

HEWLETT-PACKARD

HP 7600 Series

Models 240D and 240E

Monochrome Electrostatic Plotters

Data Sheet

Features

Pen plotter quality in a fraction of the time

- Fast plotting speed
- Excellent resolution
- Serves an entire department
- Built-in vector-to-raster converter
- Three standard interfaces and HP-GL compatibility
- Long-axis plotting
- Rugged, compact design
- HP quality and reliability

The HP 7600 Series, Models 240D and 240E monochrome electrostatic plotters are designed to meet the high performance and volume demands of a department using a computer-aided-design (CAD) system. The HP 7600 Series plotters are also well suited for any CAD user in an application involving complex, intricate images or large amounts of area fill.

The HP 7600 Series, Model 240D accepts media 609 mm (24 in.) wide, and the Model 240E uses media 914 mm (36 in.) wide. And one low price includes the plotter, the vector-to-raster converter (VRC), and installation by a qualified representative.

Fast Plotting Speed

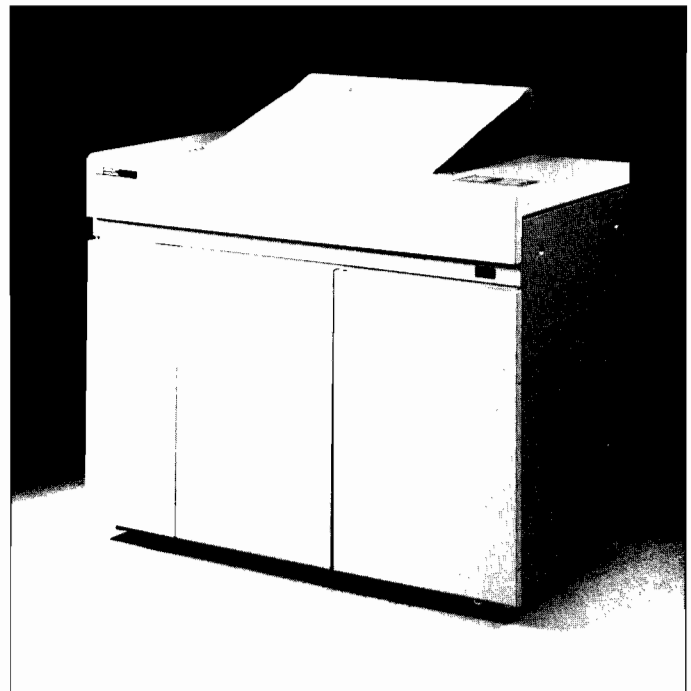
Whether you need final drawings to meet a tight deadline or quick working plots for immediate feedback during the design process, the HP 7600 Series plotters can meet the challenge.

The HP 7600 Series electrostatic plotters have a fast print speed—actual plotting time for a typical full-size drawing is less than one minute, including the vector-to-raster conversion time. And the powerful VRC keeps rasterization time short to help maximize total throughput.

Top Quality Output

With a resolution of 406 dots per inch (160 dots per cm), the HP 7600 Series plotters produce well-defined lines, smooth curves, and crisp characters that help you and your designs look their very best.

Our media and toner products are completely compatible and have been extensively tested together to make sure you get clear, sharp, smudge-resistant drawings every time you plot.



For users with special needs, the control panel has two handy features—"Enhance" for thicker, bolder lines; and "Darker" for plots requiring the blackest possible black.

Meant to be Shared

One HP 7600 Series plotter can easily serve the needs of an entire department. It has a high-volume setup and is designed to run with minimal operator supervision.

Media and toner changes can be done in a snap. Once the supplies are loaded, the plotter can run virtually unattended. A single roll of paper can produce as many as 150 A1/D-size plots on the Model 240D or 125 A0/E-size drawings on the Model 240E.

A simple, straightforward control panel minimizes the need for user/plotter interaction. Even in a shared work group, you can be sure the HP 7600 Series plotter will be properly configured and ready to go. The control panel has a series of LEDs, so it only takes a quick glance to check on the paper supply.

HP Computer Museum
www.hpmuseum.net

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Powerful, Built-in VRC

Since most graphics software programs output data in vector formats and electrostatic plotters are raster devices, we've included a built-in vector-to-raster converter (VRC) with each HP 7600 Series plotter. You don't need to purchase any special programs or equipment.

The HP 7600 Series VRC is based on the powerful 32-bit Motorola 68020 processor. It was designed with performance as the number one goal—and it shows!

For typical plots, rasterization and printing are performed simultaneously. The VRC is so efficient that the print engine doesn't have to stop mid-plot and wait for input, so you get consistent plot quality.

Easy System Integration

HP 7600 Series electrostatic plotters connect easily to almost any computer system—personal computers, workstations, and large systems. Every HP 7600 plotter comes with three standard interfaces—RS-232-C/CCITT V.24, Centronics Parallel, and HP-IB (IEEE 488-1978). The HP 7600 Series also has RS-422-A capability for long-distance communication.

Like our drafting pen plotters, HP 7600 Series plotters are HP-GL (Hewlett-Packard Graphics Language) compatible, making them ready to use on hundreds of software packages. The HP 7600 plotters also introduce the next generation of the HP-GL command language, HP-GL/2. HP-GL/2 offers higher throughput and greater overall performance, plus compatibility for the future.

Output for Every Application

An extra wide plotting width (600 mm (23.6 in.) for the Model 240D and 896 mm (35.3 in.) for the Model 240E) enables these plotters to accommodate architectural drawings, in addition to standard ISO A1 and A0 and ANSI D and E sizes.

With the built-in 40-megabyte hard disc, you can produce long-axis plots up to 15.3 m (50 ft) in length—perfect for "life-size" parts. And the disc automatically stores the current drawing so you can redraw the plot with the touch of a button or a simple software command when you need multiple copies.

The media set for the HP 7600 Series includes report grade paper, premium grade paper, translucent paper* and vellum, so you have media for all your plotting needs: working copy, final output, or archival drawings.

*Scheduled availability for translucent paper is Fall 1988.

†Optimal plot quality achieved at 23 degrees C (73 degrees F), 40 to 60% RH. Extremes in temperature or humidity can affect plot quality. See "Technical Information" for acceptable environmental ranges.

Designed to Fit Right In

A sturdy, compact design makes these plotters an easy addition to almost any department. The HP 7600 Series, Model 240D has a footprint smaller than that of an HP DraftMaster pen plotter. Set on casters, the HP 7600 Series plotters can be moved from one place to another. The convenient narrow width helps the plotters slide easily through all standard doorways.

A wide range for environmental specifications makes the HP 7600 Series plotters appropriate for many work area settings. Departments can keep the plotter close by for on-the-spot output.†

Simple Maintenance

Maintenance procedures are simple and take only a few minutes. HP 7600 Series maintenance supplies are designed to help keep the toner system and writing head clean and trouble-free for the life of the plotter. All mechanical and electrical adjustments are set at the factory, and no special periodic maintenance requiring outside service personnel is necessary.

HP Quality and Reliability

Plotter downtime can cripple an entire department. That's why the HP 7600 Series plotters meet the same stringent standards for quality and reliability that have made HP pen plotters leaders in the industry. Solid HP engineering and sophisticated electronics—large scale integration and hybrid circuitry—reduce the number of parts and increase product reliability.

The HP 7600 Series electrostatic plotters have been subjected to mechanical and electrical abuse, shock, vibration, and extreme temperature cycling—all to make sure your HP 7600 Series plotter can handle the most demanding graphics workload.

The HP Difference

Our commitment to customer satisfaction doesn't end at the time of purchase. When you buy an HP 7600 Series plotter, a qualified representative will come out to your site to install and test the product to make sure you get up and running. You'll even get tips on media and toner loading, built-in confidence plots, control panel functions, maintenance procedures, and plotter operation.

You can buy an HP plotter with confidence. If you need information or service, there are more than 375 sales and service facilities representing Hewlett-Packard in 76 countries around the world. And Hewlett-Packard guarantees the availability of parts, service, supplies and support for at least 10 years after purchase.

Technical Information

Performance Characteristics

Media Width

Model 240D: 609 mm (24 in.)

Model 240E: 914 mm (36 in.)

Plot Width

Model 240D: 600 mm, ± 2.4 mm (23.6 in., ± 0.1 in.)

Model 240E: 896 mm, ± 3.6 mm (35.3 in., ± 0.1 in.)

Toner Capacity

5 litres (1.3 gal)

Print Speed

Model 240D:

Normal mode: 1.6 cm per second
(0.64 inches per second)

High density mode: 0.8 cm per second
(0.32 inches per second)

Model 240E:

Normal mode: 2.2 cm per second
(0.86 inches per second)

High density mode: 1.1 cm per second
(0.43 inches per second)

Resolution*

Mechanical: 160 dots per cm (406 dots per inch)

Addressable: 0.025 mm (0.00098 in.)

Maximum Accumulated Error*

$\pm 0.2\%$

Pin Electrodes

Configuration: dual array

Diameter: 0.0060 cm (0.0024 in.)

Spacing: 0.00625 cm (0.0025 in.)

Pin electrodes per unit area: 25 600 dots per square cm
(164 836 dots per square inch)

Total pin electrodes: Model 240D, 9600;

Model 240E, 14 336

Environmental Ranges

Heat dissipation: 1200 BTUs/hour maximum

Operating temperature: 5 to 40 degrees C
(41 to 104 degrees F)†

Operating humidity: 30 to 80% RH†

Hardware

Storage temperature: -10 to 60 degrees C
(14 to 140 degrees F)†

Storage humidity: 15 to 85% RH†

Media

Storage temperature: -10 to 40 degrees C
(14 to 104 degrees F)†

Storage humidity: 30 to 80% RH†

High temperature: No more than 48 hours over
40 degrees C (104 degrees F)

Toner

Storage temperature: 5 to 40 degrees C
(41 to 104 degrees F)†

High temperature: No more than 72 hours over
50 degrees C (122 degrees F); no more than 48 hours
over 60 degrees C (140 degrees F)†

Power Requirements

Voltage

Source	Range	Frequency
100 VAC	90-110 VAC	47-53, 57-63 Hz
120 VAC	108-132 VAC	47-53, 57-63 Hz
220 VAC	198-242 VAC	47-53, 57-63 Hz
240 VAC	216-252 VAC	47-53, 57-63 Hz

Power

Consumption

Operating: 365 W max (1245 BTUs/hour)

Standby: 200 W max (682 BTUs/hour)

Power Cord

Three-wire U-ground plug

110 VAC 10 amp

220 VAC 6 amp

Physical Characteristics

Model 240D

Height: 900 mm (35.4 in.)

Width: 1100 mm (43.3 in.)

Depth: 620 mm (24.4 in.)

Net weight:

Plotter: 185 kg (407 lb)

VRC: 17.3 kg (38 lb)

Shipping weight:

Plotter: 220 kg (484 lb)

VRC: 20 kg (45 lb)

Accessories: 16 kg (35 lb)

Shipping dimensions:

Plotter: 1240 mm \times 745 mm \times 1135 mm
(48.8 in. \times 29.3 in. \times 44.7 in.)

VRC: 584 mm \times 546 mm \times 425 mm
(23 in. \times 21.5 in. \times 16.75 in.)

Accessories: 743 mm \times 406 mm \times 318 mm
(29.25 in. \times 16 in. \times 12.5 in.)

Model 240E

Height: 900 mm (35.4 in.)

Width: 1400 mm (55.1 in.)

Depth: 620 mm (24.4 in.)

Net weight:

Plotter: 220 kg (484 lb)

VRC: 17.3 kg (38 lb)

Shipping weight:

Plotter: 260 kg (572 lb)

VRC: 20 kg (45 lb)

Accessories: 21.8 kg (48 lb)

Shipping dimensions:

Plotter: 1540 mm \times 745 mm \times 1135 mm
(60.6 in. \times 29.3 in. \times 44.7 in.)

VRC: 584 mm \times 546 mm \times 425 mm
(23 in. \times 21.5 in. \times 16.75 in.)

Accessories: 997 mm \times 406 mm \times 318 mm
(39.25 in. \times 16 in. \times 12.5 in.)

Product Certifications

Safety Approvals

CSA approved, CSA C22.2 No. 220; UL listed, UL-478, 5th edition; Compliance with IEC-380, TUV approval in progress (GS-Mark)

Electromagnetic Interference

FCC Verified Class A; FTZ 1046/84 VDE 0871-B/with Manufacturer Declaration; VCCI registered, Class 1

*At 23 degrees C (73 degrees F), 40 to 60% RH

†Non-condensing (Note: Never operate the plotter in the presence of condensation or damage will occur to the writing head.)



Interface and Cable Requirements

System	Interface	Cable
HP Vectra PC with HP 24540A/B serial/parallel interface card or HP 24541A/B dual serial interface card using 9-pin connector	Serial	HP 24542G
HP Vectra PC with HP 24541A/B dual serial interface card using 25-pin connector	Serial	HP 17255M
HP Vectra PC with HP 24540A/B serial/parallel interface card	Parallel	92219K
HP 9000 Series 300, 800	HP-IB	HP 10833B (2 m) HP 10833C (4 m)
IBM AT and compatibles	Serial	HP 24542G
IBM AT and compatibles	Parallel	HP 92219K
Sun Workstation	Serial	HP 17255M
Apollo Workstation with SPE (Serial/Parallel Expansion) option and supplied adapter cable	Serial	HP 17255M
DEC VAX	Serial	HP 17255M

Ordering Information

Standard Unit

HP Part

Number Description

C1600A	HP 7600 Series Model 240D A1/D-size electrostatic plotter
C1601A	HP 7600 Series Model 240E A0/E-size electrostatic plotter

Note: Interface cables must be ordered separately

Accessories Included

User's Guide

Programmer's Reference

Power cord

(appropriate to plotter destination)

Premium Grade Paper (one roll)

Pre-mixed Liquid Toner

Writing Head Cleaner

Writing Head Polish

Lint-free Cleaning Wipes

Media Cutter

Empty 5 litre (1.3 gal) bottle

Accessories Available

C1600-90000 Hardware Support Manual

Report Grade Paper

17265R One roll, 609 mm (24 in.) wide

17266R One roll, 914 mm (36 in.) wide

Premium Grade Paper

17275P One roll, 609 mm (24 in.) wide

17276P One roll, 914 mm (36 in.) wide

Translucent Paper

(Scheduled availability, Fall 1988)

17267T One roll, 609 mm (24 in.) wide

17268T One roll, 914 mm (36 in.) wide

Vellum

17269V One roll, 609 mm (24 in.) wide

17270V One roll, 914 mm (36 in.) wide

Other Accessories

17278T Pre-mixed Toner; 5 litres (1.3 gal)

17279D Clear Dispersant; clear solvent used to

"flush" the toner system; 5 litres (1.3 gal)

Writing Head Polish; 300 ml (10 oz)

Writing Head Cleaner; 355 ml (12 oz)

92193W Cleaning Wipes; 100/package
thermal bonded wipes, 102 × 102 mm
(4 × 4 in.)

92193G Cleaning Gloves; 25/package

17291C Media Cutting Knife with 36 replaceable
blades; 1/package

Warranty

Every HP 7600 Series plotter comes with a 90-day on-site warranty.

In the U.S.A., call toll-free 1-800-752-0900 for the sales office or dealer nearest you. **United States** — Hewlett-Packard Company: 4 Choke Cherry Road, Rockville, MD 20850, (301) 670-4300; 5201 Tollview Drive, Rolling Meadows, IL 60008, (312) 255-9800; 5161 Lankershim Blvd., No. Hollywood, CA 91601, (818) 505-5600; 2015 South Park Place, Atlanta, GA 30339, (404) 955-1500. **Canada** — Hewlett-Packard Ltd., 6877 Goreway Drive, Mississauga, Ontario, L4V 1M8, (416) 678-9430. **Australia/New Zealand** — Hewlett-Packard Australia Ltd., 31-41 Joseph Street, Blackburn, Victoria 3130; Melbourne, Australia, (03) 895-2895. **Europe/Africa/Middle East** — Hewlett-Packard S.A., Central Mailing Department, P.O. Box 529, 1180 AM Amstelveen, The Netherlands, (31) 20/547 9999. **Far East** — Hewlett-Packard Asia Ltd., 47/F China Resources Bldg., 26 Harbour Road, Wanchai, Hong Kong (5) 833-0833. **Japan** — Yokogawa-Hewlett-Packard Ltd., 29-21, Takaido-Higashi 3-chome, Suginami-ku, Tokyo 168 (03) 331-6111. **Latin America** — Hewlett-Packard de Mexico, Sp.A. de C.V., Monte Pelvux No. 111, Lomas de Chapultepec, 11000 Mexico D.F., Mexico (905) 596-7933.

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