

Honeywell Series 60

NEW PRODUCT ANNOUNCEMENT

Honeywell lowered the price threshold for both of its large-scale multidimensional operating systems in January 1975, when it announced two new computer models in its Series 60 product line. The new central processors are the Level 66 Model 66/10, the smallest and lowest-priced Series 60 processor that can use the full-scale GCOS Level 66 operating system, and the Model 68/60, an entry-level processor for executing the Multics virtual memory operating system.

SERIES 60 MODEL 66/10

With typical monthly rentals ranging from approximately \$13,500 to \$28,000 on a five-year lease, the Model 66/10 computer system fits nicely in the \$10,000 to \$20,000 rental range that went unfilled in the original April 1974 announcement of the Series 60 product line. In architecture and systems software, the 66/10 represents a downward extension of the four previously announced Level 66 processor models (the 66/20, 66/40, 66/60, and 66/80), and operates under the full-function version of Honeywell's GCOS operating system.

The Model 66/10 achieves its economies through the use of an integrated control unit that contains the I/O Multiplexer, system controller, mass storage processor, and unit record processor. Its peripheral performance and expansion capabilities are somewhat restricted in comparison to larger models in the Level 66 family. For example, the Model 66/10 comes only in single-processor, single-I/O-Multiplexer configurations. It employs metal oxide semiconductor (MOS) main memory in sizes of 327,680, 393,216, or 524,288 bytes—half the maximum main memory size available on the next larger Model 66/20 system. The Model 66/10 main memory has a cycle time of 1.4 microseconds per 8 bytes (the same as that of the Models 66/20 and 66/40) and features the same automatic error detection and correction capabilities as the larger Level 66 main memories.

Peripheral capabilities include a maximum of eight MSU0310 or MSU0400 Mass Storage Units, up to eight MTU 410 Magnetic Tape Units, and up to four unit record peripherals, including 1050-cpm card readers, 100- to 400-cpm card punches, or 1100- or 1200-lpm line printers. For on-line document entry, a DHU 1600 Document Handler for up to four document reader/sorters can also be attached to the Model 66/10 system.

Communications network handling capabilities for the Model 66/10 are provided by the DCP 6624, the smaller of the two available versions of the DATANET 6600 Front-End Network Processor. The DCP 6624 has a memory capacity of up to 49K bytes and can handle up to 56 communications lines with speeds ranging from 50 to 50,000 bits per second.

GCOS for the Model 66/10 provides the full multidimensional characteristics of Level 66 GCOS, including time-sharing, transaction processing, local and remote batch processing, interactive processing, direct program access, message switching, and on-line document entry. In addition, numerous Honeywell-supplied applications packages are available including Production Scheduling and Control/66, Inventory Management System/66, Bank Information System Network (BISNET), Check Handling Executive Control System (CHECS), Computerized Publication, and a number of mathematical and statistical and management science packages.

An entry-level Model 66/10 configuration including 327,680 bytes of MOS memory, two disk storage units, three magnetic tape units, card reader, printer, and system console can be rented for \$13,410 per month on a five-year lease. Purchase price for the same configuration is \$646,160. First deliveries are scheduled for July 1975.

MODEL 68/60 MULTICS SYSTEM

The Model 68/60 system, also introduced in January 1975, makes available the advanced features of Honeywell's Multics virtual memory operating system at rentals of slightly less than \$50,000 per month on a five-year lease. The new Model 68/60 features the same central processor as the larger Model 68/80 Multics system, minus the 2048-word high-speed cache memory that is standard on the Model 68/80, and provides approximately two-thirds of the processing power of a comparably configured 68/80 system.

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On April 23, 1975, exactly one year to the day after announcing its new Series 60 product line, Honeywell added the Model 62/40 processor to the lineup of Series 60 systems being marketed in the United States. The new, small-scale processor, with monthly system rentals in the \$2,400 to \$5,400 range, is targeted directly at the IBM System/3 Model 10 and marks the beginning of a distinctly more aggressive Series 60 marketing policy. (One week later, Honeywell lowered the price of an entry-level Series 60 Model 61/60 transaction processing computer to \$1,900 per month on a five-year lease to make that system directly competitive with the IBM System/3 Model 8.)

To spearhead its second direct attack on the IBM customer base, Honeywell has revived its Liberator marketing concept, a strategy that succeeded in converting large numbers of IBM 1400 accounts to the Honeywell Series 200 in the early 1960's. The new Liberator/3 package consists of the Model 62/40, manufactured in Italy and announced earlier in Europe, a complement of new System/3-compatible peripherals, a compatible RPG compiler, and a set of conversion aids for System/3 user programs and data files.

The minimum Model 62/40 configuration consists of a processor with 57,344 bytes of main memory, a system console with keyboard printer and one magnetic tape cassette drive, 11.6 million bytes of disk storage, a 400-line-per-minute printer, and a 300-card-per-minute 96-column card reader. This system rents for \$2,327 per month on a five-year lease, plus \$71 per month for RPG, a sort/merge program, and the utilities. The purchase price for this configuration is \$108,250.

The central processor includes memory protection, parity checks on memory accesses and I/O transfers, and a repertoire of 140 instructions including packed and unpacked decimal add, subtract, multiply, and divide. Internal data representation is EBCDIC, and total I/O throughput of the system is 837K bytes per second. Main memory can be expanded in 8,192-byte increments to a maximum of 98,304 bytes; the cycle time is 1.0 microsecond per two bytes.

Peripherals for the Model 62/40 include Honeywell's MSU0310 Disk Pack Drive with a capacity of 29.2 million bytes, previously announced for the Model 62/60, and three new disk cartridge units that can read files stored on System/3 Model 5444 Disk Drives. The minimum disk configuration consists of an MSU0112 Mass Storage Unit, which includes one 5.8-million-byte fixed disk and one 5.8-million-byte removable disk cartridge sharing a common spindle. The cabinet can house an additional MSU0116 Mass Storage Unit with 5.8 megabytes of fixed disk storage and one 5.8-megabyte removable disk or an MSU0113 with one 5.8-megabyte removable disk cartridge. A second cabinet housing the same combination of disk units expands the subsystem to a maximum of 46.4 million bytes. The maximum combined disk storage capacity of 81.6 million bytes for the 62/40 consists of a combination of one MSU0112, one MSU0116, and two MSU0310 Mass Storage Units.

Other peripheral equipment includes 600-cpm and 1050-cpm 80-column card readers, a 100-cpm 80-column card punch and a choice of 400-, 600-, or 800-lpm printers. The optional 96-column card equipment is manufactured by Decision Data Corporation and includes a 300-cpm card reader and two multifunction card units, with card read speeds of 500 or 1000 cards per minute and 120-cpm punch and print speeds. An integrated communications controller supports up to four synchronous or asynchronous lines with a maximum line speed of 9600 bits per second and a total system throughput of 2400 characters per second.

Software support for the Model 62/40 centers on the GCOS Level 62 operating system, which provides facilities for processing either two batch activities plus an output writer or one batch activity, one communications activity, and an output writer. Level 62 GCOS features dynamic memory allocation, automatic job scheduling, and fail-soft facilities that allow the system to survive certain main memory and peripheral failures. User programs can be written in System/3-compatible RPG or in COBOL 74. In addition, Honeywell offers a large selection of financial management programs, an inventory management and production scheduling and control system, plus sales order processing and inventory management programs for distributors.

Liberator/3 is a conversion package that includes software for automatically converting System/3 RPG II source programs to Level 62 RPG and for translating System/3 Model 5444 and 5445 disk files to Level 62 format. A Level 62 GCOS simulator is also available for converting System/3 Multi-Function Card Unit functions to disk processing.

The Model 62/40 is scheduled for initial delivery in the second quarter of 1975, with the multifunction card units and the 800-lpm printer following in the fourth quarter of 1975.