IBM Sales Manual (US) - Document 3172-001

3172-001 IBM Interconnect Controller Model 001

Document's Table of Contents:

- IBM U.S. Product Life Cycle Dates
- Abstract
- Highlights
- Description
- Model
- Model Summary Matrix
- Maximum
- Customer Setup (CSU)
- Devices Supported
- Model Conversions
- Technical Description
- Physical Specifications
- Operating Environment
- Limitations
- Hardware Requirements
- Software Requirements
- Publications
- Features – Specify/Special/Exchange
- No Charge Specify Codes
- Special Feature Codes – Chargeable
- Feature Exchanges
- Accessories
- Customer Replacement Parts
- Machine Elements
- Supplies

1 IBM U.S. Product Life Cycle Dates

Type	Model	Announced	Available	Marketing Withdrawn	Replaced By
3172-001		1989/10/24	1990/09/28	1994/03/25	3172-003

2 Abstract

The IBM 3172 Interconnect Controller is a high-speed, channel-attached gateway optimized for attachment of local area networks (LANs), synchronous data link control (SDLC) networks, and Frame-Relay Networks to IBM host processors. In addition, the 3172 can provide the NCP Server function to activate, manage, and complement the 3745 Communication Controller with NCP.

Model Abstract 3172-001

(For IBM US, No Longer Available as of March 25, 1994)

The 3172-001 is a Micro Channel*/80386-based intelligent controller that can operate as a LAN-to-host gateway and as a remote Channel-to-Channel (CTC) controller. When the 3172 is featured to operate as a CTC controller, the 3172 provides host attachment via the Parallel channel or the ESCON* channel and can be featured for up to four TP Adapters. Four LAN attachments and two channel attachments give the 3172 Interconnect Controller the flexibility and performance required in today's heterogeneous networks.

3 Highlights

- Provides connectivity to IBM S/370, S/390, and ES/9000* hosts as a LAN/WAN-to-host gateway.
- Supports SNA or TCP/IP data flows through parallel or IBM Enterprise Systems Connection* (ESCON*) channels to the following LAN types:
  - IBM Token-Ring
  - Ethernet
  - Fiber Data Distributed Interface (FDDI)
  - ATM
- Provides extensions of LAN connectivity to the WAN through multiprotocol Frame-Relay.
- Provides SDLC, Frame-Relay, and LAN connectivity for SNA devices.
- Provides all the functions of a dedicated client/server.
- Offers preloaded software packages available from the factory.

4 Description

The IBM 3172 Interconnect Controller operates as a LAN-to-host gateway. As a LAN-to-host gateway, the 3172 provides host attachment via the Parallel Channel and can be featured for up to four LANs of multiple types. The 3172 was designed to be mounted in an equivalent/compatible EIA 19-inch rack and is available in the 9309 Model 002 Rack Enclosure or can be ordered for installation in any compatible 19-inch rack.

Model Description 3172-001

The use of the 80386 25 MHz microprocessor coupled with the Micro Channel* architecture supports this capability. 8MB is now standard in the Model 001.

The 3172 provides for two channel adapter and four feature slots for a variety of LAN adapters or TP adapters, and can be ordered as optional features. The base unit is comprised of the following components:

- Cabinet with operations panel
- System board with 8 MB System RAM and processor
- Diskette drive
- Hard disk
- Power supply

Optional features can be ordered with the 3172 or as an MES for field installation.

5 Model

5.1 Model Summary Matrix

Model	Micro-Processor	Memory	LAN Attachments min - max	Channel Attachments min - max
001	386	8MB	1 – 4	1 – 2

Note: Configurations will vary depending on software installed.

6 Maximum

IBM 9309-002 Rack Enclosure: When the IBM 3172 Model 1 is ordered to be factory installed in the IBM 9309 Rack Enclosure, up to a maximum of three 3172 Model 1's can be installed in the same 9309 Model 2. The 3172 Model 1 cannot be ordered in the same 9309 with the 3172 Model 2.

IBM 3172 Interconnect Controller: The 3172-001 has a maximum feature capability of four LAN adapters and two Parallel Channel Adapters when configured to operate as a LAN to host Gateway. There can only be two PC Network adapters used within a single 3172 Model 1. This limitation is introduced because the adapter can only operate with one of two possible addresses on the Micro Channel. When the 3172 is configured to operate as a host LAN gateway, only the Parallel Channel Adapter is supported.

When featured as a CTC controller the maximum number of T1 Adapters is four and the maximum number of channel adapters are two which can be either the Parallel Channel or the ESCON channel adapters. The mix of Parallel Channel Adapter and the ESCON Adapter in the same 3172 is not supported. When you choose to install the Operator Facility online, a Token-Ring Adapter is required. This required Token-Ring adapter can be installed in place of one of the T1 Adapters which would reduce the maximum to three or can be installed in place of the second channel adapter. For this configuration the Token-Ring Adapter is not support for LAN to host connectivity. The 3172-001 LAN gateway machine cannot be converted to the 3172-001 remote channel to channel extension machine in field.

7 Customer Setup (CSU)

No.

8 Devices Supported

Workstations supporting the following programs are supported.

- IBM TCP/IP Version 1.1 for OS/2* Extended Edition
- IBM AIX* Version 3.0 for RS/6000*
- IBM OS/2 EE Version 1.2
- IBM PC/3270
- IBM AIX Personal System/2 TCP/IP
- IBM AIX Access for DOS users
- IBM X-Windows for IBM DOS
- IBM AIX/RT Version 2.2
- AS/400 TCP/IP Connectivity Utilities (5728-TC1). This support provides TCP/IP connectivity to a host via Token-Ring or Ethernet Version 2 and IEEE 802.3.

9 Model Conversions

None.

10 Technical Description

10.1 Physical Specifications

- Width: 483mm. (19.0 inches)
- Depth: 483mm. (19.0 inches)
- Height: 311mm. (12.5 inches)
- Weight: 18.6kg. (41 lbs.)

10.2 Operating Environment

When the 3172-001 is ordered for installation in a computer room environment (Class A Environment), it can be ordered with or without a 9309-002 Rack Enclosure. The 3172 is designed for rack mounting and when installed in a Class A environment, it can be ordered as a stand-alone unit that can be housed in any compatible EIA 19-inch rack.

Class A2:

- Temperature: 15.6 to 29.4C (60 to 85F)
- Relative Humidity: 20 to 80 percent

- Wet Bulb: 22.8C (73F)
- Power per 3172: 200-240V, 2.5A, 50-60Hz

When the 3172-001 is ordered for installation in other than a computer room environment (Class B or C Environment), it must be ordered installed and shipped in a 9309-002 Rack Enclosure or ordered for field installation in a 9309-002 Rack Enclosure. OEM EIA racks are not supported in this environment.

Class C:

- Temperature: 10 to 40C (50 to 105F)
- Relative Humidity: 8 to 80 percent
- Wet Bulb: 27C (80F)

11 Limitations

Not applicable.

12 Hardware Requirements

The 3172 Interconnect Controller channel attaches to the IBM ES/9021, ES/9121, ES/9221, 4361, 4381, 308x, 3090, ES/3090, and ES/9370. Attachment is also supported via the 3044 Model 2 Fiber Optic Channel Extender and the 9034 ES Connection Converter.

Cable Requirements

System/370 Channel Adapter (#2001): For attachment to the Parallel Channel attachment cable group 0185 is required and must be ordered separately using "Cable Order Form" (Z120-248).

PC Network Baseband Adapter (#2270)

The adapter cable is not supplied with this feature. Refer to the IBM PC Baseband Network Planning Guide (S68X2269) and the IBM PC Network Baseband Adapter/A Technical Reference (S68X2264) for cable options.

PC Network Adapter II/A (#2271, #2272, and #2273)

A three-meter coaxial cable is supplied with each of these features.

TP Adapter Type T1 (#2260)

An attachment cable with an RS-422 interface is provided.

ESCON Adapter (#2002)

Jumper Cables:

Fiber optic jumper cables are required for attaching the 3172-001 to other ESCON channel connected devices. For initial equipment orders and feature MES orders, one duplex-to-duplex 62.5/125 micrometer fiber optic jumper cable will be provided, at no additional charge, for each 3172-001 port intended for ESCON channel connection and should be ordered separately.

Duplex-to-Duplex 62.5/125 micrometer fiber optic jumper cables Group #3797 and Part Number 14F3797 are available in the following standard lengths.

- 4 meters (12 feet)
- 7 meters (20 feet)
- 13 meters (40 feet)
- 22 meters (70 feet)
- 31 meters (100 feet)

- 46 meters (150 feet)
- 61 meters (200 feet)
- 77 meters (250 feet)
- 92 meters (300 feet)
- 107 meters (350 feet)
- 122 meters (400 feet)

Custom cable lengths in one foot increments, chargeable to the customer, are available between 12 feet and a maximum of 1640 Feet. If custom length cables are to be used refer to IBM Publication GA23-0367, "Planning for Enterprise Systems Connection Links."

Assistance in planning, design, and installation of fiber optic cabling systems is available in Connectivity Services, a Customized Operational Services offering from NSD. For more details, contact your IBM marketing representative.

13 Software Requirements

IBM Interconnect Controller Program

Each 3172 Model 001 requires the IBM Interconnect Controller Program, or equivalent.

Support by Version

5601-400 Version 1: Supports Token-Ring, IEEE 802.3, and Ethernet V2 as a host gateway running TCP/IP, and AIX with Parallel channel host attachment.

5601-433 Version 2: Supports all the same function as Version 1.0 plus a feature for channel-to-channel with TP Adapters, the ESCON Adapter for CTC, a feature for SNA LAN gateway support, and PC Network attachment.

Host S370 and S/390 Support

Each channel attached IBM host will require one of the following to match what is operating in the 3172:

- IBM ACF/VTAM Version 3.4 for MVS/ESA, VM ESA and VM/SP
- IBM ACF/VTAM Version 3.4 for CTC
- IBM TCP/IP Version 2 for VM (5735-FAL)
- IBM TCP/IP for MVS Program Version 1.0 (5685-061)
- IBM AIX/370 which includes TCP/IP layers (5713-AFL) Version 1.2

14 Publications

The following publications are shipped with the product:

- GA27-3861 IBM 3172 Interconnect Controller Installation and Service Guide
- GA27-3860 IBM 3172 Interconnect Controller Operator's Guide
- GA27-3866 IBM 3172 Interconnect Controller Safety Notices

For a current list of publications, refer to the appropriate publications option on your respective HONE system, or contact your local IBM representative.

15 Features – Specify/Special/Exchange

15.1 No Charge Specify Codes

IBM 9309-002 Rack Enclosure for the IBM 3172-001 Interconnect Controllers:

Specify code #9501 is required when ordering 9309-002 Rack Enclosure for the 3172-001 Interconnect Controller. This specify code is a routing code to enable AAS to route the order to plant of manufacture for 3172-001.

Specification of languages is optional. The default language is determined from the country code. To override the default refer to the sales pages for the IBM 9309 Rack Enclosure (9309).

Specify for the IBM 9309 Rack Enclosure Power Cable is required.

For US and Canada, specify #9080 for a water tight connector or #9081 for the non-water-tight connector. Exception: For Chicago, specify #9986 for 6 foot length power cable and #9080 for under the floor water tight connector or #9081 for non-water-tight connector.

Specify the number of 3172 Model 001s to be installed in the 9309-002 Rack Enclosure at the factory.

- One - Specify #9203.
- Two - Specify #9204.
- Three - Specify # 9205.

NOTE: Now order 3172-001s individually with appropriate features. Order Rack Mounting Feature #2500 with each 3172-001 to be installed in the 9309-002.

IBM 3172-001 Interconnect Controller ordering specifications:

A 3172-001 may be ordered for a 60-day trial with the stipulations listed in "Memorandum to Marketing Managers" (M90-079). After Branch Manager approval is received, the 3172-001 may be ordered using the following specification code for the machine identification:

- Specify code #9999 when ordering 3172-001 for 60-day trial

  (For IBM US, No Longer Available as of July 25, 1997)

Shipping Group languages defaults will be determined by the country code. No specify required.

Specify #9640 for power cord if the 3172 is to be mounted in a 9309-002 Rack Enclosure. (This specify can be ordered via MES.)

If the 3172 is not to be installed in a 9309-002 Rack Enclosure, the power plug is selected by country code and is installed and shipped with the 3172. (Refer to Planning Guide GA27-3867 for description.)

Specify code #9991 will be used to route orders for the 3172 Model 1 to Valencia.

(For IBM US, No Longer Available as of July 25, 1997)

Exceptions are as follows:

- Specify #9601: Power cord with water tight connector for US and Canada (for raised floor).
- Specify #9602: Power cord with non-water-tight connector for US and Canada.
- Specify #9621: Power cord with water tight connector for Chicago (for raised floor).
- Specify #9622: Power cord with non-water-tight connector for Chicago.

Power Receptacle Requirements:

- For US and Canada, use a Russelstoll 3743U-2 for water tight power plug.
- For US and Canada, use a NEMA L6-15P for non-water-tight power plug.

15.2 Special Feature Codes – Chargeable

Interconnect Controller System/370 Channel Adapter (#2001)

(For IBM US, No Longer Available as of March 25, 1994)

This feature interfaces with the IBM S/370 Parallel Channel. The channel adapter will support speeds up to 4.5M bytes per second. This feature can be installed as the first or second channel attachment. The association of LAN adapters to channel is described in the Program Requirements. The feature includes a cable for connection to the channel cable mounting plate. Channel cables for attaching to the host channel (cable group 0185) must be ordered separately.

Interconnect Controller ESCON Adapter (#2002)

(For IBM US, No Longer Available as of March 25, 1994)

This feature is designed to interface with the new IBM ES/Connectivity environment. The channel transmission speed is 200Mbps. This feature can be installed as the first or second channel attachment but not supported in the same 3172 with the Channel Adapter (#2001). The 3172-001 with this feature must be installed in a 9309-002 rack.

Interconnect Controller TP Adapter Type T1 (#2260)

(For IBM US, No Longer Available as of March 25, 1994)

This adapter provides attachment capability for T1 common carrier facilities at speeds up to 1.544 Mbps and is used when configuring the 3172-001 to operate as a Channel-to-Channel controller. The 3172 supports up to a maximum of four T1 adapters per 3172. An attachment cable is provided that supports the RS-422 interface. The output of this adapter must pass through a DSU/CSU or a multiplexer with the RS-422 interface for connection to the T1 common carrier facility.

Interconnect Controller Token-Ring 16/4 Adapter (#2210)

(For IBM US, No Longer Available as of September 24, 1999)

This adapter attaches to either a 16 or 4 Mbps Token-Ring Network that conforms to the IEEE 802.5 architecture. Attachment cable (IBM P/N 6339098 or equivalent) is required and must be ordered separately.

Interconnect Controller PC Network Baseband Adapter/A (#2270)

(For IBM US, No Longer Available as of March 25, 1994)

This feature provides attachment to the 1 Mbps baseband IBM PC Network. It appears as a station on the LAN and in conjunction with the 3172 enables data flows to and from a channel attached host. Attachment cables are not provided with this feature but are available from IBM. Refer to the IBM PC Baseband Network Planning Guide (S68X2269) for options.

Interconnect Controller PC Network Adapter II/A (#2271)

(For IBM US, No Longer Available as of March 25, 1994)

This feature is designed for connecting to the 2 Mbps broadband IBM PC Network. It appears as a station on the LAN and is compatible with the IBM PC Network Adapter II/A (#1222) announced for PS/2* workstations. A three meter coaxial cable is supplied with this feature.

Interconnect Controller PC Network Adapter II/A - Freq. 2 (#2272)

(For IBM US, No Longer Available as of March 25, 1994)

This feature is designed to provide attachment to the 2 Mbps broadband IBM PC Network at frequency 2. It provides the same function as feature #2271 and is compatible with IBM PC Network Adapter II/A-Frequency 2 announced for PS/2. A three meter coaxial is supplied with this feature.

Interconnect Controller PC Network Adapter II/A - Freq. 3 (#2273)

(For IBM US, No Longer Available as of March 25, 1994)

This feature is designed to provide attachment to the 2 Mbps broadband IBM PC Network at frequency 3. It provides the same function as feature #2271 and is compatible with IBM PC Network Adapter II/A-Frequency 3 announced for the PS/2 workstations. A three meter coaxial cable is supplied with this feature.

Interconnect Controller Ethernet Adapter (#2220)

(For IBM US, No Longer Available as of September 24, 1999)

This adapter provides attachment to 10 Mbps Ethernet LANs and conforms to IEEE 802.3 architecture. Connection to both "thin" and "thick" Ethernet LANs are supported. Attachment cables to the transceiver are not provided by IBM. For attachment to the standard Ethernet coaxial cable with external transceivers, an external transceiver drop cable with IEEE 802.3 compatible 15-pin DIX connector with slide latches is required. To support thin Ethernet coaxial cable (RG-58), a BNC T-connector for connection to on-board transceivers is required.

Interconnect Controller MAP 3.0 Broadband Adapter (#2230)

(No Longer Available for Model 001 as of May 26, 1992)

This adapter provides connection to MAP Version 3.0 LANs and conforms to IEEE 802.4 10 Mbps Token Bus architecture. The adapter controller and broadband modem are provided as a part of this feature. This feature requires 2 feature slots in the 3172. The attachment cabling is the responsibility of the user. The cable used to connect the MAP 3.0 Modem to the network should be RG-59 (75 ohm) coaxial cable with "F" connectors on both ends and should not exceed 3 meters in length.

Interconnect Controller MAP 3.0 Carrierband Adapter (#2240)

(No Longer Available as of November 13, 1990)

This adapter provides connection to MAP Version 3.0 protocol LANs and conforms to IEEE 802.4 5 Mbps Token Bus architecture. The adapter controller and carrierband modem are provided as a part of this feature. This feature requires two feature slots in the 3172-001. The attachment cabling is the responsibility of the user. The cable used to connect the MAP 3.0 Modem to the network should be RG-59 (75 ohm) coaxial cable with "F" connectors on both ends and should not exceed 3 meters in length.

Rack Mounting Assembly (#2500)

(For IBM US, No Longer Available as of March 25, 1994)

This feature allows the 3172 Model 001 to be mounted in the 9309-002 Rack Enclosure. The assembly includes slides, a tray, and a channel cable mounting plate. The assembly will fit any standard EIA hole conforming with front and back post spacing between 26 and 28 inches. This feature is field installable.

16 Feature Exchanges

Not available.

17 Accessories

- Relocation Kit for 3172 Models 001, 003 and 390 (P/N 25H6459)
- Relocation Kit for 9309 Model 002 (P/N 33G9781)

18 Customer Replacement Parts

None.

19 Machine Elements

Not available.

20 Supplies

None.

Diskettes

None.

Trademarks

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