IBM System/23 Datamaster

MANAGEMENT SUMMARY

The System/23 Datamaster is the newest and most powerful desktop computer from IBM's General Systems Division. The System/23 is a business computer that can combine data processing and word processing in a system designed for first-time users. The new system includes an integral BASIC interpreter and replaces the earlier BASIC models of the IBM 5120 Computing System. The APL models of the 5120 are still being marketed.

A System/23 Datamaster configuration can include two computer workstations. Each computer workstation has its own memory and diskette storage and functions independently of the other, but both can attach to a stand-alone diskette unit and share its files.

The System/23 Datamaster's processing unit features single- or dual-integrated diskette drives. Diskette storage capacity ranges from 0.3 megabytes to 2.2 megabytes and can be expanded with the optional diskette unit to provide maximum storage of up to 4.4 megabytes. Main memory capacity ranges from 32K bytes to 128K bytes in 32K-byte increments. The CRT will display up to 1920 characters on a 12-inch screen. Also integrated into the processor unit is a typewriter-style keyboard with a 10-key numeric pad.

In addition to the stand-alone diskette unit, the System/23 offers a choice of three printer models and a magnetic card unit. Each computer workstation can include one or two printers in any combination.

The printer models available are matrix printers that print bidirectionally. The 5241 Printer prints at 80 cps. The 5242 Printer is available in two models. Model 1 prints at 160 cps. Model 2 prints at the same speed, but also offers the ability to create high-density, high-quality

The System/23 Datamaster is IBM General Systems Division's newest desktop business computer. Designed for first-time users, the System/23 features a dual workstation/shared file architecture and a functionally enhanced BASIC language that is highly compatible with System/34 BASIC. A full-function data processing installation with one workstation and an 80-cps printer is priced at $9,830.

MAIN MEMORY: 32K to 128K bytes.
DISKETTE CAPACITY: 0.3 to 6.6 megabytes (6.6MB capacity with dual CPU/workstation configuration).
WORKSTATIONS: 1 per CPU; 2 workstations can share up to 2.2 megabytes of file storage.
PRINTERS: 40, 80, 160 cps.
OTHER I/O: Magnetic card unit.

CHARACTERISTICS

MANUFACTURER: International Business Machines Corporation, General Systems Division, 4111 Northside Parkway, Atlanta, GA 30055. Telephone (404) 256-7000.

MODEL: System/23 Datamaster is currently available in 35 submodels according to their function, main memory size, and integrated diskette capacity.

DATE ANNOUNCED: July, 1981.

DATE OF FIRST DELIVERY: July, 1981.

DATA FORMATS

BASIC UNIT: 8-bit byte.

Datamaster, IBM's newest low-cost small business computer system, features an optional dual CPU, workstation configuration which utilizes a separate 2.2-megabyte diskette unit for file sharing. Each computer workstation provides up to 128K bytes of main memory and up to 4.4 megabytes of on-line diskette storage.

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matrix printing on cutforms at 40 cps. High-density printing is invoked by a program command and is created by making a second head pass over the same printed line.

The 5231 Mag Card Unit reads and records information using OPD 50 track magnetic cards. Reading is at the maximum rate of 20 seconds/card and recording is at the maximum rate of 30 seconds/card.

The System/23 is available in 35 models: 20 that are for the data processing alone, and 15 that also include word processing hardware and software. In addition to the word processing option, the models are distinguished by the size of main memory and the amount of diskette storage.

The System/23 Datamaster word processing option features integrated text and data processing. In a typical application, the system could draw upon its own data processing files to print individualized business letters for mass mailing to all customers, or to specified groups. The word processing program provides a training package to learn functions for basic document entry, editing, and standard letter personalization. It also supports functions which complete business documents, assembled from letter descriptions and data processing file data.

For text processing, the display scale line shows margins, tabs, paper edges, center point and shadow cursor. Vertical and horizontal segmenting allow the operator to review all parts of the stored page. Word processing can also be used to create, revise, delete, duplicate, print, store, and retrieve documents. Text manipulation is facilitated by block movement of text, stored formats, auto carrier return, line adjust, paginate functions, and an interactive find function. To add word processing, a user will need a computer workstation with at least 64K bytes of memory and 0.6 megabytes of diskette storage.

The BASIC computer language used by the System/23 is highly compatible with the BASIC available on IBM's System/34. According to IBM, most System/23 BASIC language statements are upward compatible with System/34 BASIC. Typically, with some small amount of modification, System/23 programs can be migrated to System/34. Modifications may be more extensive in programs where file sharing and error recovery logic are heavily used.

The IBM BASIC Conversion Aid licensed program is also available for the System/23. This program is designed to assist the experienced 5110/5120 BASIC application programmer in coverting existing 5110/5120 BASIC application programs to System/23 BASIC. This program can reduce, but not totally eliminate, the need to recode BASIC application programs.

BRADS III, also a licensed program, provides the facility for a non-programmer to define, create, and maintain files and to build file inquiries and create reports from the file data. BRADS III is an IBM-enhanced version of the

INSTRUCTIONS: IBM has not released details on the format of individual System/23 Datamaster machine instructions, the number of instructions in the instruction set, or the classification of individual instructions.

INTERNAL CODE: EBCDIC.

MAIN STORAGE

TYPE: MOSFET (metal-oxide semiconductor field-effect transistor).

CYCLE TIME: 975 nanoseconds per 1-byte access.

CAPACITY: 32,768 bytes to 131,072 bytes.

CHECKING: Internal parity checking.

STORAGE PROTECTION: In conjunction with programming support, System/23 Datamaster offers built-in characteristics to assist the users to achieve a level of protection to suit their needs. These characteristics include:

- **Language facilities to prevent inadvertent modification of data and programs**
- **Programs can be locked to be run, but not listed**
- **Programming techniques are available which prevent critical data from appearing on the CRT screen or the printer**
- **Station Address and Terminal Identification is provided for systems which operate in certain communications environments**
- **Block checking is performed on all data transmitted or received over BSC communications channels**

RESERVED STORAGE: 12K bytes are permanently allocated for use by the BASIC language interpreter.

CENTRAL PROCESSOR

The IBM 5322 Computer is the processor unit for the Datamaster. It contains main storage, arithmetic and logical processing circuits, control functions for I/O units, and the keyboard/CRT. Most models also have integrated diskette drives. Up to two 5322 Computers can be included in a configuration by attachment to a shared function model of the 5246 Diskette Unit (Models 21 or 22).

INPUT/OUTPUT CONTROL

I/O CHANNELS: A direct memory access channel is a standard feature. One printer attachment is standard and two special feature slots are available on the data processing models.

SIMULTANEOUS OPERATIONS: Transparent data file sharing between two 5322 workstations is managed in the Read Only Storage (ROS) of each computer. Application transparency will also allow programs written for a dual system to operate on a single 5322 with no modification required.

CONFIGURATION RULES

Each System/23 Datamaster includes a 5322 Computer in a desktop unit with 32K to 128K bytes of main memory, a 1920-character display and keyboard, a secondary storage attachment, a communication feature, an additional printer attachment, and an integral intepretive language (BASIC).

WORKSTATIONS: Two 5322 Computers share a 5246 Model 21 or 22 Diskette Unit to form what IBM calls a dual workstation/shared-file architecture system. Each workstation functions as a total system and operates independently of the other, but can share the files stored on the 5246 Model 21 or 22.

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PERIPHERALS/TERMINALS

MODEL	DESCRIPTION & SPEED
INTEGRAL WITH PROCESSOR	
Display	12-inch CRT screen displays 1,920 characters in 24 lines of 80 characters each; displays upper and lower case; dual intensity, reverse image, blinking, underlining, non-display for security, audible alarm
Keyboard	Alphanumeric typewriter-style with a separate numeric pad; two operator keys provide arithmetic functions; insert, delete, and scroll capabilities
Diskette Drives	See "Mass Storage" section of this report
PRINTERS	
5241 Model 1	Bidirectional matrix printer; 132 print positions at 10 characters/inch, 198 print positions at 12 characters/inch, program-selectable vertical line spacing from 1 line/inch to 12 lines/inch; handles-fan-folded paper from 3 to 14 inches, up to four-part forms; 80 characters/second
5242 Model 1	Bidirectional matrix printer; 132 print positions at 10 characters/inch, 198 print positions at 15 characters/inch, program selectable vertical line spacing from 1 line/inch to 12 lines/inch; handles-fan-folded paper form 3 to 14 inches, up to four-part forms; 160 characters/second
5242 Model 2	Model 2 has the same characteristics as Model 1 when operating in matrix print mode at 160 characters/second. Also offers the ability to create high-density, high quality matrix impact. printing on cut forms through a second pass over the same printed line. High-density printing is involved by a program command and will operate at 40 characters/second with a character spacing of 10 characters/inch
MAGNETIC CARD UNIT	
5321	Reads and records data using OPD 50 track magnetic cards. Reading is at the maximum rate of 20 seconds/card. Recording is at the maximum rate of 30 seconds/card.

field-developed BRADS II program used on the IBM 5110/5120.

IBM also offers the System/23 Binary Synchronous Communications licensed programs. Using the Binary Synchronous Communications protocol, the System/23 can transmit batch data, receive batch data, and inquire into a host system and receive batch data. Using IBM 3741 protocol, the System/23 can communicate with another System/23, and the following IBM systems: System/3 Model 15D, System/34, System/38, 5280, 5265, 5110, 5120, and the Series/1.

Using the Asynchronous Communications Program, the System/23 can communicate with System/370 Models 135-168, 3031, 3032, 3033, 3081, 4331, and 4341 via VM/370, Series/1 systems, and System/23. The program consists of communications access method support, a set of communications customer support functions, and a facility for user-written communications programs using System/23 BASIC.

A series of new software application packages were also released with the System/23 Datamaster. The Business Management Accounting System consists of billing, inventory accounting, accounts receivable, accounts payable, payroll, and general ledger application programs. These are multi-industry programs for performing business accounting. Datamaster will allow users to automatically update information between application programs.□

DISKETTE STORAGE: Each desktop unit can house one or two diskette drives, each with a capacity of 0.3 or 1.1 megabytes, thus affording a maximum of 2.2 megabytes of integrated diskette storage. In addition, a free-standing unit with the same capacities can be added, thus providing a maximum diskette storage capacity of 4.4 megabytes per desktop unit. Only one free-standing unit can be included in a dual-CPU/workstation configuration and can be shared by both units if it is a shared function diskette model.

MAGNETIC TAPE UNITS: None currently available from IBM.

PRINTERS: Up to two 5241 or 5242 printers can be attached to each desktop unit.

MASS STORAGE

INTEGRATED DISKETTE: Each desktop unit can include one or two diskette drives using IBM type 1, 2, or 2D diskettes. The formats for these diskette are as follows:

Diskette 1

Format	Bytes/Sector	Capacity
1	128	243KB
2	512	303KB

Diskette 2

Format	Bytes/Sector	Capacity
3	128	486KB
4	512	606KB

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Diskette 2D

Format	Bytes/Sector	Capacity
5	256	985KB
6	512	1136KB

The System/23 uses the 512-byte format as standard, but other formats may be selected for data interchange purposes. The data transfer rate using IBM diskettes 1 or 2 is 31.2K bytes per second; for diskette 2D, 62.5 bytes per second. Rotational speed for both types of drives is 360 RPM.

5246 DISKETTE UNIT: This is a free-standing diskette unit with the same capabilities and characteristics as the integrated unit. The 5246 is available in four models. Models 11 and 12 have capacities of 1.1 and 2.2 megabytes, respectively, and are dedicated to one System/23 desktop unit. Models 21 and 22 also store 1.1 and 2.2 megabytes of data, respectively, but are shared by both desktop units in a dual-CPU/workstation configuration. Desktop units that use the 5246 must have a 5246 Diskette Unit Controller or an Extended 5246 Controller installed.

INPUT/OUTPUT UNITS

See the Peripheral/Terminals table on the third page of this report.

COMMUNICATIONS CONTROL

COMMUNICATIONS ADAPTER FEATURE: Includes communications interface hardware and licensed programs that enable the System/23 to communicate using either asynchronous or binary synchronous protocol. The physical interface for asynchronous communications is EIA RS-232-C/CCITT V24-V28 and transfer of data is via ASCII code. The physical interface for binary synchronous communication is EIA RS-232-C/CCITT V24-V28 with clocking supplied by the modem. Transfer of data is in EBCDIC and EBCDIC transparency modes at speeds up to 4800 bps. One of the IBM modems, 3863 (2400 bps), 3864 (4800 bps), 3872 (2400 bps), or 3874 (4800 bps) can be attached to the Communications Adapter Feature.

For more information on the communication capabilities of the System/23 see the Communications Software section.

SOFTWARE

OPERATING SYSTEM: The System/23 Datamaster does not have an operating system in the usual sense. Its system control functions are integrated into the 112K bytes of read-only storage (ROS). System control functions are primarily concerned with coordinating the interface between the user programs, the BASIC language interpreter, the Word Processing licensed program, and the peripheral devices.

PROGRAMMING LANGUAGES: The only language currently available for the System/23 is BASIC. The System/23 BASIC interpreter is highly compatible with the BASIC available on IBM's System/34. According to IBM, most System/23 BASIC language statements are upward compatible with System/34 BASIC. Typically, with some small amount of modification, System/23 Datamaster programs can be migrated to System/34. Modifications may be more extensive in programs where file sharing and error recovery logic are heavily used.

Coding and logic enhancements for System/23 BASIC include 8-character variable names, program lines up to 255 characters, comments on lines, line labels, page control, time and date variables, IF-THEN-ELSE logic, full-screen processing, and nested procedures. Improved string and text functions include generalized substring referencing, replacement of text within a string, and array search. I/O enhancements include a simple unformatted mode; full format input/output to the display screen, both printer ports, diskette files and communication features; eleven graphic symbols for line drawing and screen printer report formats; screen highlights; varied data representation; access of file records sequentially by relative record number of separate file index/ sequence; sequential file buffering up to 7680 bytes; and support for BASIC interchange and H-exchange file formats permitting file transfer to and from most IBM diskette-based products.

UTILITY PROGRAMS: A diskette sort is optionally available with the System/23 that features full record sorting or record address sorting, a sort key that can contain up to ten sort fields, the ability to store control statements on diskette or enter them from the keyboard via prompting messages, and a record select/omit feature.

In addition, IBM customer support functions include providing a loader for machine updates, diskette preparation, alternative collating sequence, diskette-to-diskette copy, diskette recovery, index file generation, and label display.

WORD PROCESSING: The System/23 Datamaster word processing option features integrated text and data processing. The word processing models consist of hardware and a licensed program to support the additional functions. Word processing requires a minimum of 64K bytes of main storage and 0.6 megabytes of diskette storage.

The functions supported by the word processing hardware and licensed program to create, edit, print, etc., are as follows:

- Input—Create documents, formats, automatic word wrap.
- Edit—Delete, find, indent, block operations, word underscore, page delete/restore.
- Print—Page align, text align, page number control.
- Merge—DP/WP merge, stop code (interactive).
- Pagination—Character and line count, syllable hyphen control, required page and control.
- Document services—Copy document, delete document, change document profile, list drive contents.

COMMUNICATIONS SOFTWARE: Two licensed programs, Asynchronous Communications and Binary Synchronous Communications, allow the System/23 to communicate with selected IBM systems and devices.

The Asynchronous Communications Program consists of communications access method support, a set of communications customer support functions, and a facility for user-written communications programs using System/23 BASIC. In conjunction with the communications access method, the Asynchronous Communications Terminals customer support function provides the user with an interactive interface to perform asynchronous communications.

Features of the Asynchronous Communications Program include:

- A data transfer function which gives System/23 Datamaster functional characteristics commonly referred to as TTY-compatible. This function uses start-stop discipline and permits the user to transfer data using the ASCII translate table and the Asynchronous Communication Terminal function of the licensed program.
- A code translation table is provided to convert Datamaster internal EBCDIC code to/from ASCII code. Other tables may be built by the user.
- Provides the operator with an ease-of-use interactive

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function that leads the user through a step-by-step procedure using prompts and responses for defining and establishing communications and for performing other TTY functions.
- The input/output devices supported are the keyboard/display and printer.
- Provides a facility for the execution of BASIC language user-written programs to perform data transfers.

This support can be used to communicate with the following IBM systems:

- System/370, Models 135-168, 3031, 3032, 3033, 3081, 4331, and 4341 via VM/370 (full duplex, switched facilities)
- Series/1 (EDX, RPS) (half duplex, switched facilities)
- Datamaster (full and half duplex, switched and non-switched)

The IBM System/23 Binary Synchronous Communications licensed program consists of communications access method support, a set of communications customer support functions, and a facility for user-written communications programs using the System/23 BASIC language. In conjunction with the communications access method, the communications customer support functions can perform the following data transfer functions using the Binary Synchronous Communications protocol:

- Transmit batch data
- Receive batch data
- Inquire into a host system and receive batch data

Features of Binary Synchronous Communications include:

- Datamaster uses the line protocol of the IBM 3741 to communicate with a variety of IBM systems.
- Includes a data transfer function which performs batch data transfers (both attended and unattended).
- The input/output devices supported are the keyboard/display, printers, and diskette.
- Provides a facility for BASIC language user-written programs to perform data transfers.
- Code translation tables are provided to convert Datamaster's internal Multilingual Character Set to/from the National Language Version. Other tables may be built by the user.
- Provides an operator an ease-of-use interactive function that leads the user through a step-by-step procedure using prompts and responses for defining and establishing communication and batch data transfer functions.

Datamaster uses IBM 3741 protocol to communicate with the following IBM systems:

- System/3 Model 15D
- Datamaster
- System/34
- System/38
- 5280 Distributed Data Systems
- 5265 Point-of-Sale Terminal
- 5110 Computer
- 5120 Computing System
- Series/1 (EDX, RPS)

DATA MANAGEMENT: The System/23 Business Report/Application Development System III (BRADS III) is a data management system that enables users to develop and install applications, and expand the value of the System/23 Business Management Accounting System applications and applications written by third parties by querying the data bases and by developing new reports.

BRADS II is a field-developed program for the IBM 5120. BRADS III brings new, more powerful functions and, according to IBM, is easier to learn and use. The BRAD III program will be made available in two separate releases.

The first release (scheduled for August 28, 1981) may be used to:

- Create, maintain, and update files
- Create screen-driven data entry programs
- Retrieve data from the files using a simple query
- Create formatted reports using prompted report generation screens
- Develop complete applications using BRADS III in conjunction with System/23 BASIC
- Create additional queries and reports for the Business Management Accounting System
- Obtain extensive documentation

The second release of BRADS III (no release date announced at this time) adds the spread sheet generator function. BRADS III may be used to:

- Produce forecasts showing expected revenue
- Investigate alternative plans using spread sheet data
- Produce reports that examine the differences (variances) between plans or between plans and actual performance
- Produce reports showing percentage relationships between rows or between columns
- Consolidate plans and evaluate performance of separate operating entities
- Combine historical and predictive data together

The spread sheet generator facility adds a powerful set of operations to the existing BRADS III capabilities to provide the user flexibility in addressing spread sheet-type applications.

IBM 5110/5120 BASIC TO SYSTEM/23 CONVERSION AID: A licensed program designed to assist the experienced 5110/5120 progammer in converting 5110/5120 BASIC application programs to System/23 BASIC. The conversion can be used to reduce, but not eliminate, the need to recode BASIC application programs. This program converts many 5110/5120 BASIC statements to System/23 BASIC, identifies 5110/5120 BASIC statements that require evaluation or recoding, and provides listings of converted programs for documentation and debugging purposes.

Control and data files are not converted by the 5110/5120 Conversion Aid and must be converted manually by the user.

IBM SYSTEM/23 BUSINESS MANAGEMENT ACCOUNTING SYSTEM APPLICATIONS: IBM currently offers six cross-industry accounting application packages for the System/23 Datamster, including general ledger, accounts payable, accounts receivable, payroll, inventory accounting, and billing. Highlights of these packages include:

- Applications feature either stand-alone or co-resident installation with other IBM System/23 Business Management Accounting Systems Applications.
- Built-in auditability and control characteristics through the use of familiar 5-column journals, inter-application data integrity and sequential journal numbering.
- Applications are interrelated through the passing of summarized transaction data between applications where appropriate and desired.
- Program documentation is designed to promote customer self-sufficiency during installation and operation.
- Ease-of-use enhanced through menu-driven task selection; consistent data entry programs and procedures for all applications; common file maintenance techniques including user defined field defaults; use of generally

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accepted accounting terminology; installation-time tailoring options that allow the user to select key functions and perform file sizing.

- An improved program update (PTD) procedure is provided to aid the operator in applying program fixes provided by IBM.
- BRADS III file definitions are provided with the applications for selected master files.
- Optional security code by application.
- Multiple-company support by installs on separate diskette(s).
- File sharing capability supporting concurrent operations when two IBM 5322s are connected via a shared diskette unit (5246 Model 22).

PRICING

POLICY: The System/23 Datamaster is a purchase-only system. The IBM Pilot Test Plan Agreement applies, allowing the customer to try the system prior to purchase. A separate maintenance contract is available. The Pilot Test Plan Agreement contract period is three months, with a three month extension period. Payment for the entire period is due at the commencement of the contract period or extension. Customers may purchase installed machines at any time during the contract period or extension period by executing the Agreement for Purchase. IBM maintenance coverage is included in the contract period unit charges and the extension unit charge. The plan carries a purchase option payment with 70 percent accrued monthly. No refund is given if the customer terminates the contract.

The standard 10 percent Educational Allowance applies to the System/23 Datamaster. It also qualifies for volume purchase discounts.

The System/23 is in IBM maintenance group D. Prime-shift maintenance is provided for any consecutive nine-hour period between 7 a.m. and 6 p.m., Monday through Friday.

The premium for extended maintenance coverage is expressed in the table below as a percentage of the prime-shift maintenance charges, which are shown in the accompanying price list.

	Consecutive Hours				
	*9	12	16	20	24
Monday-Friday (until 8 a.m., Saturday)	10%	12%	14%	16%	18%
Saturday (until 8 a.m., Sunday)	4%	5%	7%	8%	9%
Sunday (until 8 a.m., Monday)	5%	7%	9%	11%	12%

*For periods outside the basic 7 a.m. to 7 p.m. prime shift.

For users without a maintenance contract, the System/23 is maintained under per-call class 2. The per-call charge for service regular hours is $105 per hour, and during off hours the charge is $123 per hour.

IBM's Atlanta-based Installation Support Center is staffed by systems and application specialists who will answer customer questions about all aspects of the System/23 Computing System and the System/23 Accounting Applications by means of a toll-free "hot line." The hot line hours are 8:30 a.m. to 5:00 p.m., Eastern Time, on Monday through Friday. After hours, customers may leave recorded messages which will be answered the next business day.

The hourly rate for IBM systems engineering services is $57. SE services are offered on an "as available" basis.

IBM software for the System/23 is separately licensed and available for the monthly license fees or one-time charges listed in the "Software Prices" section that follows.■

EQUIPMENT PRICES

		Purchase Price	Monthly Maint.
PROCESSORS			
5322	Computer; includes 1920-character CRT, keyboard, space for storage of up to two diskette units, secondary storage attachment, communication feature, additional printer attachment, an integral interpretive language (BASIC), and main memory and diskette storage as detailed below.		
The following units are data processing models			
110	With 32,768 bytes of main memory	$3,300	$35
111	With 32,768 bytes of main memory and 0.3 megabytes of diskette storage	4,300	45
112	With 32,768 bytes of main memory and 0.6 megabytes of diskette storage	5,300	55
113	With 32,768 bytes of main memory and 1.1 megabytes of diskette storage	4,850	48
114	With 32,768 bytes of main memory and 2.2 megabytes of diskette storage	6,400	61
120	With 65,536 bytes of main memory	3,950	38
121	With 65,536 bytes of main memory and 0.3 megabytes of diskette storage	4,950	48
122	With 65,536 bytes of main memory and 0.6 megabytes of diskette storage	5,950	58
123	With 65,536 bytes of main memory and 1.1 megabytes of diskette storage	5,500	51
124	With 65,536 bytes of main memory and 2.2 megabytes of diskette storage	7,050	64
130	With 98,304 bytes of main memory	4,600	41
131	With 98,304 bytes of main memory and 0.3 megabytes of diskette storage	5,600	51
132	With 98,304 bytes of main memory and 0.6 megabytes of diskette storage	6,600	61
133	With 98,304 bytes of main memory and 1.1 megabytes of diskette storage	6,150	54
134	With 98,304 bytes of main memory and 2.2 megabytes of diskette storage	7,700	67
140	With 131,072 bytes of main memory	5,250	44
141	With 131,072 bytes of main memory and 0.3 megabytes of diskette storage	6,250	54
142	With 131,072 bytes of main memory and 0.6 megabytes of diskette storage	7,250	64
143	With 131,072 bytes of main memory and 1.1 megabytes of diskette storage	6,800	57
144	With 131,072 bytes of main memory and 2.2 megabytes of diskette storage		

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EQUIPMENT PRICES

		Purchase Price	Monthly Maint.
The following units are data processing and word processing models.			
420	With 65,536 bytes of main memory	$4,550	$56
421	With 65,536 bytes of main memory and 0.3 megabytes of diskette storage	5,550	66
422	With 65,536 bytes of main memory and 0.6 megabytes of diskette storage	6,550	76
423	With 65,536 bytes of main memory and 1.1 megabytes of diskette storage	6,100	69
424	With 65,536 bytes of main memory and 2.2 megabytes of diskette storage	7,650	82
430	With 98,304 bytes of main memory	5,200	59
431	With 98,304 bytes of main memory and 0.3 megabytes of diskette storage	6,200	69
432	With 98,304 bytes of main memory and 0.6 megabytes of diskette storage	7,200	79
433	With 98,304 bytes of main memory and 1.1 megabytes of diskette storage	6,750	72
434	With 98,304 bytes of main memory and 2.2 megabytes of diskette storage	8,300	85
440	With 131,072 bytes of main memory	5,850	62
441	With 131,072 bytes of main memory and 0.3 megabytes of diskette storage	6,850	72
442	With 131,072 bytes of main memory and 0.6 megabytes of diskette storage	7,850	82
443	With 131,072 bytes of main memory and 1.1 megabytes of diskette storage	7,400	75
444	With 131,072 bytes of main memory and 2.2 megabytes of diskette storage	8,950	88
PROCESSOR OPTIONS			
2550	Communications adapter	400	6
3775	5246 Diskette controller	500	1
3780	Integrated diskette controller	350	1
6300	Diskette sort	30	0
6350	Second printer attachment	345	1
RPQ 8N5008	Extended 5246 controller	780	1
MASS STORAGE			
5246 011	1MB diskette unit	2,715	16
5246 012	2MB diskette unit	4,265	29
5246 021	1MB diskette unit, shared	2,830	16
5246 022	2MB diskette unit, shared	4,380	29
RPQ 8N5009	Extended distance controller, plant-installed	300	1
RPQ 8N5023	Extended distance controller, field-installed	450	1
RPQ SW2901	Cable assembly, 15-meter (50 feet)	350	1
RPQ SW2902	Cable assembly, 30-meter (100 feet)	630	1
RPQ SW2903	Cable assembly, 60-meter (200 feet)	1,055	1
PRINTERS			
5241	Matrix printer, 80 cps	2,400	33
3250	Document insertion device	125	.50
5600	Switch and cable assembly	250	1
4450	Forms stand	54	0
5242 001	Matrix printer, 160 cps	3,200	50
5242 002	Matrix printer, 40/160 cps	3,500	53
3250	Document insertion device	125	.50
5600	Switch and cable assembly	250	1
4450	Forms stand	54	0

SOFTWARE PRICES

		Purchase Price
5715-AC1	Asynchronous Communications	$600
5715-BC1	Binary Synchronous Communications	850
5715-CV1	5110/5120 BASIC to System/23 Conversion Aid	875
5715-RG2	System/23 BRADS III	1,145
5715-WP1	System/23 Word Processing	500
5715-XX2	General Ledger	1,025
5715-XX3	Accounts Payable	1,025
5715-XX4	Accounts Receivable	1,025
5715-XX5	Payroll	1,025
5715-XX6	Inventory Accounting	1,025
5715-XX7	Billing	1,025