performance External I/O Controller provides attachment of external SCSI-2 differential devices and is the recommended SCSI controller for increased availability configurations. The SCSI-2 differential controller features improved SCSI bus signal cable quality over the current SCSI controllers FC #2410 and #2835 and a maximum SCSI bus length of up to 19-meters (62.3 feet). The SCSI-2 Differential Controller supports up to a 10-MB/second data rate for SCSI-2 differential devices and supports Command Tagged Queuing.

- Increased storage capacity per adapter of up to 96 GB of user- available protected storage with 2 IBM 7135 RAIDiant Arrays
- Provides attachment of up to 7 external SCSI-2 differential devices
- Supports attachment of the IBM 3490E models C11 and C22 Tape Drives
- Supports attachment of the IBM 3490E models E01 and E11 Tape Drives
- Supports attachment of up to 2 IBM 9334-501 differential expansion units per controller

Cabling is ordered with the IBM 9334, IBM 7135, and by also ordering the SCSI-2 Differential Y-Cable (#2422) and SCSI-2 Differential System- to-System Cable (#2423). Maximum of 2 SCSI-2 differential controllers per system (maximum of 3 SCSI controllers per system, including any Integrated SCSI Controller).

Characteristics:

- Controller conforms to ANSI Doc X3T9.2/86-109 rev 10h
- Accepts multiple commands per device at a time from system
- SCSI-2 data rate of up to 10.0 MB/second (synchronous protocol)
- Acts as SCSI initiator (command issuer)
- Acts as SCSI target to commands from another initiator
- SCSI parity support
- Occupies one Micro Channel slot
- Micro Channel interface:
 - 4-byte (32-bit) bus master
 - Streaming data support
 - Address and data parity support
- Supports Command Tagged Queuing (as SCSI initiator)

(#6300) Digital Trunk Adapter

(For IBM US, No Longer Available as of July 18, 1997)

The Digital Trunk Adapter attaches one 9291 Single Digital Trunk Processor system or one 9295 Multiple Digital Trunk Processor system to a RS/6000 system. Each Digital Trunk Adapter will allow up to 24 T1 or 30 CEPT telephone channels to be attached to it.

Corequisites: Direct Talk Version 1.6 LPP is required for Device Driver support with AIX 4.1.

Attributes provided: 24 T1 telephone channels
OR
30 CEPT telephone channels
Attributes required: 1 Micro Channel slot

(#6305) Digital Trunk Dual Adapter

(For IBM US, No Longer Available as of April 26, 1999)

The Digital Trunk Dual Adapter attaches up to two 9291 Single Digital Trunk Processor systems or 9295 Multiple Digital Trunk Processor systems to a RS/6000 system. Each Digital Trunk Dual Adapter will allow up to 48 T1 or 60 CEPT telephone channels to be attached to it.

Corequisites: Direct Talk Version 1.6 LPP is required for Device Driver support with AIX 4.1.

Attributes provided: 24 T1 telephone channels

OR

30 CEPT telephone channels

Attributes required: 1 Micro Channel slot

(#7022) IBM Realtime Interface Coprocessor: Multiport/2 4-Port RS-232 Interface Board

This interface board provides four EIA RS-232/CCITT V.24 serial I/O ports for the IBM Realtime Interface Co-Processor family of adapters. The Interface Board attaches to the Co-Processor card and includes a 78-pin connector. Only those pins associated with ports 0 through 3 are electrically connected. Only one 4-Port RS-232 Interface Board can be attached to a Co-Processor card.

Related Features:

- (FC 7002) - Multiport/2 Adapter (0.5 MB)
- (FC 7004) - Multiport/2 Adapter (1Mb)
- (FC 7102) - EIA RS-232C Multiport Interface Cable

Attributes provided: 4 EIA-232/CCIT V.24 ports

Attributes required: 1 Multiport/2 adapter EIB slot

(#7024) IBM Realtime Interface Co-Processor: Multiport/2 6-Port RS-232-C Synchronous Interface Board

This board provides six synchronous EIA RS-232-C/CCITT V.24 serial I/O ports for the IBM Realtime Interface Co-Processor Multiport/2 adapters. The interface board attaches to the Co-Processor adapter and includes a 78-pin connector. Asynchronous, bit synchronous and character synchronous protocol hardware support is provided on all six ports. The interface board can support 38,400 bps full duplex HDLC/SDLC protocols on one of the first two ports. A second port supports speeds up to 19,200 bps full duplex. All six ports can be operated concurrently at 4,800 bps full duplex for HDLC/S DLC protocols or at 9,600 bps full duplex for asynchronous protocols.

Related Features:

- (FC 7002) - Multiport/2 Adapter (0.5 MB)
- (FC 7004) - Multiport/2 Adapter (1 MB)
- (FC 7104) - Synchronous Interface Cable

Attributes provided: 6 EIA-232-C/CCIT V.24 ports

Attributes required: 1 Multiport/2 adapter EIB slot

(#7026) IBM Realtime Interface Co-Processor: Multiport/2 8-Port RS-232 Interface Board

This board provides eight EIA RS-232/CCITT V.24 serial I/O ports for the IBM Realtime Interface Co-Processor Multiport/2 adapters. The Interface Board attaches to the Co-Processor card and includes a 78-pin connector.

Related Features:

- (FC 7002) - Multiport/2 Adapter (0.5 MB)
- (FC 7004) - Multiport/2 Adapter (1 MB)
- (FC 7102) - EIA RS-232-C Multiport Interface Cable

Attributes provided: 8 EIA RS-232/CCIT V.24 ports

Attributes required: 1 Multiport/2 adapter EIB slot

(#7028) IBM Realtime Interface Co-Processor: Multiport/2 8-Port RS-422-A Interface Board

This interface board provides the hardware facilities for the Realtime Interface Co-Processor Multiport/2 adapter to support eight RS-422-A serial input/output ports. The board attaches to the Co-Processor adapter and includes a 78-pin connector. The interface board provides asynchronous, bit synchronous, and character synchronous protocol hardware support on the first port. Asynchronous hardware support is provided on the remaining ports. The first port can operate at 64,000 bps full duplex. Line speeds in excess of 64,000 bps can be achieved with appropriate adapter resident communication programs. All eight ports may be operated concurrently at 9,600 bps full duplex.

Related Features:

- (FC 7002) - Multiport/2 Adapter (0.5 MB)
- (FC 7004) - Multiport/2 Adapter (1 MB)
- (FC 7102) - EIA RS-232-C Multiport Interface Cable

Attributes provided: 8 RS-422-A ports

Attributes required: 1 Multiport/2 adapter EIB slot

(#7030) IBM Realtime Interface Co-Processor: Multiport/2 RS-232/RS-422 Interface Board

This board provides support for four EIA RS-232/CCITT V.24 serial I/O ports, ports 0 through 3, and four EIA RS-422 serial I/O ports, ports 4 through 7. The Interface Board attaches to the Multiport/2 adapter card and includes a 78-pin connector.

Related Features:

- (FC 7002) - Multiport/2 Adapter (0.5 MB)
- (FC 7004) - Multiport/2 Adapter (1 MB)
- (FC 7102) - EIA RS-232-C Multiport Interface Cable

Attributes provided: 4 EIA RS-232/CCITT V.24 ports

Attributes required: 1 Multiport/2 adapter EIB slot

(#7102) IBM Realtime Interface Co-Processor: EIA RS-232-C Multiport

Interface Cable

This cable is used to distribute eight electrical interfaces away from the physical constraints of the back panel of the system. One end of the cable provides for a 78-pin connector to join with the IBM Realtime Interface Co-Processor Multiport/2 adapter card. The other end has eight 25-pin connectors which will connect up to eight EIA RS-232-C/CCITT V.24 devices. A wrap connector is provided to test the cable using the diagnostics supplied with the cable.

Related Features:

- (FC 7002) - Multiport/2 Adapter (0.5 MB)
- (FC 7004) - Multiport/2 Adapter (1 MB)
- (FC 7022) - Multiport/2 4-Port RS-232 Interface Board
- (FC 7026) - Multiport/2 8-Port RS-232 Interface Board

Attributes provided: None

Attributes required: None

(#7104) IBM Realtime Interface Co-Processor: Synchronous Interface Cable

This cable can be used in conjunction with the 6-Port RS-232-C Synchronous Interface Board. One end of the cable connects to the 78-pin connector of the Interface Board. The other end provides six 25-pin connectors for attachment of up to six EIA RS-232-C/CCITT V.24 devices. A wrap connector is provided to test the cable when using the diagnostics supplied.

Related Features:

- (FC 7002) - Multiport/2 Adapter (0.5 MB)
- (FC 7004) - Multiport/2 Adapter (1 MB)
- (FC 7024) - Multiport/2 6-Port RS-232-C Synchronous Interface Board

Attributes provided: 6 EIA RS-232-C/CCITT V.24 connections
Attributes required: 1 Multiport/2 6-Port RS-232-C Synchronous Interface Board port

(#7107) IBM Realtime Interface Co-Processor: V.35 Network Cable

This cable is used to attach devices supporting the V.35 physical interface standard. It is used in conjunction with the Portmaster base adapters (FC 7006 or 7008) together with a V.35 daughter board (FC 7046) and V.35 breakout cable (FC 7106). The cable uses 25-pin D-shell connector on the daughter board side, and a 34-pin D-shell connector on the device side. It is 2m long.

Attributes provided: V.35 device attachment capability
Attributes required: 1 V.35 port from FC 7106

(#7111) IBM Realtime Interface Co-Processor: X.21 Network Cable

This cable is used to attach devices supporting the X.21 physical interface standard. It is used in conjunction with the Portmaster base adapters (FC 7006 or 7008) together with an X.21 daughter board (FC 7048) and breakout cable (FC 7110). The cable uses 25-pin D-shell connector on the daughter board side, and a 15-pin D-shell connector on the device side. It is 2m long.

Attributes provided: X.21 device attachment capability
Attributes required: 1 port from FC 7110

(#8136) Rack Mountable Remote Asynchronous Node 16-Port EIA-232

The Rack Mountable Remote Asynchronous Node 16-Port EIA-232 (RAN) is a modified version of the existing 16-port Remote Async Node (feature #8130 or #8134) in an industry-standard 19-inch rack mount chassis to allow simpler installation and ease-of-use. Like the existing RAN, it can also be configured as a desktop device.

As an additional benefit, the new metal chassis meets FCC Class B/CISPR B when used with similarly rated RS/6000 host to meet the needs of customers with these requirements.

The RANs provide 16 ports of EIA-232 capability with full modem controls on each port and are connected to the 128-port Async Controller (Micro Channel or ISA versions) residing in the host. RANs are connected in daisy-chain fashion up to 8 RANs per 128-port Async Controller (either version).

The new rack-mountable RAN offers these enhanced features:

- Industry-standard 19-inch rack mountable chassis (can be configured for stacking on a desktop or mounted in a 19-inch rack).
- Meets FCC Class B/CISPR B when used with similarly rated RS/6000 host.
- All RJ-45 connectors are now on the front panel, greatly enhancing cable management.
- The DB-15 synchronous connectors (cabling from host to RAN and between RANs) and the power cord and switch are located on the rear panel.
- Power supply is self contained within the unit.

The new rack-mountable RAN offers these same features as the existing RAN product:

- Identical function and support as existing 16-port Remote Async Node (RAN), feature #8130 or #8134.
- Operation of 16 to 128 ports by supporting up to 8 RANs (4 per synchronous line) with either a Micro Channel or ISA host adapter.
- Ability to monitor individual port operation, synchronous line station, and other diagnostics from front panel.
- Built-in diagnostics can test ports independent of RS/6000 host.
- Full modem control supports the following interface signals: TxD, RxD, RTS, CTS, DSR, DCD, DTR, RI.
- The same RJ-45 to DB-25 Converter Cable (feature #8133 -- quantity four per order) currently used on the existing RANs can be used to attach devices having a DB-25 connector to the Remote Async Nodes.
- Individual ports support a maximum EIA-232 distance of 62 meters (200 feet).
- Use of the same cabling from host to RAN and RAN to RAN: feature #8131 (4.5 metre), feature #8132 (23 cm) or customer supplied cables.
- Location of RAN up to 330 meters from the host using standard shielded 8-wire twisted pair cabling.
- Remote operation via synchronous modems or CSU/DSU extends the distance and allows location of RANs at geographically distant location from the host.

Attributes provided: 16 RJ-45 EIA-232 ports

Attributes required: (1) 128-P Async. Controller connection or RAN-to-RAN connection in a daisy chain

Cables

(#2424) 0.6m 16-bit SCSI-2 Differential System to System Cable

(No Longer Available as of December 10, 2004)

The 0.6m 16-bit SCSI-2 Differential System to System Cable provides for the connection between two or more RS/6000 processors that each have a SCSI-2 Differential Fast/Wide Adapter/A (#2416) and a SCSI-2 Differential Fast/Wide Y-Cable (#2426) (16-bit). This 68-pin cable is 0.6 meters (22.7 inches) in length.

(#2425) 2.5m 16-bit SCSI-2 Differential System to System Cable

(No Longer Available as of June 23, 2006)

This cable provides for the connection between two or more RS/6000 processors that each have a SCSI-2 Differential Fast/Wide Adapter/A (#2416) and a SCSI-2 Differential Fast/Wide Y-Cable (#2426) (16-bit) installed. This 68-pin cable is 2.5 meters (8.2 feet) in length.

(#2426) 16-bit Y-Cable for IBM SCSI-2 Differential Fast/Wide Adapter/A

(For IBM US, No Longer Available as of December 3, 2001)

This Y-Cable provides attachment and termination of an IBM 16-bit SCSI-2 Differential device/subsystem to two separate RS/6000 systems which each have a SCSI-2 Differential Fast/Wide Adapter/A (#2416) installed. This is particularly desirable in increased availability environments. Each system requires a Y-cable. The Y-cable is attached to the cabling that comes with the 16-bit SCSI-2 Differential device/subsystem. A SCSI-2 Differential Terminator is included. The Y-cable is .940 meters (37 inches) in length.

(#2427) 8-bit Y-Cable for IBM SCSI-2 Differential Fast/Wide Adapter/A

(For IBM US, No Longer Available as of January 30, 1998)

This Y-Cable provides attachment and termination of an IBM 8-bit SCSI-2 differential device/subsystem to two separate RS/6000 systems which each have a SCSI-2 Fast/Wide Differential Adapter/A (#2416) installed. This is particularly desirable in increased availability environments. Each system requires a Y-cable. The Y-cable is attached to the cabling that comes with the 8-bit SCSI-2 Differential device/subsystem. A SCSI-2 Differential Terminator is included. The Y-cable is .765 meters (30 inches) in length.

(#2435) 16-bit IBM SCSI-2 Fast/Wide Adapter/A to Dual Ported Device Cable

(For IBM US, No Longer Available as of December 3, 2001)

The 16-bit IBM SCSI-2 Fast/Wide Adapter/A to Dual Ported Device Cable provides attachment from the IBM SCSI-2 Fast/Wide Adapter/A (#2414, #2415) to the first 16-bit single ended dual ported device on the SCSI bus. The cable is 1.5 meters (59 inches) in length.

(#2436) 16-bit IBM SCSI-2 Differential Fast/Wide Adapter/A to Dual Ported Device Cable

(For IBM US, No Longer Available as of December 3, 2001)

The 16-bit IBM SCSI-2 Differential Fast/Wide Adapter/A to Dual Ported Device Cable provides attachment from the IBM SCSI-2 Differential Fast/Wide Adapter/A (#2413, #2416) to the first 16-bit differential dual ported device on the SCSI bus. The cable is 1.5 meters (59 inches) in length.

(#2437) 8-bit IBM SCSI-2 Fast/Wide Adapter/A to Dual Ported Device Cable

(For IBM US, No Longer Available as of December 3, 2001)

The 8-bit IBM SCSI-2 Fast/Wide Adapter/A to Dual Ported Device Cable provides attachment from the IBM SCSI-2 Fast/Wide Adapter/A (#2414, #2415) to the first 8-bit single ended dual ported device on the SCSI bus. The cable is 1.5 meters (59 inches) in length.

(#2438) 8-bit IBM SCSI-2 Differential Fast/Wide Adapter/A to Dual Ported Device Cable

(For IBM US, No Longer Available as of January 30, 1998)

The 8-bit IBM SCSI-2 Differential Fast/Wide Adapter/A to Dual Ported Device Cable provides attachment from the IBM SCSI-2 Differential Fast/Wide Adapter/A (#2413, #2416) to the first 8-bit differential dual ported device on the SCSI bus. The cable is 1.5 meters (59 inches) in length.

(#2439) 8-bit IBM SCSI-2 Fast/Wide Adapter/A to Single Ported Device Cable

(For IBM US, No Longer Available as of December 3, 2001)

The 8-bit IBM SCSI-2 Fast/Wide Adapter/A to single Ported Device Cable provides attachment from the IBM SCSI-2 Fast/Wide Adapter/A (#2414, #2415) to the first 8-bit single ended single ported device on the SCSI bus. The cable is 1.5 meters (59 inches) in length.

(#2832) SCSI Controller Cable

(For IBM US, No Longer Available as of July 6, 1999)

Required from the SCSI I/O Controller (#2835) to the first external device. The cable is 1.5 metre (5 feet) in length. Includes terminator.

(#2833) Integrated SCSI Controller Cable

(For IBM US, No Longer Available as of December 31, 1999)

The SCSI Controller cable (#2833) connects the 50-pin integrated SCSI controller on a RS/6000 system unit planar board to the first external SCSI device. The cable is 1.48 meters (5 feet) in length. It provides two 50-pin industry-standard connectors on the device end for attachment of SCSI devices having one or two industry standard SCSI signal ports. Includes terminator.

(#2836) SCSI-2 Controller Cable

(For IBM US, No Longer Available as of December 31, 1999)

Connects the 50-pin high density SCSI-2 Controller (#2410) connector to the first external SCSI device. The cable is 1.57 meters (5.2 feet) in length and provides two 50-pin industry-standard connectors on the device end for attachment of SCSI devices having one or two industry standard SCSI Signal ports. Includes SE (single ended) terminator.

(#2914) SCSI-2 Passthrough Terminator Cable

(For IBM US, No Longer Available as of July 13, 1993)

This cable connects the 50-pin high density SCSI-2 Controller (#2410) connector to the first external device and is designed to provide uninterrupted termination of a shared SCSI bus by two host systems. Each system must have the Passthrough Terminator Cable installed as the first device cable. Whenever either one of the host systems is powered off and removed from the SCSI bus for service, the SCSI bus remains terminated and operational for the other host system.

A maximum of three external devices may be attached to a shared SCSI-2 bus, not to exceed 4.5 meters (14.8 feet) in length.

(#2915) SCSI Controller Passthrough Terminator Cable

(For IBM US, No Longer Available as of July 13, 1993)

The SCSI Controller Passthrough Terminator Cable is designed to provide uninterrupted termination of a shared SCSI bus by two host systems. Each system must have the Passthrough Terminator Cable installed on a SCSI High-Performance External I/O Controller (#2835). Whenever either one of the host systems is powered off and removed from the SCSI bus for service, the SCSI bus remains terminated and operational for the other host system.

A maximum of five external devices may be attached to a shared SCSI bus, not to exceed 6 meters (19.6 feet) in length.

(#3130) SCSI Device-to-Device Cable

Required from device to device if more than one external device is attached. This cable is .66 metre (2.2 feet) in length.

(#2422) SCSI-2 Differential Y-Cable

(For IBM US, No Longer Available as of January 30, 1998)

The SCSI-2 Differential Y-Cable provides attachment and termination of an IBM 9334 to 2 separate RS/6000 systems. This is particularly desirable in increased availability environments. Each system requires a Y-cable. The Y-cable is attached to the cabling that comes with the IBM 9334 Differential Terminator which is included with the SCSI-2 Differential Y-Cable feature. The Y-cable is 0.765 metre (30 inches) in length.

(#2423) SCSI-2 Differential System-to-System Cable

(For IBM US, No Longer Available as of January 30, 1998)

The SCSI-2 Differential System-to-System Cable provides for the connection between 2 or more RS/6000 processors that each have a SCSI-2 Differential High-Performance I/O Controller (FC #2420) and a SCSI-2 Differential Y-Cable (FC #2422) installed. This cable can be used in conjunction with the target mode function of the adapter to enable system-to-system communication across the SCSI bus at up to 10 MB. This 50-pin cable is 2.5 meters (8.2 feet) in length.

Cables

(#2936) Async Cable EIA-232/V.24

(No longer available as of December 31, 2020)

Used to attach a modem to the standard I/O ports with the 10-pin to 25-pin converter cable (shipped with the system). The cable is 3 meters (9.8 feet) in length.

(#2937) Printer/Terminal Interposer EIA-232

(For IBM US, No Longer Available as of September 8, 1999)

The Printer/Terminal Interposer EIA-232 is used in conjunction with the Async Cable EIA-232 (#2936) (shipped with the system) to provide the proper wiring for the attachment of IBM terminals, plotters, printers and the standard I/O serial ports with the 10-pin to 25-pin converter cable (shipped with the system).

(#2945) Terminal Cable - EIA-422A

Provides a 20 metre (66 feet) interface cable for attaching an EIA-422A terminal to the Multiport Interface Cable.

(#3100) PC Parallel Printer Cable

(For IBM US, No Longer Available as of December 3, 2001)

Allows attachment of a 360/370 supported printer to the system parallel printer port. The cable is 3 meters (9.8 feet) in length.

Local Area Network (LAN) Communications Adapters

(#2724) FDDI- Fiber Single-Ring Adapter

(For IBM US, No Longer Available as of December 1, 2000)

Single Attach Stations (SAS) using the RS/6000 FDDI - Fiber Single-Ring Adapter allows customers to attach the workstation directly to a primary ring of a FDDI 100 megabits per second (Mbps) network via FDDI 100 Mbps concentrator. The concentrator option offers additional protection by isolating the network from routine on/off activity and individual workstation failures.

Characteristics:

- Supports single ring FDDI attachment at 100 Mbps
- Requires one Micro Channel slot
- Maximum of one FDDI single-ring adapter is supported
- Fiber optic cable is required for adapter connectivity, and is the responsibility of the customer.

(#2725) FDDI - STP Single-Ring Adapter

(For IBM US, No Longer Available as of January 8, 1998)

Single Attach Stations (SAS) using the RS/6000 FDDI - STP Single-Ring Adapter allows customers to attach the workstation directly to a primary ring of a FDDI 100 megabits per second (Mbps) network via a FDDI 100 Mbps concentrator. The concentrator option offers additional protection by isolating the network from routine on/off activity and individual workstation failures.

Characteristics:

- Supports single ring FDDI attachment at 100 Mbps
- Requires one Micro Channel slot
- Maximum of one FDDI-STP single-ring adapter is supported
- Shielded twisted-pair wire is required for adapter connectivity, and is the responsibility of the customer.

(#2970) Token-Ring High-Performance Network Adapter

(For IBM US, No Longer Available as of July 25, 1996)

The Token-Ring High-Performance Network Adapter is designed to allow a 7012 Model 3XX to attach to 4Mbps or 16Mbps Token-Ring local area networks. This Token-Ring adapter is cable and network compatible with PS/2 and other IBM Token-Ring adapters; no new cables or network components are required. The required cable is included with this adapter and is 3 meters (9.8 feet) in length.

Characteristics:

- 4Mbps or 16Mbps
- Compatible with IEEE 802.5 standard
- Micro Channel Interface:
 - 2 byte Bus Master
 - Streaming Data mode
- One adapter per system may be installed
- Standard Micro Channel form factor card

(#2972) IBM Auto Token-Ring LANStreamer 32 MC Adapter

(For IBM US, No Longer Available as of December 1, 2000)

The IBM Auto Token-Ring LANStreamer MC 32 adapter is designed to allow a RS/6000 system to attach to 4 Mbps or 16 Mbps Token-Ring local area networks. This adapter automatically selects the correct Token-Ring speed (4 or 16 Mbps). It is cable and network compatible with all IBM PS/2 Token-Ring adapters; no new cables or network components are required. The adapter has one connector, RJ-45. The RJ-45 connector is used to attach to UTP cabling. A 10-inch conversion cable is included with the adapter to attach to STP cabling.

Characteristics:

- 4 Mbps or 16 Mbps
- Compatible with IEEE 802.5 specifications
- Micro Channel Interface
- 32-bit Bus Master
- Streaming Data Mode
- Up to eight adapters per Micro Channel may be installed
- Standard Micro Channel form factor card (Type 3)

(#2980) Ethernet High-Performance LAN Adapter

(For IBM US, No Longer Available as of December 13, 1999)

The Ethernet High-Performance LAN Adapter is a high-performance Micro Channel Architecture Bus Master adapter which attaches the 7012 Model 3XX to Ethernet networks. This adapter is designed to provide connection to a 10 Megabit Carrier Sense Multiple Access/Collision Detection (CSMA/CD) Ethernet network and is compatible with IEEE 802.3 and Ethernet external interfaces. To attach the system to the network, the customer must supply the appropriate cable for connection to the standard 50-ohm or RG-58A/U coaxial cables.

Characteristics:

- Micro Channel Interface:
- 32-bit Bus Master
- Compatible with IEEE 802.3 or Ethernet Version 2 Interfaces
- Transmission speed of 10Mbps
- 16KB of high-speed RAM for data buffering
- Standard Micro Channel form factor card
- Thick (DIX) or Thin (BNC) Cable support

(#2984, P/N 73G9821) TURBOWAYS 100 ATM Adapter

(For IBM US, No Longer Available as of May 23, 1997)

The TURBOWAYS** 100 ATM Adapter provides high speed connectivity for RS/6000s to an Asynchronous Transfer Mode (ATM) Local Area Network (LAN). The TURBOWAYS 100 ATM Adapter supports high bandwidth applications, such as:

- Remote Site Recovery
- Multimedia
- Visualization
- Medical Imaging

- Distance Learning
- Video Conferencing

Initial market areas are the high-end engineering, scientific computing, education, leading commercial and government market segments. Customer may install ATM because:

- Current LAN is out of bandwidth
- Avoid restructuring a larger LAN into multiple smaller LAN segments to decrease bandwidth contention
- Improve overall network performance
- Enable new, high bandwidth application development

Technical description

The TURBOWAYS 100 ATM Adapter enables TCP/IP applications to work in an ATM environment. One virtual connection is dedicated to each IP address and a transformation of each IP address to the corresponding virtual connection is performed.

The TURBOWAYS 100 ATM Adapter connects to multi-mode fibre using an SC connector.

The initial release supports AAL-5 adaptation layer interface and support 1024 active virtual connections. It also supports point-to-point and point-to-multipoint switched virtual connections.

Using an Intel i960 processor and specialized ATM silicon, for handling the segmentation and reassembly (SAR) function, the TURBOWAYS 100 ATM Adapter is optimised for maximum system efficiency.

The product functions include:

- Signalling channel set-up
- Virtual connection set-up and tear down
- Supports PVC's and SVC's concurrently
- Supports a maximum of 1024 VCs
- Micro channel streaming
- Diagnostics

The Simple Network Management Protocol (SNMP) sub-agent performs the following functions:

- Retrieves management information from the adapter
- Register with the host platform SNMP agent
- Communicate management information collected from the adapter to the SNMP agent

The TURBOWAYS 100 adapter supports Permanent Virtual Circuit (PVC) and ATM Forum compliant Switched Virtual Circuit (SVC) UNI 3.0 signalling SVC/PVC interoperability testing has been conducted with the following switches:

- IBM 8260 Intelligent Hub
- General DataComm Apex System
- N.E.T. Adaptive ATMX
- Fore System ASX-100

Limitations

A maximum of two (2) TURBOWAYS 100 ATM Adapter may be installed in a RS/6000. (A maximum of 4 adapters may be installed in a system with 2 Micro Channels)

Corequisites

The TURBOWAYS 100 ATM Adapter requires AIX/6000 Version 3.2.5 shipped after 6/3/94 (labeled AIX/6000 Version 3.2.5 3250-01-04). The TURBOWAYS 100 ATM Adapter Device Driver/6000 (feature 5063) is required and must be ordered separately. Also order PTFs (UR43902)

The TURBOWAYS 100 ATM Adapter requires AIX/6000 Version 4.1.4 shipped after 10/20/95. The device driver is part of the AIX Base Operating System.

Cables

The adapter provides 100Mbps full duplex connection to an ATM switch using 62.5 micron (plenum rated) multi-mode fibre, terminated with an SC connector (this is an industry standard connector). Cables are ordered separately using part numbers and are ordered using the administrative system GEMS.

- MIC to SC, Cable ASM, 2 Metre Fiber, P/N 19G6707
- MIC to SC, Cable ASM, 4 Metre Fiber, P/N 19G6797
- MIC to SC, Cable ASM, 6 Metre Fiber, P/N 19G6798
- MIC to SC, Cable ASM, 10 Metre Fiber, P/N 19G4866
- MIC to SC, Cable ASM, 20 Metre Fiber, P/N 19G6800
- MIC to SC, Cable ASM, 40 Metre Fiber, P/N 19G6801
- MIC to SC, Cable ASM, Custom Lengths, P/N 19G6796
- ST to SC, Cable ASM, 2 Metre Fiber, P/N 19G6708
- ST to SC, Cable ASM, 4 Metre Fiber, P/N 19G4817
- ST to SC, Cable ASM, 6 Metre Fiber, P/N 19G6818
- ST to SC, Cable ASM, 10 Metre Fiber, P/N 19G4819
- ST to SC, Cable ASM, 20 Metre Fiber, P/N 19G4820
- ST to SC, Cable ASM, 40 Metre Fiber, P/N 19G6821
- ST to SC, Cable ASM, Custom Lengths, P/N 19G4816
- SC to SC, Cable ASM, 2 Metre Fiber, P/N 19G6706
- SC to SC, Cable ASM, 4 Metre Fiber, P/N 19G4864
- SC to SC, Cable ASM, 6 Metre Fiber, P/N 19G6865
- SC to SC, Cable ASM, 10 Metre Fiber, P/N 19G4866
- SC to SC, Cable ASM, 20 Metre Fiber, P/N 19G4867
- SC to SC, Cable ASM, 40 Metre Fiber, P/N 19G6868
- SC to SC, Cable ASM, Custom Lengths, P/N 19G4863

Attributes provided: 1 ATM connection

Attributes required: 1 Micro Channel slot

(#2989) TURBOWAYS 155 ATM Adapter

(For IBM US, No Longer Available as of December 1, 2000)

The TURBOWAYS(TM) 155 ATM Adapter provides high speed connectivity for RS/6000s to an Asynchronous Transfer Mode (ATM) Local Area Network (LAN). The TURBOWAYS 155 ATM Adapter supports high bandwidth applications, such as:

- Remote Site Recovery
- Multimedia
- Visualization
- Medical Imaging
- Distance Learning
- Video Conferencing

Initial market areas are the high-end engineering, scientific computing, education, leading commercial and government market segments. Customer may install ATM because:

- Current LAN is out of bandwidth
- Avoid restructuring a larger LAN into multiple smaller LAN segments to decrease bandwidth contention
- Improve overall network performance
- Enable new, high bandwidth application development

Technical description

The TURBOWAYS 155 ATM Adapter enables TCP/IP applications to work in an ATM environment. One virtual connection is dedicated to each IP address and a transformation of each IP address to the corresponding virtual connection is performed.

The TURBOWAYS 155 ATM Adapter connects to multi-mode fibre using an SC connector.

The initial release supports AAL-5 adaptation layer interface and support 1024 active virtual connections. It also supports point-to-point and point-to-multipoint switched virtual connections.

Using an Intel i960 processor and specialized ATM silicon, for handling the segmentation and reassembly (SAR) function, the TURBOWAYS 155 ATM Adapter is optimised for maximum system efficiency.

The product functions include:

- Signalling channel set-up
- Virtual connection set-up and tear down
- Supports PVC's and SVC's concurrently
- Supports a maximum of 1024 VCs
- Micro channel streaming
- Diagnostics

The Simple Network Management Protocol (SNMP) sub-agent performs the following functions:

- Retrieves management information from the adapter :Li.Register with the host platform SNMP agent
- Communicate management information collected from the adapter to the SNMP agent

The TURBOWAYS 155 ATM Adapter supports Permanent Virtual Circuit (PVC) and ATM Forum compliant Switched Virtual Circuit (SVC) UNI 3.0 signalling. SVC/PVC interoperability testing has been conducted with the following switches:

- IBM 8260 Intelligent Hub
- General DataComm Apex System
- N.E.T. Adaptive ATMX
- Fore System ASX-200

Limitations

A maximum of two (2) TURBOWAYS 155 ATM Adapter may be installed in a RS/6000. (A maximum of 4 adapters may be installed in a system with 2 Micro Channels)

Corequisites

The TURBOWAYS 155 ATM Adapter requires AIX/6000 Version 4.1.4 shipped after 10/20/95. The device driver is part of the AIX Base Operating System.

Device Driver support for AIX 3.2.5 is shipped on diskette with the adapter.

Cables

The adapter provides 155Mbps full duplex connection to an ATM switch using 62.5 micron (plenum rated) multi-mode fibre, terminated with an SC connector (this is an industry standard connector). Cables are ordered separately using part numbers and are ordered using the administrative system GEMS.

- MIC to SC, Cable ASM, 2 Metre Fiber, P/N 19G6707
- MIC to SC, Cable ASM, 4 Metre Fiber, P/N 19G6797
- MIC to SC, Cable ASM, 6 Metre Fiber, P/N 19G6798
- MIC to SC, Cable ASM, 10 Metre Fiber, P/N 19G4866
- MIC to SC, Cable ASM, 20 Metre Fiber, P/N 19G6800
- MIC to SC, Cable ASM, 40 Metre Fiber, P/N 19G6801
- MIC to SC, Cable ASM, Custom Lengths, P/N 19G6796

- ST to SC, Cable ASM, 2 Metre Fiber, P/N 19G6708
- ST to SC, Cable ASM, 4 Metre Fiber, P/N 19G4817
- ST to SC, Cable ASM, 6 Metre Fiber, P/N 19G6818
- ST to SC, Cable ASM, 10 Metre Fiber, P/N 19G4819
- ST to SC, Cable ASM, 20 Metre Fiber, P/N 19G4820
- ST to SC, Cable ASM, 40 Metre Fiber, P/N 19G6821
- ST to SC, Cable ASM, Custom Lengths, P/N 19G4816
- SC to SC, Cable ASM, 2 Metre Fiber, P/N 19G6706
- SC to SC, Cable ASM, 4 Metre Fiber, P/N 19G4864
- SC to SC, Cable ASM, 6 Metre Fiber, P/N 19G6865
- SC to SC, Cable ASM, 10 Metre Fiber, P/N 19G4866
- SC to SC, Cable ASM, 20 Metre Fiber, P/N 19G4867
- SC to SC, Cable ASM, 40 Metre Fiber, P/N 19G6868
- SC to SC, Cable ASM, Custom Lengths, P/N 19G4863

Attributes provided: 1 ATM connection
 Attributes required: 1 Micro Channel slot

For 7012-355:

Minimum required: 0
 Maximum allowed: _2_ (Initial order maximum: _2_)
 AIX level required: AIX 3.2.5 - AIX 4.1.4
 Initial Order/MES/Both/Supported: Both

(#2992) Ethernet/FDX 10 Mbps TP/AUI MC Adapter

(For IBM US, No Longer Available as of December 1, 2000)

The Ethernet/FDX 10 Mbps TP/AUI MC Adapter is designed to allow the RS/6000 to attach the system to 10Mbps Ethernet networks. Its parallel processing design reduces adapter latency and increases data throughput. It is Ethernet Version 2 and IEEE 802.3 compatible. The adapter has 2 ports (only one active): 10BaseT (Twisted Pair) and 10Base5 (AUI).

Characteristics:

- 32-bit Busmaster Micro Channel Interface
- Address and data parity support
- Compatible with IEEE 802.3 or Ethernet Version 2 Interfaces
- 10BaseT (Twisted Pair) and 10Base5 (AUI) Connectors

Attributes provided: 1 Ethernet 10Base5 connection XOR
 1 Ethernet 10BaseT connection
 Attributes required: 1 Micro Channel slot

For 7012-355:

Minimum required: 0
 Maximum allowed: _4_ (Initial order maximum: _4_)
 OS level required: AIX 4.1.4 or 4.2
 Initial Order/MES/Both/Supported: Both

(#2993) Ethernet 10Mbps BNC MC Adapter

(For IBM US, No Longer Available as of December 1, 2000)

The Ethernet 10Mbps BNC MC Adapter is designed to allow the RS/6000 to attach the system to 10Mbps Ethernet networks. Its parallel processing design reduces adapter latency and increases data throughput. It is Ethernet Version 2 and IEEE 802.3 compatible. The adapter has 1 port: 10Base2 (Coaxial).

Characteristics:

- 32-bit Busmaster Micro Channel Interface
- Address and data parity support
- Compatible with IEEE 802.3 or Ethernet Version 2 Interfaces
- 10Base2 (Coaxial) BNC Connector
- Attributes provided: 1 Ethernet 10Base2 connector
- Attributes required: 1 Micro Channel slot
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: 2 (Initial order maximum: 2)
 - OS level required: AIX 4.1.4 or 4.2
 - Initial Order/MES/Both/Supported: Both

(#4221) Ethernet Thick/Thin Connector Interface

(For IBM US, No Longer Available as of March 19, 1999)

Provides a riser card/cable/connector assembly from the integrated Ethernet interface to the rear cover for a standard Thick/Thin cable network. This feature is available as a MES only.

Note: This connector is the standard connector shipped with the system on the initial plant order, unless the Twisted-Pair Connector #9001 is specified. Feature #4221 would be ordered when the user desired to change from the Twisted-Pair Connector to a Thick/Thin Connector.

(#4222) Ethernet Twisted-Pair Connector Interface

(For IBM US, No Longer Available as of March 19, 1999)

Provides a riser card/cable/connector assembly from the integrated Ethernet interface to the rear cover for a twisted-pair network. This feature is available as a MES only. This Feature #4222 would be ordered when the user desired to change from the Thick/Thin Connector to a Twisted-Pair Connector.

(#4224) Ethernet 10BaseT Transceiver (twisted pair)

(For IBM US, No Longer Available as of July 31, 2001)

The Ethernet 10BaseT Transceiver provides the complete Attachment Unit Interface (AUI) to a twisted pair LAN connection. It is connected to a 15-pin DIX Ethernet connection via a transceiver (AUI) cable and converts the signal to 10BaseT. The medium connection is made through an RJ-45 receptacle.

Features include:

- Selectable Link Test via external toggle switch
- Selectable SQE signal via internal jumper
- Five LEDs
 - Transmit
 - Receive/Link
 - Collision
 - Jabber
- Dimensions: 2-7/8 inches x 2-1/8 inches

Wide Area Network (WAN) Communications Adapters

(#2700) 4-Port Multiprotocol Communications Controller

(For IBM US, No Longer Available as of December 1, 2000)

The 4-Port Multiprotocol Communications Controller attaches the 7012 Model 3XX systems to synchronous communications networks using EIA-232C, EIA-422A, V.35, and X.21 physical specifications.

The adapter supports SDLC and BSC protocols, prepares all inbound and outbound data, performs address searches, and in general relieves the system processor of many communications tasks. It is designed to support data rates up to 64 Kbps per port with appropriate user provided software.

Support for four interfaces: EIA-232C on Ports 0, 1, 2, and 3, EIA-422A on Ports 0 and 2, CCITT V.35 on Ports 0 and 1, CCITT X.21 on Port 0. Surge protection is provided on EIA-422A interfaces. Devices attach to the adapter via a 4-Port Multiprotocol Interface Cable (#2705).

Characteristics:

- 512KB RAM for data buffering
- Supports four ports concurrently
- Four physical interfaces (EIA-232C, EIA-422A, V.35, X.21)
- CRC generation and checking
- Standard Micro Channel form factor card
- Micro Channel Interface:
 - 2-byte Bus Master
- Maximum one per system

(#2705) 4-Port Multiprotocol Interface Cable

(For IBM US, No Longer Available as of December 1, 2000)

The 4-Port Multiprotocol Interface cable (#2705) is 3 meters (9.8 ft.) in length and allows for connection of the 4-Port Multiprotocol Communications Controller (#2700) to the desired networks via the following cables:

- Multiprotocol Modem Attachment Cable - EIA-232/V.24 (#2706)
 - 3 Metres (9.8 feet) in length
 - Maximum of 4 per 4-Port Multiprotocol Communications Controller (#2700)
- Multiprotocol Attachment Cable - X.21 (#2704)
 - 3 Metres (9.8 feet) in length
 - Maximum of one per 4-Port Multiprotocol Communications Controller (#2700)
- Multiprotocol Attachment Cable - V.35 (#2702) - Includes wrap plug
 - 2 Metres (6.5 feet) in length
 - Maximum of 2 per 4-Port Multiprotocol Communications Controller (#2700)

(#2959) Multiprotocol Communications Adapter

(For IBM US, No Longer Available as of October 25, 1996)

The Multiprotocol Communications Adapter (MP/A) provides a one-port synchronous EIA-232D connection supporting speeds up to 19.2 Kbps for communications networks. The MP/A supports modems or direct attachment at speeds up to 19.2 Kbps via one 25-pin D-shell connector. Cables required: An EIA-232D industry-standard cable. IBM cable P/N 1502067 may be used with this adapter.

Characteristics:

- Supports one port
- EIA-232D interface
- External interface speed - 19.2 Kbps maximum
- Supports the following interface signals: Tx Rx RTS CTS DTR DSR DCD RI TxCLK RxCLK HRSI
- Occupies one Micro Channel slot
- Maximum of one adapter per system
- Requires Multiprotocol Adapter Connectivity feature #5058.

(#2960) X.25 Interface Co-Processor/2

(For IBM US, No Longer Available as of December 1, 2000)

The X.25 Interface Co-Processor/2 attaches the 7012 Model 3XX to an X.25 Packet Switched network. This X.25 adapter provides a single port that accommodates one of three selectable interfaces: X.21, EIA-232-D/V.24, and V.35. This adapter allows the systems to be attached to an X.25 network, and its on-board software is capable of processing inbound and outbound data streams to off-load communications tasks from the system processor. A wrap plug for diagnostics is included.

Characteristics:

- Standard Micro Channel form factor card
- 512KB RAM for data buffering
- Full duplex, synchronous or asynchronous protocol
- X.21 bis (V.24) up to 19.2 Kbps
- X.21 bis (V.35) up to 56 Kbps
- X.21 (non-switched) up to 64 Kbps
- Maximum 1 per system

Separate cables of 3 metre (9.8 feet) or 6 metre (19.6 feet) are available for the adapter (two lengths for each interface). A wrap plug is included with each.

- X.25 Attachment Cable X.21 - 3 metre or 9.8 feet (#2965)
(For IBM US, No Longer Available as of January 8, 1998)
- X.25 Attachment Cable V.24 - 3 metre or 9.8 feet (#2966)
(For IBM US, No Longer Available as of January 8, 1998)
- X.25 Attachment Cable V.35 - 3 metre or 9.8 feet (#2967)
(For IBM US, No Longer Available as of January 8, 1998)
- X.25 Attachment Cable X.21 - 6 metre or 19.6 feet (#2976)
(For IBM US, No Longer Available as of December 1, 2000)
- X.25 Attachment Cable V.24 - 6 metre or 19.6 feet (#2977)
- X.25 Attachment Cable V.35 - 6 metre or 19.6 feet (#2978)

370 Coax Communication Connection Adapters

The 3270 Connection Adapter connects the system to a mainframe and allows the system to respond like an IBM 3278 or 3279 Display Terminal. This adapter allows a coaxial connection between an 3XX system and an:

- IBM 3174/3274 Display Control Unit
- IBM 4331 and 4361 Integrated Display/Printer Adapter
- IBM 4331 and 4361 Integrated Work/Station Adapter
- IBM 9370 Workstation Subsystem Controller.

No host hardware or host system software modifications are required.

Characteristics:

- 2 Mbps
- Support for emulation of IBM 3278 and 3279 Display Stations
- Support for CUT and DFT (non-SNA) modes of operation
- Physical layer protocol (Handshake) support provided between connected units
- Standard Micro Channel form factor card
- One adapter per system may be installed

(#1906) IBM Fibre Channel Adapter/266

(For IBM US, No Longer Available as of May 20, 1996)

The IBM Fibre Channel Adapter/266 is installed in a supported RS/6000 processor. The adapter attaches to the Micro Channel bus, and supports attachment of the IBM 7319 Model 100 Fibre Channel Switch 16/266 to the Fibre Channel network; up to two adapters may be installed per processor, providing attachment to up to two Fibre Channel Switches per RS/6000 processor. (Up to four for dual Micro Channel processors.)

(#2755) Block Multiplexer Channel Adapter

(For IBM US, No Longer Available as of December 1, 2000)

This channel connectivity allows the RS/6000 to communicate to a S/370 or S/390 host using the Block Multiplexer Channel. TCP/IP is supported. This enhancement allows the RS/6000 to be used as a gateway between the S/390 host and the downstream networks that consists of LAN or WAN. Therefore, distributed systems can access the resource, such as NFS and the TCP/IP applications resident at the S/370 host.

Highlights:

- Supports TCP/IP protocol
- Two adapters concurrently connected to the same host or two different hosts
- Supports ES/9000, ES/3090, S/390, 308X and 4381 family of processors
- Supports VM, MVS, and AIX/ESA environments
- Configuration and control using SMIT
- Attachment to ESCON networks using the IBM ESCON Converter Model 1
- Supports 3044 channel extender Model 2
- API support at the device driver level, the API includes normal mode (3088) similar to the Channel-To-Channel (CTC) protocol and the high performance CLAW (Common Link Access to Workstation). The CLAW protocol can improve the performance on the S/370 processor by reducing the number of interrupts. The protocol selection is part of configuration options using SMIT.
- Maximum channel speed of 4.5MB
- Requires AIX 3.2 and the separately orderable feature (#5055) as well as any available updates
- S/370 or S/390 TCP/IP support is available in:
 - IBM TCP/IP V2R2 for VM (5735-FAL)
 - IBM TCP/IP V2R2 for MVS (5735-HAL)
 - IBM AIX/ESA V2R1 (5756-112)

Wrap plugs are included. One Micro Channel card slot is required per adapter. A maximum of two adapters per system may be installed

- SNA is not supported.
- Multipath connection is not supported.

The customer must provide the cabling for the S/370 processor: Channel cable group (#0185).

(#2757) Block Multiplexer Channel Adapter Cable

(For IBM US, No Longer Available as of December 1, 2000)

The Block Multiplexer Channel Adapter Cable attaches the Block Multiplexer Channel Adapter (#2755) in the RS/6000 to the Block Multiplexer Channel Cable Assembly (#2758).

(#2758) Block Multiplexer Channel Cable Assembly

(For IBM US, No Longer Available as of December 1, 2000)

The Block Multiplexer Channel Cable Assembly provides connection between the Block Multiplexer Channel Adapter Cable (#2757) and the host processor customer supplied channel cables.

(#2759) S/370 Channel Emulator/A

(For IBM US, No Longer Available as of December 1, 2000)

The S/370 Channel Emulator/A adapter provides parallel channel attachment capability via the Block Multiplexer Channel for selected printers and tape devices, allowing customers to offload parallel I/O workloads from their S/370 host systems to selected RS/6000 systems. Supporting a data transfer rate of up to 4.5MB per second (MBps), the S/370 Channel Emulator/A adapter allows attachment of either channel- attached printer devices and tape drives. The adapter uses one Micro Channel* slot, and can support up to four control units (either printer or tape) per Block Multiplexer Channel. A maximum of four adapters may be installed per system, depending upon slot availability.

Designed to support industry specifications for channel devices, the S/370 Channel Emulator adapter conforms to most of the standard Micro Channel specifications, as well as most of the 370 OEMI (Original Equipment Manufacturers' Information) specifications, with the following exceptions:

- The adapter supports four control units, instead of the standard eight;
- The adapter supports a Block Multiplexer Channel cable length of 61 meters (200 feet), instead of the standard 122 meters (400 feet);
- The adapter does not support hardware data-chaining;
- The adapter does not support Micro Channel address parity or data parity.

One 2.4-metre (8-foot) adapter cable, wrap plugs, channel cable terminators, and one diagnostic diskette are included with the hardware adapter. Channel cables are also required and should be ordered separately.

The S/370 Channel Emulator/A adapter supports the following printer or tape devices with appropriate software device drivers installed:

- IBM 3825 Page Printer
- IBM 3827 Page Printer
- IBM 3828 Advanced Function Magnetic Ink Character Resolution (MICR) Printer
- IBM 3835-001 Page Printer
- IBM 3835-002 Advanced Function Printer
- IBM 3900 Advanced Function Printer
- IBM 3480 Magnetic Tape Subsystem, all models
- IBM 3490 Magnetic Tape Subsystem, all models
- IBM 3490E Magnetic Tape Subsystem, all models except the E01 and E11 (SCSI models)
- IBM 3495 Tape Library Dataserver

Note: The S/370 Channel Emulator/A adapter supports both printers and tape devices; however, only one type of device (either printer or tape device) can be used with each S/370 Channel Emulator/A adapter. Customers who wish to have support for both tape and printer devices require at least two S/370 Channel Emulator/A adapters.

The S/370 Channel Emulator/A requires the installation of AIX/6000 Version 3.2 (5736-030) or later, as well as the following PTFs applied:

- PTF #U405589
- PTF #U403146

Software support for printers is required and can be obtained via the following separately-orderable software product from the Pennant Systems Company:

- IBM AIX Print Service Facility/6000 (#5765-140)

Software support for tape devices is also required and can be obtained via the following PRPQ (Programming Request for Price Quotation) product supplied by ADSTAR:

- PRPQ #83033 (ADSTAR)

Graphics Adapters

Note: Adapters include a cable for attaching a display.

(#2650) GXT150M Graphics Adapter

(For IBM US, No Longer Available as of September 8, 1999)

This graphics adapter is designed for superior 2D performance in an AIXwindows 2D environment. When used in conjunction with the AIXwindows 3D feature and Softgraphics it provides cost-effective 3D performance.

The IBM POWER GXT150M Graphics Adapter provides 1280 x 1024 resolution support, multiple colour palettes, and hardware window support.

The IBM POWER GXT150M Graphics Adapter is an 8-bit single buffer, 256 colour graphics adapter that attach directly to the Micro Channel.

Characteristics are:

- Low-cost, high-performance graphical interface accelerator
- Bus Master
- Hardware acceleration with a 32-bit graphics dedicated processor for:
 - Points
 - Lines
 - Arc
 - Circle
 - Rectangles
 - Font
 - Bit Block Transfer
- Pattern fill
- Hardware rectangular clipping
- Hardware cursor (Crosshair cursor and Image cursor-64 X 64)
- 60 to 77Hz CRT Refresh Modes
- 256 Colors from a palette of 16 million
- Meets ISO 9241 Part 3 on appropriate displays
- 1280 x 1024 resolution support
- Multiple colour palettes with hardware window support

Prerequisites:

In addition to the POWER GXT150M, a display meeting the ISO 9241 Part 3 requirements is also required to obtain the reduced flicker operation.

Programming Requirements:

- AIX/6000* Version 3.2.5 for RS/6000 with APAR IX42626 and the POWER GXT150M Optional Program Product (OPP) or AIX/6000 Version 3.2.5 shipped after June 10, 1994.
Note: The POWER GXT150M OPP is obtained from the AIX/6000 Version 3.2.5 install media that was shipped after June 10, 1994.
- AIXwindows* Environment/6000 (5601-257) Version 1.2.5 or later.
- If 3D capability is desired, the AIXwindows 3D feature is also required. This feature provides 3D function through software via the Softgraphics included in this feature. Softgraphics is a complete software implementation of OpenGL**, PEX and PHIGS.

(#2760) Grayscale Graphics Display Adapter

(For IBM US, No Longer Available as of June 17, 1994)

The Grayscale Graphics Display is a monochrome graphics adapter for RS/6000s. It supports a single 4-bit frame buffer and allows the display of 16 simultaneous shades of gray from a palette of 256 shades of gray. It attaches to the RS/6000 workstation via a single Micro Channel slot and supports a display resolution of 1280 x 1024. This adapter is suitable for applications such as: desktop publishing, CASE, monochrome drafting, and network management.

- Frame buffer: Single 4-bit (one 4-bit buffer)
- API support: Xlib, GKS, Display PostScript, graPHIGS
- Maximum adapters per system: Two.
- Options: None.
- Monitor support: 8508 - 1280 x 1024 at 67 Hz

(#2768) POWER Gt3i

(For IBM US, No Longer Available as of September 19, 1995)

The POWER Gt3i is a high-performance 2D colour graphics adapter. It has a single 8-bit frame buffer and allows the display of 256 simultaneous colors from a palette of approximately 16.7 million colors. POWER Gt3i supports monitors with a display resolution of 1280x1024 including monitors that comply with Part 3 of the ISO 9241 ergonomic standard. These ergonomic displays provide users with improved viewing and physical comfort, minimized reflections, and sharper images. The POWER Gt3i attaches to the RS/6000 via a single Micro Channel slot and is suitable for 2D graphics applications such as: drafting, 2D mechanical CAD, electronic CAD, civil/architectural engineering, 2D mapping applications, and CASE.

- Frame buffer: Single 8-bit (one 8-bit buffer)
- API support: Xlib, GKS, Display PostScript, graPHIGS, PEXlib
- Maximum adapters per system: Two
- Options: None
- Monitor support:
 - 6091-016 - 1280 x 1024 at 60Hz, 77 Hz The IBM 6091 16-inch monitor has an actual viewable screen size of 14.8 inches when measured diagonally.
 - 6091-19i - 1280 x 1024 at 60 Hz, 77 Hz The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally.
 - 6091-019 - 1280 x 1024 at 60 Hz The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally.
 - 6091-023 - 1280 x 1024 at 60 Hz The IBM 6091 23-inch monitor has an actual viewable screen size of 21.4 inches when measured diagonally.

(#2770) Color Graphics Display Adapter

(For IBM US, No Longer Available as of January 6, 1995)

The Color Graphics Display Adapter is an entry 2D colour graphics adapter. It supports a single 8-bit frame buffer and allows the display of 256 simultaneous colors from a palette of approximately 16.7 million colors. The Color Graphics Display Adapter supports a display resolution of 1280x1024 and attaches to the RS/6000 workstation via a single Micro Channel slot. It is suitable for 2D graphics applications such as: business graphics/desktop publishing, 2D geographic mapping, entry 2D mechanical drafting, and entry electrical CAD.

- Frame buffer: Single 8-bit (one 8-bit buffer)
- API support: Xlib, GKS, Display PostScript, graPHIGS, PEXlib
- Maximum adapters per system: Two
- Options: None
- Monitor support:
 - 6091-016 - 1280 x 1024 at 60Hz The IBM 6091 16-inch monitor has an actual viewable screen size of 14.8 inches when measured diagonally.
 - 6091-19i - 1280 x 1024 at 60 Hz The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally.
 - 6091-023 - 1280 x 1024 at 60 Hz The IBM 6091 23-inch monitor has an actual viewable screen size of 21.4 inches when measured diagonally.

(#2776) POWER Gt4e

(For IBM US, No Longer Available as of October 25, 1996)

The POWER Gt4e is a single card which provides 3D graphics capabilities for RS/6000s. It has a double 8-bit frame buffer which allows the display of 256 simultaneous colors from a palette of approximately 16.7 million colors (24-bit colour is NOT available on this adapter). The adapter also comes standard with a 24-bit Z-Buffer which assists with hidden line and surface removal. The POWER Gt4e supports monitors with a display resolution of 1280 x 1024, including

monitors that comply with Part 3 of the ISO 9241 ergonomic standard. These ergonomic displays provide users with improved viewing and physical comfort, minimized reflections, and sharper images. The POWER Gt4e attaches to the RS/6000 via a single Micro Channel slot and is suitable for applications such as: mechanical CAD, engineering analysis, architectural design, and geographical mapping.

- Frame buffer: Double 8-bit (two 8-bit buffers)
- Z-Buffer: 24-bit
- Overlay planes: Two
- Advanced Hardware functions: Dithering, depth cueing, antialiased lines, Gouraud shading, local lighting, NURBS
- API support: Xlib, GKS, Display PostScript, GL, graPHIGS, PEXlib
- Maximum adapters per system: Two
- Options: None
- Monitor support:
 - 6091-016 - 1280 x 1024 at 60Hz, 77 Hz The IBM 6091 16-inch monitor has an actual viewable screen size of 14.8 inches when measured diagonally.
 - 6091-19i - 1280 x 1024 at 60 Hz, 77 Hz The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally.
 - 6091-019 - 1280 x 1024 at 60 Hz The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally.
 - 6091-023 - 1280 x 1024 at 60 Hz The IBM 6091 23-inch monitor has an actual viewable screen size of 21.4 inches when measured diagonally.

(#2790, #2791) POWER Gt4x

(For IBM US, No Longer Available as of December 21, 1993)

The POWER Gt4 and POWER Gt4x adapters provide low to mid-range 3D graphics capabilities, respectively, for the RS/6000 3XX along with maximum configuration flexibility (24-bit Gt4 and Gt4x NOT supported on 3X5). Both adapters provide double 8-or 24-bit frame buffers that allow 256 or approximately 16.7 million simultaneous colors, respectively, from a palette of approximately 16.7 million colors. These adapters also include a standard 24-bit Z-Buffer that assists with hidden-line and surface removal. Performance differentiates the functionally equivalent POWER Gt4 from the POWER Gt4x. The POWER Gt4x has four additional processors that boost its performance to meet the requirements of more demanding graphics applications. The POWER Gt4 and POWER Gt4x support a display resolution of 1280 x 1024, including monitors that comply with Part 3 of the ISO 9241 ergonomic standard. These ergonomic displays provide users with improved viewing and physical comfort, minimized reflections, and sharper images. The POWER Gt4 and Gt4x 8-bit adapters both require two Micro Channel slots while the 24-bit configuration for both requires an additional Micro Channel slot (total of three slots). The POWER Gt4 is suitable for the same types of applications as the POWER Gt4e. The POWER Gt4x is suitable for a larger range of applications including: 3D mechanical CAD, aerospace applications, reservoir simulations, molecular modeling, and geographical mapping.

- Frame buffer:
 - POWER Gt4 8-Bit (#2795) - Double 8-bit (two 8-bit buffers)
 - POWER Gt4 24-Bit (#2796) - Double 24-bit (two 24-bit buffers)
 - POWER Gt4x 8-Bit (#2790) - Double 8-bit (two 8-bit buffers)
 - POWER Gt4x 24-Bit (#2791) - Double 24-bit (two 24-bit buffers)
- Z-Buffer: 24-bit
- Overlay planes: Two
- Advanced Hardware functions: Dithering(8-bit), depth cueing, antialiased lines, Gouraud shading, local lighting, NURBS
- API support: Xlib, GKS, Display PostScript, GL, graPHIGS, PEXlib
- Maximum adapters per system: One
- Options:
 - The POWER Gt4 8-Bit to 24-Bit Upgrade (#2792) -

(For IBM US, No Longer Available as of August 26, 1994.) Provides an upgrade to a double 24-bit frame buffer for both the 8-bit POWER Gt4 and 8-bit POWER Gt4x. This upgrade requires one additional Micro Channel slot.

- POWER Gt4 Performance Upgrade (#2794) -

(For IBM US, No Longer Available as of August 26, 1994.) Boosts the performance of the Gt4 to that of the Gt4x and requires no additional Micro Channel slots. This option is a daughter card which attaches to the adapter.

- Monitor support:
 - 6091-016 - 1280 x 1024 at 60Hz, 77 Hz The IBM 6091 16-inch monitor has an actual viewable screen size of 14.8 inches when measured diagonally.
 - 6091-19i - 1280 x 1024 at 60 Hz, 77 Hz The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally.
 - 6091-019 - 1280 x 1024 at 60 Hz The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally.
 - 6091-023 - 1280 x 1024 at 60 Hz The IBM 6091 23-inch monitor has an actual viewable screen size of 21.4 inches when measured diagonally.
 - 5081-016 - 1280 x 1024 at 60 Hz

Note: The 24-bit POWER Gt4i graphics adapter (feature #2713) and the 8-bit and 24-bit POWER Gt4xi graphics adapters (features #2711 and 2712, described below) have been announced in September 1993 and replace the POWER Gt4 and POWER Gt4x (feature #2796, 2790 and 2791). The enhanced adapters primarily improve the 3D performance of the original adapters. To obtain these improvements, additional supporting software (shipped with the adapters) must be installed against the AIX/6000 Version 3.2 operating system. In addition, customers need to install the latest PMP available for the AIX/6000 operating system. For the graPHIGS API, GPC Picture Level Benchmark (PLB) results for the PLBsurf93 show significant performance improvements. Based on these results, it is expected that 3D applications will see performance improvements, but the amount of improvement will vary for each application. Since the functionality of the new adapters is the same as the original adapters, applications which run on the original adapters require no modifications to run on the performance-enhanced versions.

(#2713) POWER Gt4i

The 24-bit POWER Gt4i graphics adapter provides 3D graphics capability for the RS/6000 3XX (including all 3X5) and 5XX systems, along with maximum configuration flexibility. The adapter provides double 24-bit frame buffers that allow the display of approximately 16.7 million simultaneous colors. The POWER Gt4i adapter also includes a standard 24-bit Z-Buffer that assists with hidden-line and surface removal.

The POWER Gt4i supports a display resolution of 1280 x 1024, including monitors that comply with Part 3 of the ISO 9241 ergonomic standard. These ergonomic displays provide users with improved viewing and physical comfort, minimized reflections, and sharper images. The POWER Gt4i requires two Micro Channel slots.

Performance differentiates the functionally equivalent POWER Gt4i from the POWER Gt4xi. The POWER Gt4xi has 4 additional processors that boost its performance to meet the requirements of more demanding graphics applications. The POWER Gt4xi is suitable for a larger range of applications including: 3D mechanical CAD, aerospace applications, reservoir simulations, molecular modeling, and geographical mapping.

The POWER Gt4i is suitable for the same types of applications as the POWER Gt4e, though the POWER Gt4i provides 24-bit colour function instead of 8-bit colour.

supported:

3XX, 5XX

Frame buffer:

Double 24-bit (two 24-bit buffers)

Z-Buffer:

24-bit

Overlay planes:

2

Advanced Hardware functions:

Dithering(8-bit), depth cueing, antialiased lines, Gouraud shading, local lighting, NURBS

API support:

Xlib, GKS, Display PostScript, GL, graPHIGS, PEXlib, OpenGL

Maximum adapters per system:

1

(#2711, #2712) POWER Gt4xi

(For IBM US, #2711, No Longer Available as of October 25, 1996)

The 8-bit and 24-bit POWER Gt4xi graphics adapters provide mid-range 3D graphics capabilities for the 3XX (including 3X5) and 5XX systems, along with maximum configuration flexibility. The POWER Gt4xi adapter (8-bit version) provides double 8-bit frame buffers that allow 256 simultaneous colors from a palette of approximately 16.7 million colors; the POWER Gt4xi adapter (24-bit version) provides double 24-bit frame buffers that allow approximately 16.7 million simultaneous colors. Both adapters also include a standard 24-bit Z-Buffer that assists with hidden-line and surface removal.

The POWER Gt4xi adapters support a display resolution of 1280 x 1024, including monitors that comply with Part 3 of the ISO 9241 ergonomic standard. These ergonomic displays provide users with improved viewing and physical comfort, minimized reflections, and sharper images. The POWER Gt4xi 8-bit and 24-bit adapters require two Micro Channel slots each.

Performance differentiates the functionally equivalent POWER Gt4i from the POWER Gt4xi. The POWER Gt4xi has 4 additional processors that boost its performance to meet the requirements of more demanding graphics applications. The POWER Gt4xi is suitable for a larger range of applications including: 3D mechanical CAD, aerospace applications, reservoir simulations, molecular modeling, and geographical mapping.

supported:

3XX, 5XX

Frame buffer:

POWER Gt4xi 8-Bit (#2711) - Double 8-bit (two 8-bit buffers)

POWER Gt4xi 24-Bit (#2712) - Double 24-bit (two 24-bit buffers)

Z-Buffer:

24-bit

Overlay planes:

2

Advanced Hardware functions:

Dithering(8-bit), depth cueing, antialiased lines, Gouraud shading, local lighting, NURBS

API support:

Xlib, GKS, Display PostScript, GL, graPHIGS, PEXlib, OpenGL

Maximum adapters per system:

1

(#2820) 7250 Attachment Adapter

The 7250 Attachment Adapter is a factory or field installed Micro Channel adapter card that must be installed in the supported RS/6000 workstation in order to attach the POWER GXT1000 unit. Quantity allowed per workstation: two on machine type 7012.

(#4350) POWER GTO Accelerator Feature

(For IBM US, No Longer Available as of November 4, 1994)

The 7235 POWER GTO subsystem is a high-performance 3D colour graphics subsystem. The GTO has its own product number (7235) and cannot be ordered as a feature. It is referred to as a subsystem because it is an external device with its own power supply. The POWER GTO is available in two different models, Model 01i which provides a double 8-bit frame buffer and Model 02i which provides a double 24-bit frame buffer. These models allow 256 or approximately 16.7 million simultaneous colors, respectively, from a palette of approximately 16.7 million. Model 02i additionally provides an enhanced shading processor (Model 01i does not have a shading processor) and a standard 24-bit Z-Buffer for the support of hidden line and surface removal. Model 02i also provides subpixel antialiasing of lines in hardware. The POWER GTO models support a display resolution of 1280 x 1024, including monitors that comply with Part 3 of the ISO 9241 ergonomic standard. These ergonomic displays provide users with improved viewing and physical comfort, minimized reflections, and sharper images. The POWER GTO is an external subsystem that attaches to the RS/6000 workstation via the POWER GTO Accelerator (Feature #4350) card which occupies one Micro Channel slot. This card is ordered as a feature of the RS/6000 and is MANDATORY for support of the 7235 POWER GTO product. The POWER GTO is suitable for high-performance applications such as: high-end CAD design and analysis, entertainment graphics, scientific visualization, and aerospace applications.

- Frame buffer:
 - Model 01i - Double 8-bit (two 8-bit buffers)
 - Model 02i - Double 24-bit (two 24-bit buffers)
- Z-Buffer: 24-bit (Model 02i)

- Overlay planes: Four
- Advanced Hardware functions: depth cueing (Model 02i), antialiased lines, Gouraud shading (Model 02i), local lighting (Model 02i), NURBS
- API support: Xlib, GKS, Display PostScript, GL, graPHIGS, PEXlib
- Maximum adapters per system: One
- Options: Model conversions for all of the POWER GTO Models (001, 002, 01i, 02i) are only available through RPQ.
- Monitor support:
 - 6091-016 - 1280 x 1024 at 60 Hz, 77 Hz The IBM 6091 16-inch monitor has an actual viewable screen size of 14.8 inches when measured diagonally.
 - 6091-19i - 1280 x 1024 at 60 Hz, 77 Hz The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally.
 - 6091-019 - 1280 x 1024 at 60 Hz The IBM 6091 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally.
 - 6091-023 - 1280 x 1024 at 60 Hz The IBM 6091 23-inch monitor has an actual viewable screen size of 21.4 inches when measured diagonally.

Displays

(#3609) POWERdisplay 20

(For IBM US, No Longer Available as of September 12, 1995)

Summary: Feature 3609 is available for those wishing to replace the standard monitor, POWERdisplay 17, that is automatically shipped with model 355. The IBM POWERdisplay 20-inch monitor has an actual viewable screen size of 19.1 inches when measured diagonally. The IBM POWERdisplay 17-inch monitor has an actual viewable screen size of 16.1 inches when measured diagonally.

- Maximum Number of Features: One.
- Corequisites: None.
- Compatibility Conflicts: None.
- Customer Setup: Yes.
- Limitations: None.
- Field Installable: Yes.
- Cable Order: All necessary cables for attachment to the RS/6000 are included in the ship group.

The 355 may be ordered with a POWERdisplay 20 in place of the standard POWERdisplay 17 on the initial plant order only. See feature 3608 for a description of the POWERdisplay 20.

POWERdisplay 20 (#3608)

(For IBM US, No Longer Available as of September 12, 1995)

The POWERdisplay 20 is a high-resolution multisync graphics raster scan colour display intended for high-resolution graphics applications. The IBM POWERdisplay 20-inch monitor has an actual viewable screen size of 19.1 inches when measured diagonally. It may be selected as a replacement for the POWERdisplay 17, which is offered as the standard display for RS/6000 Models 23T, 25T, 36T, 37T, 355, 365, and 375, using feature #3609. The IBM POWERdisplay 17-inch monitor has an actual viewable screen size of 16.1 inches when measured diagonally. The POWERdisplay 20 is also available as a display choice for all other applicable RS/6000 workstations with feature #3608. The POWERdisplay 20 has a flexible analog Red/Green/Blue (RGB) interface. The display automatically synchronizes with various screen formats. It provides sharp, bright, realistic for users of graphics applications that require high-resolution displays. It offers a high-contrast antiglare treatment that results in strikingly clear images. The POWERdisplay 20:

- Incorporates a power management function to reduce energy consumption and increase product life
- Meets requirements defined by the Environmental Protection Agency "Energy Star" program
- Meets ISO 9241 Part 3 recommendations for VDT ergonomics
- Meets Nordic MPR-II emission standards
- Meets Federal Communication Commission (FCC) Class B requirements
- Has digital operator controls for power, brightness, contrast, horizontal and vertical static convergence, vertical centring, geometry, and colour temperature selection.

- Maximum Resolution: 1600 x 1280 @ 60 Hz noninterlaced refresh rate
- Optimum Resolution: 1280 x 1024 @ 77 Hz noninterlaced refresh rate
- Vertical Scan Frequency: Up to 150 Hz noninterlaced
- Horizontal Scan Frequency: 29.0 - 82 KHz
- View Area, H x V: 388mm (15.3 inches) x 292mm (11.5 inches)
- Screen Size: 20-inch CRT (19.1-inch viewable area)
- Power Source Loading: 0.48 KVA
- Maximum Power Consumption: 140 W
- Maximum Thermal Output: 480 BTU/Hr.
- Maximum Sound Power: <3.5 bels referenced at 1 picoWatt
- Voltage: 100/120V AC, 220/240V AC, 50/60 Hz

Operating Environment:

- Temperature: 10 to 40 degrees C (60 to 90 degrees F)
- Relative Humidity: 10 to 80 percent

(#3600) POWERdisplay 16

(For IBM US, No Longer Available as of December 21, 1993)

The POWERdisplay 16 is a 16-inch high-resolution graphics raster scan colour monitor. The IBM POWERdisplay 16-inch monitor has an actual viewable screen size of 14.8 inches when measured diagonally. The POWERdisplay 16 is intended for high-resolution graphic applications and supports an Analog RGB and separate horizontal and vertical sync. The POWERdisplay provides sharp, bright, realistic colors with minimum distortion. Signal redrive is provided for all input signals. The anti-reflective CRT surface treatment virtually eliminates screen reflections while optimizing image quality. The POWERdisplay 16 meets ISO 9241 Part 3 recommendations for Video Display Terminal (VDT) ergonomics and also meets Very Low Frequency Magnetic Field (VLMF) and Extremely Low Frequency Magnetic Field (ELMF) emission standards and virtually eliminates static discharge from the front of the screen. Operator controls for power, brightness, contrast, selectable screen formats, horizontal and vertical static convergence, vertical centring, and indicators are included in a front accessible panel. A tilt swivel base is standard. Voltage/Power Cord: No specify code is required to order the default 6-ft Power Cord option. High voltage (200-240V 50Hz) and the appropriate power cord is automatically supplied based on the 3-digit country code.

- Resolution: 1280 x 1024
- Vertical Scan Frequency: 77 Hz non-interlaced
- Horizontal Scan Frequency: 82 KHz
- View Area, H x V: 11.5 x 9.2 inches, 14.8 inches measured diagonally.

(#3607) POWERdisplay 17

(For IBM US, No Longer Available as of October 6, 1995)

The POWERdisplay 17 is a 17-inch high-resolution graphics raster scan colour display. The IBM POWERdisplay 17-inch monitor has an actual viewable screen size of 16.1 inches when measured diagonally. The POWERdisplay 17 is intended for high-resolution graphics applications and supports an Analog RGB and separate horizontal and vertical sync. The POWERdisplay 17 provides sharp, bright, realistic colors with minimum distortion. The antireflective CRT surface treatment virtually eliminates screen reflections while optimizing image quality. The POWERdisplay 17 meets ISO 9241 Part 3 recommendations for VDT ergonomics and also meets Very Low Frequency Magnetic Field (VLMF), Extremely Low Frequency Magnetic Field (ELMF), Very Low Electrical Field (VLEF), and Extremely Low Electrical Field (ELEF) emission standards. It virtually eliminates static discharge from the front of the screen. Operator controls for power, brightness, contrast, image tilt, horizontal and vertical static convergence, geometry, vertical centring, and indicators are included in a front accessible panel. A tilt swivel base is standard. The display automatically synchronizes with various screen formats. Voltage/Power Cord: No specify code is required to order the default 6-ft power cord option. High voltage (200-240V 50Hz) and the appropriate power cord is automatically supplied based on the 3-digit country code.

- Resolution: 1280 x 1024 at 77Hz, 1024 x 768 at 75Hz
- Vertical Scan Freq.: Up to 150 Hz non-interlaced
- Horizontal Scan Freq.: 31.5 - 82 KHz
- View area, H x V: 300mm (11.8 inches) x 234mm (9.2 inches), 16.1 in. measured diagonally.

(#3601) POWERdisplay 19

(No Longer Available as of February 25, 1994;replaced by POWERdisplay 20)

The POWERdisplay 19 is a 19-inch high-resolution graphics raster scan colour monitor. The IBM POWERdisplay 19-inch monitor has an actual viewable screen size of 17.3 inches when measured diagonally. The POWERdisplay 19 is intended for high-resolution graphic applications and supports an Analog RGB and separate horizontal and vertical sync. The POWERdisplay provides sharp, bright, realistic colors with minimum distortion. Signal redrive is provided for all input signals. The antireflective CRT surface treatment virtually eliminates screen reflections while optimizing image quality. The POWERdisplay 19 meets ISO 9241 Part 3 recommendations for Video Display Terminal (VDT) ergonomics and also meets Very Low Frequency Magnetic Field (VLMF) and Extremely Low Frequency Magnetic Field (ELMF) emission standards and virtually eliminates static discharge from the front of the screen. Operator controls for power, brightness, contrast, selectable screen formats, horizontal and vertical static convergence, vertical centring, and indicators are included in a front accessible panel. A tilt swivel base is standard. Voltage/Power Cord: No specify code is required to order the default 6-ft Power Cord option. High voltage (200-240V 50Hz) and the appropriate power cord is automatically supplied based on the 3-digit country code.

- Resolution: 1280 x 1024
- Vertical Scan Frequency: 77 Hz non-interlaced
- Horizontal Scan Frequency: 82 KHz
- View Area, H x V: 13.5 x 10.8 inches

Other Adapters

(#6300) Digital Trunk Adapter

(For IBM US, No Longer Available as of July 18, 1997)

The Digital Trunk Adapter attaches one 9291 Single Digital Trunk Processor system or one 9295 Multiple Digital Trunk Processor system to a RS/6000 system. Each Digital Trunk Adapter will allow up to 24 T1 or 30 CEPT telephone channels to be attached to it.

Corequisites: Direct Talk Version 1.6 LPP is required for Device Driver support with AIX 4.1.

Attributes provided: 24 T1 telephone channels

OR

30 CEPT telephone channels

Attributes required: 1 Micro Channel slot

(#6305) Digital Trunk Dual Adapter

(For IBM US, No Longer Available as of April 26, 1999)

The Digital Trunk Dual Adapter attaches up to two 9291 Single Digital Trunk Processor systems or 9295 Multiple Digital Trunk Processor systems to a RS/6000 system. Each Digital Trunk Dual Adapter will allow up to 48 T1 or 60 CEPT telephone channels to be attached to it.

Corequisites: Direct Talk Version 1.6 LPP is required for Device Driver support with AIX 4.1.

Attributes provided: 24 T1 telephone channels

OR

30 CEPT telephone channels

Attributes required: 1 Micro Channel slot

(#6301) M-Audio Capture and Playback Adapter

(For IBM US, No Longer Available as of January 6, 1995)

The RS/6000 M-Audio Capture and Playback Adapter provides the capability to record and playback high-quality sound. The adapter works with standard audio input devices, including microphone, compact disc, and cassette players. The

sound can be played back through a variety of devices, including headphones, speakers, and amplifiers. Each adapter requires one Micro Channel card slot.

(#6302) IBM Ultimedia Audio Adapter for the RS/6000

The Ultimedia* Audio Adapter for the RS/6000* provides a cost-effective, 16-bit audio adapter suitable for many applications, such as: business audio, multimedia desktop authoring, presentation audio and desktop collaboration.

The Ultimedia Audio Adapter for the RS/6000 is packaged on a single 1/2 length microchannel card and supports 3rd party DMA for data transfer.

A coded chip supports the conversion of data between digital audio formats and analog audio signals. The coded based solution adds to the flexibility of the audio solution in that the RS/6000 RISC based system processor completes the remaining tasks of supporting the audio functionality at a higher level than the more standard hardware intensive audio adapters.

The IBM Ultimedia Audio Adapter for the RS/6000 provides support for standard input/output devices, including audio players, microphones, and speakers through connectors on the card's rear panel.

MACHINE REQUIREMENTS: One Microchannel slot is required (half length).

LIMITATIONS: A maximum of two audio adapters may be installed on R10, R20, and R24 systems. A maximum of one audio adapter may be installed on all other system units.

COMPATIBILITY: This adapter supports audio formats compatible with the M-ACPA, (FC 6301); except IBM ADPCM, 8-bit signed or 2's complement, or 16-bit unsigned.

(#2400) M-Video Capture Adapter

(For IBM US, No Longer Available as of January 6, 1995)

The M-Video Capture Adapter provides the capability to capture, display and digitize high-quality video images for use in presentations and applications.

The adapter accepts video input signals through a multipin connection on the adapter. The on-board processor converts the signal to a digital format that can be manipulated, compressed and stored for later use.

The video adapter also contains output connectors, for attachment to a monitor, which allow the user to view captured images during the capturing process. The adapter display capability is not required to run presentations containing captured images.

The video adapter end-bracket contains a 20-pin connector. The associated cable, included with the adapter, supports input/output jacks for connection to RGB (Red-Green-Blue), NTSC (National Television Standard Code, also known as Composite Video), and Y/C (Luminance/Chrominance) devices. The Y/C capability allows the user to capture a significantly higher quality image than those available from NTSC. Y/C devices, such as Super VHS video cameras and VCRs, that are emerging in the video marketplace. The adapter accepts input from devices that meet the following standards/specifications:

- Analog RGB Video Input (EIA RS-170A)
- NTSC Composite Video Input (EIA RS-170A)
- Luminance/Chrominance Video Input (EIA RS-170A)

The M-Video Capture Adapter outputs to devices with the following output standards/specifications:

- Analog RGB Video Output (EIA RS-170A)
- NTSC Composite Video Output (EIA RS-170A)
- Luminance/Chrominance Video Output (EIA RS-170A)

Input/Output Connectors

- Video Connectors:
 - Adapter cable with ten RCA plugs: two NTSC Input/Output; six RGB Input/Output (two lines are shared for Y/C input); two Composite synchronous input/output
 - Adapter cable with two RCA plugs -- Y/C Output.

Resolution: 640 x 480 x 16

- Full frame capture from motion video in 1/30 seconds
- Captures 65,536 colors with a resolution of 640 x 480 x 16 bits
- 614KB dual-ported video RAM buffer
- Various image display modes (memory, overlay, transparent, pixel)

The adapter requires one Micro Channel card slot.

Due to mechanical interference, the system unit rear cover cannot be attached to the system unit while the M-VCA primary I/O attachment cable is installed.

Cable Orders: All cables sold by IBM for use with this adapter are included with the product. Cables for input/output device connection are the customer's responsibility.

Keyboards and Mouse

One keyboard and an mouse is standard with the base system and must be specified (#9XXX). Additional keyboards may be ordered as features (#6XXX).

(#6010, #9010) Keyboard - 101 Keys

(No Longer Available as of February 6, 1998)

Supports 101 keys, speaker, and double rate typematic default speed for the cursor keys. A detachable 3 metre (9.8 feet) cable is included.

Keyboard - 102 Keys

(No Longer Available as of February 6, 1998)

The 102 keyboard supports 102 keys, speaker, and double rate typematic default speed for cursor keys. A detachable 3 metre (9.8 feet) cable is included.

- Belgium (Dutch-French) (#6011) (#9011)
- Canadian French (#6012) (#9012)
- Danish (#6013) (#9013)
- Finnish (#6014) (#9014)
- French (#6015) (#9015)
- German (#6016) (#9016)
- Icelandic (#6024) (#9024)
- Italian (#6017) (#9017)
- Norwegian (#6019) (#9019)
- Portuguese (#6020) (#9020)
- Spanish (#6021) (#9021)
- Swiss (#6022) (#9022)
- United Kingdom (#6023) (#9023)
- Turkey (#6025) (#9025)
- Greece (#6026) (#9026)
- Dutch (#6034) (#9034)
- Turkey (TSE) (#6035) (#9035)

Keyboard - 104 Keys

(No Longer Available as of February 6, 1998)

The 104 keyboard supports 104 keys, speaker, and double rate typematic default speed for cursor keys. A detachable 3 metre (9.8 feet) cable is included.

- Brazil Portuguese (#6018)

Keyboard - 106 Keys

(No Longer Available as of February 6, 1998)

The 106 keyboard supports 106 keys, speaker and double rate typematic default speed for cursor keys. A detachable 3 metre (9.8 feet) cable is included.

- Japanese Kanji (#6030) (#9030)
- Korean (#6031) (#9031)
- Chinese Traditional-Taiwan (#6033) (#9033)

(#6599) Optional Keyboard Cable with Speaker

- Attributes provided:

The Optional Keyboard Cable with Speaker (#6599) is being made available for those systems that require an external source for audible system queues. The Optional Keyboard Cable with Speaker is designed to be placed in-line with the Quiet Touch Keyboard -- it attaches to the system and the Quiet Touch Keyboard then plugs into the speaker assembly. The Optional Keyboard Cable with Speaker is one metre long and has a small speaker box at the end of the cable unit. This feature is available on systems (Micro Channel systems) that depended on an external speaker source in their keyboard. Purchase is recommended with the Quiet Touch Keyboards for those systems needing an external audible queue (see the list of systems supporting #6599). The Quiet Touch Keyboard will work with or without the Optional Keyboard Cable with Speaker, but only when #6599 is connected will a system audible queue be provided.

- Attributes required: Available on all current RS/6000 systems supporting AIX Version 4.1.5, 4.2.1, or 4.3.0, or later. Refer to the Feature Availability Matrix.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6600) Quiet Touch Keyboard, US English, #103P

(For IBM, No Longer Available as of March 26, 2004)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6601) Quiet Touch Keyboard, French, #189

(For IBM, No Longer Available as of March 26, 2004)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.

- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6602) Quiet Touch Keyboard, Italian, #142

(For IBM, No Longer Available as of March 26, 2004)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6603) Quiet Touch Keyboard, German/Austrian, #129

(For IBM, No Longer Available as of March 26, 2004)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6604) Quiet Touch Keyboard, UK English, #166

(For IBM, No Longer Available as of March 26, 2004)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6605) Quiet Touch Keyboard, Spanish, #172

(For IBM, No Longer Available as of March 26, 2004)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6606) Quiet Touch Keyboard, Japanese, #194

(For IBM, No Longer Available as of March 26, 2004)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6607) Quiet Touch Keyboard, Brazilian Portuguese, #275

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6608) Quiet Touch Keyboard, Canadian French, #058

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6609) Quiet Touch Keyboard, Belgian/French, #120

(For IBM US, No Longer Available as of April 26, 2002)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6610) Quiet Touch Keyboard, Belgian/UK-Flemish, #120

(For IBM US, No Longer Available as of April 26, 2002)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6611) Quiet Touch Keyboard, Swedish/Finnish, #153

(For IBM US, No Longer Available as of April 26, 2002)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6612) Quiet Touch Keyboard, Danish, #159

(For IBM US, No Longer Available as of April 26, 2002)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6613) Quiet Touch Keyboard, Bulgarian, #442

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6614) Quiet Touch Keyboard, Swiss,French/German, #150f/g

(For IBM US, No Longer Available as of April 26, 2002)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6616) Quiet Touch Keyboard, Norwegian, #155

(For IBM US, No Longer Available as of April 26, 2002)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0

- Maximum allowed: No maximum
- OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
- Initial Order/MES/Both/Supported: MES

(#6617) Quiet Touch Keyboard, Dutch, #143

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6618) Quiet Touch Keyboard, Portuguese, #163

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6619) Quiet Touch Keyboard, Greek, #319

(For IBM US, No Longer Available as of April 26, 2002)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6620) Quiet Touch Keyboard, Hebrew, #212

(For IBM US, No Longer Available as of April 26, 2002)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6621) Quiet Touch Keyboard, Hungarian, #208

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6622) Quiet Touch Keyboard, Icelandic, #197

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6623) Quiet Touch Keyboard, Polish, #214

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6624) Quiet Touch Keyboard, Romanian, #446

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6625) Quiet Touch Keyboard, Slovakian, #245

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6626) Quiet Touch Keyboard, Czech, #243

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6627) Quiet Touch Keyboard, Turkish, #179

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6628) Quiet Touch Keyboard, Turkish, #440

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6629) Quiet Touch Keyboard, LA Spanish, #171

(For IBM, No Longer Available as of March 26, 2004)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6630) Quiet Touch Keyboard, Arabic, #238

(For IBM US, No Longer Available as of April 26, 2002)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0

- Maximum allowed: No maximum
- OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
- Initial Order/MES/Both/Supported: MES

(#6632) Quiet Touch Keyboard, Serbian-Cyrillic, #118

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6633) Quiet Touch Keyboard, Korean, #413

(For IBM US, No Longer Available as of April 26, 2002)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6634) Quiet Touch Keyboard, Chinese/US, #467

(For IBM US, No Longer Available as of April 26, 2002)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6635) Quiet Touch Keyboard, French Canadian, #445

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.3.0
 - Initial Order/MES/Both/Supported: MES

(#6636) Quiet Touch Keyboard, Thailand, #191

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6638) Quiet Touch Keyboard, Russian, #443

(For IBM, No Longer Available as of March 26, 2004)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6639) Quiet Touch Keyboard, Croatian, #105

(For IBM US, No Longer Available as of March 19, 1999)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

(#6640) Quiet Touch Keyboard, US English ISO9995, #103P (EMEA)

(For IBM, No Longer Available as of March 26, 2004)

- Attributes provided: Quiet and soft-touch key depression, 3-metre keyboard cable, removable wrist rest, pearl white colour, standard 6-pin mini-DIN connection.
- Attributes required: Supported RS/6000 system with proper AIX operating system installed.
- For 7012-355:
 - Minimum required: 0
 - Maximum allowed: No maximum
 - OS level required: AIX 4.1.5, 4.2.1, or 4.3.0 or later
 - Initial Order/MES/Both/Supported: MES

Other Features

(#9041) 3-Button Mouse

(For IBM US, No Longer Available as of January 8, 1998)

The 3-Button Mouse is a dynamic tracking pointing device which utilizes Opto-mechanical technology. Resolution is 320 dpi. A 2.74 metre (8 feet) attachment cord is included.

(#5006) IBM AIX Version 4 Client Preload

The most current release of the IBM AIX Version 4 Client operating system are preloaded on the disks when defined on the initial plant order.

The preload is available for the basic license only and is not for DSLO licenses. Refer to the IBM AIX Version 4 announcement for detailed packaging and ordering information.

(#5007) IBM AIX Version 4 Server Preload

(No Longer Available as of January 30, 1998)

The most current release of the IBM AIX Version 4 Server operating system is preloaded on the disks when defined on the initial plant order.

The preload is available for the basic license only and is not for DSLO licenses. Refer to the IBM AIX Version 4 announcement for detailed packaging and ordering information.

(#5009) AIX Operating System Preload (Current Version)

(No Longer Available as of January 10, 1997)

The most current release of the AIX Version 3 for the RS/6000 operating system is preloaded on the disks when defined on the initial plant order. A minimum of 1 GB of SCSI disk is required for the preload. Software preload is for the AIX Operating System only.

The preload is available for the basic license only and is not for DSLO licenses.

Miscellaneous

(#3750) Diagnostic Wrap Plugs

(For IBM US, No Longer Available as of March 19, 1999)

This feature provides diagnostic wrap plugs for testing the Serial, Parallel and Ethernet ports. A storage container is included.

Feature exchanges

Not available.

[↑ Back to top](#)

Accessories

Security Cable (P/N 31F4155)

Assists in the physical security of the IBM RS/6000 355 by providing a cable that attaches to the rear cover of the workstation. The Security Cable consists of a 60 inch long, 1/8-inch plastic-coated hardened stainless steel cable with a hardened stainless steel clip that attaches through a slot in the back of the workstation. A loop is provided on the other end of the cable to attach or lock the cable to a secure fixture in the customer location. A metal plate is also provided to reinforce the rear cover where the clip is inserted. Instructions are included.

Customer replacement parts

Not available.

[↑ Back to top](#)

Machine elements

Not available.

↑ [Back to top](#)

Supplies

- IBM 8mm Tape Cartridge (P/N 21F8595) (shipped in a 5-pack)
- IBM 8mm Cleaning Cartridge (P/N 21F8593) (provides 12 cleanings)
- IBM Quarter Inch Data Cartridge (P/N 21F8588) (shipped in a 5-pack)
- IBM Quarter Inch Cleaning Cartridge (P/N 21F8570) (provides 50 cleanings)

Supplies can be purchased from LEXMARK International Supplies Dealers.

Supplemental media

Not available.

↑ [Back to top](#)

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