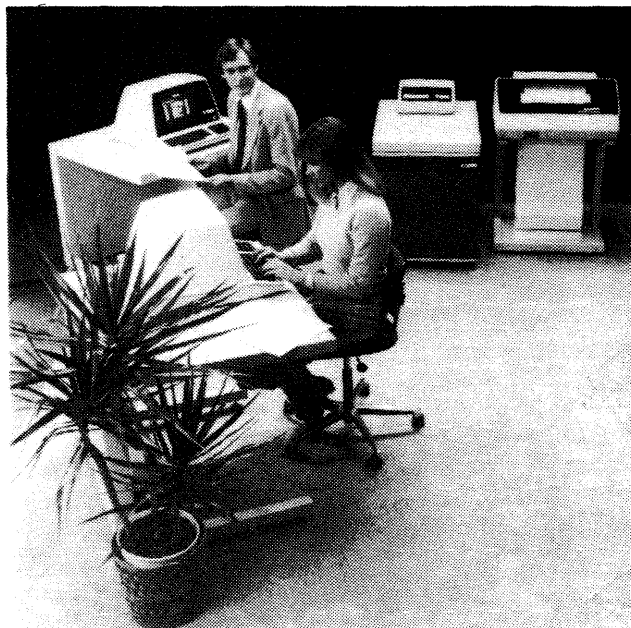# Basic Four 210, 510, 610, and 730

The Basic Four System 210 is an information processing system designed for the first-time user. The 210's base configuration includes 64K-bytes of main memory, a 10M-bytes fixed disk system, a 9.2M-bytes magnetic tape cartridge drive, a video display terminal, and a bidirectional 80 characters-per-second matrix printer. DataWord II word processing hardware/software is available for Systems 210, 510, 610 and 730.

MANAGEMENT SUMMARY

Basic Four Corporation was founded in 1971 as a subsidiary of Management Assistance Inc. (MAI) and is one of the leaders in the small business computer field. As it has in the past, the Basic Four division is continuing its philosophy of providing information processing products to small businesses, placing heavy emphasis on applications-oriented systems and software. The company has shipped over 13,000 systems, with 83 field marketing offices (dealers and direct sales) throughout the United States. Affiliates and their distributors market Basic Four systems in more than 69 foreign locations.

Initially a systems house using Microdata CPUs, Basic Four began manufacturing its own CPU in September 1976, introducing it simultaneously with the then top-of-the-line System 700 business computer. In January 1977 the company expanded its manufacturing operations to include a video display terminal, and in September 1977 began manufacturing its own printer.

The newest systems in Basic Four's line are the 210, the 510, and the S80 Information System. The 210 was introduced in May 1981 to replace the earlier Systems 200 and 410 and the System 510 was introduced in September 1980. The entry-level S80 was introduced in October 1980 as the Basic Four Spectrum 80; the S80 is the subject of a separate report.

▷

The Basic Four Systems 210, 510, 610 and 730 business computers range in price from $25,740 to $99,570. A division of Management Assistance Inc., the Basic Four Information Systems Division manufactures its own CPUs, terminals, and printers. Another MAI division, the Sorbus Service Division, provides maintenance from locations in over 160 cities throughout the United States.

MAIN MEMORY: 64K to 512K bytes
DISK CAPACITY: 10 to 600 million bytes
WORKSTATIONS: 1 to 32
PRINTERS: 40 cps to 600 lpm
OTHER I/O: Magnetic tape

CHARACTERISTICS

MANUFACTURER: Management Assistance Inc., Basi Four Information Systems Division, 14101 Myford Roac Tustin, California 92680. Telephone (714) 731-5100.

Basic Four was established in 1971 as a subsidiary c Management Assistance, Inc. (MAI), in New York, NY. Th Basic Four division is engaged in the manufacture an(marketing of computer business systems and the developmen of applications software. Manufacturing is done at th company's facilities in Tustin, California, and by an affiliate ii Holland. Basic Four products are sold in more than 80 citie throughout the United States and in more than 30 foreigi countries in Europe, Asia, South America, and Canad; through company and affiliated sales offices, and a dealei network.

MODELS: Systems 210, 510, 610, and 730.

DATES ANNOUNCED: System 210, May 1981; Systen 510, September 1980; System 610, December 1977; Systen 730, June 1978; DataWord, October 1978; DataWord II October 1979.

DATES OF FIRST DELIVERY: System 210, May 1981 System 510, September 1980; System 610, January 1978 System 730, June 1978; DataWord, February 1979 DataWord II, April 1980.

NUMBER INSTALLED TO DATE: Over 13,000 world-wide.

DATA FORMATS

BASIC UNIT: 8-bit byte.

FIXED-POINT OPERANDS: Two or four-byte words (16 or 32 bits) are used for standard and extended arithmetic operations.

INSTRUCTIONS: At either the microprogramming or the user level, there are five basic 16-bit instruction formats. Literal instructions can have one of three formats. In the first, the operation code occupies the four high-order bits; the next four bits (11 through 8) contain the file register designation; and the eight low-order bits contain a literal which is translated into an operand. In the second format, the

Basic Four 210, 510, 610, and 730

CHARACTERISTICS OF THE BASIC FOUR BUSINESS COMPUTERS

Model	210	510	610	730
ximum number of terminals	16	16	16	32
ndard memory capacity, bytes	64K	64K	64K	96K
ximum memory capacity, bytes	256K	256K	256K	512K
ndard disk capacity, bytes	10 million	20 million	35 million	150 million
ximum disk capacity, bytes	57.4 million	300 million	300 million	600 million

Basic Four's 210, 510, 610 and 730 are disk-based systems ntended for interactive terminal use, employing CRT lisplay terminals for user interface and a parallel or serial printer for hard-copy output. All of the systems can be used in a distributed data processing environment with BM 2780/3780 simulation for data communications.

The differences between the Systems 210, 510, 610, and 730 are principally the disk storage capacities of the basic systems and the maximum configurations. Systems 210, 510, and 610 may be enhanced by adding a Power Performance Option (PPO). PPO was designed to ncrease system throughput, expand memory capacity, and support additional serial devices. PPO is standard on System 730.

The basic system 210 consists of a CPU with 64K bytes of main memory, fixed-disk-storage with a capacity of 10 million bytes; one video display terminal (VDT), one 80 cps printer, and a 9.2 million byte magnetic tape cartridge unit. The system can be expanded to include up to 256K bytes of memory, 57.4 million bytes of disk storages, 16 VDTs or 12 VDTs and four multi-functional display terminals (MDTs) for word processing, a 1600 bpi tape drive, and two 600 lpm printers. The System 210 requires a Power Performance Option (PPO) for systems configured with over 128K bytes of main memory.

The basic configurations for System 510 and 610 differ, but their maximum configurations are the same. The basic System 510 includes 64K bytes of main memory, 20 million bytes of removable disk pack storage, one video display terminal, and a 120 cps printer. The System 610 contains 64K bytes of main memory, 35 million bytes of removable disk pack storage, one video display terminal, and a 150 lpm printer in the base configuration.

Maximum configurations for Systems 510 and 610 support up to 256K bytes of memory, 300 million bytes of disk storage, 16 video display terminals, two 1600 bpi tape drives, and an additional 600 lpm printer.

In addition, Systems 510 and 610 offer an enhanced operating system, a spooling capability, and a disk subsystem organized around a programmable bipolar LSI processor that handles many of the time-consuming housekeeping chores normally performed by the CPU.

The basic System 730 includes 96K bytes of main memory, 150 million bytes of removable disk pack storage, four video display terminals, and a 300 lpm printer. The 730 can be expanded to 512K bytes of main memory, 600 million ▷

operation code takes the eight high-order bits, and the next eight bits constitute a literal which is translated into an operand. The third format is used only for a branch instruction (Jump Extended) in which the 4 high-order bits contain the operation code and the next 12 bits contain a literal which is translated into a control memory address.

In the operate command format, the operation code occupies the four high-order bits. The next four bits specify the file or form register; these are followed by four bits which designate the control under which the command is to be executed (e.g., link control, modify condition codes, add 1, or decrement). The next bit is the file inhibit bit which, when set to one, prevents the command from being transferred to the file register. The last three bits indicate the destination register.

The generic commands consist solely of an operation code that occupies all 16 bits. Up to 64K bytes of main memory can be directly addressed.

INTERNAL CODE: ASCII.

MAIN STORAGE

STORAGE TYPE: MOS main memory, plus bipolar programmable read-only memory (PROM) control memory.

CYCLE TIME: 600 nanoseconds for main memory; 200 nanoseconds for control memory (PROM).

CAPACITY: 64K to 512K 8-bit bytes, in 32K, 64K, or 128K increments for all models (maximum of 480K bytes available for user programs exclusive of operating system requirements).

CHECKING: One parity bit per byte.

STORAGE PROTECTION: Hardware power failure circuitry senses voltage reductions and triggers a software power-fail routine. When the proper voltage level is restored, a message alerts the user to the fact that a power failure has occurred. No action need be taken, however, and operation of the current program may continue since neither the data, program, nor operating system is destroyed. Memory data integrity is protected by a back-up battery as an independent power source. The memory and refresh control circuitry are powered in the standby mode, which enables memory contents to be retained.

RESERVED STORAGE: 42K bytes to 54K bytes are reserved for the operating system. This area may be enlarged to allow for special drives and buffers.

CENTRAL PROCESSOR

GENERAL: The processor used in the Basic Four systems is fully microprogrammable, with a large number of registers, multi-level stack processing, PROM control memory, standard power failure/automatic restart, real-time clock, and built-in bootstrap loader in non-volatile PROM.

A Power Performance Option (PPO) is available for Systems 210, 510 and 610, and is a standard feature of the 730. With ▶

Basic Four 210, 510, 610, and 730

PERIPHERALS/TERMINALS

DEVICE	DESCRIPTION AND SPEED
MAGNETIC TAPE DEVICE	
6402	Tape cartridge drive, 9.2 MB capacity for 730 only
6403	Tape cartridge drive, 9.2 MB capacity for 510, and 610
6510	Magnetic tape drive, 9-track, 800/1600 bpi, for 210 only
6511	Magnetic tape drive, 9-track, 800/1600 bpi, for 210, 510, 610, and 730
PRINTERS	
	Serial printer, 40 cps, double wide printer (DataWord II only)
3040	Serial printer, 45 cps (DataWord II only)
3253	Serial printer, 80 cps
3258	Serial printer, 120 cps
3151	Line printer, 150 lpm, available for 510 only as a substitute for Model 3252
3152	Line printer, 150 lpm
3560	Line printer, 300 lpm
3600	Drum printer, 600 lpm
TERMINALS	
7270	Video Display Terminal, 24 lines by 80 characters, ASCII character set, 12-inch screen, standard typewriter keyboard, 10-key numeric pad, control keys, 5 x 7 dot matrix, full-duplex transmission at up to 9600 baud.
7561	Multifunction Display Terminal, (DataWord II only), 64 lines by 80 characters, extended ASCII character set, 15 inch-screen, standard typewriter keyboard, control and special function keys, 7 x 9 dot matrix, 64K memory, VDT emulation and word processing.

▷ bytes of removable disk pack storage, 32 video display terminals, two 1600 bpi tape drives, and an additional 600 lpm printer.

The System 730 also includes an intelligent disk storage subsystem, a spooling capability, and an intelligent communications capability. This distributed processing concept not only reduces the CPU's workload, but provides more efficient system input. The disk processor is also capable of performing selected error checking/correction routines. Another function performed by the processor is automatic execution of test routines during the power-up sequence and during system initialization.

The Basic Four EASY II inquiry/reporting system is available for all systems, through the MAI division's branches and dealers.

Systems 210, 510, 610, and 730 use a Tri-State Language Processor which combines the approaches of an interpreter and a compiler. The three states of the language processor are the concurrent compiler state, program processor state, and decompiler state. The concurrent compiler translates each BASIC statement entered by the user into a modified machine language. The object program is then executed and also stored for re-use. The program processor uses the concurrently compiled object program when applications program processing takes place, thus eliminating the need for repetitive interpretation of the source code. The decompiler automatically translates the internal machine language back into its source code form when this is needed for program modification.

Spooling is accomplished through the use of a special SERIAL file and an associated buffer. When the buffer ▷

▶ PPO, a different processor portion replaces that of the base system, increasing computing power approximately 2 1/2 times. PPO allows (1) registers and buffers to be implemented which do not exist in the base machine and (2) two bytes to be pipelined during processing instead of a single byte.

PPO is required for any system with over 128K bytes of memory or more than 16 serial devices. The addition of PPO to a 510 or 610 increases the processing power of either system to that of the 730. PPO can be built into a new system or installed in the field.

CONTROL STORAGE: The PROM (programmable read-only memory) for the System 210 is composed of 2560 bytes, and for Systems 510, 610, and 730, 2048 bytes. Basic Four does not allow user access to PROM.

REGISTERS: None apparent to users. The computing capability in the CPU is handled by an 8-bit ALU. Temporary storage is in the form of sixteen 8-bit scratchpad registers. There are seven additional registers in the CPU which are used for various operations such as linkage and storage protection.

INDIRECT ADDRESSING: Yes, to one level.

INSTRUCTION REPERTOIRE: 134 instructions, including:

Control (12)
Conditional jumps (21)
Shift (12)
Decimal digit (3)
Input/output (6)
Register operate (23)
Stack control (13)
Character/string manipulation (24)
Memory reference (20)

Memory reference instructions include jump, compare, and variable word-length operations.

INSTRUCTION TIMING: The following execution times are given in microseconds for two-byte word (16-bit) ▶

Basic Four 210, 510, 610, and 730

▷ becomes full, it is automatically written to the SERIAL file. Data for several print lines is transferred in a single disk access.

The System 730 offers a number of communications options. Thirty-one full-duplex asynchronous communication channels allow remotely located printers and video display terminals to be connected to the CPU over ordinary telephone lines. The optional binary synchronous communications controller provides high-speed communications capabilities. Supporting two independent channels and an integral automatic dialing port, a 730 can communicate with either another Basic Four system or a foreign computer.

Basic Four offers DataWord II for use on all systems. DataWord II is a hardware/software package that enables the system to perform data processing and word processing concurrently, using the same data base. DataWord II operates under BOSS and utilizes Multifunction Display Terminals (MDTs) and letter quality printers. All systems can support up to four MDTs and up to four word processing printers.

In May 1981 the DataWord II software was enhanced for Basic Four systems with a level 4.2 operating system. Most of the 19 additional features upgraded the word processing aspects of DataWord II, however, the following features improved data processing: (1) dynamic allocation of memory, which allows users to re-allocate 8K bytes of memory for data processing tasks when the VDT emulation is not in use; (2) error recovery, which causes DataWord II to keep track of what was happening prior to a power failure; and (3) use of the word procesing printer for data processing reports, which allows the letter-quality printer to be addressed as a data processing printer to produce documents that look typed (such as price lists and parts catalogs).

Basic Four Information Systems Division provides both an enhanced BASIC language programming capability and separately priced applications programs. Thus, in its appearance to the user, a Basic Four computer can be a turnkey system that is prepared for customer delivery in a ready-to-run condition. Although many users confront the system at the turnkey business machine level, an increasing percentage of users are doing their own programming or contracting with independent organizations for applications programming.

In 1979, MAI acquired a significant in-house software capability through the purchase of Interactive Computer Systems (ICS) which then became the MAI Application Software Corporation (ASC). For the past few years ASC has developed and installed application software programs for Basic Four systems in the United States.

MAI's Basic Four division has established branch education centers and a customer training program to provide relevant computer information to all levels of users: operators, programmers, and management. ▷

▶ operands. The timings vary according to the addressing mode used.

Load A	6.8 to 10.2
Store A	7.0 to 10.4
Jump of A & B	5.2 to 6.0
Add to A	7.4 to 10.8
Subtract from A	7.4 to 10.8

INTERRUPTS: There are eight interrupts available in the Basic Four processor. The system is one of priority interrupts for internal processor interrupts, I/O peripheral device interrupts, and groups of individual external interrupts. Each such interrupt has its own unique memory address and priority assignment. External interrupts occur at device controllers or at interrupt modules on the Byte I/O bus. Internal interrupts enjoy priority over external ones and are dedicated to console interruption, power fail/restart, real-time clock, and user-selectable, optional interrupts.

PHYSICAL SPECIFICATIONS: Basic Four systems do not normally require raised flooring or special air conditioning. A relative humidity of 40 to 60 percent is tolerated. For installations with carpeted floors, a minimum of 50 percent relative humidity is required. Temperature must be kept under 80 degrees F. Power requirements are 115 VAC, 60 Hz. An area of 224 square feet is sufficient to house a basic system and provide for maintenance. Each Basic Four processor is housed in an area two feet wide and three feet deep; this does not include desk space for the CRTs, printers, or disk drives.

INPUT/OUTPUT CONTROL

I/O operations can take place via the direct memory access channel (DMA) at speeds of up to 1.25 million bytes/second or via the I/O bus at up to 20,000 bytes/second. Each type of peripheral device requires a different I/O controller, and each I/O controller, in turn, requires a slot in the central processor.

CONFIGURATION RULES

Of the 19 available slots in the CPU cabinets for the 510, 610 and 730, and the 12 available slots in the System 210, two are reserved for power supplies. In addition, the base System 210 uses 6 slots: 1 for 64K bytes of memory, 2 for CPU controllers, 1 for a disk controller, and 1 for a magnetic tape controller. The base 510, 610 and 730 systems use 7 slots: 1 for 64K bytes of memory, 2 for CPU controllers, 2 for disk controllers, 1 for a parallel printer controller, and 1 for asynchronous communications.

Each additional peripheral device requires slots as follows: 1 for every 8 VDTs, 1 for each parallel controller, 1 for each tape controller, 1 for bisynchronous communications, and 1 for each 32K bytes, 64K bytes or 128K bytes of memory.

WORKSTATIONS: Systems 210, 510, and 610 support up to 16 workstations; System 730 supports up to 32.

DISK STORAGE: The System 210 supports one fixed-disk unit with a capacity of 10, 14, 21, 28, 42, or 57.4 megabytes; the 510 supports up to four removable units with capacities of 20, 30, or 75 megabytes; the 610 supports up to four 35- or 75-megabyte removable disk units; and the 730 supports up to eight 75-megabyte removable disk units.

MAGNETIC TAPE UNITS: A 9.2-megabyte cartridge tape drive is standard on System 210, and an option on systems 510, 610, and 730 for backup capabilities. An 800/1600 bpi, NRZI/PE, 9-track tape drive is optionally available for all systems.

PRINTERS: An 80 cps printer is standard on the System 210, and is expandable to two 150-lpm, 300-lpm, or 600-lpm printers; a 120 cps printer is standard on the System 510 and is ▶

Basic Four 210, 510, 610, and 730

▷ Maintenance of the Basic Four systems is handled by MAI's Sorbus Service Division through an extensive network of offices in 160 cities all over the U.S.

USER REACTION

Thirty-seven Basic Four users completed Datapro's 1981 minicomputer survey, reporting on a total of 39 installed systems, with an average installation time of 20 months. Of these, four were using the 400/410 systems, twenty the 600/610 systems, and eleven the System 730; two were using earlier systems.

The average 400/410 configuration consisted of 64K to less than 128K bytes of memory, 20M bytes to less than 80M bytes of disk storage, and from 1 to 5 workstations; the average 600/610 installation included 64K to less than 128K bytes of memory, 20M bytes to less than 80M bytes of disk storage, and from 1 to 5 workstations. A typical 730 configuration included from 64K to less than 256K bytes of memory, 80M bytes to less than 200M bytes of disk storage, and from 6 to 15 workstations. The earlier systems consisted of 32K bytes to less than 64K bytes of memory, 5M bytes to less than 20M bytes of disk storage, and from 1 to 5 workstations.

Manufacturing was the primary industry reported using Basic Four systems. Other responding Basic Four users were from the fields of public accounting/consulting, retail/wholesale, and banking/finance/securities.

The following table is a summary of the ratings assigned by these users.

	Excellent	Good	Fair	Poor	WA*
Ease of operation	27	10	0	0	3.7
Reliability of mainframe	20	15	2	0	3.5
Reliability of peripherals	10	24	2	0	3.2
Maintenance service:					
Responsiveness	11	19	5	2	3.0
Effectiveness	11	15	8	1	3.0
Technical support:					
Trouble-shooting	6	12	12	4	2.6
Education	2	14	8	9	2.3
Documentation	2	16	7	9	2.3
Manufacturer's software:					
Operating system	21	12	1	1	3.5
Compilers & Assemblers	17	10	3	0	3.5
Applications programs	12	10	6	0	3.2
Ease of programming	23	13	0	0	3.6
Ease of conversion	10	16	7	1	3.0
Overall satisfaction	15	16	6	0	3.2

*Weighted Average on a scale of 4.0 for Excellent.

These ratings show that users were generally well satisfied with their Basic Four systems. Twenty-two users were happy with system response time, 23 felt that the Basic Four systems were easy to expand or reconfigure, and 14 felt that Basic Four's productivity aids kept programming costs down.

Some disadvantages mentioned were: the computer proposed by the vendor was too small (5 users), the ▷

▶ expandable to two 150-lpm or 300-lpm printers; a 150-lpm printer is standard on the System 610 and is expandable to two 150-lpm, 300-lpm, or 600-lpm printers; a 300-lpm printer is standard on the System 730, and is expandable to two 150-lpm, 300-lpm or 600-lpm printers.

DATA COMMUNICATIONS: Standard to all systems are full-duplex asynchronous communications channels which allow remotely located printers and video display terminals to be connected to the central processing unit over ordinary telephone lines.

Synchronous communications permitting a Basic Four CPU to communicate with another Basic Four CPU or a foreign computer in a distributed network is optional on all systems.

Data communications runs concurrently with both data processing and word processing, and is available on all current products.

MASS STORAGE

2460 DISK STORAGE: Provides 10 million bytes of on-line fixed-disk user storage for the System 210. Enclosed in the 210's CPU, the 2460 has a sector capacity of 1024 bytes and a track capacity of 16 sectors per track. Maximum disk storage is 57.4 million bytes, although upgrades are available in smaller increments.

2520 DISK STORAGE: Provides 20 million bytes of storage on a removable disk pack and is standard on the System 510. Average seek time is 30 milliseconds, rotational speed is 3,600 rpm, and data transfer rate is 1.2 million bytes per second.

2530 DISK STORAGE: Provides 35 million bytes of direct-access storage on a removable disk pack and is standard for System 610. Average positioning time is 30 milliseconds, average rotational delay is 8.3 milliseconds, and data transfer rate is 1.2 million bytes per second.

2580 DISK STORAGE: Provides 75 million bytes of direct-access storage on a removable disk pack and is standard for System 730. Average positioning time is 30 milliseconds, average rotational delay is 8.3 milliseconds, and data transfer rate is 1.2 million bytes per second. The manufacturer is Century Data.

INPUT/OUTPUT UNITS

See Peripherals/Terminals table.

COMMUNICATIONS CONTROL

8140 INTELLIGENT MULTI-LINE CONTROLLER (IMLC): Provides intelligence support for synchronous communications between two Basic Four systems or between a Basic Four computer and a non-Basic Four system. Microprocessor-based, the controller supports two independent and concurrent data communications lines with an integral automatic dialing port. Optional on all models, software emulation is provided for 2770/3770, 2780/3780 protocols for both ASCII and EBCDIC transmissions codes. Speeds up to 9600 bits per second are supported over the public telephone network. A communications emulator and a special operating system are required to support communications.

SOFTWARE

OPERATING SYSTEM: All systems use BFC's Basic Operating System Software (BOSS), the operating system initially introduced with the Basic Four systems. Operating system functions are memory-resident, stored in 48K bytes of protected read/write memory on all systems. Most BOSS levels comprise five special purpose modular components: (1) ▶

Basic Four 210, 510, 610, and 730

▷ equipment is excessively noisy (4 users), and the vendor did not supply all promised software support (3 users).

Asked if they would recommend this system to another user, thirty-two answers were positive, four negative, and one "hadn't decided."□

▶ the EXECUTIVE, which regulates execution of programs, schedules I/O operation, and keeps track of data storage allocation; (2) the INTERPRETER, which translates words into action via the concurrent compiler, the program processor, and the decompiler; (3) the SPOOLER, which streamlines throughput to printer operations; (4) the configurator, containing the OS modules unique to each system; and (5) the DISK SUBSYSTEM, containing the many features of BOSS.

Features of BOSS include: compiler/lister, power fail-safe, public programming, program security/system security, multi-level directory facility, execution scheduling, file management/disk control, disk sector caching, directory caching, ghost tasking, and job control/memory management.

The Basic Four systems employ a compiler/interpreter called the Tri-State Processor that requires 24 bytes of main memory for a 4-workstation system plus approximately 8K bytes for each partition and/or additional workstation. The Tri-State Processor consists of a concurrent compiler, a program processor, and a decompiler. The concurrent compiler translates each Business BASIC statement entered into an internal language or object program. As each statement is entered, it is checked for syntactical errors, and, if correct, it is compiled or translated into the object language, which compresses the source statement. The program processor uses the concurrently compiled object program when application program processing takes place (at execution time), thus avoiding the need for repetitive interpretation of the source program. The decompiler translates the object language back into source form when needed for program modification.

LANGUAGES: All models utilize Business BASIC, an enhanced version of the BASIC lanuage, supported by system-oriented I/O control, formatted I/O, data file management, and decimal arithmetic subroutines.

File and error handling are improved and extensively changed from the original version of Business BASIC. The time required to create a DIRECT file and do DIRECT file key searches has been reduced. All files, whether DIRECT or INDEXED, may be blocked to a variable, predetermined record size. Records may range in size from 0 to 32,768 characters, provided that a file starts on a sector boundary.

WORD PROCESSING: Basic Four's DataWord II is a hardware/software package which enables data processing and word processing to function concurrently, using the same data base. DataWord II operates under special levels of BOSS and utilizes Multifunction Display Terminals (MDTs) and letter quality printers. DataWord II is available for all Basic Four systems, with all systems supporting up to four MDTs and up to four word processing printers.

Some of DataWord II's word processing features are: paragraph assembly, horizontal and vertical scrolling, letter generation, global search and replace, and automatic repaging.

UTILITIES: The Tri-State Processor and BOSS support a number of utilities written in Business BASIC. Included are file copy, disk copy, disk sort, list programs, cross reference

programs, file dictionary display, and file to file data communications transfer utility.

APPLICATIONS SOFTWARE: Basic Four information systems are designed to be used with a wide variety of business software applications for specialized functions and industries. Applications software is available from both independent software vendors and a network of authorized software distributors licensed by MAI Applications Software Corporation (ASC). ASC licensed software applications packages include: the Membership Management System, the Comprehensive Business System (CBS III), the Job Cost Management System, and the Property Management System.

The Membership Management System is an application software package aimed at membership organizations. It is designed to handle a wide range of membership and employee accounting tasks. The package provides modules to handle:

● Membership Accounts Receivable
● Server Commissions
● Payroll
● Accounts Payable
● General Ledger
● Inventory Control
● Food/Beverage Sales Analysis.

CBS III is the third generation of Basic Four's Comprehensive Business System. The CBS III application package is designed to meet general accounting requirements common to most industries. It contains nine modules for the following areas:

● General Ledger
● Order Processing
● Accounts Receivable
● Sales Analysis
● Inventory Control
● Purchase Order Processing
● Accounts Payable
● Payroll
● Fixed Assets.

The Job Cost Management System is designed to accommodate the accounting and internal control requirements of construction and service contract firms. All costing information is captured automatically from transactions generated from accounts payable, accounts receivable, general ledger, and payroll to produce a full range of reports reflecting cost-to-date, budget, and variance information. The six-part system consists of:

● Standard Accounting Applications
● Job Cost
● Job Cost Receivables
● Job Estimating
● Job Cost Loan Disbursement
● Equipment Costing.

The Property Management System is designed for users who manage commercial and residential property, combining the CBS III standard accounting applications and supporting residential income property audit and reporting requirements. This package provides all current information on rents, deposits, delinquencies, vacancies, and trust fund accounting.

Dealer-developed packages are available for general business applications; for the construction, manufacturing, transportation, printing and publishing, wholesale and retail trade industries; for finance, insurance, and real estate activities; and for various service organizations and utilities.

The Exception Analysis SYstem II (EASY II) is an interactive and self-guiding system used to produce a wide variety of ▶

Basic Four 210, 510, 610, and 730

▶ special reports. The user needs only to respond to easy-to-understand questions in order to create new reports. EASY II analyzes the information files and formats reports automatically. Output is displayed either on the printer or VDT. EASY II also remembers the organization of reports that have been run. Once it has been produced, the report name is all that is required to call out a new report reflecting current information derived from the most recent data on file.

EASY II works with all Basic Four program products, and will run on any Basic Four system, using the appropriate levels of BOSS. EASY II is available from Basic Four's branches and dealers.

PRICING

POLICY: Basic Four systems are available for purchase or on a third-party lease, and with separate charges for

maintenance. Unlimited usage of the system is permitted at no additional maintenance charge.

Maintenance is provided by more than 1200 service representatives located in more than 160 U.S. cities by MAI's Sorbus Service division. Maintenance contracts begin after the 90-day warranty period has expired.

SOFTWARE: The cost of the operating system, Business BASIC, and DataWord II is included in the purchase price of the system. All applications software is separately priced, and is available from MAI's Applications Software Corporation.

EQUIPMENT: The components and prices of the various packaged configurations of the Basic Four computer systems are listed in the Equipment Prices section that follows.

EQUIPMENT PRICES

		Purchase Price	Monthly Maint.
		I	

PROCESSOR PACKAGES

		Purchase Price	Monthly Maint.
System 210	Includes CPU with 64K bytes of memory, 10-megabyte disk, one VDT, 80-cps printer, 9.2-megabyte magnetic tape cartridge unit, BOSS tape cartridge. (Requires Model 7943 with third serial device.)	$25,740	$270
System 510	Includes CPU with 64K bytes of memory, 20-megabyte disk, one VDT, 120-cps printer, 8-port terminal controller.*	46,600	407
System 610	Includes CPU with 64K bytes of memory, 35-megabyte disk, one VDT, 150-lpm printer, BOSS system pack, and asynchronous communications feature, 8-port terminal controller.*	54,870	429
System 730	Includes CPU with 96K bytes of memory, two 75-megabyte disk drives, 300-lpm printer, and four VDTs, 8-port terminal controller.*	99,570	771

*Additional terminal controllers are required for more than 8 serial devices. See MEMORY/PROCESSOR OPTIONS.

MEMORY/PROCESSOR OPTIONS

		Purchase Price	Monthly Maint.
7940	Eight-terminal controller (for 9th through 16th devices) for System 730	N/C	30
7943	Eight-terminal controller for System 210	2,500	30
7944	Eight-terminal controller (for 9th through 16th serial devices) for Systems 510 and 610	4,000	30
7945	Eight-terminal controller expansion kit (for 17th through 24th serial devices) for System 730	4,000	30
7946	Eight-terminal controller (for 25th through 32nd serial devices) for System 730	4,000	30
9155	CPU Upgrade, Power Performance Option, a prerequisite to systems with memory over 128KB. Model 7943 terminal controller is a prerequisite; for System 210.	4,000	25
9152	CPU Upgrade for Systems 510 and 610	7,000	30
	Memory upgrades**		
	64KB to 96KB	2,240	15
	64KB to 128KB	4,100	30
	64KB to 160KB	6,340	45
	64KB to 192KB	6,600	60
	64KB to 224KB	8,840	75
	64KB to 256KB	10,700	90
	96KB to 128KB	2,240	15
	96KB to 160KB	4,100	30
	96KB to 192KB	6,340	45
	96KB to 224KB	6,600	60
	96KB to 256KB	8,840	75
	96KB to 320KB	12,940	110
	96KB to 384KB	15,440	110
	96KB to 448KB	19,540	170
	96KB to 512KB	22,040	170

Memory Modules (available only with software memory upgrades, as required).

		Purchase Price	Monthly Maint.
1307	Memory, 32KB module for Systems 510 and 610	N/C	N/C
1308	Memory, 64KB module	N/C	N/C
1309	Memory, 128KB module	N/C	N/C

**Memory upgrades are software only. When required, memory modules may be ordered at no charge with the software memory upgrade. Memory modules are not sold separately.

Basic Four 210, 510, 610, and 730

EQUIPMENT PRICES

		Purchase Price	Monthly Maint.
MASS STORAGE			
	Disk storage upgrades for System 210		
2471	10MB to 14MB user capacity	1,620	5
2472	10MB to 21MB user capacity	2,970	25
2473	10MB to 28MB user capacity	4,180	45
2474	10MB to 42MB user capacity	6,566	65
2475	10MB to 57.4MB user capacity	8,910	100
	21MB to 28MB user capacity	2,403	N/A
	42MB to 57.4 user capacity	4,622	N/A
2531	Disk storage upgrade; 20MB to 35MB; all drives must be upgraded at the same time; for System 510	5,400	12
2581	Disk storage upgrade; 35MB to 75MB; all drives must be upgraded at the same time; for Systems 510 and 610	7,350	20 (1st drive) 60 (2nd/4th drive)
2520	Disk drive; 20 megabytes; includes one 2950 disk pack; an optional back-up for System 510	7,700	70
2530	Disk drive; 35 megabytes; includes one 2950 disk pack; for Systems 510 and 610	12,700	70
2580	Disk drive; 75 megabytes; includes one 2950 disk pack; for Systems 510, 610, and 730	16,000	130
2580-2	Two disk drives; 150 megabytes; includes one 2950 disk pack; for Systems 510, 610, and 730	29,680	260
2580-3	Three disk drives; 225 megabytes; includes one 2950 disk pack; for Systems 510, 610 and 730	44,043	390
2580-4	Four disk drives; 300 megabytes; includes one 2950 disk pack; for System 710	58,300	520
2580-5	Five disk drives; 375 megabytes; includes one 2950 disk pack; for System 710	72,300	650
2580-6	Six disk drives; 450 megabytes; includes one 2950 disk pack; for System 710	86,100	780
2585	Disk expansion feature required when system exceeds 300 megabytes	1,700	N/C
2950	Disk pack, capacity determined by the drive	595	N/C
MAGNETIC TAPE EQUIPMENT			
6402	Magnetic tape cartridge drive; 9.2 MB capacity for System 730	4,000	30
6403	Magnetic tape cartridge drive; 9.2 MB capacity for Systems 510 and 610	4,000	30
6510	Magnetic tape drive; 800/1600 bpi, 9-track, for System 210	12,500	65
6511	Magnetic tape drive; 800/1600 bpi, 9-track, for Systems 210, 510, 610, and 730	16,500	124
PRINTERS			
3040	DataWord II letter-quality printer; 45 cps, 10/12 cpi; for use with DataWord II MDT (7561)	5,490	50
	DataWord II double-wide printer; 40 cps, 10/12 cpi; for use with DataWord II MDT (7561)	7,500	50
3253	Serial Printer; 80 cps	4,950	50
3258	Serial printer; 120 cps, for Systems 210, 510, 610, and 730	5,950	55
3151	Line Printer; 150 lpm, available only for System 510 as a substitute for Model 3252	3,400	10
3152	Line Printer; 150 lpm	8,300	65
3562	Line Printer; 300 lpm	12,500	85
3600	Drum Printer; 600 lpm	18,975	140
TERMINALS			
7270	Video Display Terminal (VDT); 24 lines by 80 characters, ASCII keyboard	3,200	25
7561	DataWord II Multifunctional Display Terminal (MDT); 64 lines by 80 characters, ASCII keyboard; can support one 3040 DataWord II printer	4,500	55
COMMUNICATIONS			
8140	Intelligent Multi-line Controller (IMLC) for binary synchronous communications, including cable (requires Model C-110 Communications Emulator and S-280 operating system)	1,620	10

SOFTWARE PRICES

	One-time License Fee
EASY II for System 210	$ 800
EASY II for Systems 510, 610 and 730	1,200
Model C-110 Communications Emulator	1,000
Applications Software (from MAI's Applications Software Corporation)*	
CBS III	N/A
Membership Management System	N/A
Job Cost Management System	N/A
Property Management System	N/A

*ASC fees are based on individual licensee's area and needs.■