

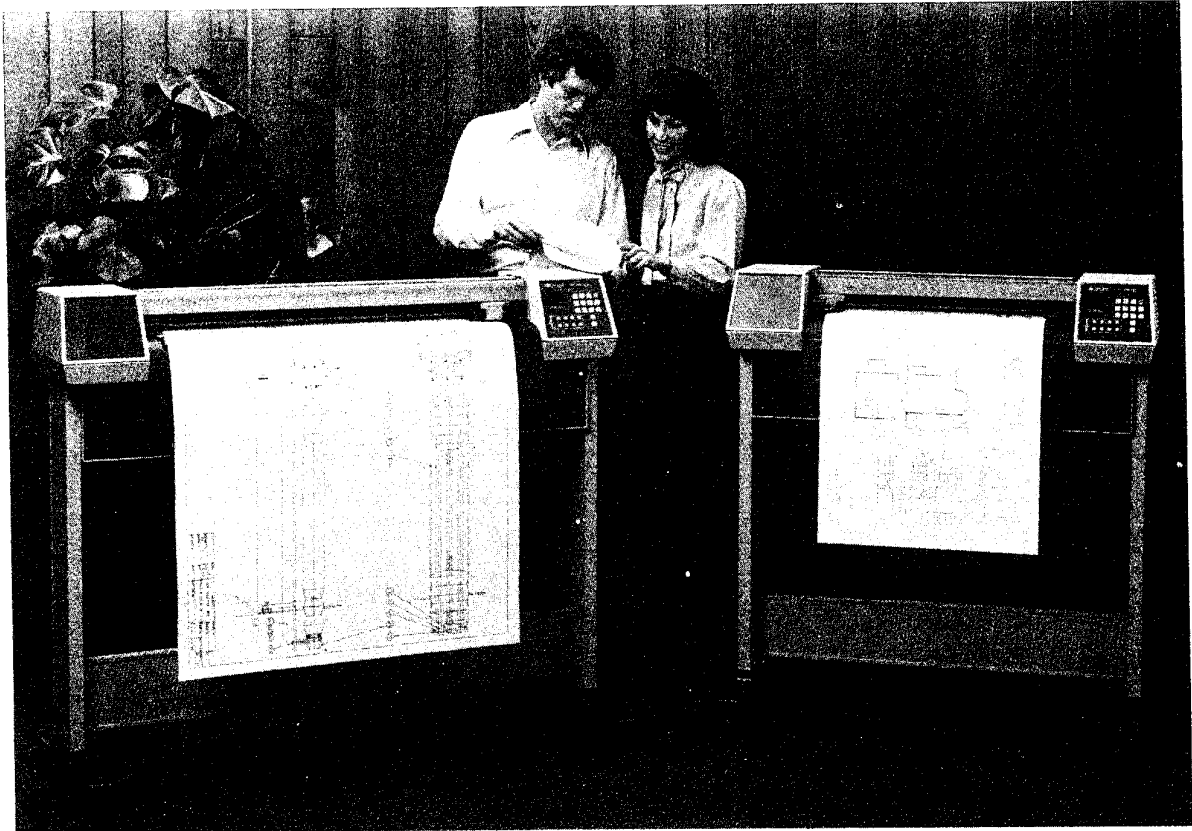


COMPUTERS, PERIPHERALS & CALCULATORS

Eight-pen Drafting Plotters

Models 7580A, 7585A

- 7580A accepts media sizes up to ISO A1 (ANSI D)
- 7585A accepts media sizes up to ISO A0 (ANSI E)
- HP-IB or RS-232-C (GDT V.24) interfaces
- Choice of pen/media combinations
- Compact
- Movable



The HP 7580 and the HP 7585 drafting plotters combine high-quality output and high throughput with features that make them exceptionally easy to use. The one important difference between these plotters is media size. The 7580A accepts media sizes ranging from ISO A4 through A1 (ANSI A through D). The 7585A accepts media sizes ranging from ISO A4 through A0 (ANSI A through E).

Both drafting plotters draw on individual sheets of paper, vellum, and double-matte polyester film. Users have a choice of roller-ball, fiber-tip, and liquid ink drafting pens in various colors and line widths. Up to eight pens can be used without operator intervention. Pens are capped when not in use so they last longer and write without repriming.

Applications

The HP drafting plotters are suited for almost any application that requires large plots that are visually perfect. Common uses in industry include computer-aided drafting; computer-aided design of printed circuit boards, integrated circuits, and mechanical parts; architectural or civil engineering design; and mapping applications. In business and management, these plotters are commonly used to prepare flip-charts or project schedules.

Media Drive Mechanism

HP drafting plotters are surprisingly compact because of Hewlett-Packard's micro-grip drive technology. The drive system uses a low

mass, low inertia mechanism to grip and move the drawing medium. This permits the use of smaller motors and lightweight components.

Advanced Writing System

HP's drafting plotters automatically sense sheet size and set the limits of pen motion. Even the pen height is automatically controlled, eliminating the manual adjustments required by many other plotters. Precision control over the settings for velocity, acceleration, and pen force assures high-quality output on various ink and media combinations.

High Quality Output

Resolution is the most important factor that affects line quality. While the addressable resolution of the HP drafting plotters is excellent at 0.025 mm (0.001 in.), the pen and the drawing medium actually move on an even finer grid to create high-quality lines. These movements are controlled by servos with a mechanical resolution of 0.003 mm (0.00012 in.).

In addition to outstanding resolution, HP drafting plotters offer a feature not found in any other drafting plotter: diagonal lines are the same quality as lines drawn parallel to the axes. A microprocessor keeps pen velocity and acceleration constant regardless of direction so lines are drawn with the same high quality in all directions.

High Throughput

At 60 cm/s maximum velocity and 4 g acceleration, the 7580A and 7585A are the fastest plotters in their price range. Even when a slower pen speed is required to accommodate a drawing medium, throughput remains high because pen-up movements are always executed at maximum speed. And pen-lift delays are kept to a minimum because the pen is lifted just slightly on small moves (as when labeling) and to maximum height only on long moves.

Pen Carousels

There are three different pen carousels—one for each type of pen. Each carousel holds up to eight pens and is coded so that the plotter electronically senses the carousel type each time a carousel is loaded. After determining the type, the plotter sets appropriate values for velocity, acceleration, and pen force. Since all of this is automatic, it is remarkably easy for an operator to set up the plotter.

If an application requires it, an operator can select force, acceleration, and velocity using either front panel controls or programmed plotter instructions.

Intelligent Pen Control System

On descent, pen motion is damped as the pen approaches the surface of the medium so that delicate pen tips are not damaged and pen bounce is minimized. Pens last longer and plotted lines are uniform from start to finish. Pen height above the surface is electronically controlled so the operator never needs to make mechanical adjustment in pen height, even when changing pens or media.

Quality Labeling

Six different character sets in two fonts provide the user with a large range of annotation capabilities including mapping symbols, special centered symbols, and foreign-language characters.

Simple, Powerful Command Set

Programming is easy using the Hewlett-Packard Graphics Language (HP-GL). The 60 commands implemented on the plotters are simple, yet powerful. In addition to single commands to draw lines, there are commands to draw circles or arcs, to position labels, change character size, slant, and direction, digitize, and more. These plotters are even smart enough to adjust dashed line patterns to fit between any two points. They can rescale the plotting area in convenient user-defined units, rotate the plot 90 degrees, or "window" and plot only a portion of the original plot.

Software Support

HP drafting plotters are supported on a number of Hewlett-Packard computer systems, desktop computers, and intelligent terminals. This support, consisting of high-level graphics programming instructions, enhances programmer productivity and ease of use. Several graphics application software packages support the drafting plotters on HP computers.

For users of industry-standard FORTRAN subroutines, a software package, HP-ISPP (Hewlett-Packard Industry Standard Plotting Package), is available. Refer to page 625 for package details and ordering information.

Specifications

Media sizes: 7580A: minimum, 203 x 267 mm (8" x 10.5"); maximum 622 x 1190 mm (24.5" x 46.9"); includes standard sizes A4/A, A3/B, A2/C, and A1/D.

7585A: minimum, 203 x 267 mm (8" x 10.5"); maximum, 927 x 1190 mm (36.5" x 46.9"); includes standard sizes A4/A, A3/B, A2/C, A1/D, and A0/E, excludes some nonstandard sizes between A3/B and A2/C.

Maximum plotting area: Drawing medium less margins.

Margin size: Expanded mode, three margins of approximately 5 mm, fourth margin is approximately 29 mm; normal mode, three margins of approximately 15 mm, fourth margin is approximately 39 mm.

Resolution: Smallest addressable move, 0.025 mm (0.001 in.); mechanical resolution, 0.003 mm (0.00012 in.)

Repeatability: For a given pen on paper or vellum: 0.05 mm (0.002 in.)

Pen velocity: Pen down, maximum: 60 cm/s (24 in./s) independent of vector direction; programmable: 1 to 60 cm/s in 1-cm increments (0.4 to 24 in./s); front panel selectable: 10 to 60 cm/s in 10-cm increments (4 to 24 in./s); front panel selectable: 10 to 60 cm/s in 10-cm increments (4 to 24 in./s). Pen up, 60 cm/s (24 in./s) independent of vector direction.

Acceleration: maximum, 4 g (39 m/sec², 129 ft/sec²); programmable, 1 to 4 g in 1-g increments (9.7 to 39 m/sec², 32 to 128 ft/sec²).

Pen force: Programmable and front panel selectable: 10 to 66 grams in 8-gram increments.

Power requirements: Source, 100, 120, 220, 240 V ~ -10%, +5%; frequency, 48-66 Hz single phase; consumption, 170 W max.

Interfaces: HP-IB (IEEE 488-1978), implements the following HP-IB functions as defined in IEEE 488-1978: SH1, AH1, T6, L3, SR1, RL0, DC1, DT0, C0, PP0 for listen-only, PP1 for address greater than 7, and PP2 for address of 7 or less.

RS-232-C/CCITT V.24, asynchronous serial ASCII with switch selectable baud rates of 110, 150, 300, 600, 1200, 2400, 4800, and 9600.

Buffer size: 1024 bytes.

Environmental range: Operating, temperature 0°C to 55°C, relative humidity 5% to 95% (0°C to 40°C); non-operating, temperature -40°C to 75°C, relative humidity 5% to 95% (0°C to 40°C).

Size/weight	7580A	7585A
Height:	1188 mm (46.8 in.)	1188 mm (46.8 in.)
Width:	1087 mm (42.8 in.)	1392 mm (54.8 in.)
Depth:	557 mm (21.9 in.)	557 mm (21.9 in.)
Net weight:	59.1 kg (130 lb)	70.4 kg (155 lb)

Shipping weight: approx 114 kg (250 lb) approx 131 kg (290 lb)

Pens: 8 per carousel; fiber tip, drafting, roller ball.

Media: Most standard paper, vellum, and double-matte polyester film, 3 or 4 mil thick.

Accessories Supplied	HP Part No.
Interfacing and Programming Manual	07580-90014
Operator's Manual	07580-90013
Programmer's Reference Card	07580-90012
3 Pen Carousels	
drafting pen carousel	07580-60081
roller ball carousel	07580-60082
fiber tip carousel	07580-60035
Digitizing Sight	07585-60191
Male-to-male RS-232-C/CCITT V.24 cable (supplied with option 001 only)	8120-3258

An assortment of pens and various drawing media and cleaning supplies are also provided with the plotter.

Drafting media and other plotter supplies are available from Hewlett-Packard. Please refer to the HP Computer Users Catalog for a complete listing. Media and liquid ink drafting pen tips may be purchased from your local engineering supply store. Refer to the Operator's Manual for information on suitable pen tips and media.

Options	Price
001 RS-232-C/CCITT V.24 interface	N/C
002 HP-IB interface	N/C
025 for use with HP 9825 desktop computer	N/C
026 for use with HP 9826 desktop computer	N/C
036 for use with HP 9836 desktop computer	N/C
045 for use with HP 9835A/B or HP 9845A/B desktop computer	N/C
047 for use with HP 2647 graphics terminal	N/C
085 for use with HP-85 personal computer	N/C
100 for use with HP 1000 computer	N/C
145 for use with HP 9845C desktop computer	N/C
300 for use with HP 3000 computer	N/C

Ordering Information	Price
7580A Drafting Plotter	\$15,950
7585A Drafting Plotter	\$22,750
OEM discounts available	