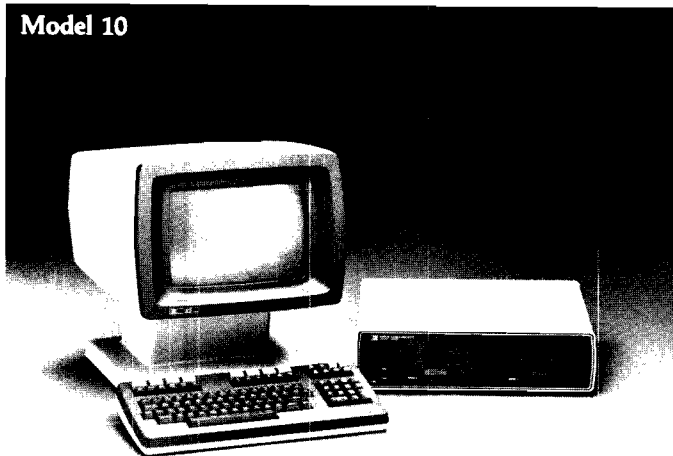


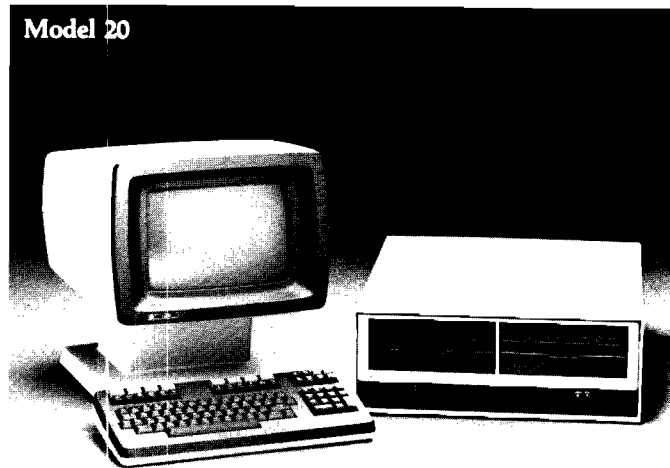
HP 125 Computer System



Model 10



Model 20



HP 45500A

The HP 125 personal office computer is an advanced, low-cost computer system for business applications. It combines the power of a dedicated Z-80A system microprocessor and 64K bytes of system memory with the full capabilities of an interactive computer terminal with its own microprocessor-based intelligence. A built-in 120 cps thermal printer is available as an option. Model 10 and Model 20 provide different amounts of mass storage and allow the user to configure a system which meets his particular storage requirements. Peripheral devices such as printers and graphics plotters can also be added. The modularity of the HP 125 allows the system to grow in capability as users' needs increase. Built-in communications capabilities make the HP 125 system an important element in a dispersed processing environment.

System Features

System Processor

- Z-80A microprocessor
- 64K Bytes of main memory
- CP/M® operating system

Terminal Processor

- Z-80A microprocessor
- 32K Bytes ROM implementing "intelligent terminal" functions
- 10K Bytes RAM for multi-page screen display

Display

- High resolution 12" CRT offers excellent readability
- Enhanced 9 x 15 dot character cell for character clarity
- Upper/lower case characters with displayable control codes
- Display enhancements: inverse video, underline, blinking, half-bright, and all combinations of enhancements
- Up to five pages of display memory; key-controlled scrolling on a line or page basis

Ease-of-use

- Detachable, typewriter-style keyboard
- Separate numeric pad
- Full cursor positioning
- Full editing functions, including insert/delete character and insert/delete line
- Screen-labeled function keys
- Eight user defined softkeys with 16-character labels
- Configuration menu for setting terminal parameters

Data Communications

- Two EIA standard RS232C communication ports
- Asynchronous point-to-point at 110 to 9600 baud
- Full duplex modem support (compatible with Bell 103A modem)
- Character and line mode operation
- Flexible communication protocols

Peripheral Support

- Configurable RS232C serial printer
- Specified HP mass storage devices, plotters, and printers
- Integral thermal printer (optional) operates at 120 characters per second.

Reliability and Serviceability

- Go/no-go and diagnostic self-tests built in
- Modular construction

CP/M Operating System

The HP 125 uses the CP/M operating system which resides on disc. On initialization, ROM-based instructions load the operating system from the disc into the processor's main memory. CP/M is a single user, single task operating system. In addition to the application software offered by Hewlett-Packard, the HP 125 can use other software which is commercially available and operates with CP/M. This software allows the HP 125 system to solve a wide range of business problems.

High Resolution Display

The HP 125 system displays 1,920 characters in a 24-line by 80-column format on a 12-inch diagonal, high-resolution display screen. The 25th and 26th lines are used for labeling of function keys or as message/status lines. The 9 x 15 dot character cell allows precise formation of complex symbols with wide line and character separation. These features combine to produce a bright, easy to read display. Screen enhancements include underline, blinking, inverse video and half-bright.

Ease-of-Use

The familiar typewriter-style keyboard was designed to provide a friendly interface to the system and minimize training time. Eight screen-labeled function keys allow quick access to configuration, self-test, printer control, and other functions. Rapid numeric entry is made possible by the separate numeric pad with Minus Sign, Decimal Point, and TAB keys. Eight user function keys can be labeled on the screen using two lines of eight characters each. This capability offers a new level of operator/application program interfacing by allowing the program to re-define and re-label the keys as needed. A software program can use the labeled function keys to guide a user step-by-step through an application.

Mass Storage

The HP 125 Model 10 uses the HP 82901M dual 5¼" flexible disc drives to provide approximately 512K Bytes of on-line storage. The small flexible discs store information in a high density format. Large amounts of information can be retained on- and off-line on low-cost media. The high performance and reliability of the disc drives allow the user to store program and data files with confidence. Long flexible disc life reduces data storage costs.

The HP 125 Model 20 uses the HP 9895A to provide 2.32 million bytes of formatted mass storage on dual 8" flexible disc drives. The built-in controller can recognize if the flexible disc has been recorded on one or two sides. The controller also reads and writes the IBM single-sided, single density format. The drives have been designed for high performance and reliability. Extensive self-tests are initiated at powerup and are accessible to the system processor.

	<u>Model 10</u> <u>(82901M)</u>	<u>Model 20</u> <u>(9895A)</u>
Total Capacity (two drives, formatted)	512K bytes	2.32M bytes
Recording Surfaces per Disc	2	2
Recording Format Density	Double	Double
Tracks per Surface	35	77
Sectors per Track	16	30
Bytes per Sector	256	256
Rotation Speed (rpm)	300	360
Average Access Time (msec)	187	179

Additional disc drives may be added to either a Model 10 or Model 20 system up to a total of 8 disc drives.

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

Data Communications

By pressing the REMOTE MODE key a user changes the HP 125 from a standalone computer system to an interactive computer terminal. Either of two RS232C communications channels can connect the HP 125 to a remote computer. Flexible handshaking using hardware lines or control characters allows interfacing to a wide range of computers and printers. In addition to standard RS232C interfacing, the HP 125 can support the 13266A 20 mA Current Loop Interface or the 13265A 300 Baud Modem.

Integral Thermal Printer

A built-in thermal printer is available as an option on the HP 125 system. The printer is ideal for quick, quiet utility printing. Upper/lower case letters and underline are printed at 120 characters-per-second. Automatic data logging allows data to be sent to both the display and hard copy unit.

Reliability and Serviceability

The HP 45500A has been engineered for high reliability and fast repair when needed. A "Power On Test" provides a complete test of both the processor and terminal functions. Additional tests can be initiated by the user to test the integral printer and the data communications channels. The built-in self-test capabilities provide the user with a GO/NO-GO indication to isolate defective components or modules which can be quickly replaced.

Peripheral Support

Hewlett-Packard provides a full line of peripheral products that are supported on the HP 125 system.

Mass Storage Devices:

- 82901M Dual 5-1/4" Flexible Disc Drives; master
- 82901S Dual 5-1/4" Flexible Disc Drives; slave
- 82902M Single 5-1/4" Flexible Disc Drive; master
- 82902S Single 5-1/4" Flexible Disc Drive; slave
- 9895A Dual 8" Flexible Disc Drives; master
- 9895A/Opt 010 Single 8" Flexible Disc Drive; master
- 9895A/Opt 011 Single 8" Flexible Disc Drive; slave
- 9895A/Opt 012 Dual 8" Flexible Disc Drive; slave

Printers:

- 2601A Daisywheel Printer (RS232C interface)
- 2631B Serial Printer (RS232C or HP-IB interface)
- 2671A Thermal Printer (RS232C or HP-IB interface)
- 2673A Thermal Printer (RS232C or HP-IB interface)
- 82905B Serial Printer (HP-IB interface)

Plotters:

- 7225B Single-Pen Graphics Plotter (with 17601A HP-IB interface)
- 9872C Eight-Pen Graphics Plotter

Please contact local HP Sales Office for information on additional peripherals. Note that not all features available in a peripheral will necessarily be supported by the HP 125 system.



HP 45500A Product Specifications

GENERAL

System Processor:	Z-80A microprocessor operating at 3.68 MHz, 64K bytes of memory, Loader ROM, and HP-IB Interface.
Terminal Processor:	Z-80A microprocessor operating at 3.68 MHz, 10K bytes of display storage (120 lines of display storage total); 128 bytes of non-volatile configuration memory (battery powered).
Screen Size:	150 mm x 215 mm (6 in. x 8.5 in.)
Screen Capacity:	24 lines x 80 columns (1,920 characters), 25th and 26th lines for labeling of function/softkeys or as message/status lines.
Character Generation:	7 x 11 enhanced dot matrix with 1/2 dot shifting; 9 x 15 dot character cell; noninterlaced raster scan.
Character Size:	2.4 mm x 4.24 mm (0.094 in. x 0.167 in.)
Character Set:	128 ASCII character set standard
Cursor	Blinking-underline
Display Enhancements:	Inverse video, underline, blinking, half-bright, and all combinations of enhancements
Refresh Rate:	60 Hz/50 Hz
Tube Phosphor:	P4
Implosion Protection:	Tension band
Keyboard	Full ASCII code keyboard, eight screen-labeled keys, auto-repeat, N-key rollover, cursor controls, 14-key numeric pad, detached with 1.2 m (4 ft.) cable.

PHYSICAL SPECIFICATIONS

System Processor Weight:	45500A: 18.0 kg (39 pounds) Opt 050: 20.2 kg (44 pounds)
Keyboard Weight:	2.0 kg (4.4 pounds)
Display Monitor Dimensions:	380 mm (W) x 475 mm (D) x 440 mm (H) [15.0 in. x 18.7 in. x 17.3 in.]
Keyboard Dimensions:	430 mm (W) x 190 mm (D) x 75 mm (H) [17.0 in. x 7.5 in. x 3.0 in.]

ENVIRONMENTAL CONDITIONS

Temperature (Free Space Ambient):	Non-operating: -40 to +60 C (-40 to +140 F) 45500A operating: 0 to +55 C (+32 to +131 F) Opt 050 operating: +5 to +40 C (+41 to +104 F)
Humidity:	45500A: 5 to 95% (non-condensing) Opt 050: 5 to 80% (non-condensing)
Altitude:	Non-operating: Sea level to 15240 m (50,000 ft.) Operating: Sea level to 4572 m (15,000 ft.)
Vibration:*	0.38 mm (0.015 in.) pp, 5 to 55 Hz, 3 axis
Shock:*	30g, 11 ms, 1/2 sine

*Type tested to qualify for normal shipping and handling in original shipping container.

PRODUCT REGULATIONS:

Product Meets:	The requirement of the following agencies/standards for EDP equipment/or office equipment in the following countries:
Safety:	Canada - CSA Certification International - IEC 380/435 Compliance (pending) United States - U.L. Listing Switzerland - SEV (pending)
RFI:	Germany - VDE Level A, FTZ License (pending)
Datacomm:	Australia - Telecomm (pending) Belgium - PTT (pending) Finland - PTT (pending) Germany - FTZ (pending) Japan - (pending) Sweden - PTT (pending) Switzerland - PTT (pending) U.K. - (pending)

DATA COMMUNICATIONS

Data Channels:	HP-IB, RS232C (2 channels)
HP-IB Channel:	Computer bus used only for specified HP peripheral devices.
RS232C Channels:	General asynchronous data communications.
Data Rate:	110, 150, 300, 600, 1200, 1800, 2400, 3600, 4800, and 9600 baud. Operation with control codes, escape sequences, internal printer, or baud rates above 4800 may require externally supplied delays or handshakes. Typical throughput to the internal printer is 60 cps. Full 24 line x 80 character screen copies to the internal printer in 18 seconds.
Port 1 Asynchronous Interface (50 pin):	EIA standard RS232C and CCITT V.24; fully compatible with Bell 103A full duplex modems. Hardware and XON/XOFF handshaking available. Accessory interfaces provide current loop (HP 13266A) and 300 baud U.S. modem (HP 13265A).
Port 2 Asynchronous Interface (25 pin):	Same communications capability as Port 1, except accessory interfaces are not supported. Note that only one port at a time can communicate to a computer.
Operating Modes (Either Port):	On-line; off-line; character, line modify

POWER REQUIREMENTS

Input Voltage:	115 (+10%, -25%) at 50/60 Hz (+-5%) 230 (+10%, -15%) at 50 Hz (+-5%)
Power Consumption:	45500A: 80 W. With Opt 050: 130 W

In areas where input voltage does not satisfy these requirements, power-related problems can be reduced by using a dedicated electrical circuit with an independent earth ground. In extreme cases, a power conditioner may be required.

PRODUCT SUPPORT:

Hardware Supplied:	HP 45500A Computer System processor unit Option 050 Integral Printer (includes two rolls of paper) HP 45529A HP-IB cable (1m.) Operating System on mini-disc
Documentation Supplied:	HP 45500A Getting Started Manual (45500-90010) HP 45500A Owner's Manual (45500-90000).
Documentation Available:	HP 45500A Service Manual (45500-90100)
Warranty:	The HP 45500A is warranted against defects in materials and workmanship. Contact the local HP Sales Office for terms and conditions. NOTE: For warranty coverage on the HP 45500A Option 050, HP qualified printer paper must be used (HP 92160A or HP 92160B).
Maintenance:	HP maintenance agreements are available for support after the warranty period. Contact the local HP Sales Office for terms and conditions.

Ordering Information

Product	Option	Description
45500A	—	HP 125 Computer System processor unit, 64K bytes main memory, 24-line by 80-character display, five pages (120 lines) of display memory, HP-IB interface port, two RS232C communication ports, detached keyboard. 60 Hz, 110 volt operation. Operating system on 5¼" mini-disc.
	-001	Finnish/Swedish character set and keyboard
	-002	Danish/Norwegian character set and keyboard
	-003	French character set and keyboard
	-004	German character set and keyboard
	-005	United Kingdom character set and keyboard
	-006	Spanish character set and keyboard
	-013	240V, 50 Hz operation
	-014	100V, 60 Hz operation
	-015	220V, 50 Hz operation
	-016	100V, 50 Hz operation
	-050	Integral thermal printer, 120 characters-per-second using 8½-inch-wide paper
	-080	Operating system on 8" mini-disc

Accessories

Cables for Port 1 (50 pin)	13222M 13222N 13222Y	European cable - male, 5 meters U.S. modem cable - male, 5 meters RS232C EMP protect cable - male, 5 meters
Cables for Port 2 (25 pin)	13242G 13242H 13242M 13242N 13242Y	RS232C printer cable - male/male, 5 meters RS232C printer cable - Male/female, 5 meters European modem cable - male, 5 meters U.S. modem cable - male, 5 meters RS232C EMP protect cable - male/male, 5 meters
	13265A 13266A	300 baud modem - Bell 103 compatible Current loop interface - 20 mA
