FOR THE COMPUTER SCIENCES, A FAST, LOW-COST COMPUTER

THE HONEYWELL 300

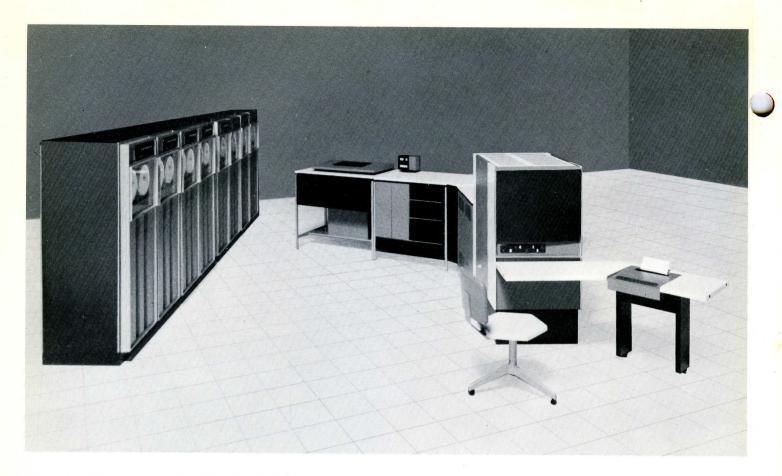
HONEYWELL 400

HONEYWELL 1400

HONEYWELL 800

HONEYWELL 1800





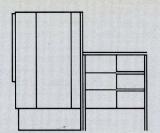
HONEYWELL 300

DESIGNED FOR THE NEEDS OF THE COMPUTER SCIENCES

The Honeywell 300 is a highly versatile system designed for extremely high-speed, high-precision internal manipulations. This single-address, binary-arithmetic computer features a 1.75-microsecond memory cycle (faster than many much larger systems), a 24-bit word (plus parity bit), and a memory capacity of up to 32,768 words (131,072 characters), all directly addressable. Memory growth is gradual and economical, starting with the basic 4,096 words and adding increments of the same size.

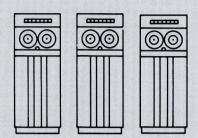
Memory is also characterized by two unusual features: virtual freedom from air-conditioning requirements, thanks to new lithium cores able to withstand temperatures from 0 to 125 degrees Fahrenheit; and an *interlace* feature which allows simultaneous accessing of two words from two different modules at the same time, thereby reducing instruction execution times. Another attractive H-300 capability is a hardware bypass which recognizes optional instructions not included in a given H-300 system and automatically implements these instructions by means of software.

The standard H-300 system accepts peripheral combinations operating under control of an interrupt signal which permits other processing to be performed until an actual peripheral data transfer takes place. Instructions and hardware are provided to generate a selective priority-interrupt and blocking capability. Up to 24 lines can be accommodated in this selection process. For increasing input/output requirements, a peripheral interface is available which allows up to three peripheral operations to be performed *simultaneously* with computing.



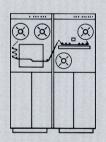
CENTRAL PROCESSOR

The Honeywell 300 central processor consists of main memory, control memory, control unit, arithmetic unit, and input/output linkage. Fixed-point binary words of 24 bits enable operations within a range of ±8 million. Floating-point operations use a 48-bit word composed of a 38-bit mantissa, one-bit mantissa sign, and nine-bit exponent for the most exacting precision requirements.



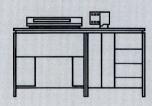
MAGNETIC TAPE UNITS

Both ½-inch and ¾-inch magnetic tape units are available, the first in seven models and the latter in three, with a wide selection of speeds, densities, and transfer rates. These are the renowned Honeywell vacuum-transport mechanisms that treat tape gently and reliably and make fast reel changes possible.



PAPER TAPE UNITS

A choice can be made between high- or moderate-speed paper tape readers. Any 5- to 8-level paper tape code can be read or punched.



HIGH-SPEED PRINTERS

Five printer models vary in speed, print positions per line, and total number of characters. This broad selection of printers, like that of all system components, offers precise fitting to user requirements.

SIMULTANEITY

The peripheral interface feature brings an unusual *simultaneity* to the H-300. Simultaneity was first introduced to the low-price range in Honeywell's uniquely powerful H-200 business computer. The same traffic control system enables the H-300 to perform three peripheral operations *simultaneously* with computing, or with a fourth peripheral operation.

- Internal speed 285,000 average operations per second; over 500,000 with memory
- Minimum memory 4,096 words, expandable to 32,768 words (131,072 characters)
- 500-nanosecond control memory cycle
- Hardware bypass for automatic software implementation of optional instructions not economically feasible in a given configuration
- Advanced memory features: operation over wide temperature range, memory interlace, power failure protection
- Parity check on each word
- Parallel binary operation
- Varied addressing: direct, indexed (6 registers), indirect, multi-level indirect, singleor multi-level indirect-indexed
- Extensive peripheral capabilities

Information Transfer Rates (Characters Per Second)

3/4-inch models

Model 204A-1 Model 204A-2 32,000 64,000 Model 204A-3 88,800

1/2-inch models

Models 204B-1, 204B-2 Models 204B-3, 204B-4 20,000 44,500 66,700 Model 204B-5 Model 204B-6 Model 204B-7 83,400 28,800

- Variable-length records
- Triple-speed rewind
- Read-after-write parity check (1/2")
- Frame and channel check $(\frac{3}{4}")$.
- Vacuum drive and vacuum tape protection
- Up to four \(^3\)/4-inch drives or eight \(^1\)/2-inch drives per control unit; up to 8 control units per system

Information Transfer Rates

Readers — (Two models) 300 and 600 characters per second

Punch — 110 characters per second

- Any 5- to 8-level code
- One reader or punch per control unit; up to 16 high-speed units (in any combination) per system
- Frame parity while reading and punching

Speed (Lines Per Minute) Models 222-1,-2,-3

Model 206

900 to 1260

Model 222-4

950

- One printer per control; up to 16 controls per system
- Variety of paper weights and sizes; multiple copies
- High-speed paper skipping

OTHER PERIPHERAL EQUIPMENT

- Card Reader/Card Punch
- Random Access Disc Storage
- Random Access Drum Storage

- Communication Controls
- Page Printer and Keyboard

MORE COMPUTATIONAL POWER AND PRECISION THAN ANY OTHER LOW-COST SYSTEM

- Fast internal speed: 1.75-microsecond main memory cycle (i.e., 875-nanosecond access); 250-nanosecond control memory access time.
- 285,000 average instruction executions per second; with memory interlace over 500,000 arithmetic operations.
- Wide variety of standard input/output combinations.
- Additional peripheral interface allowing up to three high-speed peripheral operations (e.g., magnetic tape, line printers, etc.) simultaneously with computing.
- Automatic interrupt capabilities.
- Varied addressing techniques for maximum programming flexibility.
- Character-handling capability.

HONEYWELL SOFTWARE AND INSTRUCTIONS COVER THE RANGE OF YOUR COMPUTING NEEDS

Foremost in the H-300 software portfolio are its basic and expanded scientific compilers. These resourceful systems are complete versions of the Fortran II and IV languages, respectively, and, at the same time, go further to provide more efficient, reliable, and effective preparation of scientific programs. Other outstanding software aids include basic (paper tape) and expanded (magnetic tape) assembly systems, ALPS (a linear programming package), PERT, scientific subroutines covering a range of mathematical functions, a program loader, utility programs, tape-handling subroutines, etc.

The H-300 combines a multiplicity of addressing techniques with an extremely versatile instruction repertoire. The more than 50 powerful, single-address instructions are of the following types: fixed-point arithmetic, floating-point arithmetic, logical, control, input/output, and character — and cover the entire range of requirements of the computer sciences.

For more information on Honeywell 300 systems and availability contact your nearby Honeywell EDP Sales Office or write: Honeywell Electronic Data Processing, Wellesley Hills, Massachusetts 02181.

