

LEVEL 61

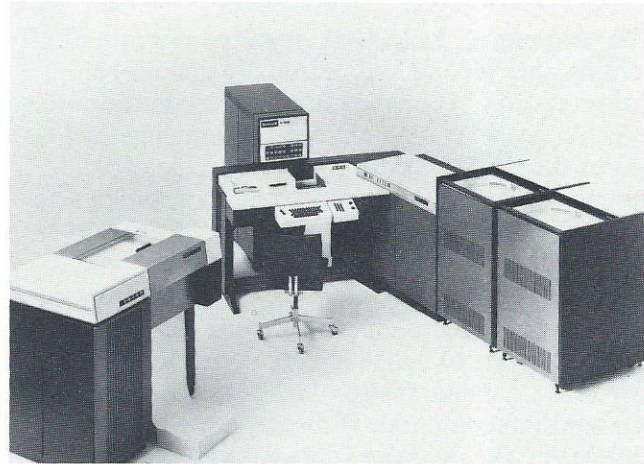
Honeywell's Series 60 Model 61/58 is a small, versatile, low-cost, disk-oriented system available in both batch and multiworkstation configurations. The 61/58 is designed for new computer users and is the logical alternative for other users who need the flexibility and simplicity it provides. The 61/58 Multiworkstation enables simultaneous operation of up to four terminals. In addition, a single-line controller allows any 61/58 configuration to communicate with a host computer.

Model 61/58 features:

- Advanced technology, microprogrammed read-only memory (ROM) with 350 nanoseconds cycle time
- 5K or 10K byte main memory with 1.2 microseconds access time
- Satellite or multiworkstation capability easily and economically implemented
- Low cost, fast access, high-capacity disk subsystem
- Integrated card console includes: card reading station, numeric and alphanumeric keyboards, and 10-position digital display
- Wide range of high-level languages offered: Mini-COBOL, COBOL-68, and a report writer utility: EDITOR
- Integrated operator's control panel provides easily readable, color-coded controls and indicators for monitoring system operation
- Optional Extended Memory Store provides additional 16K to 64K bytes of memory
- Proven application systems available for Manufacturing, Health Care, Education and Financial Management environments
- Powerful GCOS Level 61 operating system supports both multiworkstation and/or batch environment
- Extensive range of peripherals
 - 100- to 650-lpm printers
 - 3.46MB to 92MB mass storage subsystems
 - 100- to 300-cpm card reader

CARD CONSOLE

An integrated card console provides card and keyboard entry stations, as well as a display screen.



Keyboards

The alphanumeric and numeric keyboards permit the direct entry of 63 alphanumeric and special characters, as well as spacing, into memory. Operated like a standard typewriter and standard adding machine, respectively, the keyboards are the most visible elements of the 61/58s transaction-oriented design.

The numeric key pad, located on the right-hand side of the data entry desk, contains a space, colon, semicolon, and ten numeric keys. It is especially useful in fixed data and parameter entry applications. Located on the left-hand side of the desk, the alphanumeric keyboard permits the entry of variable data and extended messages to the programming system. At the operator's discretion, the two keyboards can be joined or separated by a 24-inch knee space. The knee space permits easier operator access to the card reading station and the processor control panel.

Card Reading Station

The operator initiates punched card reading at the card reading station located on the left-hand side of the data entry desk, behind the alphanumeric keyboard. Card reading of standard 80-column cards (and 51-column cards where the application requires) at a rate of 100 cards per minute is provided. With the advanced channeling facilities of

the Model 61/58, card reading under program control can occur simultaneously with processing or with another data transfer. Three optional capabilities are available with the card reading station:

- Option CSF1503 – 200 cards-per-minute reading.
- Option CSF1504 – 300 cards-per-minute reading.
- Option CSF1505 – “mark sense” reading.

The card punch, PCU0040, operates at a rate of 40 columns per second and optionally includes an interpretation of the punched card along the card's upper edge. With the peripheral channeling facilities of the 61/58's central processor, the card punch can operate simultaneously with processing or another data transfer operation.

Digital Display

A 10-position digital-display screen, located beneath the control panel and above the keyboards, provides a communication link between the operator and the computer. It displays information entered by the operator (data entered on the numeric keyboard), or information generated by the Model 61/58 (a number stored within the computer).

Each number is displayed as it is entered on the keyboard. It also displays the colon (:), semicolon (;), and spaces. As there are ten frames in the screen, any combination of ten characters may be displayed at one time. The first character entered appears in the right-most frame, and is shifted to the left as subsequent characters are entered. The last character of each entry automatically appears in the units position. This feature saves keystrokes when numeric entries are of varying length.

CENTRAL PROCESSOR

The central processor, located behind the data entry desk, controls data processing and instruction execution. With the MiniCOBOL programming language, the user requires only a minimum knowledge of central processor operation. As experience with data processing increases, disk system users may easily upgrade to a full American National Standards Institute COBOL programming language.

Main Memory

A modularly-expandable main memory includes 5,120 directly-addressable 8-bit (plus parity) locations. With Option CMM1580, main memory can be expanded to 10,240 byte locations. Main memory access time is 1.2 microseconds.

Up to 100 general-purpose registers in memory are manipulated, as needed, by the software to address instructions and data stored in main memory.

Read-Only Memory

A microprogrammed read-only memory (ROM) with a 350-nanosecond access time, is a dedicated memory segment containing powerful, prewired input/output and processing instructions, such as multiplication and comparison. The ROM also holds tables which are looked up during operations such as addition and subtraction.

Control and Arithmetic Units

A business-oriented arithmetic unit enables hardware add, subtract, multiply, and divide operations at a rate of up to 8,000 per second.

Input/output transfer facilities permit simultaneous processing and data transfer.

Two-level facilities allow the software to efficiently utilize all the other system components with the power and performance of much larger data processing systems.

Extended Memory Store

An optional, modularly expandable (16K to 64K bytes) Extended Memory Store (EMS) can provide improved processing time for 10K disk systems where program segmentation is heavily utilized. The MBS1640 Extended Memory Store consists of MOS-type circuits that feature rapid swapping of program segments during job execution. EMS stores active program segments, object programs, working data and part of the supervisor.

MASS STORAGE

In Model 61/58 disk configurations, the MSS1500 and MSU0310 Mass Storage Units permit the on-line storage of data, executable programs, and various elements of the GCOS Level 61 system on disk packs. Because disk packs are interchangeable, information recorded on them can be stored “on the shelf” in unlimited quantity.

Two to four MSS1500 disk units are available with a storage capacity of 1,728,000 bytes per unit, expandable to 5,760,000 bytes giving a maximum of 23,040,000 bytes. Access time is 72.5 milliseconds. From two to four MSU0310 disk units are available with a storage capacity of 23,040,000 bytes per unit giving a maximum of 92,160,000 bytes. Access time is 52.5 milliseconds.

PRINTING

On the disk-oriented Model 61/58 systems, the printer is the primary output device. The PRU0110/PRU0210 and PRU0301/PRU0451/PRU0651 printers provide reports framed on user-designated forms that can vary in width from three to sixteen inches, at speeds of 100 to 650 lines per minute, and produce up to five carbon copies.

The PRU0110 is a 100-lpm printer with 96 print positions; the PRU0210 is a 200-lpm printer with 128 print positions. Option PRF0111 provides 128 print positions for the PRU0110. The PRU0301 has a print speed of 300 lines per minute with 132 print positions. The PRU0451 and PRU0651 print at 450 and 650 lines per minute, respectively.

CONFIGURATION REQUIREMENTS

The minimum Model 61/58 configuration for the Batch System is:

- Model 61/58 Central Processor with 5,120 bytes of memory
- MSS1500 Removable Disk Storage Subsystem with 3.456 million bytes
- PRU0110 100-lpm printer
- CSU1581 100-cpm Card Reader Console with 10-position display

COMMUNICATIONS

As more and more companies – large and small – decentralize, data communications between facilities become even more vital. The Model 61/58, a small business computer system, can help your company become more efficient through effective data communications.

Satellite System

The Satellite System utilizes the CPF1510 Synchronous Single-Line Communications Control Unit, which enables the 61/58 to serve as a satellite/remote system, with batch capability, that can “talk” with other computer systems, viz., Series 2000/6000/60/50 and IBM 360/370 – whether near or far away. As a satellite system, the 61/58 serves as a vital communications link, enabling both remote batch communications and local processing for businesses with regional or other decentralized facilities.

CONFIGURATION REQUIREMENTS

The minimum Model 61/58 configuration for the Satellite System is:

- Model 61/58 Central Processor with 5,120 bytes of memory
- MSS1500 Removable Disk Storage Subsystem with 3.456 million bytes
- PRU0110 100-lpm printer
- CSU1581 100-cpm Card Reader Console with 10-position display

- CPF1510 Synchronous Single-Line Communications Control Unit

Multiworkstation System

The Multiworkstation System extends the flexibility and processing capabilities of the 61/58 by enabling one, two, three, or four terminals to be directly and/or remotely connected via the CPF1512 Asynchronous Multiline Communications Control Unit. The terminals – teleprinters and/or display screens – can be conveniently located within your company or across the country. Thus, not only local batch processing, but such terminal activities as information retrieval, inquiry, data entry with remote batch, and direct processing with/without immediate file updating can be done.

CONFIGURATION REQUIREMENTS

The minimum Model 61/58 configuration for the Multiworkstation is:

- Model 61/58 Central Processor with 10,240 bytes of memory
- MSS1500 Mass Storage Subsystem with 5.76 million bytes
- PRU0110 non-buffered 100-lpm printer with 128 pp. (Option PRF0111) (non-simultaneous batch/terminals) or PRU0301 buffered printer at 300-lpm (simultaneous batch/terminals)
- CPF1512 Asynchronous Multiline Communications Control Unit
- At least one terminal

SPECIFICATIONS

MAIN STORAGE:

Processing unit: 8-bit byte plus parity
Module size: 5,120 bytes
Memory sizes: 5,120 or 10,240 bytes
Cycle time: 1.2 microseconds
Registers: Ten registers available for base, index, or arithmetic operations; up to location 100₁₀ available for single- or double-precision arithmetic operations; unused registers revert to standard memory

READ-ONLY MEMORY:

Capacity: 3 blocks (768 80-bit words)
Access time: 350 nanoseconds/two 80-bit words

EXTENDED MEMORY STORE:

Capacity: 16K to 64K bytes (optional)

I/O CHANNELS: 4

I/O TRANSFER RATE: Up to 312K bytes per second
OPERATOR CONTROL PANEL: Includes power switches, check indicators, and basic operator/system controls

Specifications may change as design improvements are introduced.

GCOS LEVEL 61 SOFTWARE CONFIGURATOR

Required

Operating system including: language processor, data management, and message management.

Select One:

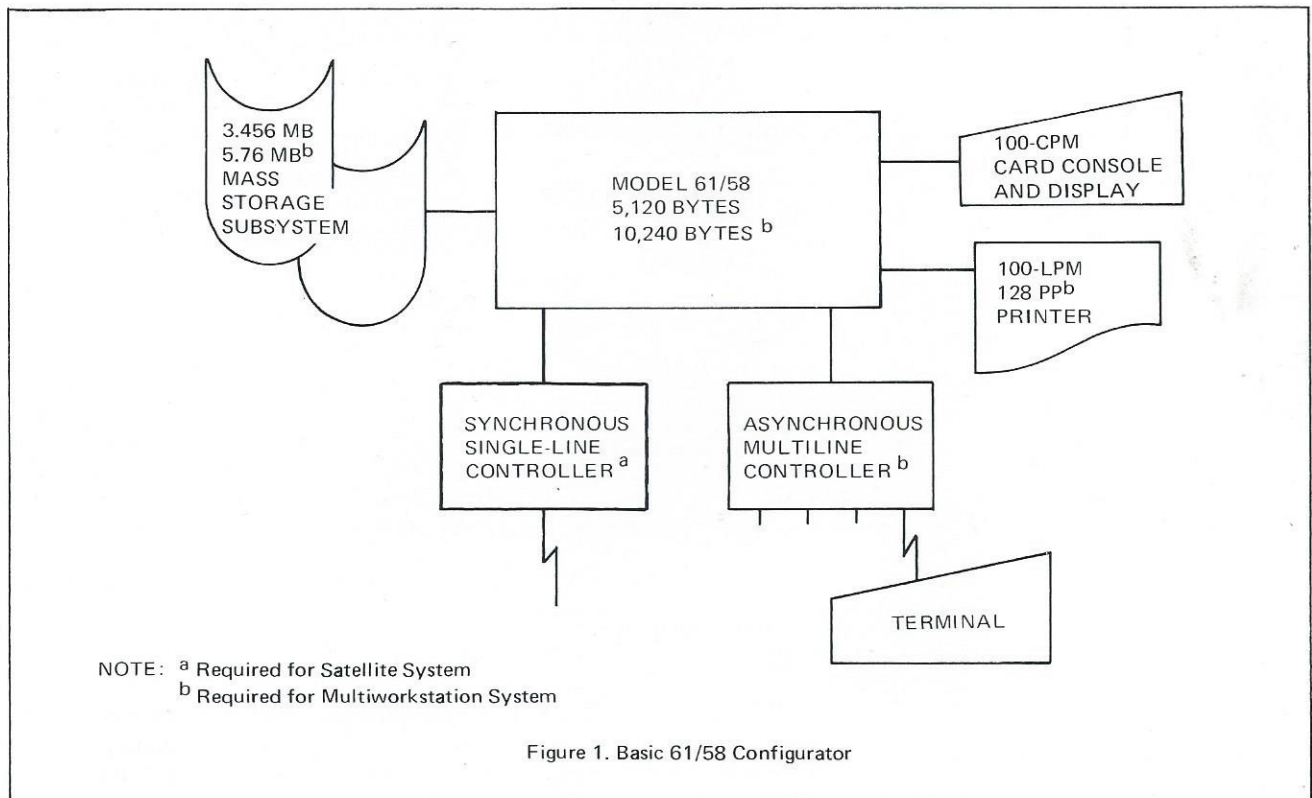
<u>System Type</u>	<u>Option No.</u>
61/58 Batch System (Indicate memory size)	SAS0110 ^a (5K or 10K)
61/58 Multiworkstation System	SAS0120 ^b

Optional:

<u>Language</u>	<u>Option No.</u>
COBOL-68	SAL0005
MiniCOBOL (Indicate memory size)	SAL0004 (5K or 10K)
EDITOR	SAU0001

^aAlso available for 58MOD1 and 58MOD2 Batch Systems.

^bAlso available for 58MOD2 Multiworkstation Systems.



MODEL 61/58 COMMUNICATION CONTROLLER SPECIFICATIONS

Type	Single-Line CPF1510	Multiline CPF1512
Network	Point-to-point	Point-to-point
Transmission Code	ISO, ASCII, EBCDIC (normal/transparent)	ASCII (transparent)
Transmission Type	Synchronous Half-duplex (2- or 4-wire)	Asynchronous Half-duplex (2-wire)
Transmission Speed	Up to 2000 baud using voice-grade switched lines Up to 9600 baud using leased lines	Up to 2400 baud when directly connected Up to 1200 baud when remotely connected with 4-wire line
Answering Mode	Either automatic or manual answering mode may be used	
Modems	Standard modems meeting the requirements of the EIA-RS232C interface specifications	

The Other Computer Company:
Honeywell

HONEYWELL INFORMATION SYSTEMS

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