



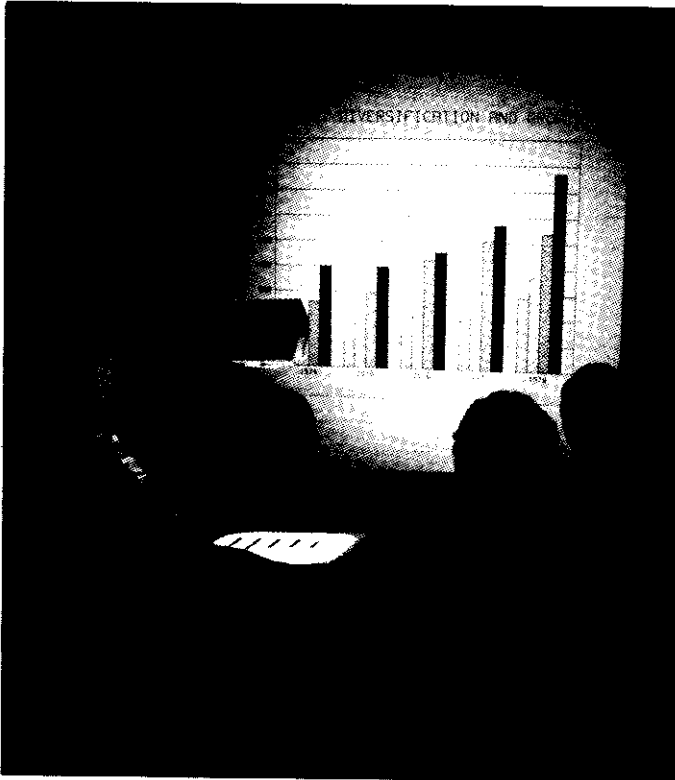
**HEWLETT  
PACKARD**

## GRAPHICS PLOTTING SYSTEM

- HP 7225A Vector Plotter
- HP Personal Computer



AUGUST 1980

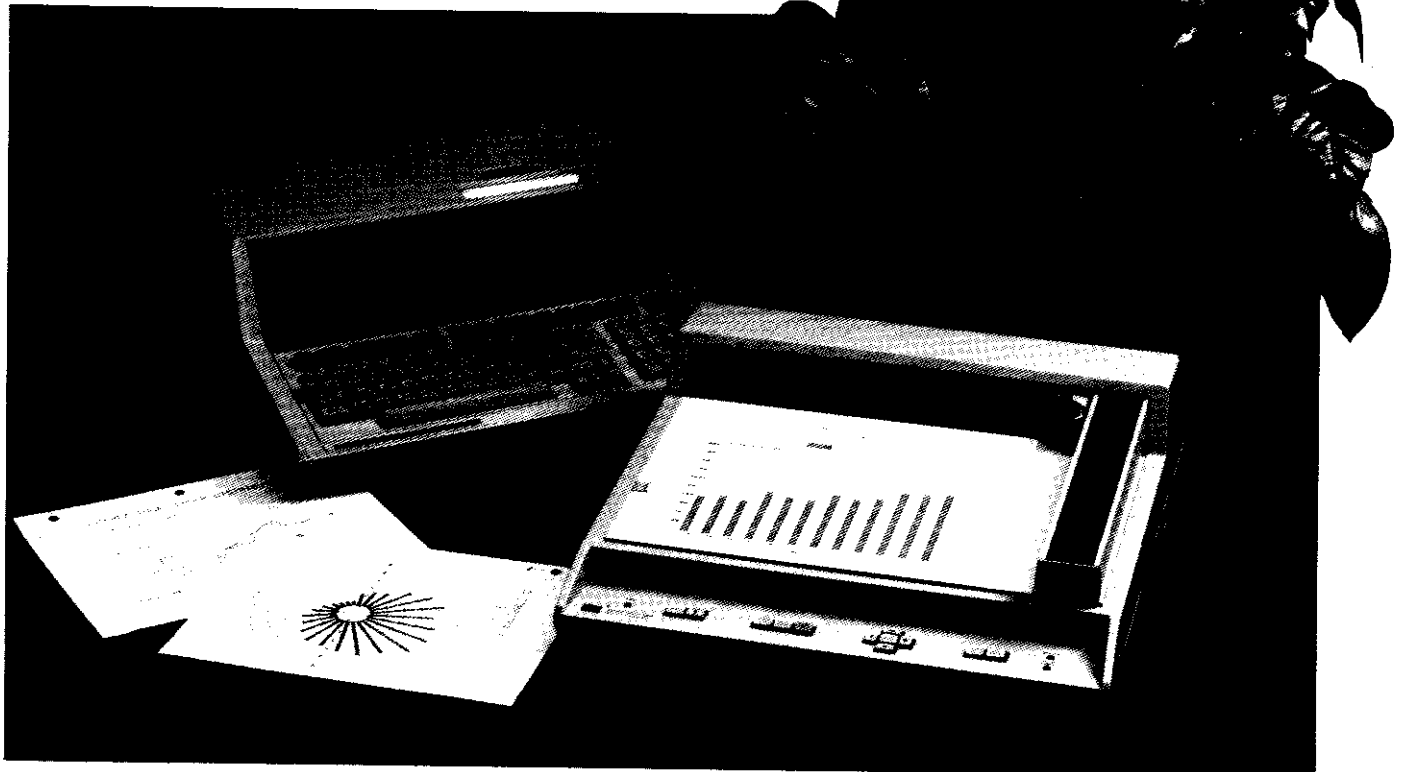


### Two Compact Units . . . One Powerful System . . . Unlimited Graphics Applications

The compact Hewlett-Packard personal computer and graphics system is configured with the sophisticated HP 7225A vector graphics plotter and a powerful HP personal computer. This system can produce publication-quality charts and plots on paper up to ISO A4 or 8½ × 11 inches (216 × 280 mm) to add both clarity and professionalism to presentations and reports. In addition, the system can produce multi-color hardcopy graphics and overhead transparencies with simple programmed pauses and manual pen changes.

(Left) Overhead transparency presentations, made with the HP 85/7225A, stimulate interest; increase comprehension; shorten meetings; and leave accurate impressions.

(Below) On-the-spot notebook-size graphics simplify the preparation and comprehension of reports, analyses, and presentations.



Other major advantages of the system include:

- **Versatility, because of system design**
- **Ease-of-use through simplified programming**
- **More usable computer power, because of plotter intelligence**
- **Quality graphics through HP design and close-tolerance manufacturing specifications**

## Power + Simplicity — An HP Programming Exclusive

The programming procedure for HP personal computers and the HP 7225A vector graphics plotter combines simplicity and power.

Processing power is strongly enhanced by the two microprocessors in the 17601A Personality Module used in the 7225A. With this extra "intelligence," plots and graphs can be run quickly and information from the controller handled more efficiently; providing a powerful and flexible system to satisfy the requirements of disciplines as diverse as engineering, finance, medicine, business, and manufacturing.

Programming simplicity is provided by the personal

computer's plotter/printer ROM (Read-only Memory) that adds over 50 high-level graphics commands to the resident HP-85 BASIC language. The ROM accepts a single command and translates it into a string of HP-GL (Hewlett-Packard Graphics Language) commands for the plotter. All HP-GL commands are also available to the user for special programming needs.

The flexibility of the plotter/printer ROM is illustrated on the opposite page where nine commands demonstrate the ease with which data trends can be plotted and a choice of enhancements added to provide the professional touch to a wide variety of graphics.

## Accuracy + Visual Excellence — An HP Specialty

**The HP-85** is a state-of-the-art personal computer, designed with a 16-kilobyte memory that can be expanded to 32 kilobytes. In addition, there is a 210-kilobyte tape cartridge. The HP-85 is also equipped with a 12.7-cm (5-in.) CRT and a built-in 32-character-per-line printer.

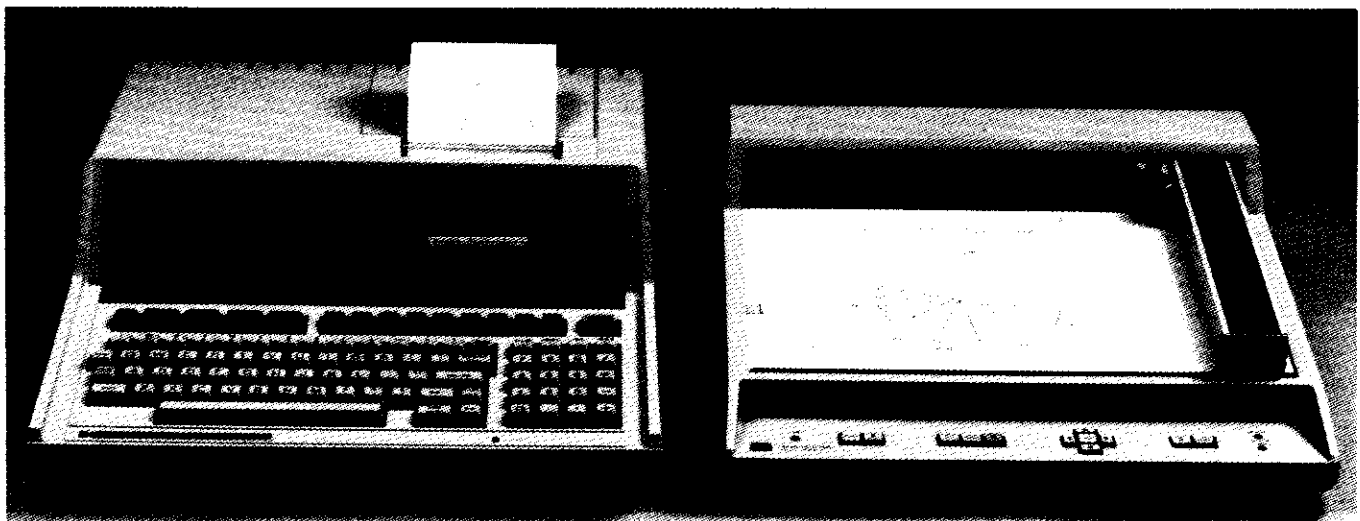
**The HP 7225A** vector plotter produces quality graphics as a direct result of its tight specifications, such as:

- **Addressable Microstep of 0.032 mm (0.0013 inch)** — Plotters move in incremental steps and the smaller the step size, the more precise is the plotting. Because it would take approximately eight 7225A microsteps to cross a human hair, this vector plotter draws precise, visually continuous lines, circles, and arcs.
- **Repeatability of 0.1 mm (0.004 inch)** — Plotters must be able to return to previously drawn points in order to

close characters and other geometric figures. The more accurate the return, the better the figure, so the 7225A was designed with a repeatability specification of 0.1 mm. This specification ensures a precise return to each previous point, producing characters and figures that are both visually completed and technically accurate.

- **Accuracy of  $\pm 0.25$  mm ( $\pm 0.01$  inch)** — Plotters should move to each specified point with precision to avoid a cumulative error. For this reason, the 7225A was designed with an accuracy of  $\pm 0.025$  mm. This specification ensures that each programmed point is reached with the exactness required for a true representation of data.

A full listing of specifications for the 7225A can be found on the back page.



Graphics output may be directed to the HP-85 CRT for a fast program check; the HP-85 printer for a program listing or a working copy of the graphics; or the 7225A vector plotter for notebook-size quality graphics on paper or transparency film.



# HP 7225A

## Specifications

- Plotting Area:** Y axis: 203 mm (8 in.)  
X axis: 285 mm (11.2 in.)  
Accepts up to ISO A4 or 8½ × 11-in. paper.
- Plotting Accuracy:** ±0.25 mm (±0.01), includes linearity and repeatability. Assumes plotter has been "zeroed" exactly to the lower left (0.0) coordinates.
- Repeatability:** 0.1 mm (0.004 in.) from any given point and direction.
- Addressable Step Size:** 0.032 mm (0.0013 in.).
- Pen Velocity:** 250 mm/s (10 in./s) in each axis,  
350 mm/s (14 in./s) on 45° angle.
- Vector Length:** Any length vector within the plotter's mechanical limits.
- Character Plotting Speed:** Up to 3 characters/s for 2.5-mm (0.1-in.) characters.
- Power Requirements:**  
Source: 100, 120, 220, 240V, -10%, +5%  
Frequency: 48-66 Hz  
Consumption: 70 W maximum
- Environmental Range:**  
Temperature: 0° C to 55° C  
Consumption: 5% to 95% (below 40° C)
- Size/Weight:**  
Height: 140 mm (5.5 in.)  
Width: 413 mm (16.3 in.)  
Depth: 379 mm (14.9 in.)  
Net Weight: 8 kg (17.6 lb)

## Accessories Supplied

Item	HP Part No.
One pad (50 sheets) 8½ × 11-in. blank paper	9280-0475
One package of 5 black pens	5060-6787
One 4-color pen pack (red, blue, green, black)	5060-6810
One dust cover	9222-0635
One power cord (for selected line voltage)	—

## Accessories Available

Item	HP Part No.
<b>Plotter pens</b>	
Package of 5 red pens	5060-6784
Package of 5 blue pens	5060-6785
Package of 5 green pens	5060-6786
Package of 5 black pens	5060-6787
4-color pack (red, blue, green, black)	5060-6810
<b>Plotter paper</b>	
8½ × 11-in., standard grid, English, 100 sheets	9270-1006
216 × 280-mm, standard grid, metric, 100 sheets	9270-1023
8½ × 11-in. blank pad, 50 sheets	9280-0475
A4-size blank pad, 50 sheets	9280-0476
Overhead transparency kit	17055A
Digitizing sight	09872-60066
7225A service manual	07225-90000

## Ordering Information

### HP-85 must be ordered with:

- Plotter/printer ROM 00085-15002
- ROM Drawer 82936A
- HP-IB Module 82937A

### HP 7225A must be ordered with:

- 17601A Personality Module with Option 085
- 7225A Power Option (001-004)

## Options Available

Item	Option No.
100 Vac power	001
120 Vac power	002
220 Vac power	003
240 Vac power	004
Paper/pen supplies kit: 15 pads of gridless A4-size paper, black, red, green, and blue pens, and a pen holder.	006
Paper/pen supplies kit: Same as 006, except 8½ × 11-in. instead of A4 paper.	007
Vinyl carrying case (not to be used for shipping)	010



For more information, call your dealer or the local HP Sales Office or nearest Regional Office: Eastern (301) 258-2000; Midwestern (312) 255-9800; Southern (404) 955-1500; Western (213) 877-1282; Canadian (416) 678-9430. Or write Hewlett-Packard, 1501 Page Mill Road, Palo Alto, CA 94304. In Europe: Hewlett-Packard S.A., 7, rue du Bois-du-Lan, P.O. Box, CH 1217 Meyrin 2, Geneva, Switzerland. In Japan: Yokogawa-Hewlett-Packard Ltd., 29-21 Takaido-Higashi 3-chome, Sugunami-ku, Tokyo 168.

## DEALER INFORMATION