

# HP DraftMaster Series Large-Format Pen Plotters

## Technical Data

Pen plotters for the  
best combination of  
line quality and speed

### Features

- A4-A0 (A-E) size media
- Exceptional performance
  - Acceleration: 5.7 g maximum
  - Pen speed: 110 cm/s (43 in/s) maximum
- Superior line quality
- HP SurePlot Drawing System
- HP-GL/2, HP-GL graphics language modes
- Restart, copy, and scale features
- Three-year onsite warranty on parts and labor

### HP DraftMaster SX Plus also includes:

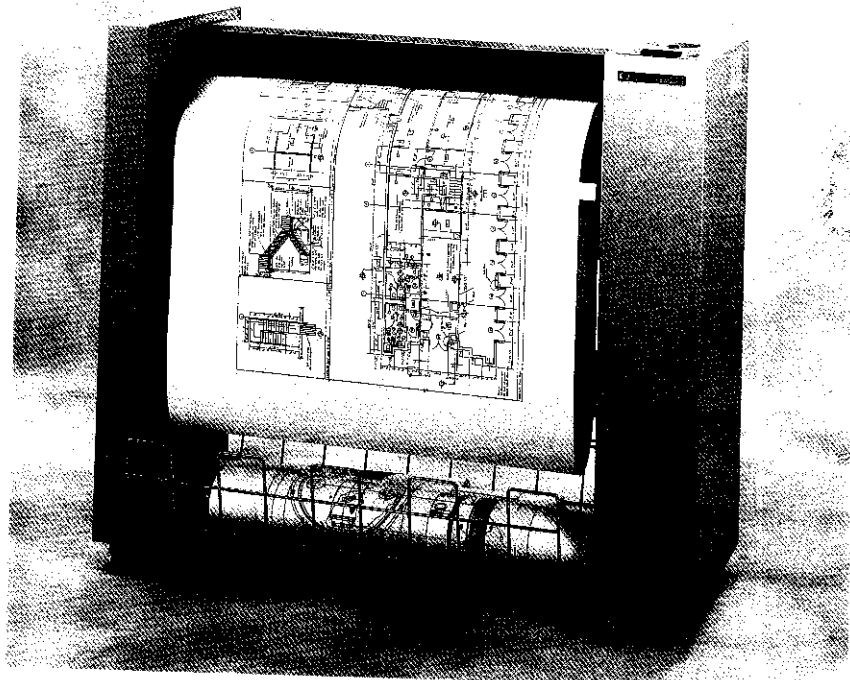
- Single-sheet plotting
- 1-MB buffer standard

### HP DraftMaster RX Plus also includes:

- Roll feed and sheet feed
- Automatic media cutter and tray
- Plot nesting and trimming
- Optional take-up reel for long-axis plotting and fragile roll media

### HP DraftMaster MX Plus also includes:

- Four RS-232-C ports
- 20-MB intelligent plot spooler
- Advanced plot management features:
  - Plot status/reprioritization
  - Multiple user setups



Experienced pen plotter users will appreciate the superior performance and advanced plot management features of HP DraftMaster Series plotters. With these premier pen plotters, your design group will spend more time designing and less time tending to the plotter. And with optional upgrade kits, first-time pen plotter buyers will find that these durable, full-featured plotters will continue to meet their growing needs.

## Quality and Productivity

Hewlett-Packard DraftMaster Series plotters deliver more good plots with less user attention. They feature the HP SurePlot Drawing System, which monitors plotter pens automatically, so you don't have to. And HP DraftMaster Series plotters are built for durability and productivity. They can handle greater workloads with faster throughput in today's demanding CAD environments.

Expect superior line quality from these premier pen plotters with an addressable resolution of 0.025 mm (0.00098 in) and repeatability of 0.10 mm (0.004 in). HP DraftMaster Series plotters have a maximum acceleration of 5.7 g and a maximum pen speed of 110 cm/s (43 in/s), so you spend less time waiting for plots.

## HP SurePlot Drawing System

The HP SurePlot Drawing System prevents or detects and corrects the most common pen problems. Your plots have fewer defects and you spend less time at the plotter. In HP tests with comparable pen plotters, HP DraftMaster Series produced the highest number of good plots with 50 percent less user attention.

## Prevents Pen Problems

Combined with the pen distance monitor, the pen grouping function prevents pens from running out of ink by automatically replacing used pens with fresh ones at selected intervals. And while all HP DraftMaster plotters work with a wide variety of pens, you'll get the maximum benefit from the HP SurePlot Drawing System by using HP SurePlot disposable drafting pens.

HP SurePlot pens have ceramic tips for clog-free plotting, and specially designed regulators to make them leak-free, too. They require no maintenance or assembly and come ready to use.

## Detects Pen Problems

The HP SurePlot Drawing System has an optical line sensor that periodically senses plotted lines, measuring the difference in contrast between a benchmark for each pen and a plotted point. Using the contrast measurement, the optical line sensor detects missing lines due to clogged or empty pens.

## Corrects Defects

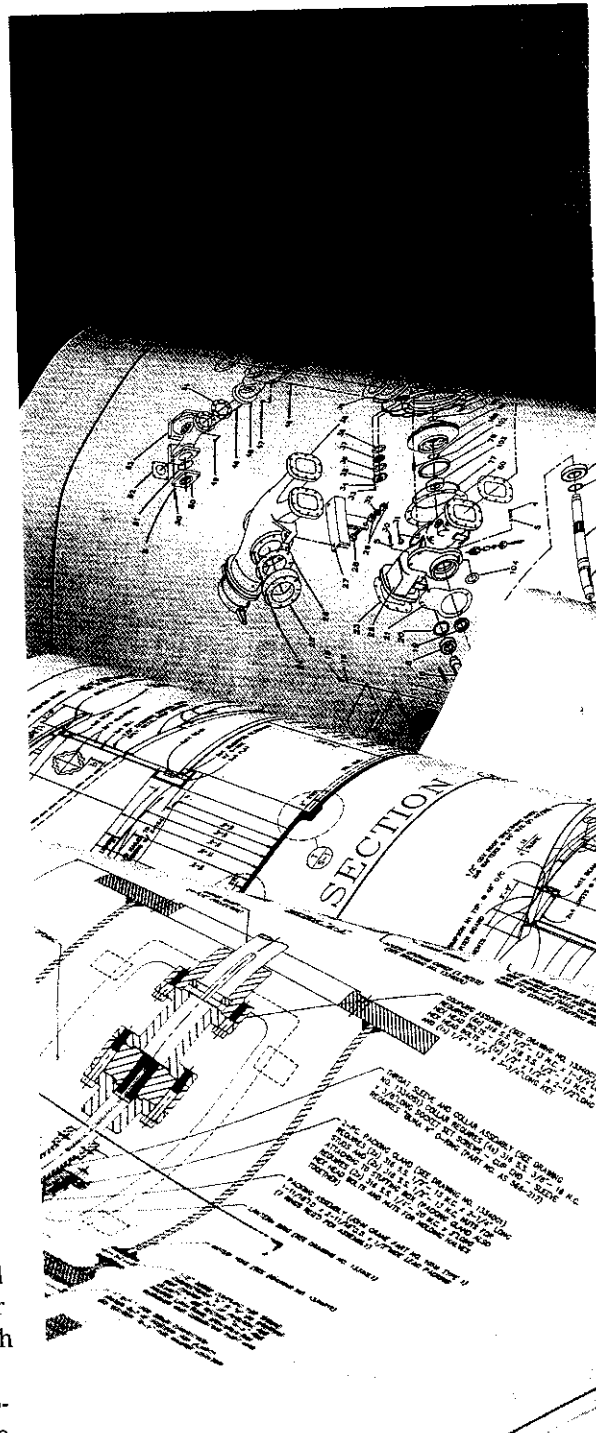
When the optical line sensor detects a missing line, the plotter corrects the problem by picking a fresh pen and retracing the plot from the last good verification point; restarting the plot; or stopping and alerting the user that a pen failure has been detected.

## Drawing Quality and Speed

Three predefined drawing quality settings—draft, quality, and quality with verification—let you choose the best combination of drawing system reliability and plotting speed for your needs.

## Automatic Media Cutter

HP DraftMaster RX and MX Plus plotters feature roll-feed media and a new automatic single-axis cutter that cuts plots automatically through software commands or manually via a front panel button. The automatic cutter has an easy-to-replace, self-sharpening blade that's designed to last for over 5,000 cuts.



HP DraftMaster Series pen plotters give you superior performance and increased productivity.

## Ordering Information Standard Units

HP part number	Description
7595C	HP DraftMaster SX Plus large-format single-sheet drafting plotter
7596C	HP DraftMaster RX Plus large-format roll-feed or sheet-feed drafting plotter
7599B	HP DraftMaster MX Plus large-format multiuser roll-feed or sheet-feed drafting plotter

**Note:** Interface cables must be ordered separately. Take-up reel is not included with roll-feed models and must be ordered separately.

## Interface and Cable Requirements

Cable	System
24542G	HP Vectra PC with HP 24540A/B serial/parallel interface card or HP 24541A/B dual serial interface card using 9-pin connector; IBM AT
17255M	HP Vectra PC with HP 24541A/B dual serial interface card using 25-pin connector
10833	HP 9000, Series 300, using HP-IB interface
10833A	1.0 m
10833B	2.0 m
10833C	4.0 m
10833D	0.5 m
17255D	IBM PS/2, PC, PC-XT, Compaq, and compatibles
24542G	IBM AT and compatibles
17302A	Apple Macintosh Classic, SE/30, LC, IIc, IIci, IIfx
17355M	Apple IIe, DEC VAX

## Accessories Included with HP DraftMaster Series

User's Guide and Setup Guide (language appropriate to plotter destination)  
Power cord (appropriate to plotter destination)  
Front panel overlay  
Media sampler  
Automatic cutter insertion tool  
Adjustable pen carousels (2)  
Fiber-tip pens (10)  
Roller-ball pens (4)  
Disposable drafting pens (4)  
Grit wheel brush  
Plotter supplies catalog

## Additional Accessories Included with HP DraftMaster RX Plus and MX Plus only

Media roll sampler, 914.4 mm (36.0 in) wide, 13.72 m (45.0 ft) long  
Manual media cutters (5)  
Media supply spindle

## Additional Accessories Included with HP DraftMaster MX Plus

RS-232-C splitter cables to provide four DraftMaster MX Plus ports (2)

## Accessories Available

HP part number	Description
17624A	HP DraftMaster RX Plus upgrade kit. Converts 7595C to 7596C.
17627A	HP DraftMaster MX Plus upgrade kit. Converts 7596C to 7599B.*
17625A	HP DraftMaster Series take-up reel kit. Provides media take-up reel for 7596C and 7599B.
17626A	HP DraftMaster Series automatic cutter blade replacement kit.
5959-9733	HP-GL/2 Programmer's Reference Guide (English)
5959-9734	HP-GL/2 Comparison Guide (English)
07595-90001	HP DraftMaster Programmer's Reference (HP-GL)
07595-90003	HP DraftMaster Programmer's Pocket Guide
07595-90500	HP DraftMaster Hardware Support Manual (English)
07595-90501	HP DraftMaster User's Guide (English)
07595-90511	HP DraftMaster Setup Guide (English)
5062-1576	Additional pen carousels
09872-60066	Digitizer sight

A complete list of available supplies can be found in the HP PC Peripherals Price Guide or the HP Supplies Source Catalog.

\* Must be installed by a qualified service representative.



HP SurePlot disposable drafting pens for leak-free, clog-free plotting.

## Technical Information

### Performance Characteristics

Media Sizes	Ranges include ISO sizes A4 through A0, ANSI sizes A through E, plus architectural sizes and oversized media. <b>DraftMaster SX Plus</b> (sheets only): acceptable media widths, 207.0–920.0 mm (8.15–36.2 in) <b>DraftMaster RX Plus and MX Plus</b> : Same sheet sizes as above plus these roll sizes, width 207.0–919.0 mm (8.15–36.1 in); length, 46.0 m (150.0 ft)
Pens	8 in carousel
Number	Fiber-tip (paper and transparency), long-body drafting (refillable or disposable), roller-ball
Type	Vellum, double matte polyester film, tracing bond, transparency film, paper (regular and glossy)
Media	
Resolution	0.025 mm (0.00098 in)
Addressable	0.00625 mm (0.0002 in)
Mechanical	
Repeatability	For a given pen: 0.10 mm (0.004 in) (These specifications are for 0.08 mm (0.003 in) paper, vellum, or polyester film.)
Accuracy	0.09% of the move or 0.25 mm (0.01 in), whichever is greater (These specifications are for 0.08 mm (0.003 in) polyester film.)
Pen Velocity	Maximum pen speed:* 110 cm/s (43 in/s)
Acceleration	
Maximum	5.7 g (55.5 m/s <sup>2</sup> , 182.4 ft/s <sup>2</sup> ) on diagonal, 4 g per axis
Programmable	2 or 4 g (19.4 or 39 m/s <sup>2</sup> )
Pen Force	Programmable or front panel selectable: 15–66 grams
Margins (sheets only)	
Expanded Mode	Three margins approximately 5.0 mm (0.2 in) each, fourth margin approximately 29.0 mm (1.14 in)
Normal Mode	Three margins approximately 16.0 mm (0.62 in) each, fourth margin approximately 40.0 mm (1.57 in)
Buffer Size	
For SX Plus and RX Plus	1 MB of RAM standard
For MX Plus	20-MB hard disk standard
Interfaces	RS-232-C (including dual I/O for terminal eavesdrop), HP-IB, and RS-422-A MX Plus also allows four RS-232-C users to share simultaneously
Optical Line Sensor*	
Pens	Recommended for use with liquid-ink pens. Detects empty pens, permanent clogs, and pen start-up failures longer than 1 cm (0.4 in).
Sensitivity	Senses colors with print contrast > 10% relative to the media. Will not detect yellow or orange ink.
Sensing Rates	Basic: beginning and end of every pen pick Selectable: six user-selectable sensing rates: basic, 8 m, 4 m (default), 2 m, 1 m, 0.5 m
Ambient Light Range	0 to 1,700 lux (lumen/m <sup>2</sup> ). Maximum fluctuation should not exceed ± 800 lux per plot.

### Environmental Ranges

	HP DraftMaster SX/RX Plus	HP DraftMaster MX Plus
Temperature		
Operating	0 to 55 degrees C (32 to 131 degrees F)	0 to 45 degrees C (32 to 113 degrees F)
Storage	-40 to 70 degrees C (-40 to 158 degrees F)	-40 to 60 degrees C (-40 to 140 degrees F)
Humidity		
Sheets	5 to 95% (0 to 40 degrees C)	8 to 80% (0 to 40 degrees C, non-condensing)
Rolls	30 to 70% (10 to 30 degrees C)	30 to 70% (10 to 30 degrees C, non-condensing)

### Power Requirements

Source	100, 120, 220, 240 V, ±10%
Frequency	48–66 Hz
Consumption	
For SX Plus and RX Plus	125 W maximum
For MX Plus	160 W maximum

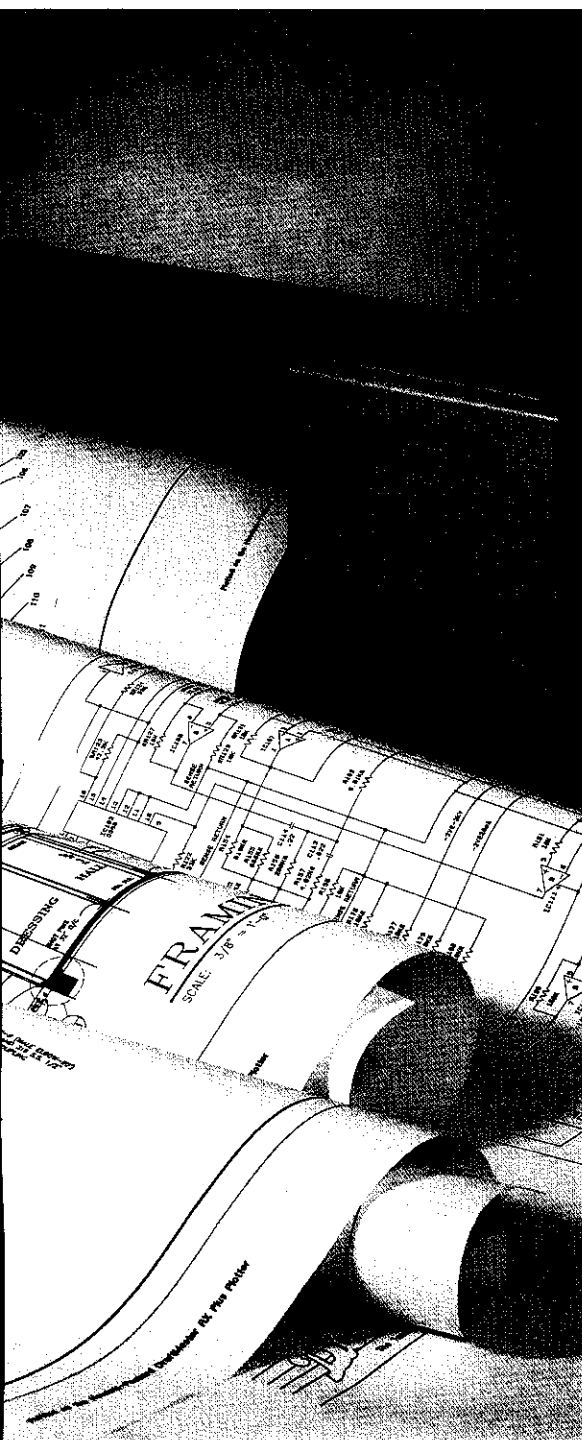
### Physical Specifications

Width × Depth × Height	134.6 cm × 53.3 cm × 123.9 cm (53.0 in × 21.0 in × 48.8 in)	
	Net Weight	Shipping Weight
DraftMaster SX Plus	69 kg (152 lb)	102 kg (224 lb)
DraftMaster RX Plus	75 kg (164 lb)	111 kg (244 lb)
DraftMaster MX Plus	79 kg (174 lb)	116 kg (254 lb)

### Product Certifications

Safety	UL listed, CSA and NOM certified, NEMKO approved, German Noise Declaration, EN 60950 compliant
EMC	FCC Class B certified, registered VCCI Class 2, EN 55022/EN 55101-2/EN 55101-3 compliant, UK general approval, DOC compliant

\* Actual pen speed depends on direction of travel, vector length, and maximum velocity setting. Plotting time may vary with the pen speed, sensing rate, and error recovery mode used. Throughput loss may be experienced when using the optical line sensor or take-up reel.



### **Easy-To-Use Front Panel**

The new front panel has an easy-to-read vacuum-fluorescent display, immediate action keys, and direct-access menu keys for fast access to frequently used functions.

### **HP-GL/2**

All HP DraftMaster Series plotters implement HP-GL/2 graphics language, which substantially reduces file transmission time, freeing up your computer quickly. An HP-GL mode is provided for software packages that do not support HP-GL/2. While the newest HP DraftMaster Series plotters work with HP-GL, HP recommends using an efficient HP-GL/2 driver to get the most from your plotter.

### **HP DraftMaster SX Plus**

The HP DraftMaster SX Plus plotter is engineered for reliable, high quality, single-sheet plotting. The standard 1-MB buffer allows downloading of an entire plot, freeing your computer quickly. The HP DraftMaster SX Plus plotter also provides advanced plot management features such as copy, scale, rotate, mirror, restart, and expand.

### **HP DraftMaster RX Plus**

In addition to the features offered on the HP DraftMaster SX Plus, the HP DraftMaster RX Plus plotter provides convenient media handling capabilities, including roll feed, an automatic media cutter, and a media tray to catch your plots. An optional take-up reel gives you long-axis plotting capabilities and is recommended for fragile media, such as vellum. This plotter is ideal for sharing through a central computer or local area network (LAN) server.

The HP DraftMaster RX Plus plotter has plot nesting, trimming, and automatic media cutting in addition to the plot management features of the HP DraftMaster SX Plus.

### **HP DraftMaster MX Plus**

The HP DraftMaster MX Plus is HP's most advanced pen plotter. It has four RS-232-C ports and a 20-MB plot spooler. Plot files from four users can be transmitted simultaneously to the plotter without a switch/buffer box and individual setups can be stored in memory, making it an easily shared plotter for non-networked PC's or workstations. In addition to the plot management features of the new HP DraftMaster RX Plus, the new HP DraftMaster MX Plus plotter has features for managing files in the plot queue.

### **Upgrade Kits**

Upgrade kits provide a path for your future needs. Kits to upgrade an HP DraftMaster SX Plus to an RX Plus and an RX Plus to an HP DraftMaster MX Plus plotter are available. User-installable accessory kits are also available for an optional take-up reel and a replacement cutter blade.

### **Reliability and Service**

HP DraftMaster Series pen plotters, like all Hewlett-Packard products, have been tested extensively to ensure their quality and reliability. HP backs all its large-format pen plotters with a three-year onsite parts and service warranty and low onsite service contract prices.

---

Hewlett-Packard peripherals and personal computers are available at HP authorized dealers worldwide. In North America, call toll-free for the HP authorized dealer nearest you:

**United States**  
1-800-752-0900

**Canada**  
1-800-387-3867

HP supplies and accessories are available at HP authorized dealers and many local computer or office supply stores. Check the yellow pages under Computer Supplies or Office Supplies or see your local HP authorized dealer.

For information outside North America, call the local HP sales office listed in your telephone directory, or refer to the list of HP regional offices below:

**Australia/New Zealand:**

Hewlett-Packard Australia Ltd.  
31-41 Joseph Street  
Blackburn, Victoria 3130  
Australia (A.C.N. 004 394 763)  
(03) 895 2895

**Europe/Africa/Middle East**

Hewlett-Packard S.A.  
150, Route du Nant-d'Avril  
CH-1217 Meyrin 2  
Geneva, Switzerland  
(22) 780 8111

**Asia Pacific:**

Hewlett-Packard Asia Ltd.  
22/F Bond Centre  
West Tower  
89 Queensway  
Central, Hong Kong  
(852) 848 7777

**Japan:**

Yokogawa-Hewlett-Packard Ltd.  
15-7, Nishi Shinjuku 4 Chome  
Shinjuku-ku  
Tokyo 160, Japan  
(03) 3331 6111

**Latin America:**

Hewlett-Packard  
Latin America Region Headquarters  
Monte Pelvoux No. 111  
Lomas de Chapultepec  
11000 Mexico, D.F.  
(525) 202 0155

Plots drawn on an HP DraftMaster Series plotter using AutoCAD and VersaCAD Software.

AutoCAD™ is a U.S. trademark of Autodesk, Inc.

HP-GL and HP-GL/2 are trademarks of Hewlett-Packard Company.

**Technical information in this document is subject to change without notice.**

**Copyright © 1991  
Hewlett-Packard Company  
Printed in USA 12/91  
5091-1505E**

