DEClaser 1100 Printer Installation Guide

Order Number EK–DCL11–IN–002

Digital Equipment Corporation
Maynard, Massachusetts

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FCC NOTICE: This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following methods.

– Reorient the receiving antenna.

– Relocate the computer or peripheral with respect to the receiver.

– Move the computer or peripheral away from the receiver.

– Plug the computer or peripheral into a different outlet so that they are on different branch circuits than the receiver.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the booklet *How to Identify and Resolve Radio/TV Interference Problems*, prepared by the Federal Communications Commission, helpful. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004–000–00345–4.

To meet FCC requirements, a shielded parallel cable is required to connect the device to a personal computer or other Class B device.

Contents

Appendix A   Cabling Information

Tables

Preface

The DEClaser 1100 printer is a nonimpact, desktop, page printer. This guide covers the installation of the DEClaser 1100 printer up to the point where it is operating properly. All operating information can be found in the *DEClaser 1100 Printer Operator's Guide*.

Intended Audience

This guide is written for installers of the DEClaser 1100 printer. The installation procedure is designed to be followed in order beginning with Chapter 1.

Document Structure

This guide is organized as follows:

- Chapter 1, Preparing Your Site, discusses site preparation items, such as power requirements, operating location, and environmental conditions.

- Chapter 2, Unpacking Your Printer, explains how to unpack the printer and identifies major printer components.

- Chapter 3, Installing the EP-L Cartridge, explains how to install the electrophotographic laser (EP-L) cartridge.

- Chapter 4, Connecting the Printer, explains how to connect the printer to your computer system or video terminal.

- Chapter 5, Loading Paper, explains how to load paper in the paper tray, how to power on the printer, and how to print the default data sheet.

- Appendix A, Cabling Information, explains how to cable your printer to different systems, such as workstations and personal computers.

Ordering Additional Copies of This Documentation Set

The documentation set consists of one of each of the following:

- *DEClaser 1100 Printer Installation Guide*

- *DEClaser 1100 Printer Operator's Guide*

- Spine insert for the binder

- Three-ring binder

You can order additional copies of this documentation set from DECdirect as described in the ordering information section in the *DEClaser 1100 Printer Operator's Guide*. The ordering number for the documentation set is EK–D1100–DK.

NOTE: *You cannot order the installation or operator's guide individually. You can only order the documentation set.*

Associated Documents

Several other related manuals are available for use with the DEClaser 1100 printer. You can order these optional manuals from DECdirect as described in the ordering section at the end of the *DEClaser 1100 Printer Operator's Guide*.

Those optional manuals are:

- *Digital ANSI-Compliant Printing Protocol Level 3 Programming Reference Manual* (AA–PBWGA–TE)
  This manual is for application programmers who create software that produces Digital ANSI-compliant level 3 output. It describes printer protocol character processing and printer control functions.

- *Digital ANSI-Compliant Printing Protocol Level 3 Programming Supplement* (AA–PBWHB–TE)
  Contains device specific information for programmers who create applications for Digital ANSI-compliant level 3 devices. It is also for programmers who write applications with ANSI output that requires conversion to the PostScript page description language for printing on Digital printers.

- *Digital Laser Printers Guide to Paper and Other Media* (EK–LASER–GD)
  This manual is for general users and contains detailed information about buying and storing print media (paper, envelopes, labels, and transparencies) that can be used with Digital laser printers.

Conventions

The following conventions are used in this guide:

Convention	Meaning
NOTE	Notes provide important additional information.
CAUTION	Cautions provide information to prevent equipment damage.
WARNING	Warnings provide information to prevent personal injury.
Key	A key name is shown enclosed in a box to indicate that key on the control panel. Key names are always shown in initial capital letters. For example:
	1. Press On Line to place the printer on line.
Dash (—)	A statement preceded by a dash describes the result of a procedural step. For example:
	1. Press On Line to place the printer on line.
	— The On Line indicator lights.
Check Mark (√)	A statement marked by a check mark indicates a special instruction related to the procedural step. For example:
	1. Insert the paper into the tray until it stops.
	√ The right edge of the paper should touch the paper feed guide.
UPPERCASE	Printer status messages and operator call messages are shown in uppercase. For example:
	— The display reads 00 READY.

Safety Information

The DEClaser 1100 printer complies with all U.S. Government safety regulations applicable to laser beam light exposure. Read the following information to become familiar with laser safety.

Laser Safety

The DEClaser 1100 printer complies with 21 CFR Chapter 1, Subchapter J, as a Class 1 laser product under the U.S. Department of Health and

Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. The printer does not emit hazardous light since the laser beam is totally enclosed during all modes of customer operation and maintenance.

WARNING: *Use of controls or adjustment procedures other than those specified in this manual may result in hazardous laser light exposure.*

CDRH Regulations

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. These regulations apply to laser products manufactured beginning August 1, 1976. Compliance is mandatory for products marketed in the United States.

Chapter 1

Preparing Your Site

Electrical and environmental conditions surrounding the work location can affect the performance of the DEClaser 1100 printer. This chapter lists the requirements for installing the DEClaser printer in a location where it performs best.

1.1 Power Requirements

The wall outlet you use should meet the following requirements:

Area	Voltage	Frequency	Amperage
North America	120 volts	50–60 Hz	At least an 8 Amp circuit
All others	220–240 volts	50 Hz	5 Amp circuit

NOTE: *If you plug other equipment into the same power supply line, do not exceed the amperage capacity of the line.*

1.2 Operating Location Requirements

Install the DEClaser 1100 printer in an area that meets the following requirements:

- A flat, level surface free from vibrations
- Enough space to allow ventilation and easy access to all sides of the printer for servicing

The following figure illustrates the space requirements for the printer when the optional printer feeder unit is not installed.

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The following figure illustrates the space requirements for the printer when the optional printer feeder unit is installed.

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1.3 Environmental Conditions

Your operating site should abide by the following environmental requirements.

- To ensure proper operation, maintain the printer site within a temperature range of 10°C to 32.5°C (50°F to 91°F).

- To ensure consistent image quality and to prevent paper jams, maintain a humidity range of 20% to 80% (noncondensing).

- To avoid heat buildup in the unit, install the printer in a well-ventilated area and do not expose it to direct sunlight.

- To protect moving parts from unnecessary wear, avoid installing the printer in a dusty area.

- To prevent condensation, avoid installing the printer in an area where it is:

  — Subjected to sudden changes in temperature or high humidity.

  — Exposed to a draft of hot or cold air from a heating system or an air conditioner.

Chapter 2

Unpacking Your Printer

This chapter explains how to unpack the DEClaser 1100 printer and identifies printer components.

CAUTION: *Do not power on the printer until instructed to do so.*

2.1 Printer Inventory

Your DEClaser 1100 printer and accessories come packaged in two separate boxes.

NOTE: *For 240-volt printers, the serial interface cable and the power cord are packaged in a separate box called a country kit.*

The large box contains one of each of the following:

- DEClaser 1100 printer
- Front output tray
- Power cord
- Serial interface cable (BC16E)
- Serial interface adapter (H8571–E) for coupling RS232 to RS423 connectors
- Documentation set

The small box contains one EP-L cartridge.

NOTE: *You may want to save the shipping cartons and the packing material; they are useful when transporting the printer to another location.*

The following illustrations show the correct and incorrect methods of lifting the printer.

CAUTION: *When moving the printer from one location to another, close the paper tray and hold the printer firmly at the bottom with both hands.*

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Never lift the printer by the paper output tray slot.

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2.2 DEClaser 1100 Printer Components

The following illustration shows the front view of the printer with the major components identified.

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Number	Description
1	Control panel
2	Top output tray
3	Paper stop
4	Font cartridge slots
5	Power switch
6	Front cover release button
7	Paper tray
8	Extension tray
9	Adjustable paper guide
10	Fixing assembly cover
11	Front cover

The following illustration shows the rear view of the printer with the major components identified.

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Number	Description
1	Air vent
2	Power cord receptacle
3	Parallel interface connector
4	Video interface connector
5	Serial interface connector

2.3 Removing the Shipping Material

Remove all shipping and packing material using the following procedure.

1. Remove the printer from the plastic bag.

2. Remove the shipping tape from the front of the printer.

    $\sqrt{}$ Discard the plastic bag and the shipping tape.

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3. Open the paper tray by pulling it toward you.

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4. Lift up the release button to open the front cover.

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5. Remove the orange-colored packing stopper by squeezing and then lifting it out.

   √ Discard the packing stopper.

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6. Continue with Chapter 3 to install the EP-L cartridge.

Chapter 3
Installing the EP-L Cartridge

This chapter describes how to install the EP-L cartridge.

When handling the EP-L cartridge, be sure you:

- Install the EP-L cartridge immediately after removing it from its protective bag.

- Keep the cartridge away from CRTs, disk drives, and floppy disks. The magnet in the cartridge can damage the data they contain.

- Use the cartridge before its expiration date; otherwise, print quality may deteriorate.

- Do not stand the cartridge on end or upside down.

1. Remove the EP-L cartridge from its shipping carton.

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2. Remove the EP-L cartridge from its protective bag.

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3. Hold the cartridge as shown and gently rock it five or six times to distribute the toner evenly.

   NOTE: *Do not shake the cartridge vigorously.*

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4. Remove the sealing tape from the cartridge by holding the cartridge on a flat, stable surface and gently pulling the orange tab straight out of the cartridge.

   CAUTION: *Pull the tab straight out of the cartridge. Pulling the tab at an angle can snap or cut the sealing tape.*

   – The sealing tape is about 457 mm (18 in.) long and may have toner on it. If you get toner on your hands or clothing, wash with cold water and soap.

   √ Discard the sealing tape.

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5. Insert the EP-L cartridge by aligning the arrow on the cartridge with the ▽ mark on the printer, and gently push the cartridge in until it stops.

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6. Slowly close the front cover.

   NOTE: *If the EP-L cartridge is not pushed in completely, the front cover will not close.*

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Chapter 4

Connecting the Printer

Your printer is equipped with the following interface connectors:

- Serial

- Parallel

- Video

This chapter explains how to connect the serial and the parallel interface connectors.

Refer to Appendix A for detailed information on connecting your DEClaser printer to various host devices.

Appendix A lists adapters for both the host and the printer and lists hosts that do not accept the BC16E serial interface cable. Special interface instructions for IBM PCs, DECstation PCs, and compatibles are included in this appendix.

If you are using an external video interface controller, refer to the controller documentation for cabling information to the video connector.

4.1 Serial Interface Connection

The serial interface connection uses the supplied BC16E serial interface cable and the H8571–E serial interface adapter.

CAUTION: *Before connecting the parallel interface cable, be sure the host device you are connecting to is turned off.*

Follow these directions for the serial interface connection:

1. Attach the H8571–E serial interface adapter to the serial interface connector on the back of the printer.

    $\sqrt{}$ Use a small flathead screwdriver or your fingers to secure the adapter to the printer.

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2. Plug one end of the BC16E serial interface cable into the H8571–E serial interface adapter.

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3. Plug the other end of the BC16E serial interface cable into the serial interface connector on the host device.

4.2 Parallel Interface Connection

This procedure uses an optional BC19M–10 parallel interface cable to describe the parallel connection to the printer. You must order the BC19M–10 parallel interface cable through DECdirect or through your Digital sales representative.

CAUTION: *Before connecting the parallel interface cable, be sure the host device you are connecting to is turned off.*

1. Plug the other end of the BC19M–10 cable into the parallel interface connector on the printer.

   √ Secure the cable by pressing the clips over the sides of the connector.

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2. Plug the end of the BC19M–10 cable (with the two screws attached to it) firmly into the parallel interface connector on the host device and tighten the two screws.

4.3 Power Source Connection

Use the following procedure to connect the printer to the wall outlet.

1. Make sure the printer power switch is in the OFF (O) position.

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2. Plug the power cord into the power cord receptacle.

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3. Insert the other end of the power cord into the wall outlet.

   WARNING: *Do not use a grounding adapter plug on the power cord. You must have a grounded wall outlet that accepts a 3-pronged plug.*

Chapter 5

Loading Paper

This chapter explains how to load paper into the paper tray and how to print the printer's default data sheet. The paper tray holds 50 sheets of 75 g/m^2 (20 lb.) paper. For further information about the kind of paper to use and for instructions on how to install the front output tray, refer to the *DEClaser 1100 Printer Operator's Guide*.

The DEClaser 1100 printer is designed for 50 sheets of input and 50 sheets of output at a time. Paper jams, uncollated pages, and sheets falling out of the output tray may result if the paper output is allowed to exceed the input sheet limit.

5.1 Loading Paper

The following instructions show how to load paper.

1. Pull the extension tray straight out.

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2. Tap a stack of paper on a flat surface to align the edges.

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3. Insert the stack of paper into the tray as far as it will go.

   $\sqrt{}$ The right edge of the paper should be touching the paper feed guide.

   $\sqrt{}$ Forms and letterhead paper are loaded facedown, top edge first.

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4. Slide the adjustable paper feed guide to the right (if necessary) until it just touches the paper stack.

  √ Do not press the adjustable paper guide against the stack of paper so tightly that it restricts movement of the paper into the printer.

  √ Make sure the paper lies perfectly flat in the tray.

  √ Be sure the paper is below the paper height guides and not above the paper limit line.

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5.2 Turning the Printer Power On

The following instructions show how to turn the printer power on.

1. Press the power switch to the ON (|) position.

2. Confirm that the control panel indicators and the message display operate properly as indicated by the following three items:

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— All indicators light for a moment.

— The Ready indicator flashes and the message display reads:

02 WARMING UP

— The Ready and the On Line indicators light and the message display reads:

00 READY DEC

If your printer did not power on as described above, refer to the troubleshooting section of the *DEClaser 1100 Printer Operator's Guide*.

5.3 Producing the Printer Configuration Data Sheet

The following instructions show how to print the data sheet containing the default values of this printer.

1. Press On Line to place the printer in the offline state.

— The On Line indicator goes off.

2. Press Test/Font .

— 05 TEST PRINT A appears on the display, and the following test image prints.

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5.4 Conclusion

This concludes the installation of your DEClaser 1100 printer. Refer to your *DEClaser 1100 Printer Operator's Guide* for detailed instructions on features, maintenance, and troubleshooting.

Appendix A
Cabling Information

This appendix describes the different cable combinations to use for connecting your printer to a host device and includes IBM PC interface programming instructions.

A.1 Cable Combinations

Table A–1, column 1 lists the host devices that you can connect to your printer. They are grouped by the type of connector they use. The second column lists the part numbers of the adapter and the cable required for each host device. Determine what host device you have and obtain the appropriate adapter. The third column describes how to connect the adapter and/or the cable to the printer.

NOTE: *For a complete list of accessories and supplies and instructions on how to order them, refer to the DEClaser 1100 Printer Operator's Guide.*

Table A–1:   Cables and Adapters for Communication Connections

Connector Type	Adapter and Cable Required	Connecting Instructions
25-Pin Plug Hosts		
VAXstation 3200/3500 VT100 Series DECserver 200/MC (DSRVB–AA) CPU RS232 Ports	H8571–A and H8571–E[1] and BC16E[1]	Attach the H8571–A (25-pin-to-MMJ) adapter to these hosts, then connect one end of the BC16E cable to the H8571–A. Attach the H8571–E adapter to the DEClaser printer, then connect the other end of the BC16E cable to the H8571–E.

[1]H8571–E and BC16E (DECconnect cable) are included with the DEClaser 1100 printer.

Table A–1 (Cont.): Cables and Adapters for Communication Connections

Connector Type	Adapter and Cable Required	Connecting Instructions
9-Pin Plug Hosts (DEC)		
VT200 Series DECmate PRO Series VAXstation 2000	H8571–B and H8571–E[1] and BC16E[1]	Attach the H8571–B (9-pin-to-MMJ) adapter to these hosts, then connect one end of the BC16E cable to the H8571–B. Attach the H8571–E adapter to the DEClaser printer, then connect the other end of the BC16E cable to the H8571–E.
DEC423 (MMJ) Serial Hosts		
VAXmate MicroVAX 2000 DECserver 300 DECserver 200/DL (DSRVB–BA) VT300 Series CPU DEC423 Ports	H8571–E[1] and BC16E[1]	Attach one end of the BC16E cable to one of these hosts. Attach the H8571–E adapter to the DEClaser printer, then connect the other end of the BC16E cable to the H8571–E.
25-Pin Socket Hosts		
Rainbow Digital Modems	H8571–D and H8571–E[1] and BC16E[1]	Attach the H8571–D adapter to one of these hosts, then connect one end of the BC16E cable to the H8571–D. Attach the H8571–E adapter to the DEClaser printer, then connect the other end of the BC16E cable to the H8571–E.

[1]H8571–E and BC16E (DECconnect cable) are included with the DEClaser 1100 printer.

Table A–1 (Cont.): Cables and Adapters for Communication Connections

Connector Type	Adapter and Cable Required	Connecting Instructions
9-Pin Plug Hosts (IBM PC/AT Type)		
DECstation 210, 212 DECstation 316, 320 IBM PC/AT	H8571–J and H8571–E[1] and BC16E[1]	Attach the H8571–J adapter to one of these hosts, then connect one end of the BC16E cable to the H8571–J. Attach the H8571–E adapter to the DEClaser printer, then connect the other end of the BC16E cable to the H8571–E. Use data transmit ready (DTR) flow control. Refer to the *DEClaser 1100 Printer Operator's Guide.*
European DECstations Serial Port		
200 Series	12–27591–01 Extender and H8571–A and H8571–E[1] and BC16E[1]	Connect the female socket of the extender cable to the host and the male plug of the extender cable to the H8571–A. Attach the H8571–E adapter to the DEClaser printer, then connect one end of the BC16E to the H8571–A and the other end of the BC16E cable to the H8571–E.
300, 350 Series	H8571–A and H8571–E[1] and BC16E[1]	Attach the H8571–A adapter to one of these hosts, then connect one end of the BC16E cable to the H8571–A. Attach the H8571–E adapter to the DEClaser printer, then connect the other end of the BC16E cable to the H8571–E.
European DECstations Parallel Port		

[1]H8571–E and BC16E (DECconnect cable) are included with the DEClaser 1100 printer.

Table A–1 (Cont.): Cables and Adapters for Communication Connections

Connector Type	Adapter and Cable Required	Connecting Instructions
European DECstations Parallel Port		
200, 300, 350 Series	BC19M–10	Connect the BC19M–10 to the DEClaser printer and to the host.
Existing Cable		
BC22D cable (already installed)	H8571–C and H8571–E[1] and BC16E[1]	Connect the H8571–C adapter plug to the socket of your printer's BC22D cable. Connect one end of the BC16E cable to the H8571–C adapter. Attach the H8571–E adapter to the DEClaser printer, then connect the other end of the BC16E cable to the H8571–E. The combination of the H8571–C adapter, the BC16E cable, and the H8571–E acts as a straight-through cable.

[1]H8571–E and BC16E (DECconnect cable) are included with the DEClaser 1100 printer.

A.2 Interface Programming Instructions

This section describes how to set up an IBM PC to interface with your printer.

A.2.1 Serial Flow Control

If you are using an IBM PC or compatible and you want to use the optional serial port on your PC, follow these steps:

1. Edit your AUTOEXEC.BAT file by adding the following two lines:

   ```
   mode com1:4800,n,8,1,p
   ```

   ```
   mode lpt1:=com1:
   ```

   where:

`mode com1:4800,n,8,1,p`	specifies that the first serial port (COM1) is used by the printer, that 4800 baud is the communication speed, that no parity is selected, that eight data bits are selected, that one stop bit is used, and that the printer continuously retries on time-out errors.
`mode lpt1:=com1:`	reassigns the printer output to COM1, the first serial port.

   NOTE: *On IBM personal computers and compatibles, printer output is normally directed to LPT1, the first parallel port.*

2. Connect the H8571–J adapter as described in Table A–1.

3. Refer to the *DEClaser 1100 Printer Operator's Guide* for instructions on how to select data transit ready (DTR) flow control.

If you are using a 25-pin PC/SA with xon/xoff, follow these steps:

1. Edit your AUTOEXEC.BAT file to contain the following two lines:

   ```
   mode com1:4800,n,8,1,-,n
   ```

   ```
   mode lpt1:=com1:
   ```

   where:

`mode com1:4800,n,8,1,-,n`	specifies that the first serial port (COM1) is used by the printer, that 4800 baud is the communication speed, that no parity is selected, that eight data bits are selected, that one stop bit is used, that the printer tries only once to connect, then time-out, and that the type weight is normal.
`mode lpt1:=com1:`	reassigns the printer output to COM1, the first serial port.

   NOTE: *On IBM personal computers and compatibles, printer output is normally directed to LPT1, the first parallel port.*

2. Connect the H8571–J adapter as described in Table A–1.

3. Refer to the *DEClaser 1100 Printer Operator's Guide* for instructions on how to select xon/xoff.

A.2.2 Parallel Communication

If you are using an IBM PC, DECstation PC, or compatible and want to use the parallel port, follow these steps:

1. Refer to the *DEClaser 1100 Printer Operator's Guide* for instructions on how to select parallel operation.

2. Use Digital's BC19M–10 cable or the industry standard Centronics 25-pin D-shell cable to make the connection from the PC to the DEClaser 1100 printer.