

IBM System/3

SOFTWARE PRICES

Application Customizer Service—Card Systems

Order Writing and Invoicing
Inventory Accounting
Accounts Receivable
Sales Analysis
Payroll
General Ledger
Accounts Payable
Labor Distribution

Single-Use Charge

405
374
374
352
473
323
427
427

Application Customizer Service—Disk Systems

Order Writing and Invoicing
Inventory Accounting and Management
Accounts Receivable
Sales Analysis
Additional for Customized Source Code, each application

Single-Use Charge

815
785
757
727
116

SYSTEM/3 MODEL 12

Program Products—Systems

Basic Assembler
Card Utilities
COBOL
DATA/3
Disk Sort
FORTRAN IV
RPG II
Tape Sort
1255 Utility

Monthly License Fee

\$81
16
81
130
43
108
81
75
66

Program Products—Applications

Programs that run on a System/3 Model 6, 8, or 10 can be compiled to run on the Model 12 without changing any source code. A simulation of the 5444 disk area is made on the 3340 DASD.

SYSTEM/3 MODEL 15

Program Products—Systems

ANS COBOL Subset Compiler
Basic Assembler
Card Utilities
Disk Sort
FORTRAN IV
Magnetic Tape Sort
RPG II

Monthly License Fee

85
85
16
45
113
78
85

Program Products—Applications

DATA/3

Monthly License Fee

136

Note: Model 15 systems can also run System/3 Model 10 applications programs.

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► **DISK SORT:** Sorts disk files into either ascending or descending sequence on any System/3 disk system. Accepts files organized in sequential, indexed, or direct fashion. Can perform a full-record sort, a tag sort (yielding a file of 3-byte record addresses arranged in the desired sequence), or a "tagalong" sort (yielding a sequenced file of records containing only the key fields and data fields specified by the user).

The function and syntax of specifications sheets for the System/3 Model 6 Disk Sort program are identical to those used with the System/3 Model 8 or Model 10 Disk Sort. Output data files created by the Model 6 Disk Sort can be processed by the Model 8 or Model 10 Disk Sort, and conversely.

The Disk Sort functions under control of the SCP software. On the Model 6, it requires the minimum 8K-byte processing unit, one 5444 Disk Storage Drive, and one printer. Minimum configuration for a Model 8 includes a 16K processor, one 5444 Disk Storage Drive, a 5203 Printer, and a 3741 Data Station. Minimum configuration for a Model 10 is a 12K processing unit, one 5444 Disk Storage Drive, a 5203 or 1403 Printer, and a 5424 MFCU or 1442 Card Read Punch. The Disk Sort 5445 Disk Storage Drive Feature provides all functions available with the Disk Sort for System/3 Model 10 users of the 5445 Disk Storage Drive.

The Model 12 Disk Sort requires a minimum configuration consisting of a 32K-byte processing unit; a 5424 MFCU, 1442 Card Read Punch, or directly attached 3741 Data Station/Programmable Work Station; a 5203 or 1403 Printer; and a 3340 DASF. In addition to the functions provided in the Model 10 Disk Sort, the Model 12 version supports up to eight input files from disk and/or tape.

The Model 15 Disk Sort program is functionally identical to the Model 10 Disk Sort with the 5445 Disk Storage Drive feature, plus several enhancements. Up to four disk drives are supported for use as input, output, or work files. Minimum configuration for a Model 15 is a 48K processor, a 3277 Display Station with operator console keyboard, a 5444 Disk Storage Drive, a 1403 Printer, and a card reader. The Model 15 Disk Sort allows input from up to eight files and the files can be any combination of disk, tape, cards, and/or diskette. The sorting techniques have also been changed to yield improved performance even if the available high-performance disk drives are not used.

DISK-RESIDENT MAGNETIC TAPE SORT: Sorts fixed-length records on magnetic tape files, in either blocked or unblocked format and EBCDIC or ASCII data code. The Model 10, Model 12, and Model 15 versions are functionally identical. Requires a 12K Model 10 processor, 32K Model 12 processor, or 48K Model 15 processor with at least one 5444 Disk Storage Drive (3340 DASF on Model 12) and three magnetic tape units.

CARD SYSTEM UTILITIES: A set of utility programs is provided for both Model 10 and Model 15 card-oriented systems.

- **Model 10:** A set of six programs designed for operation on an 8K card-oriented System/3. The Reproduce/Interpret Program handles the reproduction and/or interpretation of 96-column cards, with or without reformatting. The 96-Column List Program lists cards on the printer without reformatting. The MFCU Sort/Collate Program performs a variety of sorting, merging, matching, selecting, and sequence-checking functions. The Data Recording and Data Verification Programs enable a System/3 equipped with a 5475 Data Entry Keyboard to be used for on-line punching and

verification of 96-column cards. The 80-96 Conversion Program allows a System/3 equipped with a 1442 Card Read Punch to read 80-column cards and punch the information into 96-column cards, with reformatting.

- **Model 15:** A set of four disk-resident programs designed to handle a variety of punched card utility functions. The Sort/Collate Program supports either the 5424 MFCU or the 2560 MFCM and performs numerous sorting, merging, matching, selecting, and sequence-checking functions. The Card List Program lists 80-column or 96-column cards on the printer without reformatting. The Reproduce/Interpret Program handles the reproduction and/or interpretation of 80-column or 96-column cards, with or without reformatting. The Gang-punch Program (new for the Model 15) handles interspersed master card gang-punching, count-controlled gang-punching, and punching based on matching control fields in master and detail cards. Three of the Model 10 Card Utilities programs are not included in the Model 15 Card Utilities: Data Recording, Data Verification, and 80-96 Conversion.

1255 MAGNETIC CHARACTER READER UTILITY: Controls the reading and sorting of MICR-encoded documents, accumulates appropriate totals, and places selected data from the documents on disk and/or printer files. It requires a 12K-byte System/3 Processing Unit and functions under control of the SCP software. The subroutines are used with a user-written RPG II or Assembler program. All models except the Model 15 support the 1255 Utility. Device control and data management services are provided as part of the SCP for the Model 15.

DATA/3: This System/3 Program Product, introduced along with the Model 15 and also available for the Model 8, 10, or 12, generates terminal control programs for the following types of applications: inquiry, inquiry with update, data entry, and data entry with master file input. The programmer fills out two RPG-like forms: a data description form and a program definition form. DATA/3 uses this information to generate RPG II source programs, which are subsequently compiled and executed. Programs generated by DATA/3 support the 3270 Information Display System, the 5444 and 5445 Disk Storage Drives, and the 3340 DASF. DATA/3 can be used on a System/3 Model 8, Model 10, Model 12, or Model 15, in connection with either the Multiline/Multipoint software or the Communications Control Program.

APPLICATION CUSTOMIZER SERVICE: As an alternative to the usual "packaged" application programs, IBM offers a novel service called the Application Customizer, which is designed to assist users in preparing programs to handle the most common data processing applications.

The user defines his requirements by completing application-oriented questionnaires and report specification sheets. These are keypunched and fed into a computer at an IBM Basic Systems Center. The resulting output consists of detailed application documentation, from which the user's own programmer writes the necessary System/3 programs (usually in the RPG II language).

Documentation produced by the Application Customizer includes a data dictionary, a listing of the contents and format of each record, an application flowchart, an RPG-oriented description of each program, and a sample of each report.

Customized Source Code is now available as an optional additional output from the Application Customizer Service. The user who elects this option receives raw, machine-

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► generated RPG II source code on a 5440 Disk Cartridge; he must then add various constants and indicators, compile the programs, and test and debug them in the usual fashion.

For the System/3 Model 6, the Application Customizer Service currently covers four applications, available with or without Customized Source Code:

- Order Writing and Invoicing
- Inventory Accounting and Management
- Accounts Receivable
- Sales Analysis

The same packages are available tailored for two specific classes of users: lumber and building supplies dealers, and electrical distributors.

For card-oriented System/3 Model 10 computers, the Application Customizer Service currently covers eight applications:

- Order Writing and Invoicing
- Inventory Accounting
- Accounts Receivable
- Sales Analysis
- Payroll
- General Ledger
- Accounts Payable
- Labor Distribution

For disk-oriented System/3 Model 10 computers, the Application Customer Service currently includes the following, with or without Customized Source Code:

- Order Writing and Invoicing
- Inventory Accounting and Management
- Accounts Receivable
- Sales Analysis

APPLICATION PROGRAMMING SERVICE: This IBM service, introduced in September 1971, enables System/3 Model 6 and Model 10 users to have their basic business application programs designed, generated, tested, and documented by IBM Systems Engineers at fixed prices. The service currently covers four applications: Order Writing and Invoicing, Accounts Receivable, Inventory Accounting and Management, and Sales Analysis.

The Application Programming Service consists of four main steps. First, the user and an IBM representative fill out questionnaires defining the application and the formats of the required reports. Second, IBM processes the information at its Application Customizing Center to generate the required programs. Third, IBM tests the programs to make sure they produce the agreed-upon results, using test data and machine time provided by the user. Fourth, IBM turns over the tested application programs and associated documentation to the user.

APPLICATION PROGRAMS: In addition to the two services described above, IBM offers a limited number of packaged programs for specific applications. The current Application Program Products, which receive centralized IBM support, are listed in the price list at the end of this report. Also available are a variety of Field Developed Programs (FDP's) and Installed User Program (IUP's). Support for the FDP's and IUP's is limited to pertinent error-correction information during the first six months after initial availability of each program.

Other sources of programs, technical information, and education are the System/3 user groups. Two IBM-affiliated user groups, COMMON and Guidance International, are open to System/3 users. Moreover, at least two independent

organizations, Group 3 and the National Association of IBM System/3 Users, have been formed specifically to aid System/3 users.

PRICING

POLICY: IBM offers the System/3 on a purchase or rental basis. The standard IBM rental contract includes equipment maintenance and entitles the customer to up to 176 hours of billable time per month. Time used in excess of that amount is billed, for most System/3 components, at an extra-use rate of 10% of the basic hourly rate. (i.e.; 10% of 1/176 of the monthly rental for each hour of extra use).

In addition, in July 1975 IBM made the Term Availability Plan (TAP), originally introduced with the System/32, available for the System/3 Model 8, 12, and 15 Processing Units and features. Under the TAP, which has an initial duration of 36 months, the customer is given a discount of about 5% on monthly rental costs. Lease and purchase price protection is ensured for the first 12 months. Accruals toward purchase of up to 50% of the purchase price are permitted during the first 36 months. Specified maximum second and third year lease and purchase prices are guaranteed that correspond to an increase of about 5% each year. The TAP can be extended for one year at a time indefinitely, and one extension of less than one year is permitted. Component or feature discontinuance or downgrades incur termination charges.

SOFTWARE: System/3 users receive the basic System Control Programs at no additional cost. All other IBM software, including compilers and utility routines, is priced separately. Prices of the current IBM Program Products are listed at the end of this report.

SUPPORT: IBM Systems Engineering assistance is available to System/3 users at a basic charge of \$37.75 per hour.

EDUCATION: Two-day introductory courses are offered at no charge. Various other System/3 courses are available at separate charges.

EQUIPMENT: The following typical purchase and rental prices include controllers and adapters.

System/3 Model 6

MINIMUM SYSTEM: Consists of 8K 5406 Processing Unit, 5213 Model 1 Printer, and 5444 Model 1 Disk Storage Drive (2.45 million bytes). Monthly rental, \$1,313. Purchase price, \$40,780. Adding RPG II, Conversational Utilities, and Disk Sort would raise the monthly rental by \$65 for the commercial user. Adding BASIC for mathematical processing raises the monthly rental by \$127. Using the 5213 Model 2 Printer with vertical forms control increases the monthly rental by \$45 and the purchase price by \$1,405.

System/3 Model 8

MINIMUM SYSTEM: Consists of 16K 5408 Processing Unit, 5444 Model A1 Disk Storage Drive, 5203-1 Printer, and 5471 Printer-Keyboard. Monthly rental, \$1,578. Purchase price, \$53,590.

MINIMUM DATA STATION SYSTEM: Consists of 16K 5408 Processing Unit, 5444 Model A1 Disk Storage Drive, 5203-2 Printer, and a directly attached 3741 Data Station. Monthly rental, \$1,928. Purchase price, \$63,415.

System/3 Model 10

MINIMUM CARD SYSTEM: Consists of 8K 5410 Processing Unit, 5424 Model A1 MFCU, and 5203 Model 1

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► Printer (with 96 print positions). Monthly rental, \$1,171. Purchase price, \$34,635.

For the above configuration with the faster 5424 Model A2 MFCU and 5203 Model 2 Printer: Monthly rental, \$1,518. Purchase price, \$42,515.

TYPICAL DISK SYSTEM: Consists of 12K 5410 Processing Unit, 5424 Model A2 MFCU, 5203 Model 2 Printer (with 120 print positions), 5471 Printer-Keyboard, and one 5444 Model 2 Disk Storage Drive (4.90 million bytes). Monthly rental, \$2,449. Purchase price, \$68,730.

For the above configuration with a 32K Processing Unit: Monthly rental, \$3,170. Purchase price, \$83,270.

EXPANDED DISK SYSTEM: Consists of 49K 5410 Processing Unit, 5424 Model A2 MFCU, 1403 Model N1 Printer, 5471 Printer-Keyboard, two 5444 Model A2 Disk Storage Drives (9.8 million bytes), and two 5445 Disk Storage Drives (41 million bytes). Monthly rental, \$6,332. Purchase price, \$182,004.

System/3 Model 12

MINIMUM SYSTEM: Consists of 32K 5412 Processing Unit, 5424 Model A2 MFCU, 5203 Model 1 Printer, and

3340 Model C2 DASD. Monthly rental, \$3,190. Purchase price, \$102,856.

EXPANDED SYSTEM: Consists of 65K 5412 Processing Unit, 1403 Model 2 Printer, a directly attached 3741 Model 1 Data Station, and 3340 Model C2 DASD. Monthly rental, \$4,219. Purchase price, \$130,865.

System/3 Model 15

MINIMUM SYSTEM: The basic configuration required to utilize the Model 15 processing support consists of a 5415 Model A17 Processing Unit (49K bytes), 3277 Model 1 Display Station, 1403 Model 5 Printer, 5424 Model A1 MFCU, and one 5444 Model A2 Disk Storage Drive, plus all necessary attachments and control units. Monthly rental \$3,763. Purchase price, \$121,171.

EXPANDED SYSTEM: A typical large Model 15 disk system consists of a 5415 Model A20 Processing Unit (131K bytes), 3277 Model 1 Display Station, 1403 Model N1 Printer, 2560 Model A1 MFCM, 2501 Model A2 Card Reader, one 5444 Model A2 Disk Storage Drive, and four 5445 Disk Storage Drives, plus all necessary attachments and control units. Monthly rental \$7,942. Purchase price, \$252,845. ■

EQUIPMENT PRICES

PROCESSORS AND MAIN STORAGE		Purchase Price	Monthly Maint.	Rental (1-year lease)*
5404	Processing Unit (for Model 4 systems): Model A18; 65,536 bytes	\$ 19,150	145.00	628
5406	Processing Unit (for Model 6 systems): Model B2; 8,192 bytes Model B3; 12,288 bytes Model B4; 16,384 bytes	22,430 26,940 27,480	137.00 143.00 143.00	706 846 982
1550	Command Keys (9-16)	765	0.50	22
5408	Processing Unit (for Model 8 systems): Model A14; 16,384 bytes Model A16; 32,768 bytes Model A17; 49,152 bytes Model A18; 65,536 bytes	27,130 29,830 32,530 35,230	115.00 120.00 150.00 155.00	707 816 924 1,034
5410	Processing Unit (for Model 10 non-disk systems): Model A2; 8,192 bytes Model A3; 12,288 bytes Model A4; 16,384 bytes Model A5; 24,576 bytes Model A6; 32,768 bytes Model A7; 49,152 bytes	12,560 16,620 17,150 30,610 31,150 45,150	48.00 52.50 52.50 70.50 70.50 98.00	393 518 664 958 1,242 1,618
5410	Processing Unit (for Model 10 disk systems): Model A12; 8,192 bytes Model A13; 12,288 bytes Model A14; 16,384 bytes Model A15; 24,576 bytes Model A16; 32,768 bytes Model A17; 49,152 bytes	17,610 21,660 22,280 35,660 36,200 50,190	105.00 110.00 110.00 128.00 128.00 156.00	552 617 821 1,115 1,398 1,770
5412	Processing Unit (for Model 12 systems): Model B16; 32,768 bytes Model B17; 49,152 bytes Model B18; 65,536 bytes Model C19; 81,920 bytes Model C20; 98,304 bytes	50,465 53,165 55,865 64,215 66,950	247.00 253.00 258.00 — —	1,392 1,496 1,601 1,862 1,967
5415	Processing Unit (for Model 15 systems without 3340): Model A17; 49,152 bytes Model A18; 65,536 bytes Model A19; 98,304 bytes Model A20; 131,072 bytes	65,510 68,210 76,730 82,130	227.00 232.00 238.00 248.00	1,771 1,892 2,184 2,420
5415	Processing Unit (for Model 15 systems with 3340): Model B17; 49,152 bytes Model B18; 65,536 bytes Model B19; 98,304 bytes Model B20; 131,072 bytes Model C21; 163,840 bytes Model C22; 196,608 bytes Model C23; 229,376 bytes Model C24; 262,144 bytes	95,670 98,370 106,890 112,290 120,300 125,700 131,100 136,500	235.00 240.00 245.00 255.00 260.00 265.00 270.00 280.00	2,514 2,618 2,893 3,113 3,383 3,603 3,817 4,037

* Rental prices include equipment maintenance.

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EQUIPMENT PRICES

PROCESSORS AND MAIN STORAGE (Continued)		Purchase Price	Monthly Maint.	Rental (1-year lease) *
	Model D19; 98,304 bytes	114,330	265.00	3,103
	Model D20; 131,072 bytes	119,730	275.00	3,323
	Model D21; 163,840 bytes	127,740	280.00	3,593
	Model D22; 196,608 bytes	133,140	285.00	3,813
	Model D23; 229,376 bytes	138,540	290.00	4,027
	Model D24; 262,144 bytes	143,940	300.00	4,247
3500	Dual Program Feature (for 5408, 5410, or 5412)	4,465	1.00	137
5501	Power Supply Expansion (provides additional 6-volt power for 5410, 5412, or 5415; required for certain RPO's such as multi-line communications adapter)	1,755	1.00	58
5502	Power Supply Expansion (provides required additional 24-volt power for 5412 if 5424 MFCU not included)	831	1.00	21
5732	Processing Unit Expansion: For 3406 (required for any combination of #7081 SIOC, #2074 BSCA, #4765 LCA, or # 8220 3741 attachment) For 3408 (required for #7081 SIOC or #2074 BSCA) For 3410 (required for RPO1442, 5445, 3411, or #8220 3741 attachment) For 3412 (required for 3411, # 8220 3741 attachment and card reader, or #7801 SIOC)	1,425	3.00	43
5733	Processing Unit Expansion (for 5410, 5412, and 5415; requires 5732 except on 5415)	626	0.50	22
5734	Processing Unit Expansion (for 5410, 5412, and 5415; requires 5733)	1,720	1.00	64
5735	Processing Unit Expansion (for 5410, 5412, and 5415; requires 5734) Note: Typically, communications features, alone and in combination with other peripherals, will require various stages of expansion; the above units provide additional CPU power and connections.	626	1.00	22
CONSOLE				
3277	Display Station, Model 1 (required in Model 15 systems)	2,940	9.00	84
4632	78-key Operator Console Keyboard (required on 3277)	1,205	14.00	38
3277	CRT display (for 5404): Model 1; 480-character display Model 2; 1920-character display Keyboard for either model	2,940 3,810 520	9.00 19.50 3.50	84 123 16
MASS STORAGE				
3340	Direct Access Storage Facility: Model A-2 (2-drives plus control) Model B-1 (additional drive) Model B-2 (2 additional drives) Model C-2 (2 drives plus control)	36,000 19,800 25,200 27,580	92.00 49.00 79.00 82.50	1,100 615 776 850
3348	Data Module (for 3340 drives): Model 70; 41.04 million bytes plus 9.83 million bytes exclusively for program support	2,200	Time & Mat'l	82
5444	Disk Storage Drive: Model A1; 2.46 million bytes Model A2; 4.92 million bytes Model A3; 2.46 million bytes Model 1; 2.46 million bytes Model 2; 4.92 million bytes Model 3; 2.46 million bytes	6,595 7,810 6,595 6,335 7,515 6,335	71.50 71.50 71.50 51.50 51.50 51.50	228 342 228 187 308 187
5540	Disk Cartridge (for 5444 drives)	175	Time & Mat'l.	Purch. only
5422	Disk Enclosure (required for attachment of 5444 Disk Storage Drives when 5424 MFCU is not used)	4,240	13.00	119
6378	Second Disk Attachment (required on 5406 for a 5444 Mod. 3 or a second 5444 Mod. 2)	1,965	5.00	51
6378	Second Disk Attachment (required on 5408 for 5444 Mod. A3 or a second 5444 Mod. A2)	2,730	6.00	75
6378	Second Disk Attachment (required on 5410 for a 5444 Mod. 3 or A3 or a second 5444 Mod. 2 or A2)	1,965	5.00	53
4501	Higher-Performance Second Disk Attachment (required on 5410 for a 5444 Mod. A1 or A2)	765	1.00	22
4502	Higher-Performance Second Disk Attachment (required on 5410 for a 5444 Mod. A3 or a 2nd 5444 Mod. A2; 6378 is a prerequisite)	765	1.00	22
6378	Second Disk Attachment (required on 5415 for a 5444 Mod. A3 or a 2nd 5444 Mod. A2)	2,730	6.00	75
5445	Disk Storage Drive: Model 1; first 5445 on 5415; 20.48 million bytes Model 2; second 5445 on 5410 or 5415; 20.48 million bytes Model 3; dual-pack 5445, 40.76 million bytes	11,570 11,070 22,700	106.00 100.00 208.00	401 382 783
3901	First 5445 Disk Attachment (for 5410; required for Model 1 and 3)	15,620	41.00	587
3902	Second 5445 Disk Attachment (for 5410; required for Model 2 and 3)	469	1.00	16
3901	First 5445 Attachment (required on 5415 for first pair of 5445 drives)	15,620	35.50	587
3903	Second 5445 Attachment (required on 5415 for second pair of 5445 drives)	3,000	1.00	88
5447 A1	5-megabyte disk drive (for 5404)	10,720	81.00	405
5447 A2	10-megabyte disk drive (for 5404)	14,190	125.00	560
5448	9.8-megabyte disk drive (for 5408 and 5410)	7,845	—	310
—	5448 Attachment (for 5408)	3,600	—	120
—	5448 Attachment (for 5410)	4,040	—	120

* Rental prices include equipment maintenance.

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EQUIPMENT PRICES

		<u>Purchase Price</u>	<u>Monthly Maint.</u>	<u>Rental (1-year lease)*</u>
MAGNETIC TAPE EQUIPMENT				
3410	Magnetic Tape Unit:			
	Model 1; 20 KB	7,065	61.50	206 (1)
	Model 2; 40/20 KB	9,450	68.00	274 (1)
	Model 3; 80/40 KB	11,700	75.00	342 (1)
3411	Magnetic Tape Unit and Control:			
	Model 1; 20 KB	15,570	95.00	454 (1)
	Model 2; 40/20 KB	19,710	102.00	578 (1)
	Model 3; 80/40 KB	24,030	109.00	701 (1)
3211	Single Density Feature (for 3410 & 3411, Models 2 & 3 only)	2,295	9.50	60 (1)
3221	Dual Density Feature (for 3410 & 3411, Models 2 & 3 only)	3,305	36.50	88 (1)
7003	System/3 Attachment (required on 3411)	2,890	3.50	83 (1)
7951	3411 Magnetic Tape Attachment (required on 5408, 5410, or 5415)	4,155	10.50	179
7960	3411 Magnetic Tape Attachment (required on 5412; requires #4701)	3,805	7.50	137
4701	Basic Attachment Feature	1,530	3.00	54
3741	Data Station:			
	Model 1	4,680	42.00	182
	Model 2	5,655	54.00	223
3741	Programmable Work Station:			
	Model 3	6,705	63.50	290
	Model 4	7,680	70.00	331
8220	Attachment (on 5406, 5408, 5410, 5412, or 5415)	6,280	19.50	222
-	I/O Adapter (on 3741)	2,750	8.00	73
PUNCHED CARD EQUIPMENT				
5424	Multi-Function Card Unit:			
	Model A1; reads 250 cpm, punches and prints 60 cpm	7,810	153.00	342
	Model A2; reads 500 cpm, punches and prints 120 cpm	10,340	220.00	514
4100	MFCU Attachment (required on 5410 for 5424 Mod. A1)	3,470	17.00	97
4100	MFCU Attachment (required on 5412 for 5424 Mod. A1)	3,470	17.00	97
4100	MFCU Attachment (required on 5415 for 5424 Mod. A1)	3,470	17.00	97
4101	MFCU Attachment (required on 5410 for 5424 Mod. A2; requires #4100)	4,405	17.00	116
4101	MFCU Attachment (required on 5412 for 5424 Mod. A2; requires #4100)	703	2.00	18
4101	MFCU Attachment (required on 5415 for 5424 Mod. A2; requires #4100)	703	2.00	17
1442	Card Read Punch:			
	Model 6; reads 300 cpm, punches 80 cols/sec.	11,110	75.00	311
	Model 7; reads 400 cpm, punches 160 cols/sec.	11,970	89.00	453
3950	5410/5415 Coupling (required on 1442)	1,160	1.00	34
4130	1442 Attachment (required on 5410 or 5412)	6,790	18.50	222
4130	1442 Attachment (required on 5415)	6,790	18.50	222
2501	Card Reader (for Model 15 only):			
	Model A1; 600 cpm	12,330	47.00	228
	Model A2; 1,000 cpm	12,550	66.50	300
3630	1501 Coupling (required on 2501)	168	NC	5
8090	2501 Attachment (required on 5415)	6,965	8.00	176
2560	Multi-Function Card Machine (for Model 15 only):			
	Model A1; reads 500 cpm, punches 160 col/sec.	21,230	132.00	725
	Model A2; reads 310 cpm, punches 120 col/sec.	15,590	132.00	564
8100	2560 MFCM Attachment (required on 5415)	6,545	17.00	176
1580	Card Print Control (for 5415)	1,295	3.00	29
Card Print Feature for 2560 Model A1:				
1575	First Two Lines (requires 1580 on 5415)	4,625	18.00	157
1576	Second Two Lines	4,625	18.00	157
1577	Third Two Lines	4,625	18.00	157
5486	Card Sorter:			
	Model 1; 1000 cpm	3,665	42.00	106
	Model 2; 1500 cpm	4,190	63.50	144
5496	Data Recorder (96-column)	5,935	59.50	185
3210	Data Recorder Attachment (required on 5406)	1,525	2.00	46
7501	System/3 Attachment (required on 5496)	1,720	11.50	51
129	Card Data Recorder (80-column):			
	Model 1; Punch-Verifier (non-print)	4,865	48.00	147
	Model 2; Printing Punch (non-verifier)	5,450	52.50	163
	Model 3; Printing Punch Verifier	5,840	54.00	176
7503	Card I/O Attachment (required on 129)	2,080	13.00	88
3610	Expansion Feature (required on 129)	518	NC	10
3210	Data Recorder Attachment (required on 5406)	1,525	2.00	46
2265	Display Station	4,700	40.00	183
7960	Display Station Attachment (required on 5406)	2,865	1.50	89
5471	Printer-Keyboard	3,885	40.00	127
4110	Printer-Keyboard Attachment (required on 5408, 5410, or 5412)	2,315	5.50	63
5475	Data Entry Keyboard	1,855	7.50	48
4120	Data Entry Keyboard Attachment (required on 5410 in place of #4110)	2,075	1.00	53

*Rental prices include equipment maintenance

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EQUIPMENT PRICES

PRINTERS		Purchase Price	Monthly Maint.	Rental (1-year lease) *
3284	Matrix printer; 40 cps (for 5404): Model 1; 480-character buffer	5,065	37.50	168
	Model 2; 1920-character buffer	5,685	37.50	179
3286	Matrix printer; 66 cps (for 5404): Model 1; 480-character buffer	6,775	37.50	201
	Model 2; 1920-character buffer	7,505	37.50	213
3288	Line Printer; 120 lpm (for 5404)	12,500	87.00	427
5213	Printer (for Model 6 only): Model 1; pin-feed platen	4,840	60.00	179
	Model 2; vertical forms control	6,245	82.00	224
	Model 3; vertical forms control, bidirectional printing	6,400	94.00	280
3901	Printer Attachment (required on 5406 for 5213 Mod. 1)	2,675	20.50	81
3902	Printer Attachment (required on 5406 for 5213 Mod. 2)	2,675	20.50	81
3903	Printer Attachment (required on 5406 for 5213 Mod. 3)	2,675	20.50	81
3960	Enhanced Print Rate Attachment (required on 5406 for printing at 115 cps with 5312 Mod. 3; replaces 3903 Attachment)	3,745	23.00	143
2222	Printer (with ledger card device; for Model 6 only): Model 1; unidirectional printing	12,860	125.00	392
	Model 2; bidirectional printing	13,020	137.00	432
7951	Printer Attachment (required on 5406 for 2222 Mod. 1)	2,675	20.50	81
7952	Printer Attachment (required on 5406 for 2222 Mod. 2)	2,675	20.50	81
5203	Printer (for Model 8, Model 10, and Model 12 only): Model 1; 100 lpm, 96 positions	8,240	80.00	272
	Model 2; 200 lpm, 96 positions	9,185	90.00	331
	Model 3; 300 lpm, 96 positions	12,800	151.00	488
3475	Dual-Feed Carriage (for 5203)	2,865	23.00	88
4730	Additional Chain Cartridge (for 5203 Mod. 1 & 2)	2,865	1.00	88
4740	Additional Chain Cartridge (for 5203 Mod. 3)	2,145	39.00	123
5558	24 Additional Print Positions (for 5203)	1,180	2.00	59
5560	36 Additional Print Positions (for 5203)	1,750	2.00	88
8639	Universal Character Set Attachment (for 5203)	236	1.00	10
3960	5203 Printer Base Attachment (required on 5408 or 5412 for any model 5203)	1,788	7.50	47
3970	5203 Model 1 or 2 Printer Attachment (required on 5408 or 5412; requires #3960)	767	3.00	19
3970	5203 Model 1 Printer Attachment (required on 5410)	2,555	12.00	67
3971	5203 Model 2 Printer Attachment (required on 5410)	2,555	12.00	67
3972	5203 Model 3 Printer Attachment (required on 5408 or 5412; requires #3960)	1,942	7.00	65
3972	5203 Model 3 Printer Attachment (required on 5410)	3,730	16.00	112
3480	Dual Feed Carriage Control (required on 5408, 5410, or 5412 for #3475 on 5203)	1,010	1.00	30
8642	Universal Character Set Control (required on 5408, 5410, or 5412 for #6639 on 5203)	373	1.00	16
1403	Printer (requires 5421); Model 2; 600 lpm, 132 positions	22,000	234.00	841**
	Model 5; 465 lpm, 132 positions	21,070	169.00	650**
	Model N1; 1100 lpm, 132 positions	38,140	270.00	983**
1416	Interchangeable Train Cartridge (for 1403 Mod. N1)	2,665	Time & Mat'l.	101
1376	Auxiliary Ribbon Feeding (for 1403 Mod. 2 or 5)	2,000	21.00	80**
4740	Interchangeable Chain Cartridge Adapter (for 1403 Mod. 2 or 5)	2,030	NC	80**
8640	Universal Character Set Feature (for 1403 Mod. N1)	426	2.00	10**
8641	Universal Character Set Feature (for 1403 Mod. 2)	299	2.00	10**
5421	Printer Control Unit (required for 1403 Mod. 2, 5, or N1)	7,685	32.50	311
4135	1403 Model 5 Printer Attachment (for 5412 or 5415; requires #4160)	221	1.50	7
4140	1403 Model 2 Printer Attachment (for 5410)	4,025	26.00	140
4140	1403 Model 2 Printer Attachment (for 5412 or 5415; requires #4160)	575	1.50	18
4150	1403 Model N1 Printer Attachment (for 5410)	4,410	26.00	204
4150	1403 Model N1 Printer Attachment (for 5412 or 5415; requires #4160)	960	1.50	82
4160	1403 Printer Base Attachment (for 5412 or 5415)	3,450	24.00	121
MICR/OCR EQUIPMENT				
1255	Magnetic Character Reader (requires #7081): Model 1; 500 dpm, 6 stackers	35,460	251.00	904
	Model 2; 750 dpm, 6 stackers	40,590	400.00	1,100
	Model 3; 750 dpm, 12 stackers	55,260	527.00	1,450
3215	Dash Symbol Transmission (for 1255)	35	NC	56 (1)
4380	51-column Card Sorting (for 1255)	734	NC	16
4520	High-Order Zero & Blank Selection (for 1255 Mod. 3 only)	1,315	5.00	33
6303	System/3 Adapter (required on 1255)	5,335	4.00	135
7060	Self-Checking Numbers for 1255)	2,135	2.50	54
3881	Optical Mark Reader (requires #7081): Model 1; for on-line use	51,390	138.00	1,504 (2)
	Model 2; for off-line use	46,800	109.00	1,369 (2)
1471	BCD Read (for 3881)	2,150	1.50	61 (2)
3450	Document Counters (for 3881)	948	2.00	23 (2)
3550	Dual Density (for 3881 Model 2 only)	5,410	0.50	156 (2)
3801	Expanded Storage (for 3881)	2,150	0.50	61 (2)
6451	Serial Numbering (for 3881)	6,325	25.00	183 (2)
7081	Serial I/O Channel (required on 5406 for 1255)	6,080	5.00	179
7081	Serial I/O Channel (required on 5408, 5410, or 5412 for 1255 or 3881)	6,080	5.00	185
7081	Serial I/O Channel (required on 5415 for 1255 or 3881)	6,080	6.50	185

* Rental prices include equipment maintenance.

**A discount of 8% or 16% from these rental prices is available under a 12-month or 24-month Fixed-Term Lease, respectively.

IBM System/3

EQUIPMENT PRICES

COMMUNICATIONS EQUIPMENT		Purchase Price	Monthly Maint.	Rental (1-year lease)*
2074	Binary Synchronous Communications Adapter	9,570	71.50	314
1315	Auto Call Feature	1,620	1.00	46
3601	EIA Local Attachment	781	1.00	28
4703	Internal Clock Feature	1,020	1.00	29
4781	1200 bps Integrated Modem (requires #4703 and #5201)	483	3.50	16
5201	Modem Base (for mounting #4781)	937	2.50	33
7477	Station Selection Feature	805	1.00	22
7850	Text Transparency Feature	805	1.00	22
2084	Binary Synchronous Communications Adapter, Second (#2074 is a prerequisite)	9,570	71.50	314
1325	Auto Call Feature	1,620	1.00	46
3602	EIA Local Attachment	781	1.00	28
4723	Internal Clock	1,020	1.00	29
4782	1200 bps Integrated Modem (requires #4723 and #5202)	644	5.50	21
5202	Modem Base (for mounting #4782)	937	2.50	33
7487	Station Selection Feature	805	1.00	22
7851	Text Transparency Feature	805	1.00	22
4645	Integrated Communications Adapter (for 5408 or 5412)	6,130	18.00	152
4801	8000 bps Local Interface (for local attachment of an IBM binary synchronous 3275 Display; modems not required)	1,055	1.00	26
4802	2400 bps Local Interface (for local attachment of an IBM binary synchronous terminal; modems not required)	1,055	1.00	26
6202	Synchronous Line, Medium Speed (up to 7200 bps)	3,190	3.00	77
7851	Text Transparency (for EBCDIC)	805	1.00	22
4702	Local Display Adapter (for 5408, 5412, or 5415; for local attachment of up to three 3277-1 displays and/or 3284/3286-1 printers)	6,240	24.50	171
4701	Basic Attachment Feature	1,530	3.00	56
4704	Display Increment (for three additional displays and/or printers)	1,455	1.00	39
4705	Model 2 Attachment (for Model 2 displays or printers)	831	3.50	22
4765	Local Communications Adapter (for 5406, 5410, or 5415; for local attachment of a 3741 Model 2, a 3271 Control Unit, or a 3275 Display)	5,075	30.00	176

*Rental prices include equipment maintenance.

SOFTWARE PRICES

SYSTEM/3 MODEL 6

Program Products—Systems

	Monthly License Fee
BASIC	\$127
Disk FORTRAN IV	120
RPG II	39
Auto Report Feature (for RPG II)	16
Telecommunications Feature (for RPG II)	39

Conversational Utilities	16
Disk Sort	10
1255 Magnetic Character Reader Utility	87

Program Products—Applications

	Monthly License Fee
Business Analysis/BASIC	59
Health, Welfare, & Pension Fund	211
Inventory and Requirements Planning	90
MATH/BASIC	52
Shop Loading and Control	142
STAT/BASIC	39

Application Customizer Service
(Without Customized Source Code)

	Single-Use Charge
Order Writing and Invoicing	\$768
Inventory Accounting and Management	768
Accounts Receivable	768
Sales Analysis	768
Additional charge for Customized Source Code, each application	116
Above programs tailored for Lumber and Building Supply Dealers or Electrical Distributors; each program	867

Application Programming Service

	Single-Use Charge
Order Writing and Invoicing	Any one application: 1,550
Inventory Accounting and Management	Any two applications: 3,000
Accounts Receivable	Any three applications: 4,220
Sales Analysis	Any four applications: 5,315

SYSTEM/3 MODEL 8

Systems and applications program product support is equivalent to that for System/3 Model 10 disk systems.

SYSTEM/3 MODEL 10

Program Products—Systems

	Monthly License Fee
ANS COBOL Subset Compiler	90
Card RPG II	37
Magnetic Tape Feature	30

IBM System/3

SYSTEM/3 MODEL 10 (Continued)

SOFTWARE PRICES

Program Products—Systems (Continued)

Telecommunications Feature
Card System Utilities
Card Magnetic Tape Sort Programs
Disk FORTRAN IV
Disk RPG II
Telecommunications Feature
5445 Disk Storage Drive Features
Auto Report Feature
Magnetic Tape Feature
Disk Sort
5445 Disk Storage Drive Feature
Disk Magnetic Tape Sort Programs
Disk-Resident Card Utilities
1255 Magnetic Character Reader Utility
Basic Assembler

Monthly License Fee

37
10
76
110
52
39
34
16
34
10
58
76
10
69
90

Program Products—Applications

Apparel Business Control (card)
Appropriation Accounting System (card)
Bill of Material Processor (disk)
Card Bill of Material and Requirements Planning
Citation Processing System (card)
DATA/3
EPIC Educational Administration—
SOCRATES
FAST
Budget/Finance
Student
Health, Welfare, and Pension Fund (disk)
Inventory and Requirements Planning (disk)
Job Analysis System (disk)
Law Enforcement System (card)
Optimum Blending (card)
Order Point Technique for Inventory Management (card)
Shop Loading and Control (disk)
System for TV and Radio (disk)
Unit Inventory Techniques (card)
Utility Billing System (card)

Monthly License Fee

82
132
59
71
132
142
192
104
121
87
198
90
82
87
98
55
142
433
82
87

Application Customizer Service—Card Systems

Order Writing and Invoicing
Inventory Accounting
Accounts Receivable
Sales Analysis
Payroll
General Ledger
Accounts Payable
Labor Distribution

Single-Use Charge

405
374
374
352
473
323
427
427

Application Customizer Service—Disk Systems

Order Writing and Invoicing
Inventory Accounting and Management
Accounts Receivable
Sales Analysis
Additional for Customized Source Code, each application

Single-Use Charge

815
785
757
727
116

SYSTEM/3 MODEL 12

Program Products—Systems

Basic Assembler
Card Utilities
COBOL
DATA/3
Disk Sort
FORTRAN IV
RPG II
Tape Sort
1255 Utility

Monthly License Fee

\$ 85
16
85
136
45
113
85
78
69

Program Products—Applications

Programs that run on a System/3 Model 6, 8, or 10 can be compiled to run on the Model 12 without changing any source code. A simulation of the 5444 disk area is made on the 3340 DASD.

SYSTEM/3 MODEL 15

Program Products—Systems

ANS COBOL Subset Compiler
Basic Assembler
Card Utilities
Disk Sort
FORTRAN IV
Magnetic Tape Sort
RPG II

Monthly License Fee

89
89
16
47
118
81
89

Program Products—Applications

DATA/3

Monthly License Fee

142

Note: Model 15 systems can also run System/3 Model 10 applications programs.

IBM System/3**New Product Announcement**

MODEL 4: The IBM System/3 Model 4, announced on January 14, 1976, represents a major departure from IBM's previous approaches. For the first time, IBM is supporting the multi-user, multi-task approach to small business data processing.

A System/3 Model 4 consists of: a 5404 processor with 64K bytes of MOSFET main memory, non-expandable; 5 or 10 megabytes of fixed/removable disk storage using 5440 disk cartridges in new 5447 disk units; a 115-cps 5213 matrix printer; a 3277 Model 1 CRT display for logging operating system messages; one to five local workstations, which may be 480- or 1920-character CRT/keyboard displays or 40-cps, 66-cps, or 120-lpm printers; and one optional Bisync adapter that can accommodate remote workstations or permit communications with a host computer.

The 5404 keyboard console is identical with that of the System/3 Model 6 (5406). The basic processor includes provisions for attaching up to two local workstations; the Display Increment feature is required to attach additional workstations. The Enhanced Print Rate Attachment feature is required to attach the 5213 printer. If 1920-character 3277 Model 2 display workstations are desired, a 3270 Model 2 Attachment feature is required. In addition, a Serial I/O Channel is available for the Model 4, just as with other System/3 models, for attachment of low-speed, non-IBM peripherals.

Two models of the new 5447 Disk Storage units are available. Model A1 can store up to 2.5 megabytes of information on each of two 5440 cartridges for a total capacity of 5.0 megabytes. The arrangement is familiar—one fixed and one removable cartridge mounted on the same spindle with a common access mechanism. Model A2 adds a completely independent module of two fixed cartridges in the same enclosure for a total storage capacity of 10.0 megabytes. Formats are completely compatible with those of other System/3 models. Minimum head positioning time is 28 milliseconds, average is 126 milliseconds, and maximum is 255 milliseconds; average rotational delay is 20 milliseconds; and data transfer rate is 199K bytes per second. These are the same performance parameters as those of the 5444 Models A2 and A3.

Local workstations can be located up to 2000 feet from the Model 4 processor. The 3277 Model 1 provides 480 display positions arranged in 12 lines of 40 characters. The 3277 Model 2 provides 1920 display positions arranged in 24 lines of 80 characters. A separately priced, separable keyboard is available for each. The 3284 and 3286 matrix printers are both available as a Model 1 that includes a 480-character buffer or as a Model 2 that includes a 1920-character buffer. The 3284 operates at 40 characters per second; the 3286, at 66 characters per second. Characters are formed by a 4-by-7 dot matrix. The 3288 Model 2 operates at a nominal speed of 120 lines per minute and has a 1920-character buffer. The print mechanism uses an engraved metal belt. All displays and printers use a 64-character set. Each display or printer counts as one of the five possible local workstations.

The disk enclosure, which houses either an A1 or A2 model, provides space on top for the 5213 printer, operator keyboard console, and 3277 system display.

Software support for the System/3 Model 4 consists of a new Communications Control Program (CCP) that is functionally equivalent to CCP for the System/3 Model 10 and a subset of the software support for the System/3 Model 6. The only programming language supported is RPG II.

CCP provides control of the multi-user environment. Previously compiled RPG II programs are initiated from a workstation. Up to four tasks can be active simultaneously, and multiple workstations can be operating under the same task. One of the tasks can involve a remote workstation connected through the Bisync adapter. The basic supervisor occupies 3.25K bytes of memory. Two pre-generated versions of CCP are available. The minimum version occupies 25K bytes and supports only 3270-family display and printer remote workstations. The maximum version occupies 31.5K bytes and supports the full array of remote workstation types. All active tasks are co-resident in main memory. If insufficient memory space is available, a task cannot be initiated; i.e., no swapping facility is implemented. The workspace allocated to a task, however, need not be as large as the complete task itself. If the task is larger than the workspace available, the task will be automatically segmented. A new disk sort routine (\$15 per month), requiring 12K bytes, can be run as a task CCP. User tasks need not require user interaction on the CRT display or other peripheral devices; such "batch" tasks on multi-user systems are frequently referred to by other vendors as "phantom tasks." Access to the system is controlled via a password arrangement.

Instead of running under CCP, the user can operate the System/3 as a Model 6 with the following support: RPG II compilation, RPG II execution including the Auto Report and Telecommunications features, Conversational Utilities (Keyboard Source Entry and Keyboard Data Entry), Overlay Linkage Editor, Disk Sort Program, and Multileaving Remote Job Entry Workstation (MRJE/WS). See the main report for descriptions of these software packages.

IBM System/3

New Product Announcement

Running under Model 6 software, only the 3.25K-byte resident supervisor detracts from user memory space. The Model 6 SCP must be Release 13 or later. Model 6 software not supported on the Model 4 includes FORTRAN, BASIC, and the 1255 MICR reader utility.

The Bisync adapter is capable of supporting communications at up to 50,000 bits per second over appropriate facilities. The minimum version of CCP can support as a remote workstation one point-to-point or multipoint line with 3270-family devices including clustered 3277 displays, stand-alone 3275 displays, and 3280 series printers.

The full version of CCP adds remote workstation support for point-to-point or multipoint connection over one line with a 3741 Data Station Model 2, 3741 Programmable Work Station Model 4, or 3735 Programmable Buffered Terminal Model 1. In addition, Bisync communication is supported between the System/3 Model 4 and another System/3, System/7, System/32, System/360, or System/370. The System/3 Model 4, however, cannot simultaneously communicate with a remote workstation and function as an RJE terminal. Typically, remote workstations will operate in half-duplex mode at 2400, 4800, or 7200 bps. Using IBM modems, transmission at up to 4800 bps over the switched telephone network and at up to 7200 bps over a leased voice-grade line is supported. Higher transmission speeds require a wide-band facility.

5448 DISK STORAGE: On May 24, 1976, IBM expanded the disk capacity for System/3 Models 8 and 10 by introducing the 9.8-megabyte 5448 Disk Storage Drive. The new drive utilizes 4 fixed disks with a total of 8 recording surfaces, 400 data cylinders, and 1600 tracks. Average head movement time is 126 milliseconds, and the data transfer rate is 199K bytes per second. For pricing details, see the price list starting on page M11-491-523.

MODEL 15D: In June 1976, IBM strengthened the upper end of its small-systems product line by announcing the System/3 Model 15D. Processors with 160K, 192K, 224K, and 256K bytes of MOSFET (metal oxide semiconductor field effect transistor) main storage were initially announced, and in September 1976 IBM introduced additional models with 96K and 128K bytes. Memory is identical with the memory used in other System/3's, except that the cycle time (1.52 microseconds for a 1-byte fetch) has been speeded up for certain non-I/O instructions. The reason for the faster cycle time is to take advantage of software enhancements.

A principal software enhancement is a new System Control Program (SCP) that allows a third program partition in main memory. Previous System/3 SCP's provided only two partitions. Therefore, the user can now add another batch system, program test/compilation, or communications job in addition to the two he may already have functioning. SCP has also been enhanced to allow sharing of more disk files and to allow programs in different partitions to update the same file. Additional improvements allow the user to define up to 192 active disk files per partition (40 on other System/3's), and spooled input from a 3741 Programmable Work Station can be variable in length, from 1 to 128 bytes as opposed to a fixed length of 96 bytes.

Disk capacity for the 15D has more than tripled over previous models. Other System/3's can go as high as 164 million bytes, but the 15D can be configured with as much as 506 million bytes. This additional on-line capacity is provided by the 3344 Direct Access Storage Unit. The 3344 utilizes nonremovable storage media and offers an average access time of 25 milliseconds and a data transfer rate of 885K bytes per second.

FINANCIAL TERMINAL SUPPORT: In September 1976, IBM introduced the 3600 Online Terminal Field Developed Program for the Model 15. This FDP allows IBM's 3600 Series Teller Terminals (3604 Keyboard and 3610, 3611, or 3612 Printer), Financial Services Terminals (3606 and 3608), and Consumer Transaction Facility (3614) to be interfaced on-line to a System/3 Model 15. Users pay a monthly fee of \$275 for the 3600 FDP. All future charges are waived after 12 consecutive payments. The 3600 FDP will be available as of December 31, 1976.

Users interested in this FDP should note that an IBM System/370 is required for program generation and maintenance. This requirement can generally be accommodated through standard IBM test allowance time for the 3600 terminals or for a fee through an IBM Hourly Machine Service Agreement.

NEW MODEL 12 PROCESSORS: In a November 1976 announcement, the System/3 Model 12 line was expanded with two new models, the C19 and C20. The new processors are larger-memory versions of the standard Model 12 and have respective capacities of 81,920 and 98,304 bytes of main memory. The 5412B processors can be field-upgraded to a 5412-C19 or 5412-C20.

For detailed pricing information on the System/3 Model 15D and Model 12C, see the price list starting on page M11-491-523. □