



2640A

Hewlett-Packard provides two powerful terminals in its new interactive display terminal family. The first unit, the HP 2640A Terminal, includes a versatile microprocessor and up to 8 Kbytes of 4 K RAM semiconductor memory to provide features unavailable in terminals at its low price. The HP 2644A Data Station adds mass memory for on- or off-line program development, data handling and editing, tape copying and tape to print capabilities.

These units are particularly useful for:

- entering and preparing data
- displaying and editing information
- programming development

Family features

Easy to read display: both terminals feature a 5 × 10 inch rectangular display. This display has a capacity for 1920 characters (24 lines of 80 characters each). These characters are formed by a 7 × 9 dot matrix generated in a 9 × 15 dot character cell. High resolution is obtained by dot shifting. Enlarged character cells, underlining, line descenders and inverse video features improve display readability. Flicker is reduced by 60 frame/second refresh rates (50 frames/second on most non U.S. units).

Full editing capabilities: the terminals operate both character by character and one block of data at a time. Terminal functions can be initiated from the keyboard or from the computer. Text can be composed and edited locally before transmission to the central processor or after transmission. Editing and CPU connect times are significantly reduced by features such as:

- character or line insertion and deletion,
- addressability and positioning control (up, down, left, right and home)
- programmable protected fields in any combination of display positions,
- off-screen storage with scrolling (scroll up, scroll down, next page, previous page),
- standard horizontal tabulations and protected field tabulations,
- transparent display control codes,
- eight special function keys for user-defined routines, such as forms entry or on-line error detection, and
- positionable memory protection

Data communications capabilities: the terminals are serial asynchronous, full or half duplex and meet EIA RS-232C specifications. Both units are Bell 103 and 202 modem compatible with switch selectable data rates of 100, 150, 300, 1200 and 2400 baud. Either unit is easily interfaced to a hard copy device.

Versatile keyboard: the detachable, expanded ASCII keyboard is easy and flexible enough to fill a variety of needs. It contains a ten-key numeric pad, cursor control, tab and page control pad, editing, control and special function keys. A simplified keyboard for the 2640A is optional.

Dynamic memory allocation: the terminals dynamically pack information into memory permitting 8 to 50 lines of information to be stored in 1,024 characters of display memory. With memory expansion to 8 Kbytes, over 3 pages of data can be stored. Twenty-four lines may be viewed at a time by using the roll up, roll down, next page and previous page keys.

Pop-in expandability: Digital electronics are contained on easy to remove printed circuit cards. Additional cards can be inserted for a choice of options.

Easy self test: by depressing a single button on the keyboard you get an immediate indication of the status of the memory, firmware and display.

Plug-in character sets: in addition to the standard 64 character Roman set and optional 128 Roman set, up to 3 additional 128 character sets may be added. Adjacent characters on the display may be from any of the four optional character sets. Inverse video presentation of data is offered as a standard feature with underline, blinking and half-bright options. Mathematics and line drawing character sets are also available.

Microprocessor control: much of the power and versatility of the terminals is obtained through a sophisticated microprocessor. This device manages memory allocation, data communication functions, keyboard scanning operations, and display functions.

Model 2640A Terminal

This member of the Hewlett-Packard Interactive Display Terminal family has been widely accepted in the marketplace for its versatility, low price and ease of use.



2640A with 9866A

2640 General specifications

Screen size: 127 mm (5 in.) × 254 mm (10 in.)
Screen capacity: 24 lines × 80 columns (1,920 characters)
Character generation: 7 × 9 enhanced dot matrix; 9 × 15 dot character cell; non-interlaced raster scan
Character size: 2.46 mm (0.097 in.) × 3.175 mm (0.125 in.)
Character set: 64 upper-case Roman
Cursor: blinking-underline
Display modes: white on black; black on white (inverse video)
Refresh rate: 60 Hz (50 Hz optional)
Tube phosphor: P4
Implosion Protection: bonded implosion panel
Memory: MOS; ROM: 8 Kbytes (program); RAM: std. 1024 bytes; 8192 bytes max.
Keyboard: full ASCII Code Keyboard, 8 special function keys, and 12 additional control and editing keys; Ten-key numeric pad; Cursor pad; Multi-speed auto-repeat; N-key roll-over; Stand-alone, 4 foot cable.

Data communications

Data Rate: 110, 150, 300, 1200, 2400 baud, and external switch selectable (110 selects two stop bits)
Communications interface: EIA standard RS-232C; 103 and 202 modem compatible
Transmission modes: full or half duplex, asynchronous
Operating modes: on-line; Off-line: Character, Block
Parity: switch selectable; Even, Odd, None

Power Requirements

Input voltage: 110 (+15%, -20%) at 60 Hz
 220 (+15%, -20%) at 60 Hz
Power consumption: 75 W to 125 W max.

Environmental conditions

Temperature, free space ambient:
Non-operating: -40 to +75°C (-40 to +167°F)
Operating: 0 to +55°C (+32 to +131°F)
Humidity: 5 to 95% (non-condensing)
Heat Dissipation: 426 BTU/hour
Altitude:
Non-operating: sea level to 25,000 feet (7620 meters)
Operating: sea level to 15,000 feet (4572 meters)
Vibration and shock:
Vibration: 30 mm (0.012") pp, 10 to 55 Hz, 3 axis
Shock: 30g (294N), 11 Ms, ½ sine

*Type tested to qualify for normal shipping and handling.

Physical specifications

Display monitor weight: 37 pounds (16.8 kg)
Keyboard weight: 7 pounds (3.2 kg)
Display monitor dimensions: 444.5 × 457.2 × 342.9 mm (17.5" W × 18" D × 13.5" H; 647.7 mm D (25.5" D) including keyboard
Keyboard dimensions: 444.5 × 215.9 × 88.9 mm (17.5" W × 8.5" D × 3.5" H)

Product support

Warranty: 90 day on-site parts and labor warranty
Hardware supplied: 2640A Interactive Display Terminal
Documentation supplied: model 2640A Interactive Display Terminal Operating and Reference Manual (2640-90011) Installation and Service Manual (2640-90014)

Model 2644A Mini DataStation

This terminal has the same user benefits as the 2640A Terminal but also includes mass storage. Mass storage is obtained with dual magnetic tape units and compact removable magnetic tape cartridges.

With the additional capability to store and transfer large amounts of information, the HP Mini DataStation becomes an integrated data system. Program preparation, data entry, editing, tape copying and tape to print functions are all standard capabilities in the stand alone mode.

To ease data entry, forms can be stored on one data cartridge and selectively displayed by an operator in seconds. Data accuracy is improved by protected fields, video highlighting and simplified insertion and deletion capabilities. Once data is collected, it can be stored on the second data cartridge by pushing a single button. Off-line or on-line, these capabilities can significantly reduce central system CPU loading and connect time.

The mass storage medium, a Mini Data Cartridge is a highly reliable alternative to ¼" magnetic tape cassette. This unit is available only on the HP 2644A Data Station.

The two cartridges are capable of storing up to 110 kilobytes of formatted data each. Variable length records from 1 to 256 bytes, may be stored on a single data cartridge in ASCII or binary format. Direct access is provided to 255 files.

The tape mechanisms are miniature units containing precision tape guides to assure cartridge interchangeability without loss of data. A single motor drive powers the unit and assures high reliability. Full tape width recording reduces data loss. A unique isoelastic band controls tape tension to minimize tape wear.

Eight user function keys provide additional capabilities on- and off-line. In the off-line mode, these keys are used to provide complete control of local tape operations. In the on-line mode, depressing these eight function keys sends a special two character sequence to the central system or CPU that can initiate program subroutines.



2644A

2644 General Specifications

Screen size: 127 mm (5 in.) × 254 mm (10 in.)
Screen capacity: 24 lines × 80 columns (1,920 characters)
Character generation: 7 × 9 enhanced dot matrix; 9 × 15 dot character cell; non-interlaced raster scan
Character size: 2.46 mm (0.097 in.) × 3.175 mm (0.125 in.)
Character set: 64 upper-case Roman
Cursor: Blinking-Underline
Display modes: White on Black; Black on White (Inverse Video)
Refresh rate: 60 Hz (50 Hz optional)
Tube phosphor: P4
Implosion protection: bonded implosion panel
Memory: MOS; ROM: 12K bytes (program); RAM: 4096 bytes
Keyboard: Full ASCII Code Keyboard, 8 special function keys, and 16 additional control and editing keys; ten-key numeric pad; Cursor pad; Multi speed auto-repeat; N-key roll-over; Stand-alone, 4 foot cable.
Cartridge type: two mechanisms
Read/Write speed: 10 ips
Search/rewind speed: 60 ips
Recording: 800 bpi
Mini cartridge: 110 kilobyte capacity (maximum)

Data communications

Data rate:
ASCII Mode: 110, 150, 300, 1200, 2400 baud, and external — switch selectable (110 selects two stop bits)
Communications interface: EIA standard RS232C; 103 and 202 modem compatible
Transmission modes: full or half duplex, asynchronous
Operating modes: On-line; Off-line; Character, Block
Parity: switch selectable: Even, Odd, None
Binary mode: 9600 baud output from terminal

Physical specifications

Display monitor weight: 21.3 kg (47 lb)
Keyboard weight: 3.2 kg (7 lb)
Display monitor dimensions: 444.5 mm W × 457.2 mm D × 342.9 mm H (17.5" W × 18" D × 13.5" H) (647.7 mm D [25.5" D] including keyboard)
Keyboard dimensions: 444.5 mm W × 215.9 mm D × 88.9 mm H (17.5" W × 8.5" D × 3.5" H)

Environmental specifications

Temperature, free space ambient:
Non-operating: -10 to +65°C (-15 to +50°F)
Operating: 5 to +40°C (+41 to +104°F)
Humidity: 20 to 80% (non-condensing)
Heat Dissipation: 483 BTU/hour
Altitude:
Non-operating: sea level to 25,000 feet (7620 meters)
Operating: sea level to 15,000 feet (4572 meters)
Vibration and shock:
Vibration: 30 mm (0.012") pp, 10 to 55 Hz, 3 axis
Shock: 30g, 11 Ms, ½ sine

*Type tested to qualify for normal shipping and handling.

Power requirements

Input voltage: 115 (+10%, -23%) at 60 Hz
 230 (+10%, -23%) at 60 Hz
Power consumption: 85 W to 125 W max.

Product support

Warranty
 90 day on-site parts and labor warranty

Model 2644A Data Station
 Quantity discounts available.

\$5000