

# HP 2700 Series



## High Performance Color Graphics Terminals



### Models 50, 55, 60, 65

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- High Performance Color Graphics
  - Local Vector Storage
  - Large Addressable Workspace
  - True Zoom and Pan
  - Local 2-D Transformations
  - Multiple Views
  - Interactive Color Selection
- Independent Color Alphanumerics
- Integrated Dual Mini-Disc Drives (optional)
- Application Software (optional)
  - AUTO PLOT/2700
  - PAINTBRUSH/2700
  - Host Software Support
- Multiple Hardcopy Interfaces (optional)
- Choice of Communications

The HP 2700 series of high performance color graphics terminals offers models designed for technical and business users. Process control, spectral analysis, circuit design, financial analysis, transparency preparation, and boardroom display are just a few of the many applications for which the HP 2700 terminals are well suited.

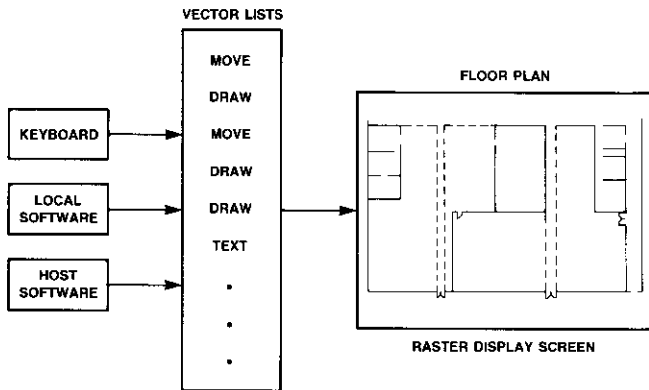
The HP 2700 has powerful local capability to store vectors, group vectors into objects, and then perform manipulations on those objects. These local graphics capabilities can be accessed by a host computer, greatly reducing the data communications and CPU overhead associated with changes to the graphics image. The host computer can distribute parts of the graphics processing to the terminal for an overall performance improvement.

HP 2700 application software permits users to generate charts locally (AUTO PLOT/2700) or sketch electronically on the display from a tablet (PAINTBRUSH/2700). The creation and subsequent modification of graphics images can be performed standalone or by sharing the workload with a host computer.



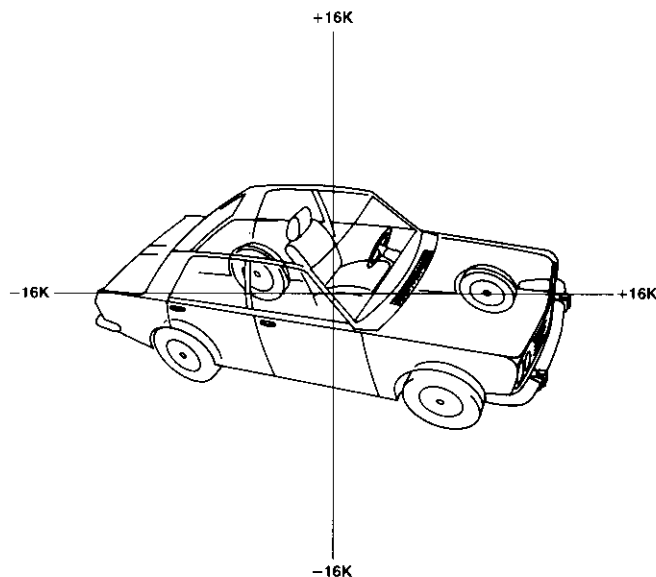
## Local Vector Storage

Vector list storage is the key to the local graphics processing power of the HP 2700. Graphical information is transmitted to the terminal as a series of X,Y coordinates. The HP 2700 stores the X,Y coordinates in its vector memory and also converts the graphical information into a raster image. Storing images in vector form allows the terminal to perform a wide range of functions and graphics manipulations the host computer formerly had to do. This distribution of graphics processing to the terminal dramatically increases performance, significantly reduces the strain on the the CPU, and reduces the amount of data which must flow over the data communications line.



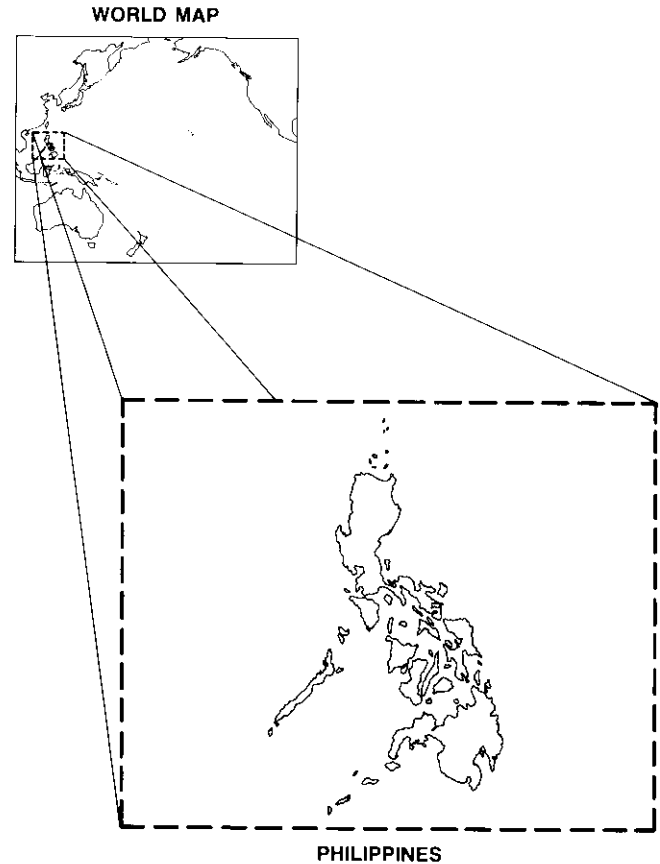
## Large Addressable Workspace

The HP 2700 series boasts an addressable resolution from (-16383, -16383) to (16383, 16383) or 32K by 32K. This huge plotting space enables the terminals to store extremely complex images with a resolution of more than one billion addressable points.



## True Zoom and Pan

The large addressable workspace and local vector storage combine to allow a true local zoom and pan. From the keyboard or via software running on a host computer, the user can zoom from a map of the world to a close-up of a particular country, or from the full view of a printed circuit layout to an individual component. When the operator zooms in, details become visible which were unseen before. Raster memory can be expanded so that the HP 2700 will buffer redraws. When buffering redraws any screen updates will not be seen by the user until they are complete. Zooms and pans will appear smooth.

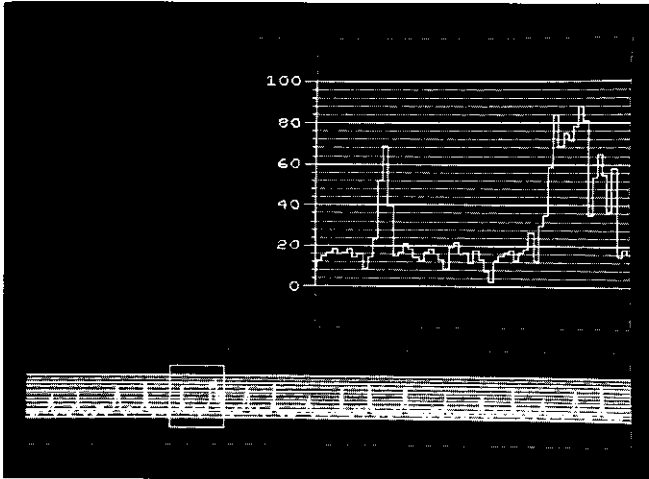


## Local 2-D Transformations

The HP 2700 uses locally stored vector lists to define the basic characteristics (such as size, shape, and color) of graphics objects. Each graphics object can be scaled, rotated, translated, or copied locally. If an application needs to show the same symbol in several different locations significant data communications time may be saved by sending the vector list once and then instructing the HP 2700 to place copies of it at different locations.

## Multiple Views

The HP 2700 can show any portion of its large workspace on any portion of the screen. Powerful terminal commands make this process simple. The host does not have to recalculate or resend the pictures associated with any of the views, since they are already stored in vector memory. Up to 255 different views may be specified.

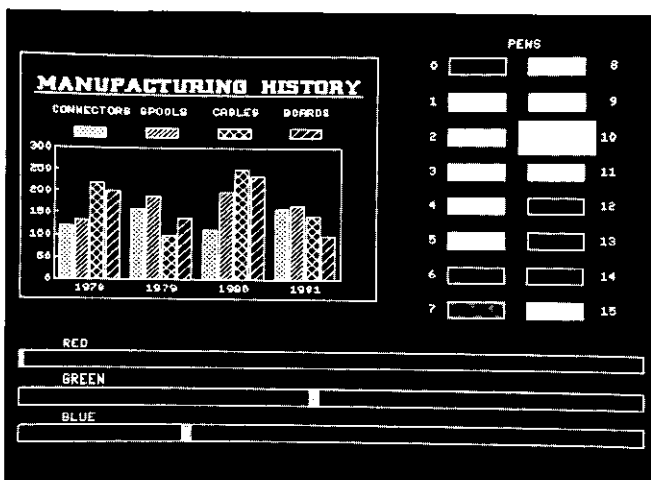


## Interactive Color Selection

Raster scan technology is the basis for the HP 2700's high quality color display. Any 16 of 4096 available colors can be displayed at one time. The wide choice of colors frees the user to select those colors which best suit the application.

A unique, interactive keyboard interface provides the user with two methods of color specification: 1) mixing red, green, and blue; or 2) selecting hue, saturation, and lightness. With the push of a key, a menu is displayed and the user is allowed to select one of the 16 pen colors to modify. By rotating the thumbwheels on the keyboard, the user can select any of the available 4096 colors. The screen picture is immediately updated to reflect the new color selections.

Any set of 16 colors can be saved within the terminal as a palette. Up to 255 palettes may be defined.



## Independent Color Alphanumeric

The HP 2700 series of terminals offers forms mode, line drawing character set, insert/delete line, insert/delete character, cursor control, numeric keypad, 16 screen labeled user-definable function keys, and three and one-half pages of memory. (More or less memory can be assigned for alphanumeric display depending upon the user's requirements for vector storage.)

In addition, the HP 2700 allows the user to select 16 foreground/background alphanumeric color pairs from an available selection of 64 colors. These colors are independent from the graphics palette.



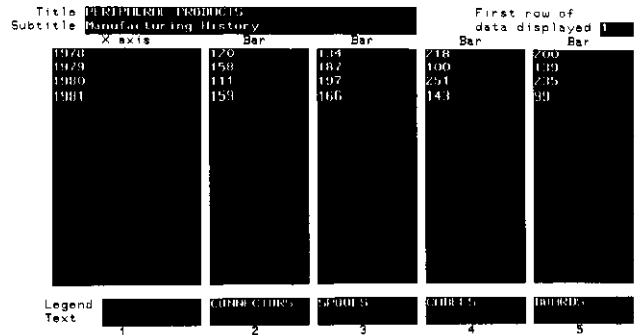
## Dual Integrated Mini-Disc Drives

The HP 2700 features two optional integrated 5-1/4" disc drives. Each double sided, double density flexible disc can store up to 270K bytes of formatted information. The HP 2700 file system supports named, sequential, 8-bit data files. Files may be of indefinite length, limited only by physical media constraints. Disc commands are easily accessed through terminal defined function keys and a file directory can be displayed to show individual file names and characteristics.



## Application Software

Two local software packages address specific application areas and allow the terminal to operate as a standalone workstation.



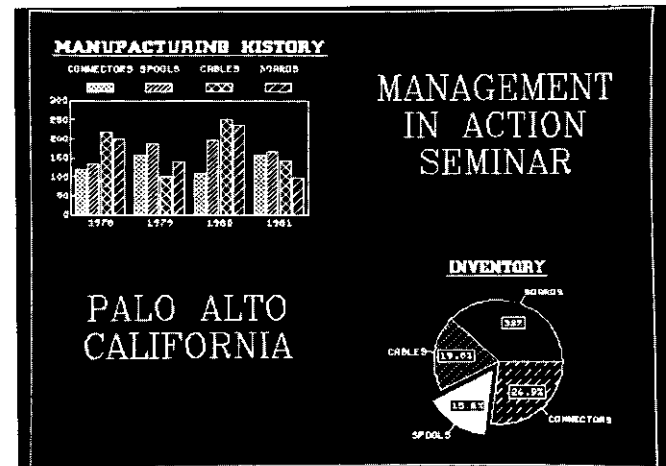
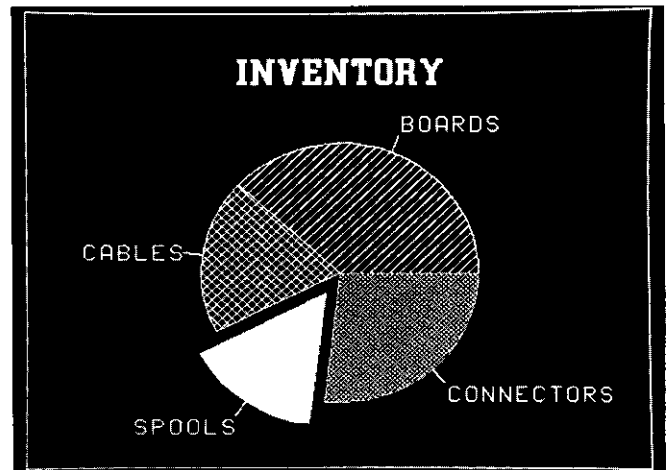
### AUTO PLOT/2700

AUTO PLOT/2700 is a powerful yet friendly software application package that lets the first time user create professional looking business charts in minutes. Once data has been entered into the menu, any chart type can be plotted to the display with a single keystroke. By having only one data menu for all chart types, the data can be viewed in pie, bar, line, or log form without re-entering the data, making it easy to select the chart type that best presents the data.

The same friendly interface extends to provide sophisticated, large scale periodic reporting capability. AUTO PLOT/2700 charts and data files are easily saved and recalled from flexible mini-discs. Data can also be read from a host data base. Since data files are stored separately from plot specifications, only changes to the data file itself are required to replot periodic charts with the latest information.

This truly interactive interface lets the user modify the chart while viewing it on the screen. For example, to change the color of a single pie section or the location of the entire chart, the user simply points with the graphics cursor to the object to be modified. Then the user points to the new color or location and the change happens immediately. In addition, text slides may be designed in a totally interactive environment. As the user rotates the thumbwheels, lines of text move across the screen and into position. Several lines of text can be moved at one time or changed to the same color, font, or text size. Two or more charts can also be merged with text to make a single combined chart. These highly flexible design options let the user create charts that communicate vividly and precisely.

Once designed the finished chart can be copied to a plotter, RGB output camera, or raster dump printer. Taking advantage of the chart advance feature of certain HP plotters and printers, AUTO PLOT/2700 provides for multiple copies of charts to be made unattended by the user. The finished charts can also be stored in raster or vector format on local disc or in a host computer data base.



**TEXT SLIDE AND LABELS**

EIGHT TEXT SIZES

THREE STANDARD FONTS

UNDERLINED, BOXED, OR NORMAL

NORMAL OR ITALICS

JUSTIFY

NORMAL  
ITALICS

STICK  
ROMAN  
BRIED  
STICK

NORMAL  
UNDERLINED  
BOXED

## PAINTBRUSH/2700

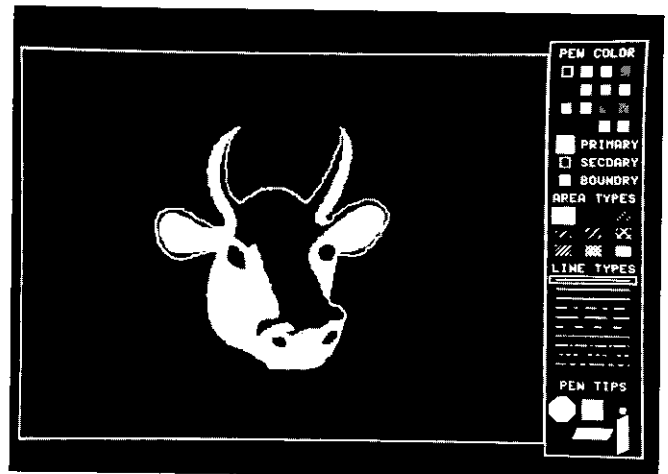
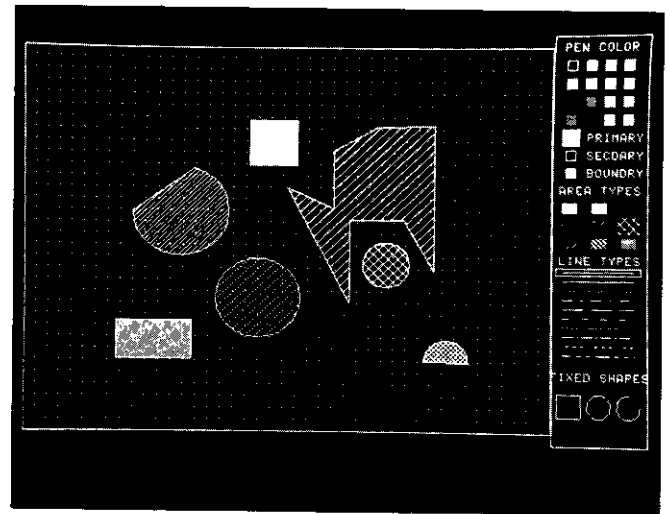
PAINTBRUSH/2700 is a software application package that provides a means for drawing, editing, and combining pictures, including AUTO PLOT/2700 charts. The user can also edit pictures generated by host software.

The 13273T Graphics Tablet is an ideal companion to PAINTBRUSH/2700. The tablet stylus provides easy, natural control of the cursor for freehand drawing and menu selection. In freehand drawing mode the user can select color, line types, area fill patterns, and pen tips. Aided drawing modes facilitate the creation of straight line segments, arcs, circles, boxes, and curves. The user can specify a grid for selecting vector endpoints. This "graph-paper" drawing mode is useful not only for drafting-like applications, but also for flow charts and business diagrams.

While in PAINTBRUSH/2700 the user can select different pictures or parts of pictures to move, rotate, scale, or copy. The user can also add and edit graphics text labels. This allows the modification of pictures such as a schematic, PC layout, pie chart, or floor plan.

As with AUTO PLOT/2700, the final picture created in PAINTBRUSH/2700 can be copied to a plotter, RGB output camera, or raster dump printer. The finished picture can also be stored locally on disc, or by the host.

PAINTBRUSH/2700 and AUTO PLOT/2700 may be used together to give the user the ability to combine local and host driven charts with freehand graphics. Combined with the many hardcopy interfaces available, the result is impressive speed and flexibility for the generation of professional presentation graphics.

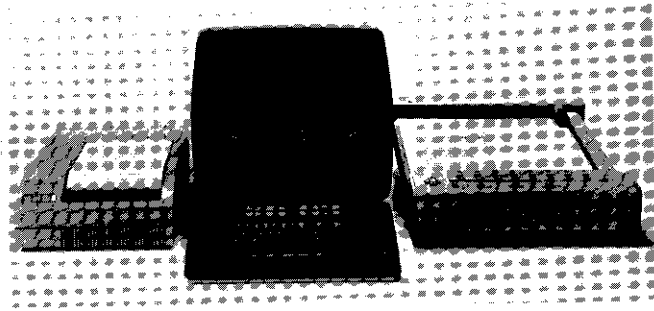


## Host Software Support

The HP 2700 is supported by a variety of Hewlett-Packard software. Three HP software packages designed specifically for graphics applications are Decision Support Graphics/3000, HP DRAW, and HP EASYCHART. In addition to Hewlett-Packard software, the HP 2700 will operate with ISSCO's DISSPLA<sup>®</sup> and TELL-A-GRAF<sup>®</sup> and Precision Visual's DI-3000<sup>®</sup> and GRAFMAKER<sup>®</sup>.

## Multiple Hardcopy Interfaces

The HP 2700 supports a variety of output devices for both alphanumeric and graphics hardcopy. An RS-232C serial port for plotters or printers is standard. The optional Shared Peripheral Interface allows multiple HP 2700 models to share the same HP-IB hardcopy devices and permits multiple devices to be daisy chained together. An RGB Video Interface is also available for output to monitors and cameras.



## Choice of Host Communications

The HP 2700 operates in block or character mode and communicates asynchronously point-to-point at rates up to 19.2K baud. A choice of RS-232 compatible communications (RS-423) or RS-422 communications is available. Full duplex hardwired and full duplex modem communications are supported.

## HP 2700 Models

The HP 2700 is offered in four models. Model 50 has a base configuration and allows the selection of options to meet the user's needs. Models 55, 60, and 65 are tailored to specific application areas. These models are sold with a pre-selected set of options and accessories.

### Model 50 High Performance Color Graphics Terminal

The HP 2700 Model 50 is a fully functional terminal that can be configured with options and accessories to match any business or technical application. The terminal comes standard with all HP 2700 firmware and 32K bytes of local vector storage.

### Model 55 Technical Design Terminal

Combining a large amount of local vector storage with control of the graphics cursor through an electronic tablet, the HP 2700 Model 55 is a powerful extension of a host driven computer aided design package. The Model 55 includes 224K bytes of vector storage memory, two sets of raster planes for buffering vector redraws, and a 13273T Graphics Tablet for control of the graphics cursor.

### Model 60 Decision Support Workstation

The HP 2700 Model 60 is optimized for generating a wide variety of business charts and slides. For the user who wishes to augment his host driven applications with the ability to locally design quality business graphics, the Model 60 is the appropriate choice. The HP 2700 Model 60 includes 32K bytes of vector storage memory, 128K bytes of application memory, two integral 5-1/4" flexible disc drives, and AUTO PLOT/2700 application software.

### Model 65 Presentation Graphics Workstation

The HP 2700 Model 65 is ideal for the user who needs to generate custom charts and drawings easily and quickly. The Model 65 has all of the Model 60 features plus an additional 192K bytes of vector memory (224K bytes total), PAINTBRUSH/2700 software, the 13273T Graphics Tablet for electronic sketching, and two sets of raster planes.

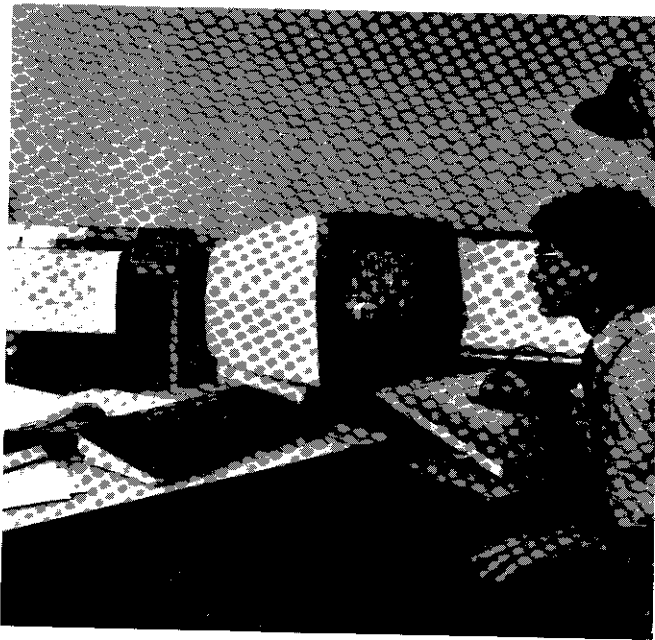
# HP 2700 Applications



Process Control



Business Graphics



Technical Design



Presentation Graphics

# HP 2700 Product Specifications

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## GENERAL

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|                       |  |
|-----------------------|--|
| Screen Size:          | 268 mm (10.6 inches) × 200 mm (7.9 inches). Diagonal 320 mm (12.6 inches).   |
| Screen Capacity:      |  |
| Alphanumeric          | 24 lines × 80 columns (1920 characters); 25th and 26th lines for labeling of function/softkeys; 23rd and 24th lines for messages/status.   |
| Graphics              | 512 × 390 dots.  |
| Color:                |  |
| Alphanumeric          | 16 foreground/background pairs out of 64 colors.   |
| Graphics              | 4096 colors selectable; any 16 colors simultaneously displayable. simultaneously displayable.  |
| Character Generation: | 7 × 11 dot matrix enhanced with 6 interstitial dots in a 9 × 15 dot character cell; non-interlaced raster scan.  |
| Character Size:       | 2.3 mm (0.09 inches) W × 5.2 mm (0.20 inches) H  |
| Character Set:        | Upper/lower case, displayable control codes, line drawing, math, large characters, Finnish/Swedish, Danish/Norwegian, French, German, Spanish, and United Kingdom characters standard.   |
| Cursor:               |  |
| Alphanumeric          | Blinking-underline or Blinking-block (selectable).   |
| Graphics              | Crosshair, box, full screen crosshair (selectable).  |
| Display Enhancements: | Color, inverse video, blink, underline, half-bright maps to color.   |
| Refresh Rate:         | 60 Hz (50 Hz configurable) non-interlaced.   |
| Tube Phosphor:        | P22  |
| Implosion Protection: | Internal tension band.   |
| Memory:               |  |
| Alphanumeric          | 215 lines of 80 characters, max.   |
| Graphics Raster       | 512 × 512 × 4 graphics raster buffer of which 512 × 390 dots are displayable on the integral CRT. The 4-deep raster is color mapped to display 16 simultaneous colors from a range of 4096 colors. An optional second raster buffer is available.  |
| Vector                | 32K RAM standard provides for local storage of graphics primitives; optional configurations to 992K bytes.   |
| Configuration         | 256 bytes of non-volatile configuration memory (battery powered).  |
| Keyboards:            | Full ASCII code keyboard; 16 screen labeled user-definable function keys; graphics cursor control thumbwheels, alphanumeric cursor control keys; 10 key numeric keypad; auto repeat; N-key rollover; detached with coiled 2m (6 feet) cable. Optional Finnish/Swedish, Danish/Norwegian, French, German Spanish, and United Kingdom keycaps. |
| Local Mass Storage:   | Two optional mini-disc drives provide a total of 540K bytes of formatted local storage on double sided, double density 5-1/4" flexible discs.  |

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## DATA COMMUNICATIONS

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|---|--|
| Data Rate:                              | 110, 150, 300, 600, 1200, 2400, 4800, 9600, 19200 baud and external clock. Operation with control codes, escape sequences, or data rates above 4800 may require CPU supplied delays or handshakes. |
| Port 1 Asynchronous Interface (50 pins) | EIA standard RS449 and CCITT V.10/11; Also compatible with EIA Standard RS232C and CCITT V.24/28. Hardware and Xon/Xoff handshaking available.   |
| Port 2 Asynchronous Interface (25 pins) | EIA standard RS232C and CCITT v.24/28; hardware and Xon/Xoff handshaking available.  |
| Transmission Modes:                     | Full duplex asynchronous. Note: only one port at a time can communicate with a computer; the other port may be used to communicate with a plotter or printer.                                      |
| Operating Modes (Either Port):          | On-line; off-line, character, line-modify, block (line and page).  |
| Parity:                                 | Selectable: even, odd, none, 0's, 1's.   |
| Optional Interfaces:                    | Shared Peripheral Interface; RGB Video Output Interface; Data Tablet Interface.  |



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## GRAPHICS

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|                       |   |
|-----------------------|---|
| Screen Resolution:    | 512 × 390 dots.   |
| Virtual Resolution:   | 32,767 × 32,767 points.   |
| Virtual Range:        | ±16,383 × ±16,383   |
| Zoom:                 | True zoom from 0.001 to 63.875; keyboard accessible.  |
| Pan:                  | Full pan through virtual resolution accessible from the keyboard.   |
| Graphics Primitives:  | Full complement of primitives including move, draw, polygonal area fill, text, user defined fonts, area fill patterns, and line types; accessible through escape sequences and application software.  |
| Graphics Commands:    | Segmented picture file provides object oriented commands such as scale, rotate, translate, pick, visibility, transformation center, viewports, and windows; accessible through escape sequences and application software.                   |
| Vector Drawing Speed: | The internal redraw rate from the vector list is dependent upon the number of objects. With few objects, the redraw rate is typically 3000 vectors/second. The overhead associated with multiple objects can slow the internal redraw rate. |

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## POWER REQUIREMENTS

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|                    |   |
|--------------------|---|
| Input Voltage:     | 120V (+ 6%, - 28%) at 47-66 Hz<br>220V (+ 15%, - 10%) at 47-66 Hz |
| Power Consumption: | 500W  |

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## ENVIRONMENTAL CONDITIONS

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|                       |  |
|-----------------------|--|
| Temperature, Ambient: | Non-operating -40° to +60°C (-40° to +140°F).<br>Operating 0° to +55°C (+32° to +131°F).<br>Operating 10° to 40°C (50° to 104°F) |
| With Option 072       |  |
| Humidity:             | 5 to 95% (non-condensing).   |
| With option 072       | 5 to 95% (non-condensing).   |

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## PRODUCT REGULATIONS

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|         |  |
|---------|--|
| Safety: | UL 478 for EDP equipment and UL114 for office appliances. CSA 22.2 no. 154 for EDP equipment. Also complies with FEI, IEC-380. |
| RFI:    | FCC CFR 47 Section 15 for Class A equipment.<br>VDE 0871 Level A.  |

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## PHYSICAL SPECIFICATIONS

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|                             |   |
|-----------------------------|---|
| Display Monitor Weight:     | 34Kg (75 pounds)  |
| With Option 072             | 38.6Kg (85 pounds)  |
| Keyboard Weight:            | 2.7Kg (6 pounds)  |
| Display Monitor Dimensions: | 460mm W × 560mm D × 470mm H<br>(18.0 in. W × 22.0 in. D × 18.5 in. H) |
| Keyboard Dimensions:        | 450mm W × 215mm D × 75mm H<br>(17.7 in. W × 8.5 in. D × 3.0 in. H)    |
| Data Tablet:                |   |
| Weight                      | 3.2Kg (7 pounds)  |
| Dimensions                  | 470mm W × 370mm D × 40mm H<br>(18.5 in. W × 14.5 in. D × 1.5 in. H)   |



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## PRODUCT SUPPORT

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|--------------------------|---|
| Hardware Supplied:       | HP2703A High Performance Color Graphics Terminal.   |
| Documentation Supplied:  | 02703-90002 HP 2700 User Manual, 02703-90003 HP 2700 Alpha Reference Manual, 02703-90006 HP 2700 Color Graphics Reference Manual.   |
| Documentation Available: | 02703-90004 HP 2700 Service Manual, 13273-90001 AUTO PLOT/2700 User Manual, 13273-90002 PAINTBRUSH/2700 User Manual.  |
| HP Systems Support:      | Refer to appropriate HP system data sheet for use and support of the HP2700 on these systems and their software products. When this product is used in a customer-assembled system, the overall operational responsibility of the system rests with the customer. |
| Warranty:                | The HP2700 is warranted against defects in materials and workmanship. Firmware and application software are warranted only against media defects. Contact your local HP sales office for terms and conditions.  |
| Maintenance:             | HP maintenance agreements are available for HP2700 support after the warranty period. Contact your local HP sales office for terms and conditions.  |

## Ordering Information

| Product Number | Description  |
|----------------|--|
| 2703A          | HP 2700 MODEL 50 HIGH PERFORMANCE COLOR GRAPHICS TERMINAL<br>512 × 390 dot graphics image and random access alphanumeric memory, sophisticated local graphics manipulations, 16 displayable colors with 4096 colors available, RS449 data communications port (RS232C compatible), RS232C serial printer port, 32K bytes of vector memory, 16K bytes of alphanumeric memory; 7 available option slots.   |
| #555           | HP 2700 MODEL 55 TECHNICAL DESIGN TERMINAL<br>Includes all of the MODEL 50 features plus an additional 192K bytes of vector memory, two sets of raster planes for buffering vector redraws, and the 13273T Graphics Tablet; 5 available option slots. Additional vector and application memory for this model should be ordered as accessories.  |
| #560           | HP 2700 MODEL 60 DECISION SUPPORT WORKSTATION<br>Includes all of the MODEL 50 features plus two integral flexible 5-1/4" disc drives, 128K bytes of application memory, and AUTOPLOT/2700 software; 5 available option slots. Additional vector and application memory for this model should be ordered as accessories.  |
| #565           | HP 2700 MODEL 65 PRESENTATION GRAPHICS WORKSTATION<br>Includes all of the MODEL 50 features plus an additional 192K bytes of vector memory, two integral flexible 5-1/4" disc drives, two sets of raster planes, 128K bytes of application memory, AUTOPLOT/2700 and PAINTBRUSH/2700 software, and the 13273T Graphics Tablet; 3 available option slots. Additional vector and application memory for this model should be ordered as accessories. |
| #001           | FINNISH/SWEDISH KEYBOARD   |
| #002           | NORWEGIAN/DANISH KEYBOARD  |
| #003           | FRENCH KEYBOARD  |
| #004           | GERMAN KEYBOARD  |
| #005           | UNITED KINGDOM KEYBOARD  |
| #006           | SPANISH KEYBOARD   |
| #013           | 240V, 50 Hz OPERATION  |
| #014           | 100V, 60 Hz OPERATION  |
| #015           | 220V, 50 Hz OPERATION  |
| #016           | 100V, 50 Hz OPERATION  |
| #054           | RGB VIDEO OUTPUT INTERFACE<br>Provides interlaced video signals for transferring graphics information to compatible monitors and camera hardcopy devices; includes cable; requires 1 option slot.  |
| #072           | DUAL INTEGRAL FLEXIBLE MINI-DISCS<br>Adds two 5-1/4" flexible mini-disc drives; provides 540K bytes of local mass storage; requires 1 option slot.   |
| #096           | SHARED PERIPHERAL INTERFACE<br>Provides interface to compatible HP-IB devices including printers and plotters; includes one HP-IB cable; requires 1 option slot. (NOTE: The HP 2700 will share devices only with other HP 2700s.)<br><br>APPLICATION MEMORY<br>Only one application memory option may be ordered with model 50. Additional application memory for models 55, 60, and 65 should be ordered as accessories.                          |
| #164           | Adds 128K bytes of application memory, the minimum required to run either AUTOPLOT/2700 or PAINTBRUSH/2700; requires 1 option slot.  |
| #165           | Adds 256K bytes of application memory; provides improved performance and additional data storage; requires 1 option slot.  |
|                | VECTOR MEMORY<br>Only one vector memory option may be ordered with model 50. Additional vector memory for models 55, 60 and 65 should be ordered as accessories. Provides increases in vector memory available to store graphics information within the terminal; the standard unit includes 32K bytes of vector memory.   |
| #174           | Increases vector memory by 64K bytes.  |
| #175           | Increases vector memory by 192K bytes.   |
| #176           | Increases vector memory by 448K bytes; requires 1 option slot.   |
| #177           | Increases vector memory by 960K bytes; requires 3 option slots.  |
| #186           | DOUBLE BUFFERED GRAPHICS MEMORY<br>Provides a second set of raster planes for buffering vector redraws (recommended for use with PAINTBRUSH/2700 software); requires 1 option slot.  |

| Product Number | Description  |
|----------------|--|
|                | CABLES (for Port 1)                                    |
| #301           | U.S. Modem Cable, Male, Same as HP 13222N              |
| #302           | European Modem Cable, Male, Same as HP 13222M          |
| #303           | RS232C Cable, Female, Same as HP 13222C                |
| #304           | HP Direct Connect RS232 Cable, Male, Same as HP 13222X |
| #305           | RS232C EMP Protect Cable, Male, Same as HP 13222Y      |
| #306           | HP Direct Connect RS422 Cable, Male, Same as HP 13222P |
| #307           | Current Loop Interface, Same as HP 13266A              |



### Accessories

|        |  |
|--------|--|
| 13273A | <b>AUTO PLOT/2700 SOFTWARE</b><br>A software application package on mini-diskette which runs locally in the terminal to generate decision support graphics including bar, line, pie, log, scattergram charts, text, and combination charts; requires option 072 (flexible mini-discs) and a minimum of 128K bytes of application memory (option 164 or accessory 13273P).  |
| 13273C | <b>PAINTBRUSH/2700 SOFTWARE</b><br>A software application package on mini-diskette which runs locally in the terminal to provide a means for drawing, editing, and combining pictures; requires option 072 (flexible mini-discs) and a minimum of 128K bytes of application memory (option 164 or accessory 13273P). Additional vector memory, double buffered graphics memory, and the 13273T Graphics Tablet are recommended for use with PAINTBRUSH/2700. |
| 13273G | <b>DOUBLE BUFFERED GRAPHICS MEMORY</b><br>Provides a second set of raster planes for buffering vector redraws (recommended for use with PAINTBRUSH/2700 software); requires 1 option slot.   |
| #001   | Connector required if RGB Video Output Interface (option 054 or accessory 13273M) is installed.  |
| 13273H | <b>SHARED PERIPHERAL INTERFACE</b><br>Provides interface to compatible HP-IB devices including printers and plotters; includes one HP-IB cable; requires 1 option slot. (NOTE: The HP 2700 will share devices only with other HP 2700s.)   |
| 13273M | <b>RGB VIDEO OUTPUT INTERFACE</b><br>Provides interlaced video signals for transferring graphics information to compatible monitors and camera hardcopy devices; requires 1 option slot.   |
| #001   | Connector required if double buffered graphics memory (option 186 or accessory 13273G) is installed.   |
| 13273P | <b>APPLICATION MEMORY</b><br>Adds 128K bytes of application memory, the minimum required to run either AUTO PLOT/2700 or PAINTBRUSH/2700; requires 1 option slot.  |
| #001   | Adds 256K bytes of application memory; provides improved performance and additional data storage; requires 1 option slot.  |
| 13273T | <b>GRAPHICS TABLET AND INTERFACE</b><br>Provides stylus control of the graphics cursor (recommended for use with PAINTBRUSH/2700); requires 1 option slot.   |
| 13273V | <b>VECTOR MEMORY</b><br>Provides vector memory for storage of graphics information within the terminal; increases vector memory by 128K bytes; requires 1 option slot.   |
| #001   | Increases vector memory by 256K bytes; requires 1 option slot.   |
| 92190A | <b>FLEXIBLE DISCS</b><br>Box of ten 5-1/4" double-sided flexible discs unformatted in protective envelopes.  |

### Cables

|        |   |
|--------|---|
| 13222C | RS232C Cable for Port 1 (Female, 2 meters)                |
| 13222M | European Modem Cable for Port 1 (Male, 5 meters)          |
| 13222N | U.S. Modem Cable for Port 1 (Male, 5 meters)              |
| 13222P | HP Direct Connect RS422 Cable for Port 1 (Male, 5 meters) |
| 13222X | HP Direct Connect RS232 Cable for Port 1 (Male, 5 meters) |
| 13222Y | RS232C EMP Protect Cable for Port 1 (Male, 5 meters)      |
| 13242G | RS232C Printer/Plotter Cable (Male/Male, 5 meters)        |
| 13242H | RS232C Printer/Plotter Cable (Male/Female, 5 meters)      |
| 13242M | European Modem Cable for Port 2 (Male, 5 meters)          |
| 13242N | U.S. Modem Cable for Port 2 (Male, 5 meters)              |
| 13242Y | RS232C EMP Protect Cable for Port 2 (Male, 5 meters)      |
| 13266A | Current Loop Interface                                    |

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