HP 2628A

HEWLETT PACKARD

Word Processing Terminal





Features

Multifunction Capability

Operates as a dedicated word processor under control of HP 3000 HPWORD software.

Offers HP 2622A data entry terminal features in data processing mode. Supported by VPLUS/3000 software.

Offers HP 2623A features in Graphics processing mode (option 523). Supported by HP and third party graphics software.

Word Processing Mode

The HP 2628A terminal's word processing personality, in conjunction with HPWORD software, offers the best features of stand alone word processors and HP 3000 file handling.

Data Entry Mode

The HP 2628A can be used in its native mode as a powerful data entry terminal. Its six pages of alphanumeric memory make it an ideal terminal for programmers, and VPLUS/3000 support allows HP block mode screen oriented applications to be run.

Optional Graphics

The optional graphics mode provides compatibility with the popular HP 2623A graphics terminal feature set. It also offers a TEKTRONIX 4014 compatibility mode.

• High Performance Datacomm

System datacomm port offers up to 19,200 bps speed for fast throughput, with optional multipoint protocol.

Standard control port controls RS 232C printer.

Optional second control port interfaces HPIB printers and plotters.

• Complete Alphanumerics Including:

Smooth Vertical Scrolling

Edit Checking/Transmit Only Fields

Display Enhancements

Up to 6 Pages Display Memory

HP Block Mode Transmission

Forms/Format Mode

Multiple Character Sets

Ease of Use With:

27th Line For Terminal Status

Non-Volatile User Definable Screen Labeled Soft Keys

Integral Printer Option

11 National Language Options

Human Engineering Featuring:

Choice of White, Green or Amber Display

Optional Tilt And Swivel Base

Focus/Brightness Controls

Detachable Typewriter-Style Keyboard

HP Computer Museum www.hpmuseum.net

For research and education purposes only.

Model 2628A

The HP 2628A Word processing station is an intelligent terminal designed to function with HPWORD, Hewlett Packard's word processing software for HP 3000 computer systems. When not being used as a word processor, it offers HP 2622A data entry terminal features, and is supported by VPLUS/3000 software. Optional Graphics features combine powerful HPWORD, Data and Graphics capability in one terminal.

Multiple Modes

The 2628A can be used in Word Processing Mode, in Data Entry Mode, and, with option 523, in Graphics Mode.

Word Processing Mode

The Word Processing capability is supported by the HP 3000 system's HPWORD software. Overlays provide a full word processing keyboard, including syntactic keys (character, word, line, sentence, phrase and paragraph) for cursor positioning and editing functions such as delete, move and copy.

Interactive on screen word processing shows formatting, such as margin and line spacing changes.

Underlining, bold and italics fonts are displayed on the screen.

Vertical scrolling through page boundaries and true horizontal scrolling up to 155 characters allow convenient editing of large documents.

Data Entry Mode

In Data Entry Mode, the HP 2628A offers backwards compatibility with the popular HP 2622A Data Entry Terminal.

Smooth vertical scrolling, selectable through a soft key, allows data to be easily read as it is transmitted from the system to the screen.

Up to 6 pages of text are stored in display memory. 3 edit checks (alpha, numeric, and alphanumeric), transmit-only fields, 5 display enhancements, and Data-Modified tags, together with format mode and block mode transmission, give the HP 2628A its powerful data entry/inquiry capability.

Eleven national character sets are fully supported: Danish, Dutch, Finnish, French, French Canadian, German, Italian, Norwegian, Spanish, Swedish, and United Kingdom. The corresponding keyboards are supplied as options. Transmission to the host may be either in 7 bit mode, using ISO replacement character sets, or in 8 bit mode, using HP Extended Roman ASCII.

Along with the HP 8 bit Extended Roman ASCII character set, Math and Line Drawing sets are included as a standard feature of the HP 2628A.

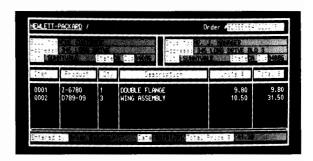
High Performance Datacomm

The standard HP 2628A comes equipped with two datacomm ports. Port 1 features a wide variety of HP protocols, for connection to a computer. Port 2 supports an RS232C printer.

The datacomm rate over the system port is up to 19,200 bps. A full 24×80 character screen can be displayed in one second. Shorter lines speed up the display rate, while use of formatted screens and character enhancements slow it down.

When graphics option 523 is purchased, a supplementary printer control port may be ordered, (option 046) to drive HPIB compatible devices, such as printers and plotters.





Graphics Features

The Graphics option provides the HP 2628A terminal with an enhanced version of the powerful HP 2623A graphics terminal feature set, adding polygonal area fill, rubberband line, and Tektronix 4014 compatibility mode.

The HP 2628A with Graphics is supported by a wide variety of Hewlett Packard software. Refer to appropriate HP 1000, HP 3000 and HP 9000 system software configuration guides for further information.

Furthermore, the HP 2628A with Graphics runs with Precision Visual's DI-3000[™], and GRAFMAKER[™], ISSCO's DISSPLA[™], and TELL-A-GRAF[™], and SAS's SAS/GRAPH[™].

The TEKTRONIX® 4014 compatibility mode allows the HP 2625A to operate with TEKTRONIX Inc's PLOT 10® software.

Ease of Use

The HP 2628A screen displays 27 lines, with the 27th used for terminal status information. The eight user-defined soft-keys and labels are stored in non-volatile RAM, so as not to be lost when the terminal is switched off.

The optional integral thermal printer provides convenient screen hardcopy, for both Alpha and Graphics data (when applicable) and can also be directly accessed by the host computer. It is NOT available for use as an HPWORD output device.

Edit keys and soft configuration menus offer the convenience that users have come to associate with HP terminals.

Human Engineering

Like all HP terminals, the HP 2628A is designed for tireless comfortable use. Its optional tilt and swivel base and standard detachable keyboard allow people of different height and bone structure to work comfortably. The HP 92171R Palm Rest accessory provides hand support, relieving muscle strain. White, green and amber displays are available to suit individual taste. Brightness and focus controls adapt the image to varying light conditions, and the flicker free display, with its large 9 x 14 dot character cells and smooth scrolling, eliminates eye strain and fatigue.

HP Support Services

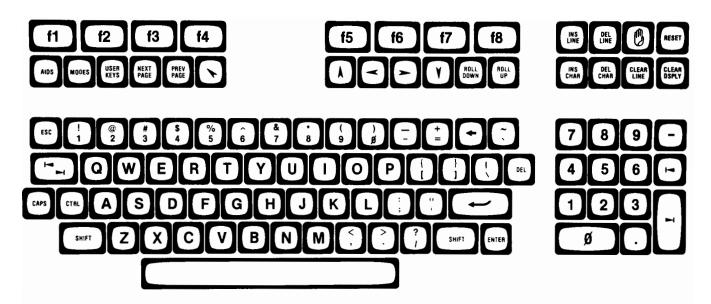
Support services include a worldwide network of parts and repair centers, complemented by highly qualified customer engineers and system engineers.



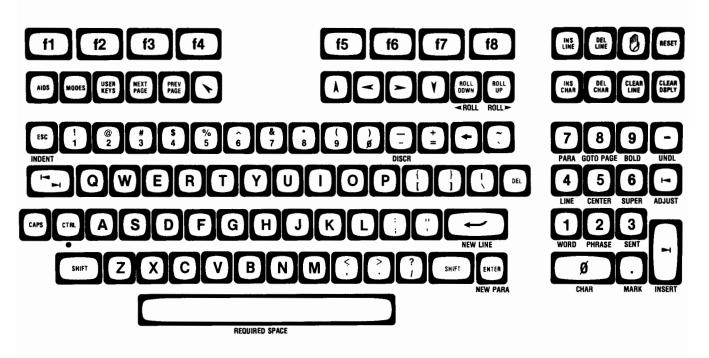






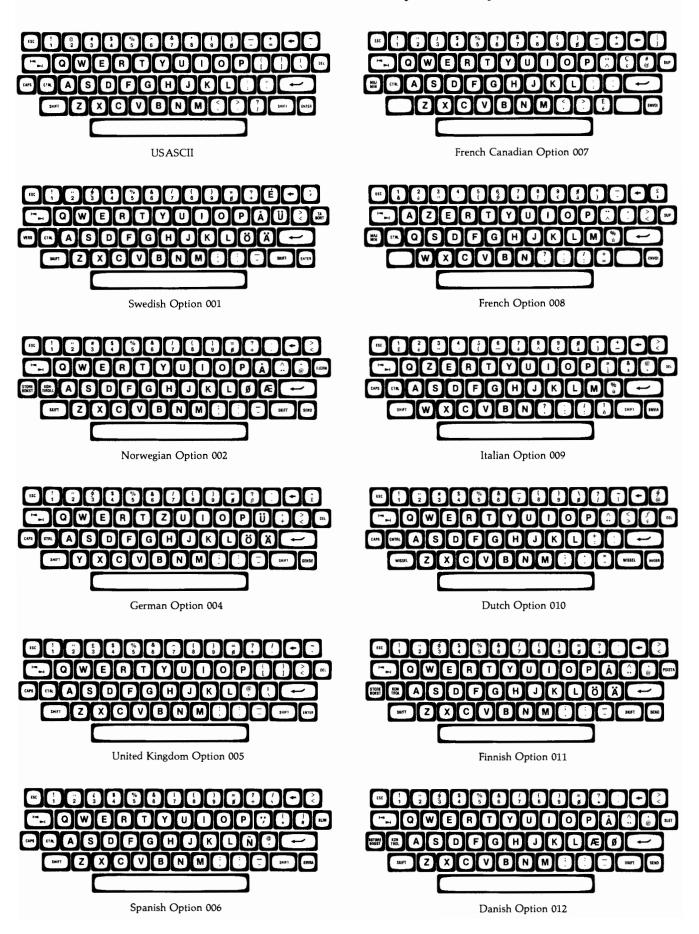


Standard USASCII Keyboard Layout



Standard USASCII Keyboard Layout With HPWORD In Place.

Standard and National Keyboard Layouts



HP 2628A Product Specifications

DISPLAY

Screen Size: 164 mm (6.5 inches) x 215 mm (8.5 inches); diagonal 262 mm (10.4 inches).

Screen Capacity: 24 lines x 80 columns (1920 characters). 25th and 26th line for labeling of

function/softkeys. 27th as status line.

7 x 11 enhanced dot matrix with 1/2 dot shifting; 9 x 14 dot character cell; non-Character Generation:

interlaced raster scan.

Note: Software written for the HP 2623A graphics terminal should be checked for compatibility with the HP 2628A option 523 terminal. This is because when the display mixes Alpha-numeric and Graphics images, they will not line up together in the same way on the two devices.

Any incompatibility can be worked around by using graphics character sets or by recalculating the coordinates of the

Alpha characters.

2.4 mm (.094 inches) x 3.5 mm (.138 inches). Character Size:

Native Mode

Character Sets: Upper/lower case full ASCII alphanumeric character set. Line drawing set. Math

> set. Extended Roman characters for Danish, Dutch, Finnish, French, French Canadian, German, Italian, Norwegian, Spanish, Swedish, and United Kingdom

character sets.

HPWORD

Character Sets: Upper/lower case full ASCII alphanumeric character set. Extended Roman

characters for Danish, Dutch, Finnish, French, French Canadian, German, Italian,

Norwegian, Spanish, Swedish, and United Kingdom character sets.

Native Mode

Cursor: User selectable Blinking-Underline or Inverse Video. HPWORD controlled Underline and Inverse Video. **HPWORD Cursor:**

Native Mode

Display Enhancements: Inverse video, half bright, underline, blinking and non-display. All combinations

possible.

HPWORD

Display Enhancements:

Bold, Underline and Italics.

Refresh Rate:

60Hz.

Tube Phosphor: Low persistence P4 white phosphor standard. Green P31 and Amber P134 available

as options 061 and 062.

Tension band.

Implosion Protection:

Native Mode

Memory:

Up to 6 pages of text are stored in display memory. Use of complex forms in format

mode reduces this amount.

WORD PROCESSING:

Character sets: 11 national languages supported. Italics, Bold, and underlined characters are

displayable. Note: The Line-Drawing and Math character sets available in native

Alphanumeric terminal mode are not available for Word Processing through HPWORD.

The word processing personality operates only in conjunction with HP 3000 System Support:

computer HPWORD software. National language options 001 through 012 require

corresponding national versions of HPWORD.

The HP 2602A letter quality printer with HPIB datacomm may be connected to the Hardcopy:

optional HPIB printer control port for local printing of HPWORD documents,

when both option 046 and 523 have been ordered.

A printer, such as the HP 2601A letter quality printer, may be connected via

RS232C to Port 2.

System printers and printers connected to their own computer ports may also be

used.

Note: The optional internal printer, (option 050) is NOT available for hardcopy of HPWORD documents. It is only available for copy of Alphanumeric or Graphics documents when the 2628A is in native mode.

KEYBOARDS

General: Detachable keyboard, with 100 sculptured keycaps. Auto-repeat. N-key roll-over.

1.2 m (4 foot) cable. HPWORD overlays included for operation in HPWORD mode.

Layouts: USASCII layout standard. Danish, Dutch, Finnish, French, French Canadian,

German, Italian, Norwegian, Spanish, Swedish and United Kingdom layouts

available as options. Options include appropriate HPWORD overlays.

Standard Keyboard: Layout includes full USASCII or National Character set keypad, 14 key Numeric

pad, 8 soft/function keys, and full HP cursor and edit control keys.

Graphics Keyboard: Graphics option 523 includes an overlay to the numeric keypad, providing graphics

functions.

HPWORD Keyboard: Overlays provide word processing functions.

DATA COMMUNICATIONS

General: The HP 2628A is equipped with 2 standard ports. Port 1 is used to communicate

with the computer system. Port 2 is used to drive a printer. An optional HPIB control port (option 046) may be added for connection of HPIB printers and plotters when Graphics option 523 is ordered. Tablets are not supported.

Data Rate: 110, 150, 300, 600, 1200, 2400, 4800, 9600 and 19,200 bps on both ports, with any

datacomm option.

Throughput: With only one port active, the HP 2628A can display up to 1920 characters of text

per second. With both ports active, this processing capacity may be reduced to 960 displayable characters per second per channel. Character enhancements and formatted screens can reduce throughput to less than the above figures.

Handshaking: Eng/Ack and XON/XOFF handshaking are provided for point-to-point datacomm,

and at least one should always be used. HP multipoint provides its own

handshaking.

Port 1: System port.

Standard: RS232C + HP Direct connect 422. Both levels of signals are present on the 25 pin

datacomm connecter. The choice of datacomm cable (not included) selects which

signals are used.

Opt. 021: DSN / Data Link. Allows connection to DSN / Data Link with asynchronous

multipoint protocol at speeds up to 19,200 bps. 2m (6ft) long cable to connector box

included.

Opt. 022: Pod adapter. Allows use of standard HP 262X accessory pods, including the HP

13266A current loop pod, and the HP 13265A 300 bps modem pod.

Opt. 027: First daisy chain. Starts HP multipoint daisy chain with asynchronous or

synchronous protocol. RS232C input, Daisy chain output. Speeds up to 19,200 bps.

Cable not included. Order separately as an accessory, or as option 310, 311 or 312.

Opt. 028: Asynchronous daisy chain. Connects to a daisy chain with asynchronous

multipoint protocol. Daisy chain input and daisy chain output. Speeds up to 19,200

bps. Cable not included. Order separately as an accessory or as option 309.

Opt. 038: Synchronous daisy chain. Connects to a daisy chain with synchronous multipoint

protocol. Daisy chain input and daisy chain output. Speeds up to 19,200 bps. Cable

not included. Order separately as an accessory or as option 309.

Port 2: Drives an RS232C or HP 422 printer.

Opt. 046: Available only with Graphics option 523. Provides HPIB for printer or plotter control in

addition to the standard RS232C and HP422 connection. Tablets are not supported.

HPIB cable not included. Order separately as an accessory or as option 308.

POWER REQUIREMENTS

Input Voltage:

-Std: 120V (+5%, -10%) at 60Hz (+-5%)

-013: 240V (+5%, -10%) at 50Hz (+-5%)

-014: 100V (+5%, -10%) at 60Hz (+-5%)

-015: 220V (+5%, -10%) at 50Hz (+-5%)-016: 100V (+5%, -10%) at 50Hz (+-5%)

-016: 100V (+5%, -10%) at 50Hz (+-5%)Power consumption: Std: 100W; with option 050: 170W Computer Museum **GRAPHICS OPTION: Opt. 523** Resolution: 512 x 390 displayable points Vector Drawing Time: 2 ms typical. 19,200 bps (Typically displays vectors at 19,200 bps without handshakes.) Polygonal Area Fill: Automatic fill of polygons with up to 105 sides. **Graphics Characters:** 11 fully supported national graphics character sets, using HP 8 bit extended Roman ASCII or ISO character replacement. Operation is identical to that of the Alphanumeric character sets. Graphics Hardcopy: Copy to optional internal printer: 30 seconds. Raster dump to external graphics printer connected to HPIB printer control port (option 046). Plotters may be connected either to the optional HPIB printer control port (option 046), or in eavesdrop mode on datacomm port 1. Eavesdrop connections require RS232C datacomm on port 2, and HPIB connections require either RS232C or HP 422 datacomm on port 2. SUPPORTED EXTERNAL DEVICES Alphanumeric printers: Connected to the optional HPIB printer control port: (See Figure 7). HP 2631B opt. 046 HP 2602A opt. 046 HP 2671A HP 82905B opt. 002 Connected to Port 2 via RS232C or HP 422: (See Figure 2). HP 2631B HP 2671A opt. 040 HP 2601A HP 2602A HP 82905B opt. 240, 340 or 440 Graphics Printers: Connected to the optional HPIB printer control port: (See Figure 7). HP 2631G HP 2673A opt. HP 2671G opt. HP 2932A opt. 046 HP 2934A opt. 046 HP 82906A Connected to Port 2 via RS232C or HP 422: (See Figure 2) HP 2671G opt. 040 HP 2673A opt. 040 HP 2932A HP 2934A Note: The HP 2631B and HP 2631G printers are FCC and VDE level A RFI devices, and may not be sold in some countries. Consult your local sales office. Connected to the optional HPIB control port: (See Figure 7). HP 7585B HP 7580B HP 9872C/T HP 7470A opt. 002 HP 7475A opt. 002 Connected to the system port (port 1) in eavesdrop mode: (See Figure 3). HP 7585B HP 7580B HP 7220C/T HP 7221C/T HP 7470A opt. 001, opt 016 HP 7475A opt. 001, opt 016 Note: The optional HPIB control port (option 046) may only be ordered when the Graphics option (option 523) is present.

ENVIRONMENTAL CONDITIONS

Non-Operating: -40 to +60°C (-40 to +140°F) Temperature, Free Space

Operating: 0 to $+55^{\circ}$ C (+32 to $+131^{\circ}$ F) Ambient:

With Opt. 050: 0 to $+40^{\circ}$ C (+32 to $+104^{\circ}$ F)

Humidity: 5 to 95% (non-condensing)

With Opt. 050: 5 to 80% (non condensing)

Altitude: Non-Operating: Sea level to 15240 meters (40,000 Ft.)

Operating: Sea level to 4572 meters (15,000 Ft.)

Vibration and Shock:* Vibration: 0.38 mm (0.015") pp. 5 to 55 Hz. 3 axis.

Shock: 20 g. 11 ms. 1/2 sine.

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

container.

PRODUCT REGULATIONS

The HP 2628A meets the standards for EDP or office equipment in the following countries:

United States UL478 for EDP Equipment and UL114 for office appliances.

Canada CSA C22.2 No. 154 for Data Processing Equipment.

Finland FEI pending.

International IEC380 Safety of Electrically Energized Office Machines.

United States FCC CFR 47 Section 15 for Class A Equipment.

Germany VDE 0871 Level A.

Datacomm: CCITT V.24 interchange, V.28 Electrical recommendation.

Australia: Application submitted, approval pending. Application submitted, approval pending. Belgium: Application submitted, approval pending. Germany: Sweden: Application submitted, approval pending. United Kingdom: Application submitted, approval pending. Nordic Network: Application submitted, approval pending.

Contact local HP Sales Office for current status of datacomm approval in your country.

PHYSICAL SPECIFICATIONS

Display Monitor Weight: 20.3 kg (44.6 pounds) Keyboard Weight: 2.0 kg (4.4 pounds)

Display Monitor

Dimensions: 380 mm W x 475 mm D x 440 mm H (15.09" W x 18.7" D x 17.3" H); (665 mm D

(26.2" D) including keyboard).

Keyboard Dimensions: 430 mm W x 190 mm D x 75 mm H (17.0" W x 7.5"D x 3.0" H).

PRODUCT SUPPORT

Hardware Supplied: HP 2628A Display Terminal

Documentation

Supplied: HP 2628A User's Manual (02625-90001)

HP 2628A Reference Manual (02625-90002)

Documentation

Available: HP 2628A Service Manual (02625-90003)

HP Systems Support: Refer to appropriate HP system data sheet for use and support of the HP 2628A on

systems. When this product is used in a customer-assembled system, the overall

operational responsibility of the system rests with the customer.

Warranty: The HP 2628A is warranted against defects in material and workmanship. Contact

the local HP Sales Office for terms and conditions.

Maintenance: HP maintenance agreements are available for HP 2628A support after the warranty

period. Contact the local HP Sales Office for terms and conditions.

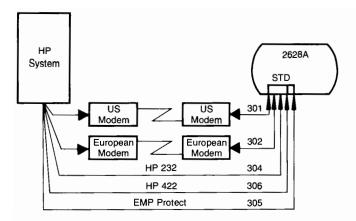


Figure 1

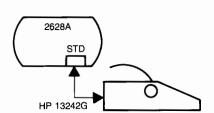


Figure 2

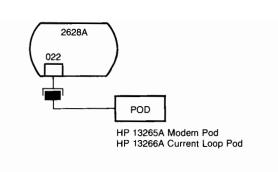
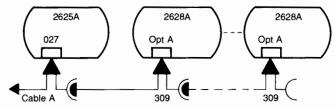


Figure 5



	Cable A	Opt A
Asynchronous Multipoint	312	028
Synchronous Multipoint Clock from Modem	311	038
Synchronous Multipoint Clock from Terminal	310	038

Figure 6

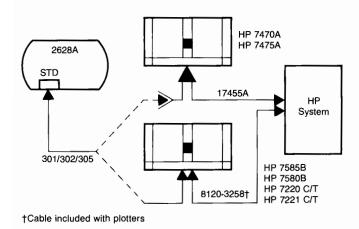


Figure 3

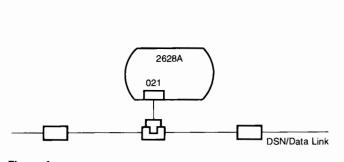


Figure 4

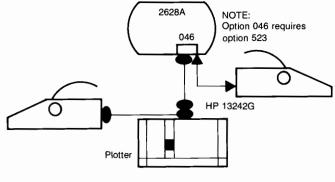
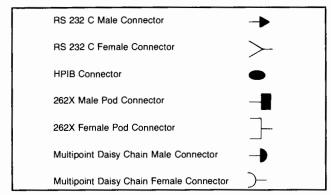


Figure 7

Legend



HP 2628A Ordering Information

PRODUCT NUMBER	DESCRIPTION
HP 2628A	WORD PROCESSING STATION
Includes:	The 2628A display terminal and keyboard
	Keyboard overlays for HPWORD operation
	User and Reference manuals
	Power cord
	RS232C / HP422 datacomm on port 1 for system connection. No datacomm cable is
	included. The correct cable, selecting RS232C or HP 422 must be ordered separately as
	an accessory, or as option 301, 302, 303, 304, 305 or 306.
	RS232C / HP422 datacomm on port 2 for printer control. No datacomm cable is supplied
-001	Swedish Keyboard
-002	Norwegian Keyboard
-004	German Keyboard
-005 006	United Kingdom Keyboard
-006 -007	Spanish Keyboard French Canadian Keyboard
-008	French Keyboard
-009	Italian Keyboard
-010	Dutch Keyboard
-011 -012	Finnish Keyboard Danish Keyboard
-013	240V 50Hz
-014	100V 60Hz
-015	220V 50Hz
-016 021	100V 50Hz
-021 -022	PORT 1 DSN / Data Link PORT 1 HP 262X Datacomm Pod adapter
-027	PORT 1 HP First Multipoint Async/Sync
-028	PORT 1 HP Daisy Chain Multipoint Async
-038	PORT 1 HP Daisy Chain Multipoint Sync
-046	PORT 2 RS232C / HP422 printer port + HPIB peripheral control port (requires Graphics option 523)
-050	Integral, 120 cps 132 column thermal printer. Prints all displayable characters, including upper/lower case, control codes, and national character sets. Prints graphics when ordered with a 2628A Word + Data + Graphics display station (option 523). This printer can NOT be accessed in HPWORD word processing mode. It is only available in Data and / or Graphics processing mode. Includes one roll of paper.
-061	Green CRT
-062	Amber CRT
-401	Tilt and Swivel base
-523	Add GRAPHICS features (Includes keyboard overlays)
-301	U.S. Hardwired/Modem Cable (same as 13242N) Male (25 pin)/male (25 pin); 5 meters (16 feet).
-302	European Modem Cable (same as 13242M) Male (25 pin)/male (25 pin); 5 meters (16 feet).
-303	RS232C Datacomm Cable (same as 40242C) Female (25 pin)/male (25 pin); 5 meters (16 feet).
-304	HP Direct Connect Type 232 Cable (same as 13242X) Male (25 pin)/male (3 pin); 5 meters (16 feet). For use on port 1.
-305	EMP Protect Cable (same as 13242Y) Male (25 pin)/male (25 pin); 5 meters (16 feet). For use on port 1.
-306	HP Direct Connect Type 422 (same as 13242P) Male (25 pin)/male (5 pin); 5 meters (16 feet). For use on port 1.
-308	HPIB Cable (same as HP 45529A) 1 meter (3 feet). For use with option 046.
-309	Daisy Chain Multipoint Async or Sync Cable (same as 13242Q) Male (14 pin) male (25 pin)/ female (14 pin); 10 meters/1 meter (32 feet/3 feet). For use on port 1 with options 028, and 038.
-310	First Multipoint Sync Cable with Receive clock (same as 13242R) Male (25 pin) male (25 pin)/ female (14 pin); 5 meters/1 meter (16 feet/3 feet). For use on port 1 with option 027.
-311	First Multipoint Sync Cable without Rec clock (same as 13242S) Male (25 pin) male (25 pin)/ female (14 pin); 5 meters/1 meter (16 feet/3 feet). For use on port 1 with option 027.
-312	First Multipoint Async Cable (same as 13242T) Male (25 pin)/male (25 pin)/female (14 pin); 5 meters/1 meter (16 feet/3 feet). For use on port 1 with option 027.
HP 92171R	User Installable Palm Rest accessory.
02620-60062	RS232C Test Hood
5160-3248	HP 422 Test Hood

The data contained in this document is subject to change without notice.

For more information about display terminals, see your local Hewlett-Packard sales representative or contact the HP office nearest you:

Eastern United States: Hewlett-Packard

4 Choke Cherry Road Rockville, MD 20850

Tel: (301) 258-2000

Midwestern United States:

Hewlett-Packard 5201 Tollview Drive Rolling Meadows, IL 60008 Tel: (312) 255-9800

Southern United States:

Hewlett-Packard P.O. Box 105005 Atlanta, GA 30348 Tel: (404) 955-1500

Western United States:

Hewlett-Packard 3939 Lankershim Blvd. North Hollywood, CA 91604 Tel: (213) 877-1282

Canada

Hewlett-Packard (Canada) Ltd. 6877 Goreway Drive Mississauga, Ontario L4V 1M8 Tel: (416) 678-9430

Northern Europe:

Hewlett-Packard S.A. Uilenstede 475 P.O. Box 999 NL-1180 AZ Amstelveen The Netherlands Tel: 20/437771

Southern Europe:

Hewlett-Packard S.A. c/o 7, Rue du Bois-du-Lan P.O. Box CH-1217 Meyrin 2 (Geneva) Switzerland Tel: 22/989651

West Germany

Hewlett-Packard GmbH Vertriebszentrale Frankfurt Berner Strasse 117 Postfach 560 140 D-6000 Frankfurt 56 Tel: (611) 50041

France

Hewlett-Packard France Zone Industrielle De Courtaboeuf Avenue Des Tropiques F-91401 Les Ulis Cedex Orsay Tel: (1) 907 78 25

United Kingdom

Hewlett-Packard Ltd. Nine Mile Ride Easthampstead, Wokingham Berkshire RG11 3LL, England Tel: 3446/3100

South Africa

Hewlett-Packard South Africa (Pty.) Ltd. Private Bag Wendywood Sandton 2144 Tel: 802-5111, 802-5125

Australia/New Zealand

Hewlett-Packard Australia Pty. Ltd. 31-41 Joseph Street Blackburn, Victoria 3130

Tel: 89-6351

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Japan

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Hewlett-Packard Intercontinental 3495 Deer Creek Road Palo Alto, CA 94304 Tel: (415) 857-1501

