IBM 3720 Communication Controller

PRODUCT DESCRIPTION

On May 20, 1986, IBM introduced a number of important products and enhancements with a major focus on network management and control features. Part of the wide-ranging announcement was the new 3720, a product at the low end of the communication controller family that provides about one third of the 3725's performance and operates under control of software programs used on the 3725. A new 3721 Expansion Unit extends the capability of the basic system.

The new controller is available in four models: Models 1 and 11, which concentrate up to 28 lines, directly attach to the host computer; Models 2 and 12, which concentrate up to 16 lines and 2 IBM Token-Ring Networks, are used at remote locations and connect to the host via telephone lines. New unattended operation procedures and a remote switched console provide the ability to control 3720 operations from a remote location. A 3721 expansion unit allows Models 1 and 2 to attach up to 60 lines, and Models 11 and 12 to attach up to 48 lines and 3 Token-Ring Networks. Models 1 and 2 are field upgradable to Models 11 and 12, respectively.

The 3720 comes with a standard 1M byte of storage, expandable to 2M bytes. A 10M-byte hard disk provides additional storage for support files used by MOSS (Maintenance and Operator Subsystem) facilities. MOSS has been upgraded to include automatic rebooting of the scanner in case of failure and automatic analysis of Box Event Records (BERs). Speed of all internal clocks for synchronous terminals are now set in software through the MOSS operator console; previously, this action required hardware strap settings.

The 3720 offers some advantages over the 3725. The new controller supports four 56K bps or 64K bps full-duplex communications lines or five 48K bps lines. Only two lines are supported by 3725 scanners. More efficient use of scanners is derived by assigning 3720 LIC (line interface coupler) weights to individual lines rather than to LICs. Total weight is the sum of the weights of connected lines; scanner capacity is more efficiently allocated when there are mixes of different line types on the same scanner.

RELATIONSHIP TO CURRENT PRODUCT LINE: The new 3720 is the low-end product in IBM's communication controller family, which includes the older 3705 and the 3725. It is designed for small- to medium-sized organizations that do not need the power of the 3725 or for use at remote locations.

Traditionally, IBM has focused its major marketing efforts on large organizations with far-ranging data processing requirements. The 3720 represents a step in a different direction, however, as in performance and price the product is clearly aimed at the smaller organization.

PRODUCT ANNOUNCEMENT: The 3720, IBM's low-end communication controller, has been designed for use in remote locations or by organizations that do not require the capacity of the larger 3725. Equipped with an enhanced IBM Maintenance Operator Subsystem, the 3720 allows host console operators to perform controller diagnostics on directly attached or remote units.

ANNOUNCEMENT DATE: May 20, 1986.

DELIVERY SCHEDULE: Models 1 and 2 available in October 1986; Models 11 and 12 available in July 1987.

PRICE: Model 1—$26,000; Model 2—$26,000; Model 11—$42,500; Model 12—$32,000.

BASIC SPECIFICATIONS

MANUFACTURER: International Business Machines Corporation (IBM), Old Orchard Road, Armonk, NY 10504. Contact your local IBM representative.

CONFIGURATION: The basic 3720 includes a central control unit, 1M byte of main storage, a 10M-byte disk, a diskette drive, the Maintenance and Operator Subsystem (MOSS), and one communication scanner including internal clock controls. The internal clock supports both "Category 1" and "Category 2" transmission rates. Cateogry 1 rates, set by NCP or EP, are 50, 110, 134.5, 200, 300, 600, and 1200 bps for start/stop or synchronous operation and 75, 100, 2400, 4800, 9600, and 19.2K bps for start/stop operation only. Category 2 rates, set via the operator console, are 2400, 4800, 9600, 19.2K, 38.4K, 55.885K, and 245.760K bps for directly attached synchronous terminals. Transmission mode for both directly attached and modem-attached terminals is half- or full-duplex.

In addition to the basic components, 3720 Models 1 and 11 also include one basic Channel Adapter and one optional adapter that attaches to a byte-multiplexer, block-multiplexer, or selector channel of an IBM 4341, 4361, 303X, 308X, or 3090 processor. With the exception of the 303X, the adapters also attach to the IBM 3044 Fiber Optic Channel Extender Link that allows placement of a 3720 Model 1 or 11 up to 6,666 feet (2 kilometers) from a host running NCP. Models 1 and 11 also come with one or two optional Two Processor Switches (TPSs) that allow a channel adapter to attach to two processor channels with nonsimultaneous communication.

Options on the 3720 Model 1 or 2 include an additional 1M byte of storage and up to seven line interface couplers (LICs). Models 11 or 12 may contain an additional 1M byte of storage, up to four LICs, and up to two Type 1 Token-Ring Interface Couplers (TICs). Models 1 and 2 are field-upgradable to Models 11 and 12, respectively.

A 3721 Expansion Unit, installed on the top of a 3720, allows attachment of up to 32 additional lines. The 3721 Model 1 has one scanner that controls up to 8 LICs, and the 3721 Model 2 has two scanners, each controlling up to 4 LICs. One model of the 3721 cannot be converted to another. The 3721 does not support attachment to the Token-Ring Network.

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▷ MARKETING POSITION: In the world of communications processors, IBM is clearly king, having maintained a 90+ percent market share for many years. Only NCR Comten and Amdahl provide any competition. NCR's recently announced the 5660, a high-end processor that will support up to 8 IBM or compatible mainframes and up to 1,024 communication lines. This product competes with the 3705 and 3725, while the 3720 is more directly competitive with NCR Comten's 5620 product.

It seems likely that with the smaller and less expensive 3720, IBM is making a bid for more business in markets now dominated by Digital Equipment Corporation. The company continues to expand its communications offerings to include far more flexible network management and control features, which are critical in today's networks. In the past, IBM's SNA network has been criticized as being cumbersome to manage, and other plug-compatible processor vendors have capitalized on this weakness by selling systems that offered far greater configuration and planning tools. The new network control and diagnostic enhancements will be extremely attractive to IBM's huge installed base of customers. □

▶ Any IBM 3101 Model 23 or compatible terminal may be used as a 3720 system console, including an IBM PC running the IBM 3101 Emulation Program. One remote operator console can manage multiple 3720s via attachment to a switched communications line and 1200 bps, full-duplex modems that conform to CCITT V.22 Recommendations. Customers running EP, but not NCP/PEP, must provide a local console to receive error alarms that are normally available through the VTAM operator console. Customers using the IBM Remote Support Facility (RSF) must have an IBM 5841 synchronous modem at the RSF port.

SYSTEM SOFTWARE: The 3720 will operate with IBM 3705s and 3725s running compatible ACF/VTAM and ACF/NCP releases. The IBM licensed programs outlined below support 3720 Models 1 and 2. The date of their approximate availability is shown in parentheses at the end of each entry. If there is no date shown, the product is already available.

- ACF/NCP, Version 4, Release 1 (MVS, VSE), requiring PTFs (10/86).

- ACF/NCP, Version 4, Release 2 (MVS, VM) (10/86).

- ACF/NCP, Version 4 Subset (VSE) (10/86).

- NTO, Release 3 (MVS, VSE) (10/86).

- NTO, Release 4 (MVS, VM) (1086).

- NPSI, Release 4.2 (MVS, VSE) (10/86).

- NRF, Release 2 (MVS) (10/86).

- NRF, Release 3 (MVS) (10/86).

- Non-SNA Interconnection Release 4 (VSE, MVS) (10/86).

- ACF/NCP, Version 4 Subset (MVS) (10/86).

- ACF/NCP, Version 4 Subset (VM) (1/87).

- NPSI Release 4.3 (MVS supporting ACF/NCP, Version 4, Release 2— 12/86; supporting ACF/NCP Version 4 Subset— 6/87).

- NPSI Release 4.3 (VM supporting ACF/NCP, Version 4, Release 2—3/87; supporting ACF/NCP Version 4 Subset—6/87).

- X.25 SNA Interconnection, Release 2 PRPQ 7L1000 (4/87).

Software products operating only on 3720 Model 1 include the following:

- Emulation Program, Release 3 for MVS and VSE (10/86).

- Emulation Program, Release 4 for MVS and VSE (10/86).

On 3720 Models 11 and 12, ACF/NCP for MVS and VM will be provided through a then-current level of ACF/NCP, Version 4 and the ACF/NCP, Version 4 Subset.

The 3720 controllers will support the following Communication Management software:

- NetView, Release 1 (MVS, MVS/XA, VM) (MVS—fourth quarter 1986; V—first quarter 1987).

- NCCF, Version 2, Release 2 (VSE).

- NPDA, Version 3, Release 2 for VSE with 3720 PTF (3720 PTF—10/86).

- NPDA, Version 3 (except NPDA, Version 3, Release 2 for VSE with 3720 PTF).

The 3720 supports the ACF/TCAM, Version 2, Release 4; BTAM/SP, BTAM/ES, RTAM; and ACF/VTAM Access Methods. TCAM, with the MSNF feature, supports 3720 terminal-to-terminal sessions in an NCP environment, but all SNA logical units attached to the controller must be activated via a host processor running VTAM. TCAM does not support load, dump, or SNA resource ownership of the 3720. When the 3720 is channel-attached to a TCAM host, a TCAM Version 2, Release 4 channel contact facility establishes the necessary communications path.

In addition to the above, the 3720 will operate with the ACF/SSP, Version 3, Release 2 (MVS, VM, VSE) support products.

SYSTEM FEATURES: The 3720 concentrates communication lines and provides networking functions, such as monitoring errors and detecting system problems. All units come with a Maintenance Operator Subsystem (MOSS) that allows the automatic analysis of Box Event Records (BERs), thus facilitating problem determination functions. Through MOSS, a console operator can perform local and remote controller diagnostics from a central site. All 3720 units can also be equipped with an IBM Remote Support Facility (RSF) and configured for unattended operation. The 3720's management console is password protected, and the controller can use the security and audit features resident on host hardware or software.

PRICING: Pricing for the 3720 and related components is shown in the following table:

EQUIPMENT PRICES

	Purchase Price ($)	Monthly Rental ($)	Monthly Maint. ($)
3720 Communication Controller			
Model 1	36,500	2,605	175
Model 2	26,000	1,855	142
Model 11	42,500	3,035	178
Model 12	33,000	2,285	146

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	Pur-chase Price ($)	Monthly Rental ($)	Monthly Maint. ($)
3721 Expansion Unit			
With one scanner	16,000	1,145	22
With two scanners	22,500	1,605	30
Options			
Second channel adapter	6,750	482	8
LIC Type 1	2,500	179	2
LIC Type 2	2,500	179	2
LIC Type 3	2,500	179	2
LIC Type 4A	2,500	179	2

	Pur-chase Price ($)	Monthly Rental ($)	Monthly Maint. ($)
LIC Type 4B	2,500	179	2
Token-Ring Interface Coupler, Type 1	3,000	161	15
1M-byte storage increment	6,000	429	4
Two Processor Switch	4,000	286	3
3270 Model Conversion			
From Model 1 to Model 11	*6,000	—	—
From Model 2 to Model 12	*6,000		

*Parts removed or replaced become IBM's property. ∎