

IBM 7531 AND 7532 INDUSTRIAL COMPUTERS MODEL 111

Contents

[Announcement Letter Number 187-112 dated May 19, 1987](#)

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Brief Description of Announcement, Charges, and Availability

The IBM Industrial Computer family has been enhanced with the addition of a new model of the IBM 7531 and 7532 Industrial Computers. The new Model 111 provides the following enhancements:

- o Increased performance
- o Support for 3.5-inch diskette media
- o New memory expansion options and memory module kits
- o Enhanced keyboard support without requiring a keyboard installation diskette
- o Support for 3278/79 emulation and 5250 emulation
- o Lower priced configurations than with the existing Model 041
- o Standard 20MB fixed disk.

In addition, the IBM 7531 and 7532 Industrial Computers Model 041 are being withdrawn from marketing effective August 28, 1987, and replaced by the new Model 111. The 7531 and 7532 Model 111 purchase price is less than a similarly configured Model 041 with feature number 6045 (20MB fixed disk drive).

Purchase Price:

System Unit	Model	Price
7531	111	\$6,425
7532	111	6,425

Planned Availability: June 1987

Customer Letter Section**HIGHLIGHTS**

- o Increased performance using an 8MHZ 80286 microprocessor
- o New 3.5-inch 720KB Diskette Drive Option
- o New 128/640KB Memory Expansion Option
- o New 512KB/2MB Memory Expansion Option
- o New 1MB/6MB Memory Expansion Adapter
- o Support of Advanced 3278/79 Emulation Adapter
- o Support of Enhanced 5250 Display Station Emulation Adapter
- o Support of AT/370 Option Kit
- o Support of IBM Token-Ring Network Adapters
- o Enhanced keyboard support does not require use of the keyboard installation diskette
- o Standard 20MB fixed disk drive
- o New Model 111 can be configured for a lower price than a similarly configured Model 041.

DESCRIPTION

The newly announced model of the IBM 7531 and 7532 Industrial Computers provides increased performance for industrial applications, including IBM network functions and workstation emulation capabilities.

The new model is based on the high-performance 16-bit Intel (R) 80286 Microprocessor. This model also includes the BASIC language and clock/calendar with battery backup.

The Model 111 system unit includes 512KB of standard memory, a single 1.2MB high-capacity 5.25-inch diskette drive, a combination fixed disk and diskette drive adapter, and a 20MB fixed disk drive.

Eight option (feature) slots support feature cards for devices, features, or memory. Six of the slots support either the advanced 16-bit or the 8-bit option cards. Two support 8-bit option cards only. However, the Model 111 use one 16-bit slot for the standard combination fixed disk and diskette drive adapter. The result is seven available expansion slots. A retainer bar is provided to secure the feature cards.

3.5-INCH 720KB DISKETTE DRIVE (#6163)

This feature is a half-high, double-sided 3.5-inch diskette drive supporting the 3.5-inch media with 720KB storage capacity.

The option provides data transfer between 5.25-inch and 3.5-inch media, allowing greater compatibility with other IBM

equipment.

The drive uses the combination fixed-disk and diskette drive adapter, standard on the 7531 and 7532. The drive requires the IBM Disk Operating System (DOS) Version 3.2, or later, and must be installed as Drive B of the system unit.

With unlike diskette drives installed, special considerations are necessary if a backup copy or working copy of 5.25-inch diskettes is required. The backup or working copy will be on a 3.5-inch diskette that cannot be used in the 5.25-inch diskette Drive A.

128/640KB MEMORY EXPANSION OPTION (#3338)

This Memory Expansion Option comes with 128KB of memory. With the addition of the 512KB Memory Module Kit (#3339), this option can be expanded to 640KB.

When the Memory Expansion Option is installed fully populated (640KB), the user will have available 640KB of memory in the real address space and 512KB of memory in the protected address space.

For further information, refer to Product Announcement 186-052, dated April 2, 1986.

512KB/2MB MEMORY EXPANSION OPTION (#3343)

This Memory Expansion Option comes with 512KB of memory. With additional 512KB Memory Module Kits (#3339), this option can be expanded to a maximum of 2MB (the base option plus three Memory Module Kits).

A maximum of five 512KB/2MB Memory Expansion Options can be installed in a system unit providing 10MB of additional memory.

For further information, refer to Product Announcement 186-052, dated April 2, 1986.

512KB MEMORY MODULE KIT (#3339)

The Memory Expansion Module Kit option provides an additional 512KB memory on either the 128/640KB Memory Expansion Option (#3338) or the 512KB/2MB Memory Expansion Option (#3343).

For further information, refer to Product Announcement 186-052, dated April 2, 1986.

IBM 1MB TO 6MB MEMORY EXPANSION ADAPTER (#3400)

This multifunction adapter provides up to 6MB of memory, split memory addressing, a parallel printer port and an asynchronous serial communications port. The adapter comes with 1MB of memory installed.

Memory Module Kits can be added in increments of 1MB up to a maximum of 6MB per adapter. A maximum of three adapters may be installed, providing 16MB of additional memory. The split memory addressing feature allows the base memory to be filled to the 640KB limit with the remaining adapter memory automatically becoming part of the expansion memory area.

The asynchronous serial communications port is a 9-pin D-shell RS-232-C connector for interfacing to a modem, remote display terminal, a serial printer or other serial device. When the optional 10-foot Serial Adapter Cable (#0217) or 10-inch Serial Adapter Connector (#0242) is connected to the adapter, the 25-pin end of the cable or connector has all the signals of a standard EIA RS-232-C interface. The parallel printer port provides a 25-pin connector to connect a parallel printer.

One 16-bit expansion slot is required for each adapter. Adapters are customer installable. A maximum of two serial and two parallel ports are supported by the IBM 7531 and 7532 Industrial Computers.

For further information, refer to Product Announcement 186-209, dated December 2, 1986.

1MB MEMORY MODULE KIT (#3402)

Expands the memory capacity of the Memory Expansion Adapter (#3400) in increments of 1MB up to a maximum of 6MB per adapter. Each kit consists of two 512KB memory modules inserted into memory module sockets on the adapter card. A maximum of five kits can be added to each adapter card. Memory Module Kits are customer installable.

For further information, refer to Product Announcement 186-209, dated December 2, 1986.

ADVANCED 3278/79 EMULATION ADAPTER (#5050)

The Advanced 3278/79 Emulation Adapter is a circuit card that plugs into any one of the expansion slots in the IBM Industrial Computer System Unit. A cable receptacle mounted on the card provides for attachment of a customer-supplied coaxial cable, IBM Cabling System media (3274 attachment only), or telephone twisted-pair via IBM/ROLM Coax-to-Twisted-Pair Adapter at the rear of the system unit. Most, but not all, functions of the emulated displays are supported.

The Advanced 3278/79 Emulation Adapter provides host

communications support via 3278/79 emulation. When used with the IBM PC 3270 Emulation Program Entry Level or IBM equivalent, the Industrial Computer can emulate the functions of an IBM 3278 Display Station Model 2 or an IBM 3279 Color Display Station Model 2A or S2A with certain restrictions and can support file transfer with certain host systems. Both the host-controlled 3270 session and a local IBM Disk Operating System (DOS) session can be active concurrently and the user can interact with either session alternatively.

The 3270-PC File Transfer Program (5664-281 for Virtual Machine/System Product (VM/SP), 5665-311 VSE/SP 2.1.1, 2.1.2, or SSX/VSE 1.4.1, or IBM equivalent) is required for file transfer.

File transfer to the 4700 system is not supported.

The following are additional highlights of the Advanced 3278/79 Emulation Adapter:

- o Distributed function terminal mode operation allows distribution of 3270 data stream processing from the control unit to the Industrial Computer and allows implementation of advanced capabilities such as multiple concurrent 3270 sessions. It requires corresponding capability in the upstream node (available with the IBM 3274 Control Unit) and in an IBM Personal Computer 3270 Emulation program (available with 3270-PC Control Program). Additional information is available in the IBM Personal Computer 3278/79 Emulation Adapter Technical Reference for the Advanced Adapter.
- o Low power usage
- o Attachment of the IBM Industrial Computer to:
 - IBM 3274 Control Unit
 - IBM 4321 Processor Display/Printer Adapter
 - IBM 4331 Processor Display/Printer Adapter
 - IBM 4361 Processor Display/Printer Adapter
 - IBM 4701 Finance Communication Controller
- o No host hardware or host system software modifications required for 3270 emulated functions.
- o Supports attachment to the IBM 3274 via the IBM 3299 Terminal Multiplexer.

For further information, refer to Product Announcement

186-043, dated March 18, 1986.

ENHANCED DISPLAY STATION EMULATION ADAPTER (#2911)

This option provides for direct attachment of the IBM Industrial Computer to the IBM System/34, IBM System/36 and IBM System/38, using the IBM Enhanced 5250 Emulation Program Version 2.12. It can attach remotely via the IBM 5251 Model 12. The IBM Industrial Computer will emulate the 5250 workstation family displays and printers. The IBM Industrial Computer can also be attached to the System/36 or System/38 remotely via the IBM 5294 Remote Control Unit.

The Enhanced Display Station Emulation Adapter is a printed circuit card that is installed in one of the 7531 or 7532 expansion slots. Also available are the integrated attachment cable for connecting the adapter to the twinax line (line termination resistors are part of the cable assembly), an Installation and Problem Determination Procedures Manual, and a 5.25-inch diskette containing diagnostic programs.

The design of the circuit card allows the IBM Industrial Computer to establish one or two sessions with the System/34, System/36, and System/38. Host device address(es) are set under program control.

The Enhanced 5250 Emulation Installation Convenience Kit (feature number 2910) includes all parts, software and manuals required to install the Enhanced Display Station Emulation Adapter and Enhanced 5250 Emulation Program Version 2.12 in the IBM Industrial Computer.

For further information, refer to Programming Announcement 287-025, dated February 3, 1987.

IBM TOKEN-RING NETWORK PC ADAPTER (#3391)

The IBM Token-Ring Network PC Adapter is a feature card for the attachment of the IBM 7531 and 7532 Industrial Computers to the IBM Token-Ring Network.

The IBM Token-Ring Network is a high-speed communications network for interconnecting information processing equipment at a local site. The network uses the IBM Cabling System, including Type 3 specified telephone media, for physical interconnection, and a token-ring access protocol for network traffic control. The IBM Token-Ring Network is a baseband token-ring local area network that

conforms to the IEEE 802.5 and IEEE 802.2 standards and the ECMA 89 standards.

The IBM Token-Ring Network PC Adapter is a feature card which contains a microprocessor operating under control of adapter resident microcode. The adapter transmits and receives at a speed of 4 million bits per second using protocols conforming with IEEE 802.5 and ECMA 89 standards. The adapter provides logical link control functions conforming with the IEEE 802.2 standard.

For further information, refer to Product Announcement 185-123, dated October 15, 1985.

IBM TOKEN-RING NETWORK PC ADAPTER II (#5063)

The IBM Token-Ring Network PC Adapter II, when operating with the IBM Token-Ring Network Bridge program, provides bridging of IBM Token-Ring Network rings. This increases the allowable number of attaching devices that communicate on an IBM Token-Ring Network within the establishment. The bridging of multiple rings provides the appearance of one logical ring with transparency to higher level protocols.

The IBM Token-Ring Network PC Adapter II can also be used for situations which require additional RAM for increasing message segment size and/or increasing the number of link stations supported by the adapter. For example, the IBM Token-Ring Network PC Adapter II in a server may improve performance when multiple workstations require simultaneous access to the server.

For further information, refer to Product Announcement 186-066, dated April 16, 1986.

IBM TOKEN-RING NETWORK PC ADAPTER CABLE (#3390)

The IBM Token-Ring Network PC Adapter Cable is a 2.4-meter (8-foot) attachment cable used to connect the #3391 or #5063 adapter to the network cabling system.

For further information, refer to Product Announcement 186-066, dated April 16, 1986.

AT/370 OPTION KIT (#6115)

This option, along with VM/PC 1.1, allows the IBM 7531 and 7532 Industrial Computers to be a System/370 workstation. An IBM 3278/79 Emulation Adapter (#5050) may be installed with this AT/370 Option Kit in the system unit for a host 3278/79 session and data transfer.

Highlights of the AT/370 Option Kit and VM/PC 1.1 are:

- o Support of unique concurrent sessions via hot key:
 - Local System/370 CMS session
 - Host 3278/79 session via an optional 3278/79 Emulation Adapter that will provide a coaxial connection to an:
 - IBM 3274 Control Unit
 - IBM 4321/4331/4361 Processor via a Display/Printer Adapter
 - IBM 4361 Processor via a Work Station Adapter
 - IBM 4701 Finance Communication Controller via a Device Cluster Adapter (host server functions not supported)
 - Remote 3101 emulation session with IBM Personal Computer 3101 Emulation licensed program (6024042) and serial/parallel adapter installed
 - System/370 Processor Control Session
- o Ability to execute many unaltered host System/370 VM/CMS programs
- o Hardware relocate to support up to 8MB virtual addressing
- o IBM 7531 and 7532 Industrial Computers functional capabilities unchanged after this option kit is installed.

The AT/370 Option Kit consists of two (PC/370-P2 and PC/370-M2) cards that allow the IBM 7531 and 7532 Industrial Computers to execute many of the System/370 instructions.

The PC/370-P2 card consists of three microprocessors, a page table and attendant circuitry.

The first microprocessor executes most of the commonly used fixed point System/370 instructions. It performs all instruction fetches and decoding and all effective address calculations. The general purpose registers (GPR) and program status word (PSW) are kept in this microprocessor.

The second microprocessor emulates the remaining non-floating point System/370 instructions, interprets the diagnose instruction, manipulates the page table, handles exceptional conditions, and performs hardware housekeeping as required.

The third microprocessor executes System/370 floating point instructions. The floating point registers are kept in this microprocessor.

The page table consists of two static RAM devices arranged in

a 2048 x 12 array. Each virtual page is assigned to an entry in the page table. Each entry contains its real page number and status bits.

The PC/370-M2 card contains 512KB of parity checked RAM accessible from either the PC/370-P2 card or the microprocessor for the IBM 7531 and 7532 Industrial Computers. Concurrent requests for memory accesses are arbitrated.

This memory (512KB) is viewed in native mode as a 128KB storage area that begins at the end of the 512KB of required memory in the IBM 7531 and 7532 Industrial Computers.

The PC/370-P2 card views the 512KB memory as two separate areas which are not contiguously addressable. The area from zero to 480KB is addressed from zero to 480KB and is real System/370 space. The area from 480KB to 512KB is addressed from zero to 32KB and is control store for the second microprocessor on the PC/370-P2 card.

The optional features that are usable in an IBM 7531 and 7532 Industrial Computers with an AT/370 Option Kit and VM/PC 1.1 are:

- o IBM Advanced 3278/79 Emulation Adapter (#5050)
- o IBM 5532 Industrial Color Display via a Color/Graphics Monitor Adapter (#4910) or Enhanced Graphics Adapter (#1200) for local or host 3279 Model 2A or S2A emulation sessions.
- o IBM 7534 Industrial Graphics Display via a Color/Graphics Monitor Adapter (#4910) or Enhanced Graphics Adapter (#1200) for local or host 3279 Model 2A or S2A emulation sessions.
- o Memory Expansion Options (maximum three since the System/370

Processor, System/370 memory, and combination fixed disk and diskette adapter occupy three of the six sixteen-bit slots on the system board.

- o Serial/parallel adapter
- o 20MB fixed disk drive
- o High capacity diskette drive (1.2MB)
- o Double-sided diskette drive (360KB)

Other optional features such as the following are not explicitly supported by the AT/370 Option Kit with VM/PC 1.1 but are supported in stand-alone (native) mode.

- o Math Co-processor (#0211)
- o PC Network Adapter (#0213)

- o Prototype Adapter (#0220)
- o Binary Synchronous Communications Adapter (#1204)
- o Synchronous Data Link Control Communications Adapter (#1205)
- o Cluster Adapter (#1206)
- o Data Acquisition and Control Adapter (#1502)
- o General Purpose Interface Bus Adapter (#1503)
- o Enhanced Display Station Emulation Adapter (#2911)

For further information see IBM Announcement 184-140, dated October 25, 1984.

PUBLICATIONS

The following publications will be included with each system unit shipped:

- o IBM 7531 or 7532 Industrial Computer Operator's Guide (also available for purchase via feature #6251 and #6252 respectively)
- o IBM 7531 or 7532 Installation and Setup (also available for purchase via feature #6253 and #6254 respectively)

Additional publications available for purchase are:

- o Technical Reference System Unit (feature #6256): The Technical Reference System Unit is for programmers, engineers and others who want to understand the IBM 7531 and 7532 Industrial Computers in greater detail. This reference manual includes functional specifications, BIOS listings, hardware specifications, and printouts for peripheral connectors.
- o Technical Reference Options and Adapters (feature #6035): The Technical Reference Options and Adapters manual includes functional specifications for programmers, engineers and others who want to understand IBM 7531 and 7532 Industrial Computers options and adapters in greater detail.
- o Maintenance Information Manual (#6255): The Maintenance Information Manual is for service personnel and details many aspects of maintaining the machine. They include instructions for identifying the failure of a field replaceable unit (FRU), a parts catalog, and a copy of the Advanced Diagnostic Diskette.
- o BASIC Reference Manual Version 3 (feature #0075).

SCHEDULE

Orders for the newly announced model of the IBM 7531 and 7532 Industrial Computers will be accepted immediately. Planned

availability is June 1987.

TECHNICAL INFORMATION

The System Unit contains the following major functional components:

- o Advanced high-performance Intel 80286 microprocessor at 8MHz clock speed
- o 24-bit addressing
- o 16-bit data path
- o ROM-based automatic power-on self test of system components
- o BASIC language interpreter
- o 64K bytes ROM
 - Access Time -- 150 ns
 - Cycle Time -- 355 ns
- o 8086 compatible real address mode
- o Limited protected virtual address mode functions
- o 512K bytes of dynamic RAM on the system board
 - Access Time -- 150 ns
 - Cycle Time -- 275 ns
- o Combination Fixed-disk and diskette drive adapter
- o System clock/calendar/configuration w/CMOS RAM and battery backup
- o Directionally-mounted speaker
- o Diskette area cover door with protective keylock
- o Bi-directional keyboard interface
- o Enhanced Keyboard
- o Power-on indicator (green)
- o Eight expansion slots with retainer bar to secure feature cards
 - Six slots support either the advanced 16-bit or 8-bit option cards,
 - Two slots support 8-bit option cards only.
- o Seven-Channel Direct Memory Access (DMA)
- o 16-level interrupt
- o Three programmable timers
- o Cooling fan with removable filter
- o 80287 math co-processor socket
- o Dimensions of 7531:
 - Depth 600 mm (23.6 inches)
 - Width 266 mm (10.5 inches)

- Height 650 mm (25.6 inches)
- o Weight of 7531 Model 111: 38.6 Kg (85.1 lbs.)
- o Dimensions of 7532:
 - Depth 513.4 mm (20.2 inches)
 - Width 436.8 mm (17.2 inches)
 - Height 221.0 mm (8.7 inches)
- o Weight of 7532 Model 111: 23.6 Kg (52.1 lbs.)

SPECIFIED OPERATING ENVIRONMENT

- o Electrical:
 - 192 watt switchable worldwide power supply
 - AC Operating Voltages:
 - 100-125V, 50-60 Hz
 - 200-240V, 50-60 Hz
 - Power line lightning surges of +/- 2500 volts
- o Air Temperature:
 - System on: 0 (degs) to 50 (degs) C (32 (degs) to 122 (degs) F)
 - System off: 0 (degs) to 55 (degs) C (32 (degs) to 131 (degs) F)
 - Shipment (packaged): -40 (degs) to 60 (degs) C (-40 (degs) to 140 (degs) F) Note: The machine must be dry and fully acclimated to operating temperature prior to power on.
- o Operational Altitude: Up to 2,135 meters (7,000 feet)
- o Relative Humidity:
 - System on or off: 8% to 85% non-condensing
 - Shipment (packaged): 5% to 100%
- o FCC Class A
- o Particulates Contaminants Filtering:
 - Suspended particulates: 500 micrograms per cubic meter
 - Benzene soluble organics: 30 micrograms per cubic meter
 - Settleable particulates: 1500 micrograms per square centimeter for 30 days
- o Shock:
 - 0.5G at 10 millisecond duration (1/2 sine wave)
- o Vibration:
 - 5 to 10 Hz at 0.030 inches double amplitude displacement
 - 10 to 200 Hz at 0.15G peak

- 200 to 500 Hz at 0.077G peak

o BTU Output: 1229 BTU/Hr

SUPPORTED FEATURES

FEATURES: The new Model 111 supports most features and peripheral devices of the current IBM 7531 and 7532 Industrial Computers Model 041. These features and peripheral devices include:

SPECIAL FEATURE	FEATURE NUMBER
80287 Math Co-processor	0211
Serial/Parallel Adapter	0215
Serial Adapter Cable	0217
Prototype Adapter	0220
Serial Adapter Connector	0242
PC Network, Adapter	0213
Base Expander	0230
Distance Kit	
Short	0231
Medium	0232
Long	0233
Cabling Segments	
25-foot	0234
50-foot	0235
100-foot	0236
200-foot	0237
Enhanced Graphics Adapter	1200
Graphics Memory Expansion Card	1201
Graphics Memory Module	1203
BSC Adapter	1204
SDLC Adapter	1205
PC Cluster Adapter	1206
PC Cluster Cable Kit	1207
DAC Adapter	1502
Distribution Panel	1504
GPIB Adapter	1503
Communications Adapter Cable	2067

Enhanced 5250	
Emulation Installation	
Convenience Kit	2910
Display Station Emulation	
Adapter	2911
Integrated Attachment Cable	2877
Memory Expansion	
128/640KB Memory Expansion	
Option	3338
512KB/2MB Memory Expansion	
Option	3343
512KB Memory Module Kit	3339
1MB to 6MB Memory Expansion	
Adapter	3400
1MB Memory Module Kit	3402
Color/Graphics Monitor	
Adapter	4910
Advanced 3278/79 Emulation	
Adapter	5050
Combination Adapter Cable	6001
20MB Fixed Disk Drive	6250
Diskette Drive	
5.25-inch 1.2MB	6038
5.25-inch 360KB	6039
3.50-inch 720KB	6163
SPECIAL	FEATURE
FEATURE	NUMBER
Realtime Interface Co-Processor	
with 128KB in 5.25-inch media	6050
with 128KB in 3.5-inch media	6165
with 512KB in 5.25-inch media	6160
with 512KB in 3.5-inch media	6166
512KB Memory Expansion Option	6161
EIA RS-232-C/CCITT V.24 Board	6051
CCITT V.35 Board	6053
128KB Memory Expansion Option	6055
EIA RS-232-C Direct Attach	

Cable	6056
EIA RS-232-C Modem Attach	
Cable	6057
CCITT V.35 Cable	6061
EIA RS-422-A Board	6064
20-mA Current Loop Board	6066
Realtime Interface Co-Processor Multiport	
4 Ports, with 128KB in	
5.25-inch media	6240
4 Ports, with 128KB in	
3.5-inch media	6241
512KB Memory Expansion Option	6242
Multiport Four Port Addition	6245
Multiport EIA RS-232C Interface	
Cable	6246
Combination Adapter II	6020
128KB Memory Board for Combination	
Adapter II	6040
Rack Mounting Slides (7532 only)	6023
Keyboard Mounting Kit	
(7532 only)	6024
Remote Terminal Interface	6078
AT/370 Option Kit	6115
IBM Token-Ring Network	
PC Adapter	3391
IBM Token-Ring Network	
PC Adapter II	5063
IBM Token-Ring Network	
PC Adapter Cable	3390

Additional peripheral devices supported are:

- o IBM 5532 Industrial Color Display
- o IBM 7534 Industrial Graphics Display
- o IBM 5178 PC Network Translator Unit

COMPATIBILITY: The IBM 7531 and 7532 Industrial Computers Model 111 is intended to be used in situations where the Model 041 is currently utilized.

PREREQUISITES: The IBM 7531 and 7532 Industrial Computers Model 111

require a video display adapter and device for display output, and a suitable operating system such as IBM Personal Computer DOS Version 3.2 or higher, IBM Operating System/2, or IBM Personal Computer XENIX (TM) Operating System Version 2.

(TM) Trademark of Microsoft, Inc.

LIMITATIONS: The following adapters have software dependencies which are not supported by the IBM Personal Computer XENIX Operating System, and have not been validated for support by the IBM Operating System/2:

- o Realtime Interface Co-Processor (#6050, #6165, #6160, #6166)
- o Realtime Interface Co-Processor Multiport (#6240, #6241)
- o PC Network Adapter (#0213)
- o PC Cluster Adapter (#1206)
- o BSC Adapter (#1204)
- o SDLC Adapter (#1205)
- o DAC Adapter (#1502)
- o GPIB Adapter (#1503)
- o Enhanced Display Station Emulation (#2910, #2911)
- o Advanced 3278/79 Emulation Adapter (#5050)
- o AT/370 Option Kit (#6115)
- o IBM Token-Ring Network PC Adapters (#3391, #5063)
- o Combination Adapter II (#6020)
- o Remote Terminal Interface (#6078)

PLANNING INFORMATION

CUSTOMER RESPONSIBILITIES: The customer is responsible for unpacking and installing system components and options for the IBM 7531 and 7532 Industrial Computers Model 111, per the installation instructions provided.

INSTALLABILITY: The keyboard is plugged directly into the system unit. The display and printer are connected via adapters installed in the system expansion slots. Once turned on, the system unit automatically runs a power-on self test to verify system readiness. If a failure is found, an instruction will appear on the screen.

If the test is successfully completed, the system attempts to load an operating system (such as DOS) from the first diskette drive. Should an operating system not be found, the system attempts to load from the first fixed-disk. If this operation is not completed, the

BASIC interpreter is made ready, identified on the screen, and the system is available for use.

PACKAGING: The system unit and keyboard are packaged in two separate cartons. A third carton contains the Operator's Guide, Installation and Setup, and the system unit power cord.

SECURITY, AUDITABILITY, AND CONTROL

User management is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities. If sensitive data is sent over external communication facilities, user management may wish to pursue the application of cryptography.

TERMS AND CONDITIONS

VOLUME PURCHASE DISCOUNT: Volume purchasing is available under the Volume Procurement Amendment (VPA) to Agreement for Purchase of IBM Machines. The IBM 7531 and 7532 Industrial Computers models are included in Category A of the VPA Exhibit for IBM Industrial Computer (5531-5). For further information regarding volume orders contact your IBM marketing representative.

CUSTOMER FULFILLMENT OPTION: Yes.

IBM CREDIT CORPORATION FINANCING: Term leases and installment payment plans for commercial and state and local government customers are available.

ELIGIBLE MACHINE UNDER ALTERNATIVE CERTIFICATION FOR IBM MACHINES:

No.

WARRANTY PERIOD: 12 months for the IBM 7531 and 7532 Industrial Computers and all optional features, and 90 days for the following 7532 accessories:

- o Rack Mounting Slides (#6023)
- o Keyboard Mounting Kit (#6024)

NOTE: Customers should be aware that the Prototype Adapter (#0220) is warranted only in its unaltered state. When the Prototype Adapter is altered to meet the customer's need, the warranty is terminated.

CENTRAL FACILITY MAINTENANCE SERVICE: The minimum number of machines required to be at the central facility before requesting maintenance service is one machine.

PRE-INSTALLATION TEST ALLOWANCE: None

ON-SITE ALLOWANCE: None.

TYPE OF SERVICE: IBM On-Site Repair (IOR)

IBM MAINTENANCE AGREEMENT: In the industrial environment, IBM will provide on-site warranty and maintenance service for the failing machine at the customer's central facility under the terms and conditions of the Agreement for Purchase of IBM Machines (Z120-2892) or IBM Maintenance Agreement (Z125-3275) as amended by a revised Amendment for Central Facility Maintenance Service (Z125-3333-02).

NOTE: Customers should be aware of their specific responsibilities as they relate to central facility service.

In the office environment, IBM will provide on-site warranty and maintenance service for the failing machine at the machine's operational location under the terms and conditions of the Agreement for Purchase of IBM Machines (Z120-2892) or IBM Maintenance Agreement (Z125-3275).

The customer must ensure that the system unit is unlocked when presented for service.

IBM HOURLY SERVICE RATE CLASSIFICATION: IBM Hourly Service may be obtained by calling the IBM Service/Exchange Communication Center (S/ECC) at 800-428-2569. The S/ECC will give the customer instructions on how to obtain hourly service.

PRODUCT AVAILABILITY STATUS: New product available.

CUSTOMER SETUP: The IBM 7531 and 7532 Industrial Computers Model 111 and its features are Customer Setup (CSU). Detailed setup instructions are included with each machine and feature. IBM set-up is available from the IBM National Service Division at the applicable rate and terms.

EDUCATIONAL ALLOWANCE: A 20% educational allowance is available to qualifying institutions in accordance with the Educational Allowance Amendment. The educational allowance is not additive to any other discount or allowance.

MACHINE GROUP: A

IBM HOURLY SERVICE RATE CLASSIFICATION: 2

CHARGES

MACHINE/ FEATURE	MODEL/ FEATURE	PURCHASE PRICE
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7531 System Unit/ Keyboard	111		\$6,425
7532 System Unit/ Keyboard	111		6,425
20M bytes Fixed Disk Drive	6250		1,095
3.5-Inch 720K bytes Diskette Drive	6163		170
			SINGLE
	PART	FEATURE	COPY
DOCUMENTATION	NUMBER	CODE	PRICE
Technical Reference System Unit	05F6100	6256	\$ 65
Technical Reference Options and Adapters	6523262	6035	295
Maintenance Information Manual	05F6099	6255	295
7531 Operator's Guide	05F6091	6251	50
7532 Operator's Guide	05F6096	6252	50
7531 Installation and Setup	05F6089	6253	30
7532 Installation and Setup	05F6094	6254	30
Basic Reference Manual	6280075	0075	45

ANNUAL MINIMUM MAINTENANCE CHARGES

	MODEL	IBM ON-SITE REPAIR (IOR) (#9798)
7531 System Unit/Keyboard	111	\$515
7532 System Unit/Keyboard	111	515

Please contact your IBM marketing representative should you require additional information.

---NOTICE TO CUSTOMERS---NOTICE TO CUSTOMERS---

May 19, 1987

IBM 7531 AND 7532 INDUSTRIAL COMPUTERS MODEL 111

Today IBM announces a new model of the IBM 7531 and 7532 Industrial Computers. The new Model 111 provide the following enhancements:

- o Increased performance
- o Support for 3.5-inch diskette media
- o New memory expansion options and memory module kits
- o Enhanced keyboard support without requiring a keyboard installation diskette
- o Support for 3278/79 emulation and 5250 emulation
- o Lower priced configurations than with the existing Model 041
- o Standard 20MB fixed disk.

The IBM 7531 and 7532 Industrial Computers Model 041 will be withdrawn from marketing effective August 28, 1987, and replaced by the IBM 7531 and 7532 Industrial Computers Model 111. The 7531 and 7532 Model 111 is equipped with a 20MB fixed disk drive. The 7531 and 7532 Model 111 purchase price is less than a similarly configured Model 041 with feature number 6045 (20MB fixed disk drive).

The 7531 and 7532 will no longer be offered without a 20MB fixed disk drive.

On-order IBM 7531 and 7532 Industrial Computers Model 041 configurations with feature number 6045 and scheduled for shipment after June 26, 1987, will be changed to Model 111 configurations.

On-order 7531 or 7532 Model 041 without feature number 6045 will be scheduled for shipment, unless the order is altered at the request of the customer.

Orders for the IBM 7531 and 7532 Industrial Computers Model 041 received by IBM before August 28, 1987, will be acknowledged on an as-available basis. By September 25, 1987, either your order will be assigned an IBM estimated shipment date or you will be notified that IBM cannot accept your order.

IBM maintenance and other customer engineering services and feature availability are not affected by this announcement and will continue to be available for these machines.

The above procedures apply to all customers, including VPA and special bid customers.

Should you have questions regarding this notification, please

contact your IBM marketing representative.
