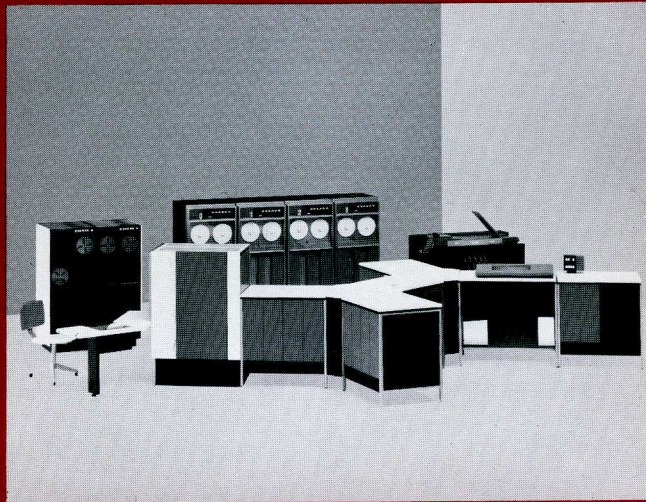
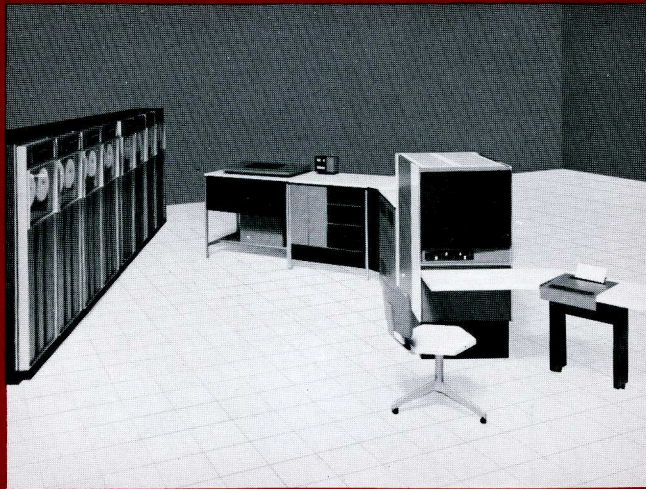
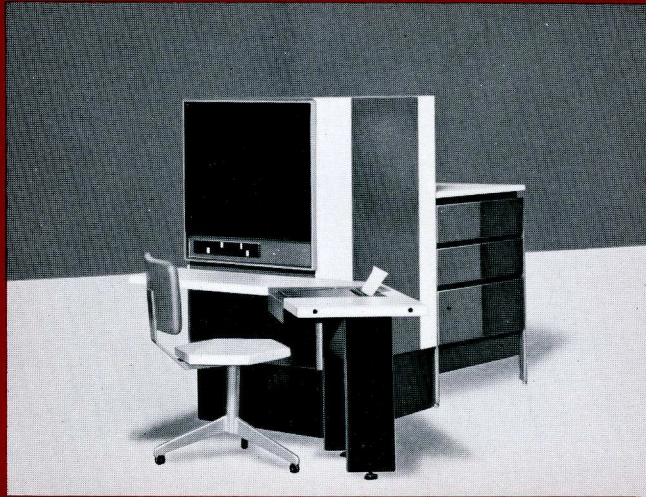


**A SUMMARY
OF FACTS
AND FIGURES
ON THE NEW
HONEYWELL**

300

The Honeywell 300 is an extremely fast and efficient system with a design predicated upon the most exacting needs of the computer sciences. This brochure summarizes the outstanding highlights of this low-cost, highly expandable system.



The Honeywell 300 starts as low as \$2,345 monthly rental for a 4,096-word (16,384-character) system with paper tape input/output and a keyboard printer. Additional input/output and specialized performance features are available to expand the system for the most demanding applications.

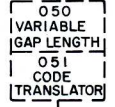
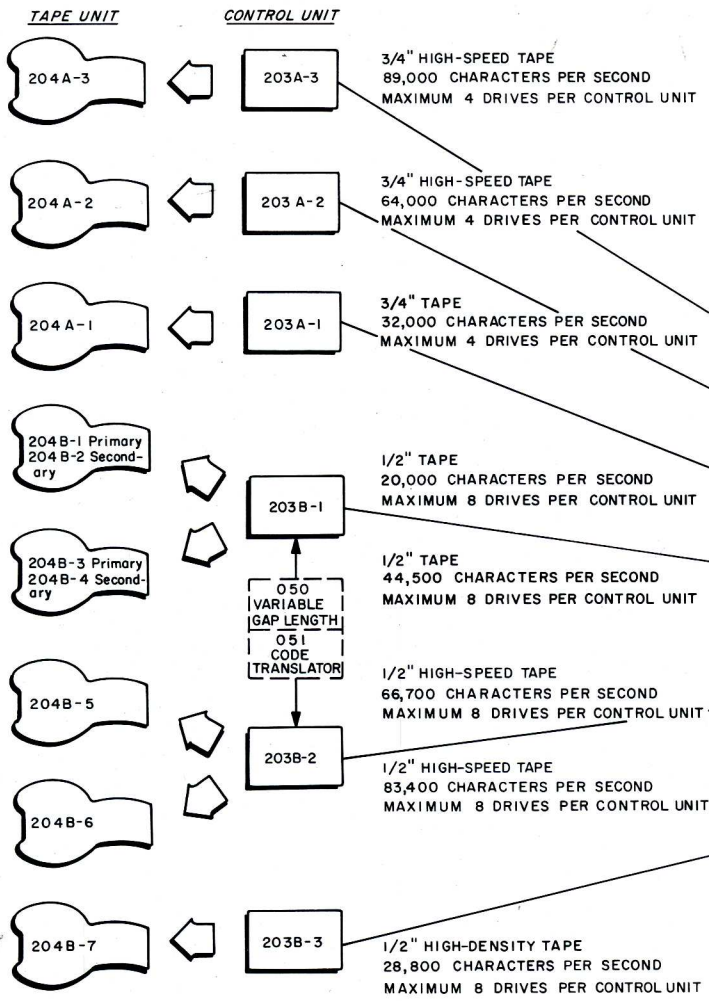
HARDWARE HIGHLIGHTS

- 24-BIT WORD (4 CHAR.) AND PARITY BIT
- SINGLE-ADDRESS INSTRUCTIONS
- 1.75-MICROSECOND MAIN MEMORY CYCLE
(875-NANOSECOND ACCESS)
- 500-NANOSECOND CONTROL MEMORY CYCLE
(250-NANOSECOND ACCESS)
- FIXED-POINT BINARY ARITHMETIC ON 24-BIT WORD
- ADD TO ACCUMULATOR AND ADD TO MEMORY LOGIC
- MEMORY INTERLACED OPERATIONS
- ADD TIME: 3.5 MICROSECONDS*
- MULTIPLY TIME: 7 MICROSECONDS*
- FLOATING-POINT ARITHMETIC ON A 48-BIT WORD:
38-BIT MANTISSA; EXPONENT RANGE 2^{-256} TO 2^{255}
- FLOATING-POINT ADD TIME: 7.0 MICROSECONDS*
- FLOATING-POINT MULTIPLY TIME:
15.75 MICROSECONDS*
- MEMORY EXPANDS FROM 4,096 TO 32,768 WORDS
(16,384 TO 131,072 CHARACTERS)
- ALL OF MEMORY IS DIRECTLY ADDRESSABLE
- 6 REGISTERS FOR INDEXED ADDRESSING
- MULTI-LEVEL INDIRECT ADDRESSING
- UP TO 24 LEVELS OF PRIORITY INTERRUPT
- BUFFERED INPUT/OUTPUT ALLOWS THREE
SIMULTANEOUS OPERATIONS WITH COMPUTATION
- CHARACTER-MANIPULATION INSTRUCTIONS
- AUTOMATIC SOFTWARE IMPLEMENTATION OF
OPTIONAL INSTRUCTIONS NOT IN GIVEN SYSTEM
- CENTRAL PROCESSOR TEMPERATURE RANGE
0 - 125° F.
- NON-VOLATILE MEMORY

* Time without memory interlace

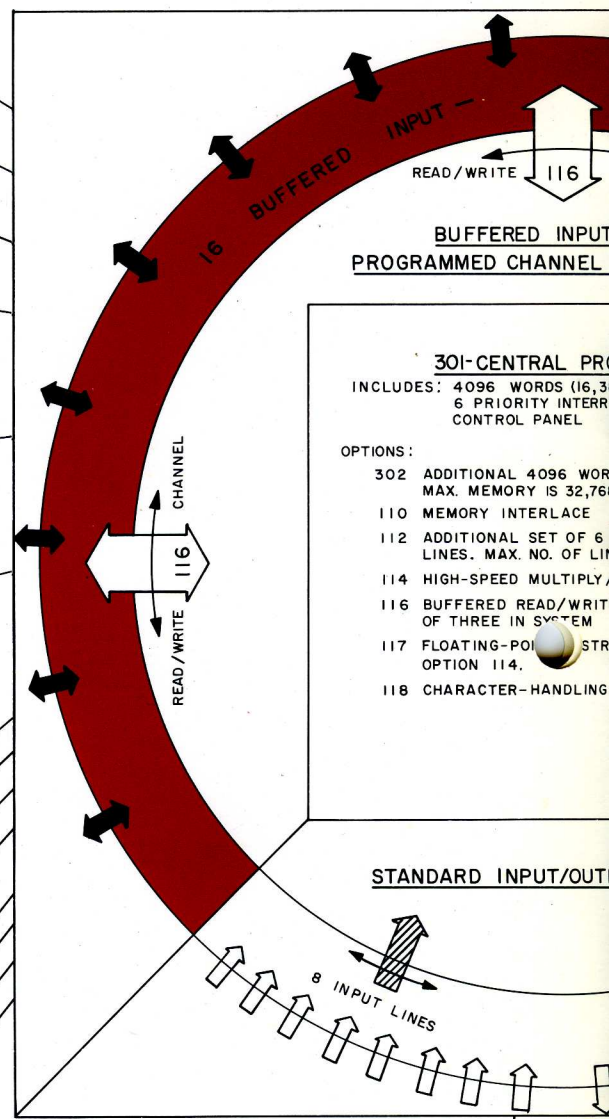
MAGNETIC TAPE EQUIPMENT

HONEYWELL 300 C

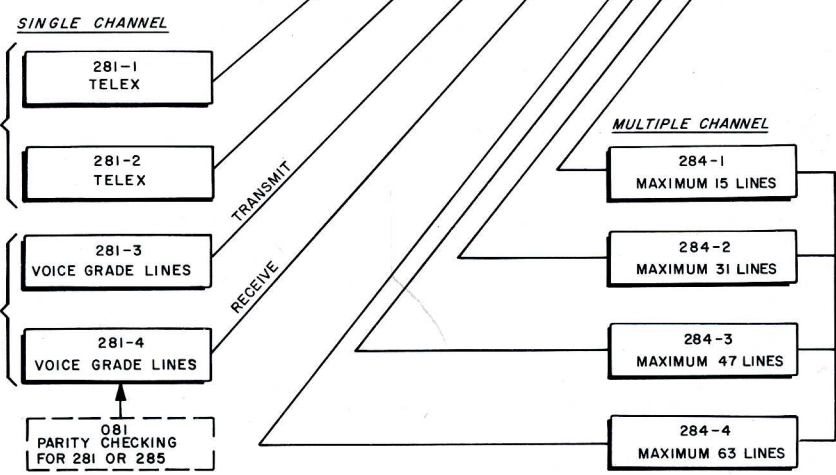


NOTE: ON CONTROL UNIT 203B-1 A PRIMARY DRIVE IS ESSENTIAL, FOLLOWED BY UP TO SEVEN SECONDARY DRIVES.

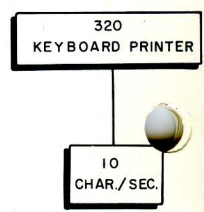
EACH CONTROL UNIT OCCUPIES TWO INPUT/OUTPUT TRUNKS ON THE CENTRAL PROCESSOR, GIVING A THEORETICAL MAXIMUM OF 64 TAPE DRIVES.



COMMUNICATIONS CONTROL EQUIPMENT



KEY BOARD PRINTER EQUIP.



CONFIGURATOR

RANDOM ACCESS EQUIPMENT



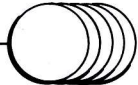
270
DRUM CONTROL UNIT

UP TO 8 RANDOM ACCESS DRUMS
TRANSFER RATE 102,000 CHARACTERS PER SECOND

CAPACITY 2,621,440 CHARACTERS PER DRUM
 20,971,520 CHARACTERS PER CONTROL UNIT

DISC CONTROL UNIT

260-1
 TO 260-9



1,2,3,4,5,6,12, 18 OR 24 DISCS PER CONTROL UNIT

CAPACITY UP TO 100.8 MILLION CHARACTERS IN INCREMENTS OF 4.2 MILLION CHARACTERS

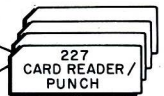
TRANSFER RATE 23,550 TO 64,300 CHARACTERS PER SECOND

PUNCHED CARD EQUIPMENT

207
 CARD READER CONTROL

READ AT 800 CARDS PER MINUTE
 PUNCH AT 250 CARDS PER MINUTE

040
 DIRECT TRANSCRIPTION



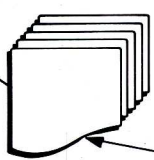
227
 CARD READER/PUNCH

208
 CARD PUNCH CONTROL

060
 DIRECT TRANSCRIPTION
 061
 HOLE COUNT CHECK

017
 STACKER SELECT (READ OR PUNCH)
 062
 PUNCH FEED READ

PRINTER EQUIPMENT



222-1 650 LPM / 96 POSITIONS
 222-2 650 LPM / 108 POSITIONS
 222-3 650 LPM / 120 OR 132 POSITIONS
 222-4 950 LPM / 120 OR 132 POSITIONS

032
 EXTENDED PRINT
 FOR 222-3 & 222-4

PAPER TAPE EQUIPMENT

209
 PAPER TAPE READER AND CONTROL

600
 CHAR./SEC.

210
 PAPER TAPE PUNCH AND CONTROL

110
 CHAR./SEC.

MAGNETIC INK CHARACTER READER EQUIPMENT

233-1
 MICR CONTROL

233-2
 MICR CONTROL

1419
 MICR READER / SORTER

B102 B103
 MICR READER / SORTER

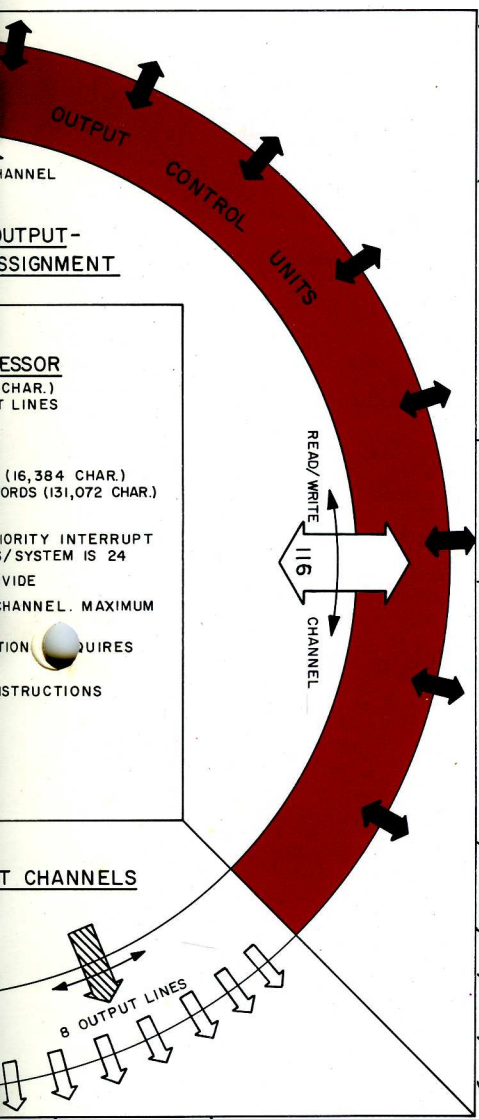
PAPER TAPE EQUIPMENT

309
 PAPER TAPE READER AND CONTROL

300
 CHAR./SEC.

310
 PAPER TAPE PUNCH AND CONTROL

110
 CHAR./SEC.



SOFTWARE HIGHLIGHTS

ASSEMBLY SYSTEMS

- a) Basic symbolic assembly system. For equipment configurations using paper tape or card input/output.
- b) A comprehensive symbolic programming language which uses magnetic tapes as well as paper tape or card input/output. Extensive updating and library facilities are provided.

FORTRAN II

A highly efficient (one pass) scientific-language compiler operating in the compile-and-execute mode. This system operates in a paper tape, card, or magnetic tape environment.

FORTRAN IV

A comprehensive implementation of this advanced scientific language. This compiler operates in the magnetic tape system environment and features extremely high compilation rates, code optimization, assembly language subprogram integration, and operational simplicity.

ALPS 300

Linear Programming System

PERT 300

Program Evaluation and Review Technique

SCIENTIFIC SUBROUTINE LIBRARY

MATHEMATICAL

Differentiation
Exponentiation
Log (natural and common)
Square Root
Roots and Powers
Matrix Transformations
Polynomial Evaluation
Trigonometric
Hyperbolic
Statistical

NUMERIC CONVERSION

Binary to Decimal
Decimal to Binary

INPUT/OUTPUT ROUTINES

Typewriter
Paper Tape
Magnetic Tape
Drum
Disc

UTILITY PROGRAMS

Monitor/Loader
Memory dump
Library update
Source program update

MAGNETIC TAPE HANDLING ROUTINES

Copying
Record Comparisons
Item Location
Positioning

DRUM AND DISC HANDLING ROUTINES

Loader
Sorts
Utility Routines

INSTRUCTION REPERTOIRE

	<u>Mnemonic</u>	<u>Execution Time⁽¹⁾</u> (microseconds)
Arithmetic		
Add to Accumulator	ADD	3.50
Add to Memory	ADM	5.25
Augment Index	AUX	1.75
Subtract from Accumulator	SUB	3.50
Tally	TLY	5.25
Logic		
Decrement and Jump on Index not Zero	DJX	3.50
Extract	EXT	3.50
Half Add	HAD	3.50
Jump on Accumulator Negative	JAN	1.75 or 3.50 ⁽²⁾

THE FINEST FAMILY OF COMPUTERS

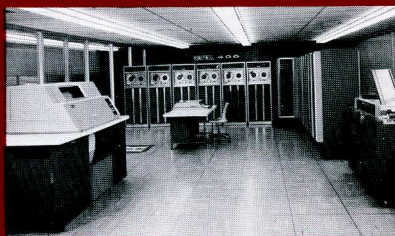
HONEYWELL 200



HONEYWELL 300



HONEYWELL 400



HONEYWELL 1400



HONEYWELL 800



HONEYWELL 1800



Honeywell

ELECTRONIC DATA PROCESSING
WELLESLEY HILLS, MASSACHUSETTS 02181

SECTION III INFORMATION FORMAT

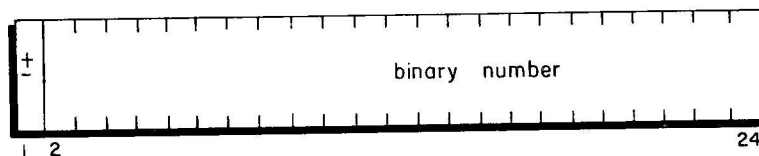
The Honeywell 300 uses a fixed-length, 24-bit word. Associated with each word is a parity bit, the value of which is not subject to program control. Subsequent discussion of the H-300 word, therefore, refers only to the 24 information bits, unless otherwise noted.

Each memory location and each arithmetic register is capable of storing one word. A machine word may represent an instruction or one or more units of data.

The H-300 is a twos-complement machine. That is, all negative numbers are stored in memory in their twos-complement form, and twos-complement arithmetic is used exclusively. Appendix A contains a discussion of twos-complement arithmetic.

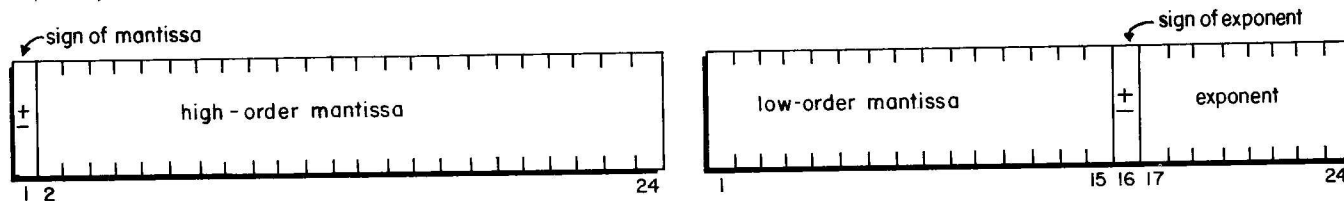
FIXED-POINT WORD

The fixed-point word contains a 24-bit, twos-complement binary number in the range minus 8,388,608 to plus 8,388,607.



FLOATING-POINT WORD

A floating point number occupies two machine words, as shown below. The first word, and the high-order 15 bits of the second word, make up the mantissa. These 39 bits hold a twos-complement binary number in the range $\pm 2.56 \times 10^{11}$. The high-order bit of the first word represents the sign of the mantissa. The exponent occupies bits 16-24 of the second word and is a 9-bit, twos-complement binary number in the range minus 256 to plus 255.



ALPHANUMERIC WORD

The alphanumeric word consists of four six-bit groups. Each group can represent one of 26 characters, 10 decimal digits, or 29 special characters such as punctuation marks, plus and minus signs, etc., or a blank. See Appendix B for a list of the H-300 character codes.