

DEClaser 1100 Series Printer

Service Guide

EK-DCL11-SV. B01

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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful 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 measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

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Preface

This book is intended to assist the service engineer to repair and service the DEClaser 1100 series printer in the field environment. Before attempting to use the book, you must attend the specific DEClaser Educational Services training course and all other prerequisite training courses. Section D.1 lists all recommended courses.

Conventions

The following conventions are used throughout this service guide:

Convention	Description
Note:	Notes provide additional information.
Caution:	Cautions emphasize information for preventing damage to equipment or software.
Warning:	Warnings emphasize information for prevention of personal injury.
FIP Note:	FIP notes serve as place markers within the fault isolation procedures (FIPs)
<div style="border: 1px solid black; display: inline-block; padding: 2px;">Feeder Select</div>	A box is used when referring to control panel keys. All control panel keys are described in Chapter 2.
1. 2. 3.	Numbered steps indicate the recommended sequence of each step within a procedure.
• • •	Bulleted steps allow you to determine which step to do first.
a. b. c.	Alphabetized steps indicate a series of substeps under a bulleted or numeric main step.

About This Service Guide

This service guide contains the following information:

This Chapter	Describes
Chapter 1	The physical and functional components of the printer and all available printer options.
Chapter 2	The DEClaser 1100 control panel operation and setup menus.
Chapter 3	The DEClaser 1152 printer features and control panel.
Chapter 4	The DEClaser 1100 test prints.
Chapter 5	The DEClaser 1152 test prints.
Chapter 6	Control Panel messages, Operator Call messages, and Service messages.
Chapter 7	How to clear paper jams.
Chapter 8	How to fix image defects.
Chapter 9	The recommended spares list and where the parts are located on the machine.
Chapter 10	How to locate, remove, and replace the major assemblies within the DEClaser 1100 series printer.
Appendix A	Technical and functional information.
Appendix B	Print media and operational specifications.
Appendix C	The Total Call Concept (TCC) procedure for the DEClaser 1100 series printer.
Appendix D	Training, tools, and related documentation.

Safety Warnings

Note: *The DEClaser 1100 series printers comply with all United States government safety regulations applicable to ozone gas emissions and laser beam light exposure.*

Laser Safety: *The DEClaser 1100 series 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 DEClaser 1100 series printers do 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.*

Physical and Functional Description

This chapter provides a physical and functional description of the DEClaser 1100 series printer.

1.1 Description of the DEClaser 1100 Series Printers

The DEClaser 1100 series printers are compact, low-cost, desktop printers capable of printing high-quality text or graphics at speeds up to 4 pages per minute on a variety of typical media, including paper, envelopes, and transparencies. Appendix B contains printer and media specifications.

Media can be fed into the printer from the standard input tray or from an optional feeder cassette that attaches to the bottom of the printer. The printer and cassette are customer installable.

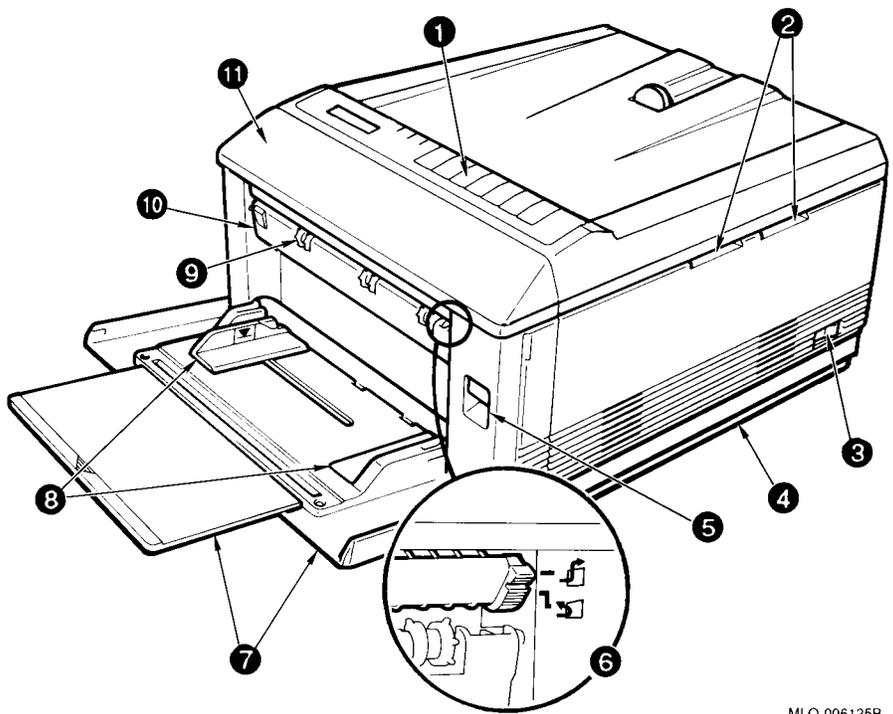
A unique feature of this printer is rollers used in place of ozone-producing charge wires. The operation of the control panel is similar to the DEClaser 2000 series printers.

1.2 Printer Components

Figure 1-1 has numbered callouts to identify the location of the operational components visible from the right side of the printer. For a description of each component refer to Table 1-1.

1.2 Printer Components

Figure 1-1 Components: Front View



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1.2 Printer Components

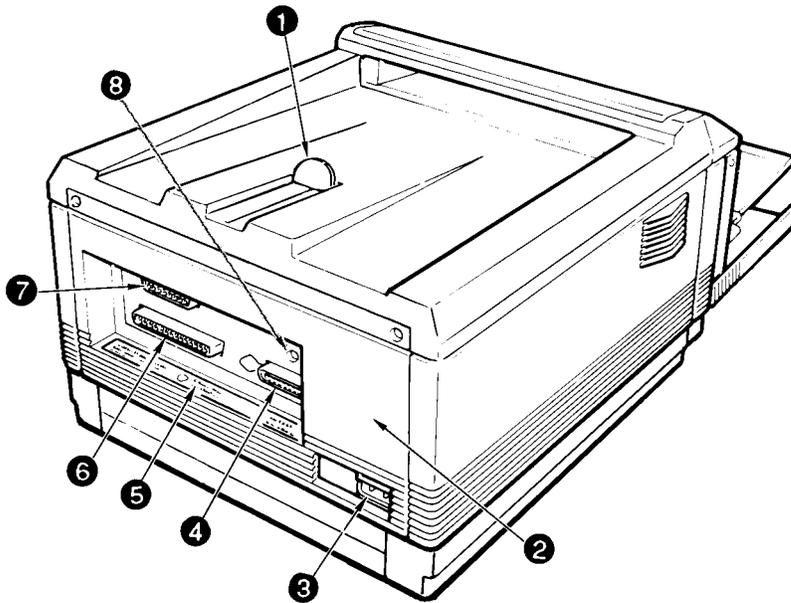
Table 1–1 Printer Components: Front View

Component	Function
❶ Control panel	The control panel has a message display, indicator lights, and a keypad. See Chapter 2 for additional information on using the control panel.
❷ Font cartridge slots	These two slots accept the optional font or program cartridges. For example, the PostScript cartridge is a program cartridge. See Section 2.17 for more information. Caution: <i>Before inserting or removing a card, turn off the printer power. The printer will cease to operate and damage may occur if the font or program card is inserted or removed while the printer power is on.</i>
❸ Power switch	Powers the printer on or off. To ensure data is not lost, always be sure the display reads 00 READY or PS READY/IDLE before powering off the printer.
❹ Paper feeder and cassette	The paper feeder is an optional assembly that holds the cassette and feeds paper up into the feeder rollers. You may see DEClasers with or without a paper feeder unit in the field. See Section 1.3 for more information about the cassette.
❺ Front door release	Opens the front door of the DEClaser 1100 series printer.
❻ Stack selector	Directs paper from the fixing rollers exit to the faceup or facedown stack.
❼ Front paper tray and extension plate	The front paper tray holds up to 50 sheets of paper. The image size is adjusted by selecting a paper size from the page format menu. See Section 2.16 for more on the format menu.
❽ Adjustable and fixed paper guides	The left guide can be adjusted for standard size paper, envelopes, or for nonstandard size sheets.
❾ Faceup stack exit roller	The faceup tray that attaches here is not shown. Use the faceup stack when printing on stiff media, for example, envelopes or labels.
❿ Fixing door	Open this door to clear paper jams that occur at the exit of the fixing unit. When open, the message 12 PRINTER OPEN is displayed.
⓫ Front door	Open this door to clear media jams, remove and replace the EP-L cartridge, or to access the density adjustment.

1.2 Printer Components

Figure 1-2 identifies the components on the back of the DEClaser 1100 series printers. The DEClaser 1152 printer has a DEC423 serial and LocalTalk connector; it does not have a video interface. Table 1-2 describes each numbered component.

Figure 1-2 Components: External Rear View



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1.2 Printer Components

Table 1–2 Printer Components: External Rear View

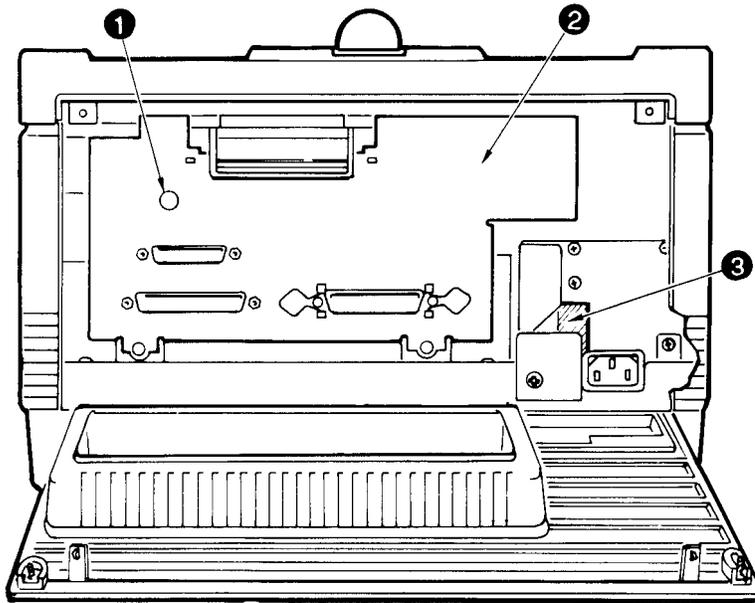
Component	Function
❶ Facedown tray and adjustable paper stop	Paper is stacked in facedown orientation.
❷ Rear cover	Remove the access cover to install the optional 1- or 2-Mb RAM expansion memory.
❸ Power cord connector	This receptacle accepts the ac line power cord.
❹ Parallel (Centronics) interface connector	Accepts a 32-pin cable and is used for parallel interfacing to a host computer system. The connector is physically and electrically compatible to the Centronics protocol.
❺ Serial number	This is the location of the external serial number template. The location of the internal serial number template can be found in Table 1–4. Both templates show the same serial number.
❻ Video interface (1100, 1150) and DEC423 serial interface (1152)	On the DEClaser 1100 or 1150 printer, the video interface accepts a 37-pin cable that connects an external video controller to the printer. On the DEClaser 1152 printer, this interface is used as a DEC423 serial connector.
❼ Serial (RS232) interface cable connector	Accepts the standard, 25-pin interface connector that is mechanically and electrically compatible with EIA-232-D/CCITT V.24 specifications. The terms RS232 and EIA-232-D are interchangeable.
❽ SerialB/LocalTalk interface connector	Can be used as a serial RS-422 communication device on the DEClaser 1152 only.

For more information about the cables or cable installation refer to Appendix A, *DEClaser 1100 Printer Installation Guide*, or *DEClaser 1152 Printer Installation/Operator's Guide*.

1.2 Printer Components

Figure 1-3 has numbered callouts to identify the location of the operational components that are visible when the rear cover is open. For a description of each component, see Table 1-3.

Figure 1-3 Components: Internal Rear View



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Note: *The interface board shown here is for the DEClaser 1100 printer.*

1.2 Printer Components

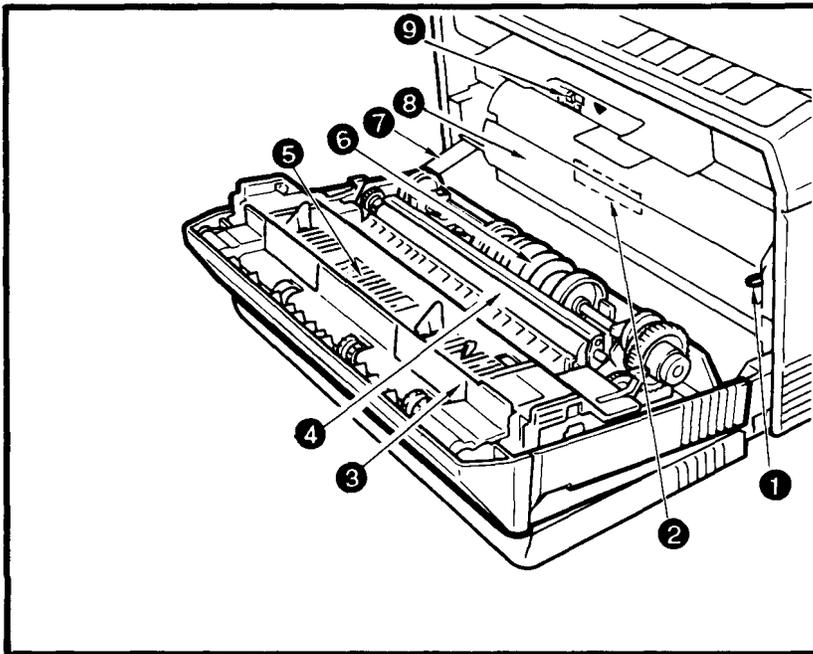
Table 1–3 Printer Components: Internal Rear View

Component	Function
❶ TEST PRINT button	This button prints the Engine Test print. Use a pencil or suitable tool to press it. See Section 5.4 for information about the Engine Test print.
❷ Interface board	On the DEClaser 1100 and 1150 printers, this panel holds the interface board and the parallel, video, and serial input ports. On the DEClaser 1152 printer, the interface board is similar in form and function. However, the DEC423 serial port replaces the video port and the LocalTalk connector has been added. Customers must remove the interface board to install optional memory.
❸ CB101 circuit breaker	Using a suitable tool, you can reset the CB101 circuit breaker through this hole in the LVPSA.

1.2 Printer Components

Figure 1-4 has numbered callouts to identify the location of the operational components inside the printer. See Table 1-4 for a description of each component.

Figure 1-4 Components: Internal View



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1.2 Printer Components

Table 1–4 Printer Components: Internal View

Component	Function
❶ Release button	Press the green release button when the EP-L cartridge sticks in the printer. When the button is pressed, a ratchet mechanism moves the gear that drives the OPC drum in the EP-L cartridge.
❷ Serial number	The internal serial number template is attached to the plastic bulkhead behind the EP-L cartridge. The location of the external serial number template can be found in Table 1–2. Both templates show the same serial number.
❸ Jam clearance plate	Lift this plate to access the curved section of the paper path between the fixing and faceup exit rollers.
❹ Transfer roller assembly	The transfer roller (charger) assembly contains the transfer roller and static eliminator.
❺ Fixing unit	The fixing unit consists of a heat roller and pressure roller. See Section 4.4 for information about the fixing roller cleaning procedure.
❻ Tray pickup roller	Two different type rollers mount on the shaft of the tray pickup roller assembly. The soft and eccentric roller is the tray pickup roller. The hard plastic roller is the lower half of the printer feed rollers. See Section 1.3 for more information.
❼ Door rod assembly	The door rod assembly opens and closes the LVPSA safety switch, the HV door switch, and lifts the EP-L shutter.
❽ EP-L cartridge	The EP-L cartridge contains a photosensitive drum, the primary charge roller, a drum cleaning blade, toner, and a toner application roller. Caution: <i>The EP-L cartridge is not light proof. Prolonged exposure (more than 5 minutes) to room light can cause damage that will produce noticeable image defects.</i>
❾ Print density adjuster	Moving the slider to the right produces darker print density and increases toner consumption. See Figure 1–14 for more information.

1.3 Media Feeders and Paper Paths

1.3 Media Feeders and Paper Paths

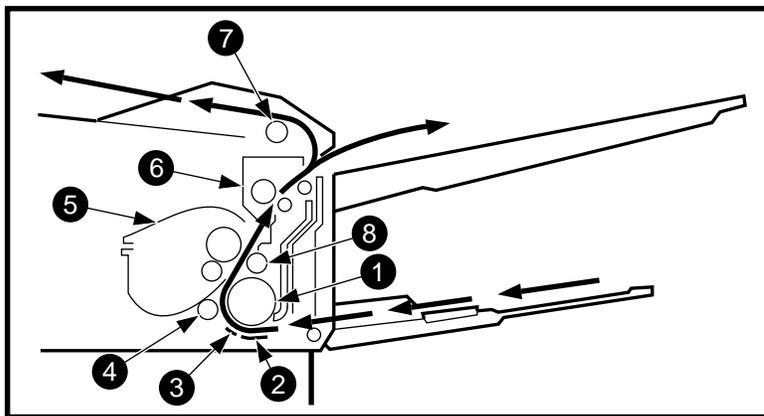
The DEClaser printer picks up and feeds media into its paper path from the front paper tray or from the optional cassette feeder.

1.3.1 Tray Paper Path

The paper tray is the primary device for feeding media into the DEClaser printer. Acceptable media includes envelopes, transparencies, and cut sheets of paper. The size of the printed image when the tray is used is set by the host or from the control panel.

Figure 1-5 shows the paper path when printing from the front paper tray. When a print command is received and the tray is selected, the DC control board starts the feed sequence. As the pickup roller ① turns, it causes the paper elevator bar ② to lift the paper stack up to the pickup roller. The pickup roller pushes the top sheet of paper across the separation pad ③ into the large and small diameter feed rollers ④. The separation pad prevents multiple paper feeds.

Figure 1-5 Tray Paper Path



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The large and small diameter feed rollers direct the sheet between the OPC drum ⑤ and the transfer ⑧ rollers. The toner image is transferred to the sheet by the charge on the transfer roller.

The sheet is directed between the rollers of the fixing unit ⑥ where heat melts and liquefies the toner and pressure forces the toner into the sheet.

1.3 Media Feeders and Paper Paths

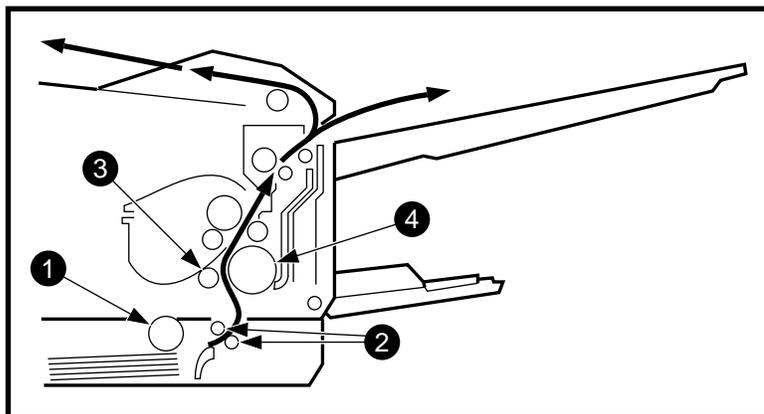
From the fixing unit, the paper is directed to the faceup stack or around the bend to the delivery rollers ⑦. The delivery rollers push the paper into the facedown stack.

1.3.2 Optional Cassette Paper Path

The optional cassette feeder mounts underneath the printer and holds the drawer-style cassette. The cassette holds up to 250 sheets of paper or 20 envelopes. The paper size and cassette type are fixed and cannot be altered.

Figure 1–6 shows the paper path when feeding from the cassette. When a print command is received and the cassette is selected, the DC control board starts the feed sequence. The cassette pickup roller ① turns, pushing the top sheet of paper into the cassette feed rollers ②. The cassette feed rollers push the sheet up into the feed rollers ③ in the printer.

Figure 1–6 Cassette Paper Path



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The feed and the stationary pickup rollers ④ direct the sheet into the paper path, as shown in Figure 1–5.

1.3.3 Cassette Size Sensing

When a cassette is installed, its molded keys engage the size-sensing switch in the feeder. The DC control board reads the size-sensing switches and sets the image size to correspond. The size-sensing switches are designated SW901, SW902, and SW903, as shown in Table 1–5 and Figure 1–7.

1.3 Media Feeders and Paper Paths

Table 1–5 Cassette Size-Sensing

Cassette Paper Size	Size Sensing Switches		
	SW901	SW902	SW903
Executive	ON	ON	ON
Envelope	ON	ON	OFF
B5 ¹	ON	OFF	ON
Legal	ON	OFF	OFF
A4	OFF	ON	ON
Feeder not installed	OFF	ON	OFF
Letter	OFF	OFF	ON
Cassette not installed	OFF	OFF	OFF

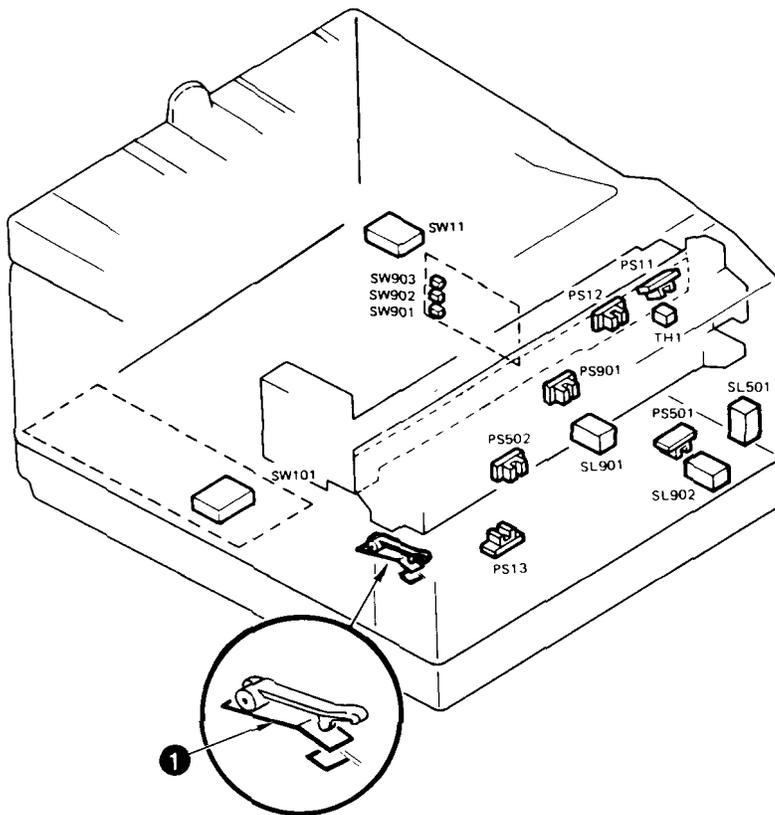
¹Cassette size not available from Digital.

1.4 Switches, Sensors, and Solenoids

1.4 Switches, Sensors, and Solenoids

Figure 1-7 shows the location of each switch, sensor, and solenoid in the DEClaser 1100 series printer. See Section 9.2, Parts Locator, to find the locations of FRUs.

Figure 1-7 Switches, Sensors, and Solenoids



MLO 006123B

Switches: ❶ The HV door switch is a safety feature. See Section 1.11.

The following switches and designations are referred to in Figure 1-7 and on the wiring diagrams in Section 1.8.

- SW901, SW902, and SW903, the cassette size-sensing switches, are mounted on the cassette feeder board. (See Table 1-5.)

1.4 Switches, Sensors, and Solenoids

- SW101, the LVPSA door switch, is mounted inside the LVPSA and interrupts the fixing heater current and +24 Vdc motor current. (See Section 1.9.)
- SW11 turns the ac power on and off.

Sensors:

The following sensors are designated and referred to in Figure 1–7 and on the wiring diagrams in Section 1.8.

- TH1 is the thermistor in the fixing unit. (See Section 1.10.)
- PS11 is the EP-L and front door open sensor.
- PS13 is the paper pickup sensor, part of the feed roller assembly.
- PS12 is the paper exit sensor.
- PS501 is the tray paper out sensor.
- PS502 is the fixing unit door open sensor.
- PS901 is the cassette feeder paper out sensor.

Solenoids (SL):

The following solenoids are designated SL in Figure 1–7 and on the wiring diagrams in Section 1.8.

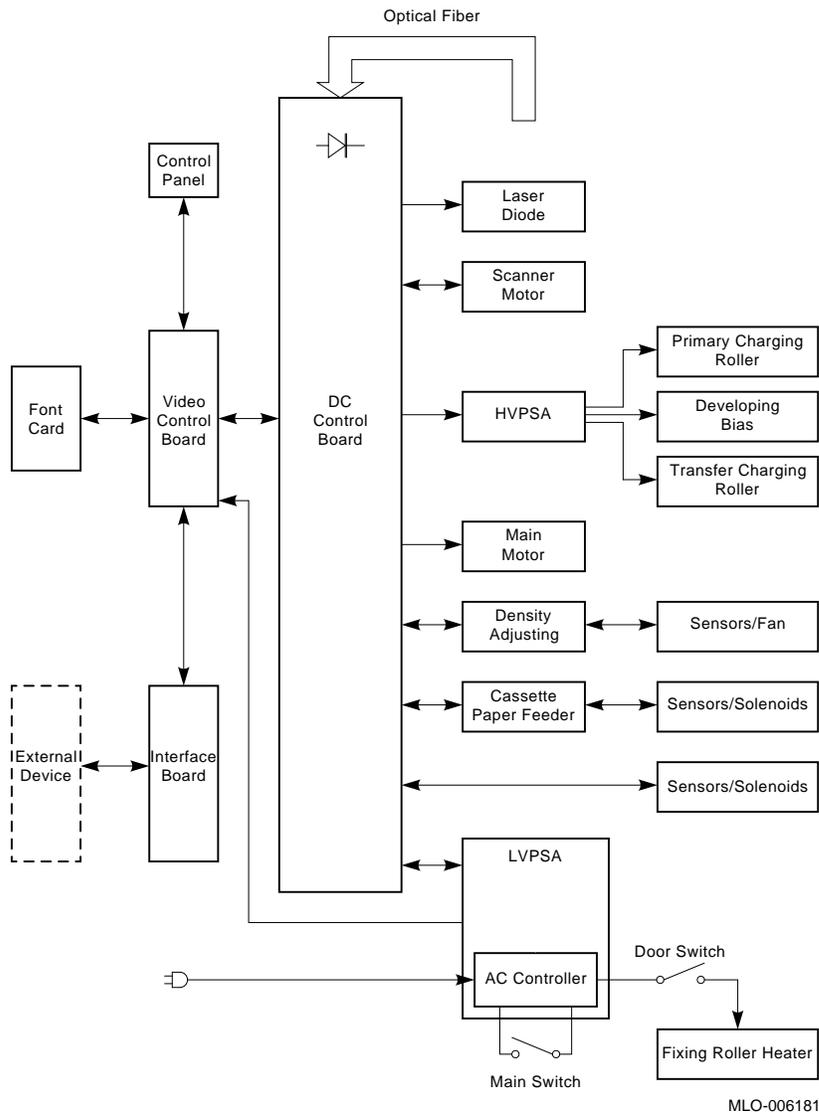
- SL501 actuates the clutch that turns the tray pickup roller.
- SL901 actuates the clutch that turns the cassette pickup roller.
- SL902 actuates the clutch that turns the cassette feed roller.

1.5 Electronic Block Diagrams

Figure 1–8 shows the major electronic components that operate the DEClaser 1100 series printer.

1.5 Electronic Block Diagrams

Figure 1-8 1100 Overall Block Diagram



1.6 Interface Board

1.6 Interface Board

The interface board can connect to a host system through the following interfaces.

- Serial RS232C
- DEC423 (Adaptor to the RS232 is required with the DEClaser 1100 and 1150 printers.)
- Parallel 8-bit Centronics
- Video (DEClaser 1100 and 1150 printers only)
- LocalTalk (DEClaser 1152 printer only)

Data passes directly through the interface board. See Section A.3 for pin-out and connector information.

Note: *The interface board affects the printing of the control panel test patterns. If the interface board is removed, all control panel invoked test patterns will result in a blank page. The engine test print will print correctly.*

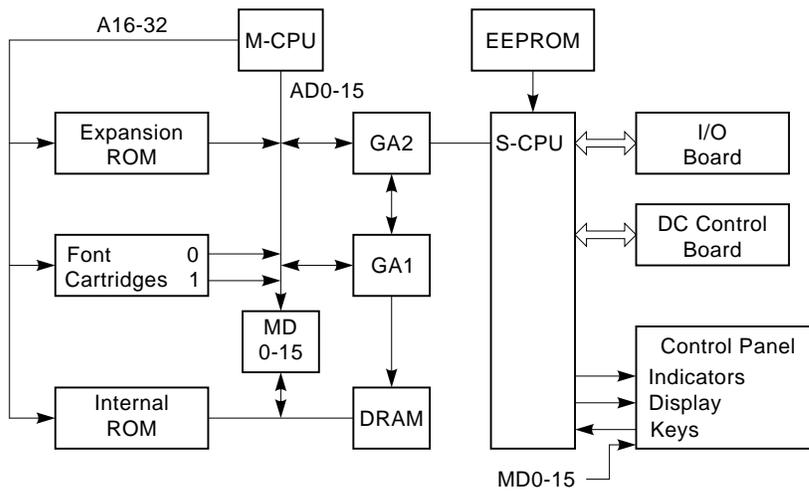
1.7 DEClaser 1100 and 1150 Printer Video Control Board

The DEClaser 1100 and 1150 video control board receives commands and image data from the host system through the interface board. The image data is compiled into a dot pattern and stored in the page memory to be output to the laser scanner assembly through the DC control board.

Figure 1-9 shows the major blocks of the video control board.

1.7 DEClaser 1100 and 1150 Printer Video Control Board

Figure 1-9 The DEClaser 1100 and 1150 Video Control Board



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The main central processing unit (M-CPU) is a 32-bit microprocessor that controls all activity on the video control board.

The subcentral processing unit (S-CPU) is a 16-bit microprocessor that operates as a slave to the M-CPU. The S-CPU does the following:

- Controls the host system and video control board communication through the logic elements on the interface board.
- Reads and operates the keys, display, and all indicators on the control panel.
- Controls read/write access to the electrically erasable programmable read-only memory (EEPROM). The EEPROM is referred to as NVRAM by the control panel display (nonvolatile random-access memory).
- Operates the DC control board.

Gate array 1 (GA1) controls the direct memory access (DMA) process to the DRAM. The DRAM is accessed by the DC control board and by devices on the video control boards.

Gate array 2 (GA2) controls the transfer timing of the dot pattern data to the DC control board.

1.7 DEClaser 1100 and 1150 Printer Video Control Board

The DRAM is divided into the following three fields (the size is adjustable through the control panel setup menu):

- The page (input) buffer contains data received from the host system.
- The page memory contains the image data bitmap or dot pattern data.
- The font cache memory contains processed fonts.

The read-only memory (ROM) holds the image data that makes up the internal fonts and stores the firmware operating programs of the video control board.

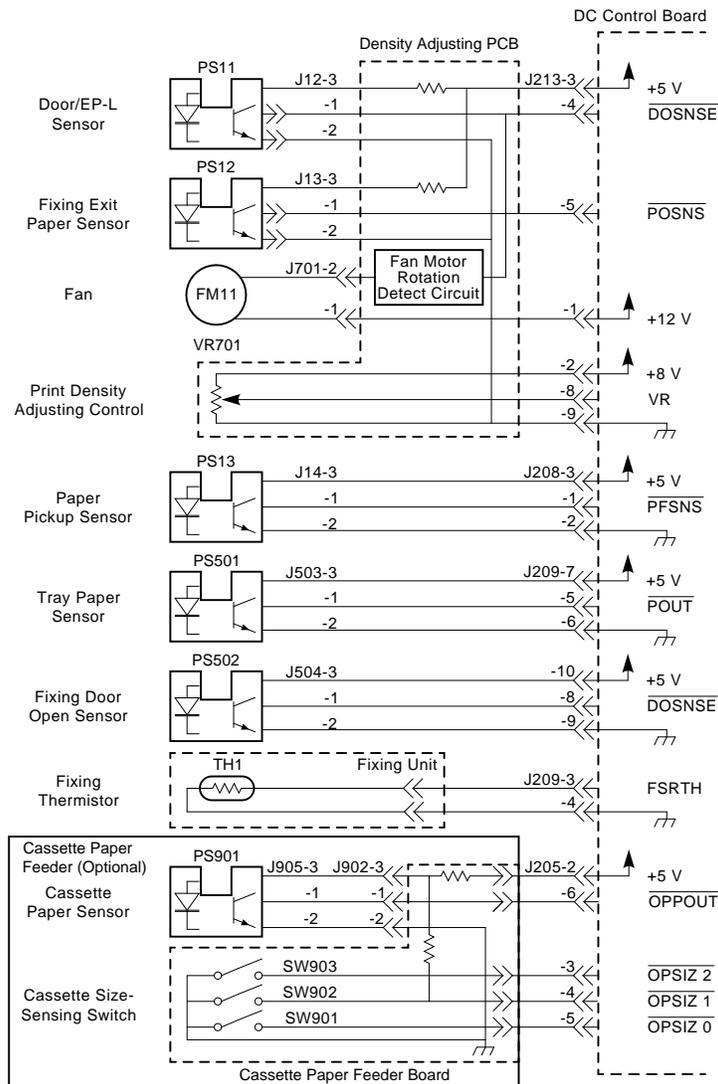
1.8 DC Control Board Signals

Figure 1–10 shows the input signals to the DC control board.

Figure 1–11 shows the output signals from the DC control board.

1.8 DC Control Board Signals

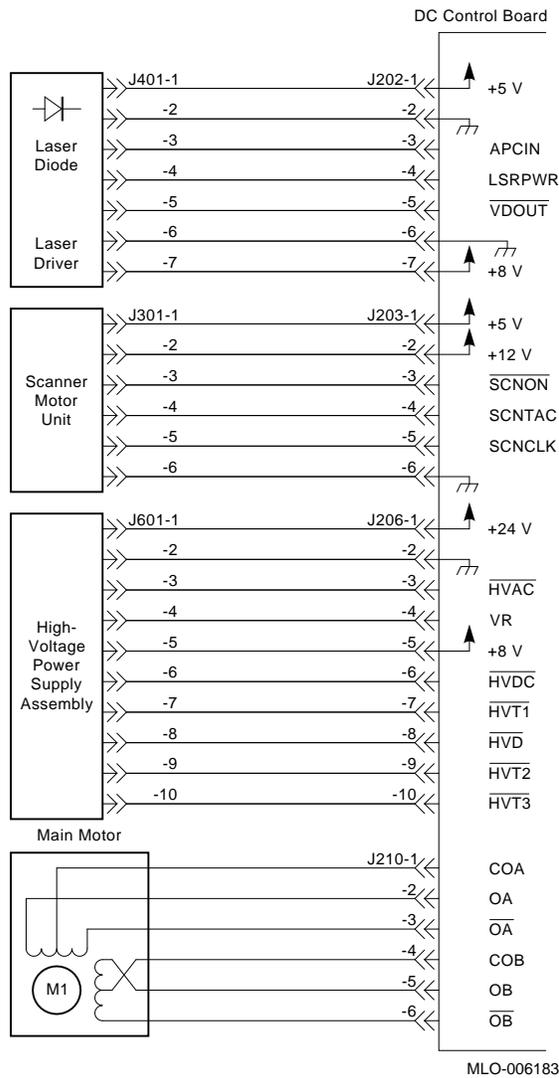
Figure 1-10 DC Control Board Input Signals



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1.8 DC Control Board Signals

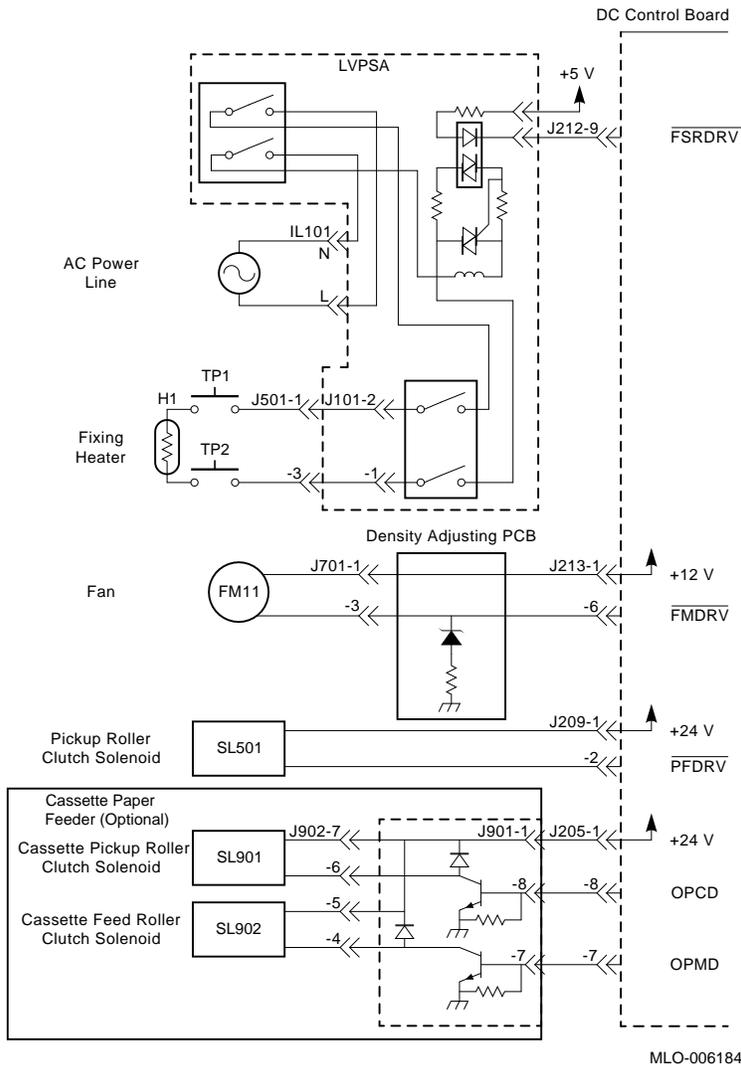
Figure 1–11 DC Control Board Output Signals



(continued on next page)

1.8 DC Control Board Signals

Figure 1-11 (Cont.) DC Control Board Output Signals

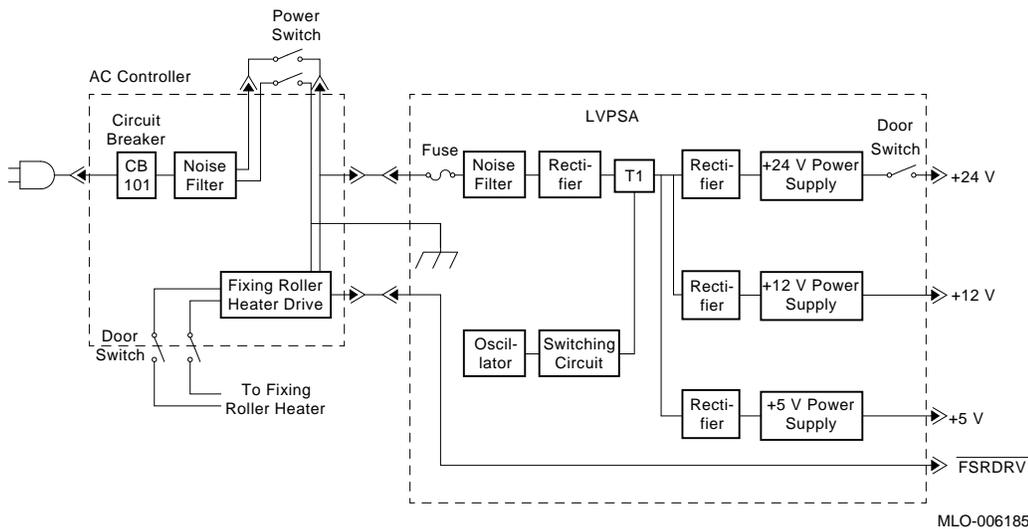


1.9 LVPSA, Main Motor, and Interlock Diagram

1.9 LVPSA, Main Motor, and Interlock Diagram

Figure 1–12 shows the major sections of the low-voltage power supply assembly (LVPSA).

Figure 1–12 LVPSA Block Diagram



The LVPSA consists of the following major components:

- DC regulators that supply 12-Vdc and 5-Vdc power
- High-current 24-Vdc regulator that drives the main motor
- Interlock door switches that are actuated by the door rod assembly and open as the front door opens
- AC controller that connects to and distributes line power
- CB101 reset circuit breaker
- Fixing roller heater drive circuit
- Fuse (F1) is inside the LVPSA and not accessible

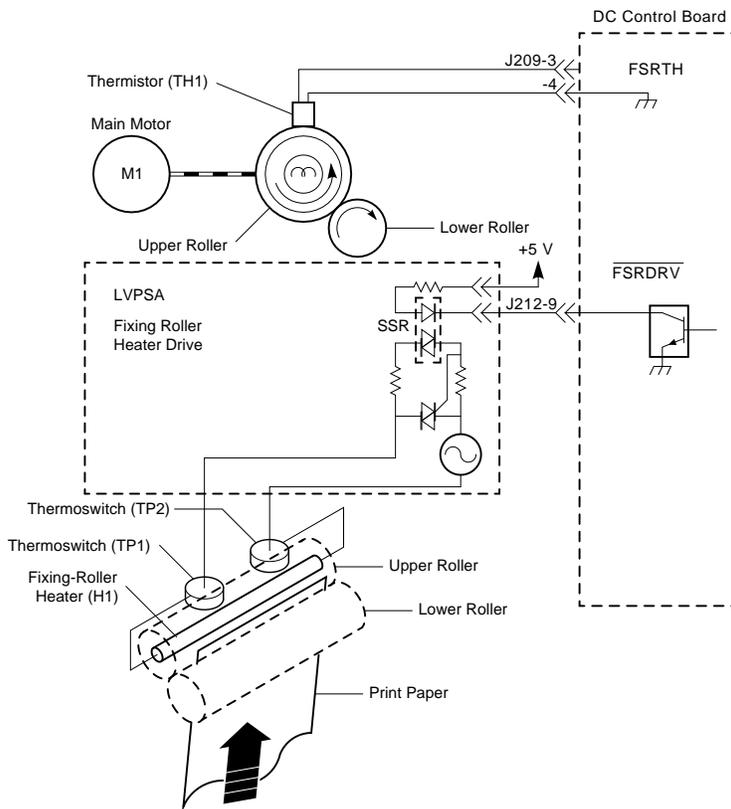
The fixing roller heater drive controls the current for the fixing heater. The signal \overline{FSRDRV} is generated on the DC control board. See Section 1.10 for more information about the fixing roller heater drive.

1.10 Fixing Heater Control Circuit

1.10 Fixing Heater Control Circuit

The fixing unit heater is maintained at a temperature of 120°C (248°F) in the standby mode. When a print command is received, the temperature is raised to the 150°C (302°F) operating temperature. Figure 1–13 shows an overall diagram of the fixing unit control circuits.

Figure 1–13 Fixing Heater Diagram



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The signal *FSRTH* is an analog signal that increases with the temperature of the fixing roller. Heat from the upper roller increases the resistance of the thermistor (TH1) which increases the voltage of *FSRTH*.

The DC control board measures *FSRTH* and outputs the control signal *FSRDRV* to the fixing roller heater driver circuit in the LVPSA. A solid state relay (SSR) is used to turn the fixing heater current on and off.

1.10 Fixing Heater Control Circuit

The TP1 and TP2 thermostats are mounted above the heat roller and are in series with the heater element. If the temperature of the heat roller goes too high, one or both of the thermostats will open. When the fixing temperature cools, TP1 and TP2 should close.

A capacitor (not shown in Figure 1–13) on the DC control board keeps the error message on the display and the fixing current off until the printer power has been off for longer than 3 minutes.

The 50 SERVICE message is displayed if the fixing temperature:

- Fails to reach 50°C (122°F) within 40 seconds after power on.
- Fails to reach 100°C (212°F) within 40 seconds after reaching 50°C.
- Fails to reach 120°C (248°F) within 30 seconds after reaching 100°C.
- Fails to reach 140°C (284°F) within 30 seconds of receiving a print signal.
- If the temperature rises above 185°C (365°F).
- If the temperature drops below 90°C (194°F).

1.11 HVPSA Density Circuits

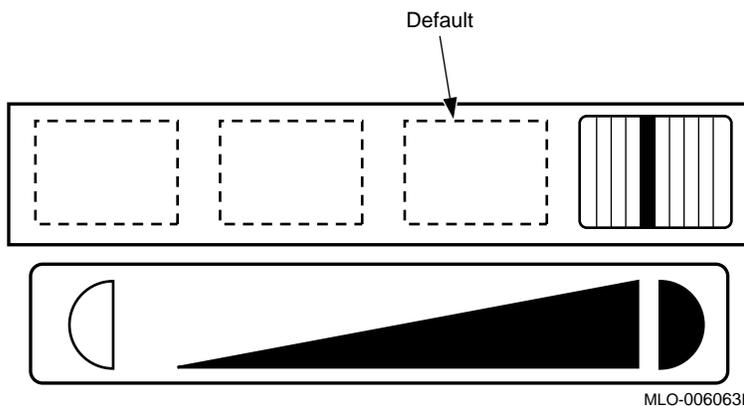
1.11 HVPSA Density Circuits

The HVPSA and density adjustment assemblies are replaced as FRUs. There are no internal field adjustments.

1.11.1 Density Adjustment

The density adjustment lets the user choose lighter or darker printing. The default shown in Figure 1–14 is the recommended normal position for the sliding adjuster.

Figure 1–14 Density Adjustment



As shown in Figure 1–15, VR701 is the density adjustment potentiometer. As VR701 is adjusted from dark to light, the VR signal varies from approximately 0–8 Vdc. VR varies the primary and development dc bias voltages which varies the quantity of toner on the drum and on the sheet.

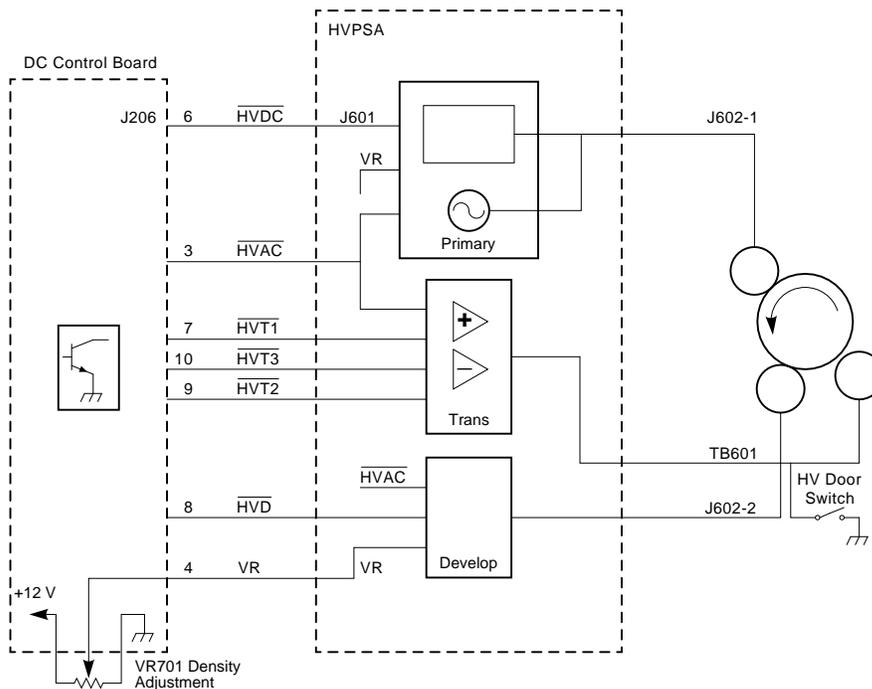
- The darkest setting makes printed text dark, reduces background staining, and uses up the toner supply at a faster rate.
- The lightest setting makes the text lighter and increases background staining. The increased staining is imperceptible on flat cut sheets, but is more noticeable when printing envelopes. See Section 8.16 for additional information.

1.11 HVPSA Density Circuits

1.11.2 HVPSA Circuits

Figure 1–15 gives signal names, connector numbers, and shows the circuitry that drives and loads the HVPSA.

Figure 1–15 HVPSA Image Circuits



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The HVPSA is operated by the DC control board. The primary and development high-voltage power supplies connect to the EP-L cartridge by flat spring contacts. The transfer supply connects to the transfer roller in the front door assembly by a coil spring contact that you can see when the front door is open. The HV door switch shorts the supply to ground when the front door is opened.

The flat and coil springs are chrome plated and require no maintenance. Use a soft brush to clean away dust or paper chips, but avoid using commercially available liquid or aerosol contact cleaners. Do not attempt to scrape clean, bend back, or repair damaged contacts.

DEClaser 1100 Printer Control Panel

This chapter describes the operational modes, keys, and indicators of the DEClaser 1100 printer.

2.1 Control Panel Modes

The DEClaser 1100 printer runs in either the online Ready or offline Ready mode of operation. The online indicator shows the online or offline status. The text 00 READY is displayed when the printer is ready to receive commands.

The online Ready mode means that the printer is ready to receive commands, text, or font files from the host system. Most of the keypad keys are disabled when the printer is online. If you press a disabled key, the control panel beeper sounds and the key is ignored.

Note: *The online Ready display text 00 READY can be replaced or modified by a firmware emulation cartridge, for example, the PostScript option cartridge that installs in font cartridge slot A.*

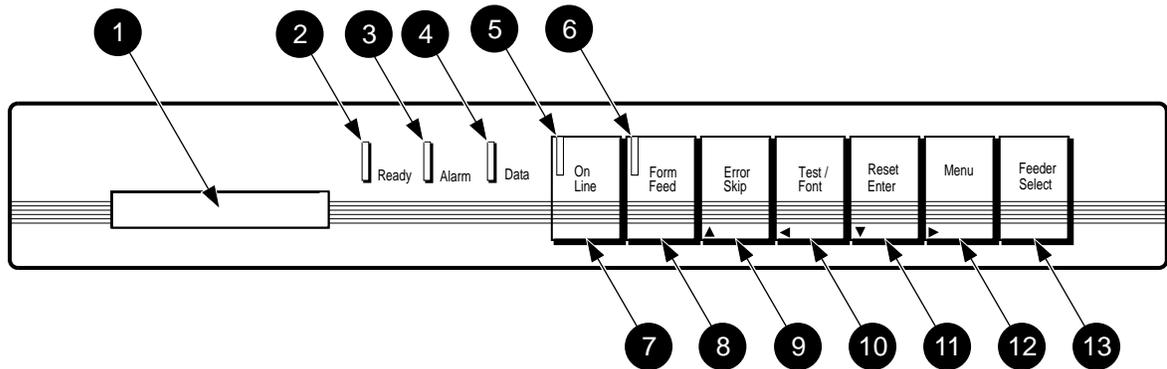
The offline Ready mode means that the printer is ready to receive commands from the control panel. You can activate any of the keypad functions shown in Figure 2-2 when the printer is in the offline Ready mode.

2.2 DEClaser 1100 Printer Control Panel Keys and Indicators

2.2 DEClaser 1100 Printer Control Panel Keys and Indicators

Figure 2–1 shows the location of the DEClaser 1100 printer control panel indicators and keys. Table 2–1 describes how they work.

Figure 2–1 DEClaser 1100 Printer Control Panel Indicators



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Table 2–1 DEClaser 1100 Printer Control Panel Indicators and Keys

Indicator	Function
❶ Message display	A one-line, 16-character liquid crystal display. During online or offline operation, a two-digit status code and a summary status message are displayed. The setup menus are horizontally formatted. See Section 2.3 and Section 2.4 for information on the Setup menus. With the exception of 00, all two-digit status code numbers flash to attract attention of the operator.
❷ Ready ¹	The indicator is either on, off, or flashing. If on, the printer is ready. If flashing, the printer is performing a function (for example, the printer is warming up) and you must wait.
❸ Alarm ²	Indicates that a status condition is disabling the printer. Alarm conditions require the attention of an operator or service person. The message display tells you the nature of the alarm indication.

¹Color when lit is green.

²Color when lit is orange.

(continued on next page)

2.2 DEClaser 1100 Printer Control Panel Keys and Indicators

Table 2–1 (Cont.) DEClaser 1100 Printer Control Panel Indicators and Keys

Indicator	Function
④ Data ¹	Indicates the condition of the data in the buffer memory. The indicator is either flashing, off, or on. If flashing, the buffer is receiving print data from the host system. If off, the buffer is empty. If on, there is print data in the buffer.
⑤ online ¹	The indicator is either on, off, or flashing. If on, the printer is online. If off, the printer is offline. It flashes when the printer is switching to the offline mode.
⑥ Form Feed ¹	The indicator is either on, off, or flashing and works in conjunction with <input type="button" value="Form Feed"/> . If on, the printer is printing the remaining buffered data. If off, there is no form feed activity. If flashing, the print command is canceled.
⑦ <input type="button" value="online"/>	Toggles the printer between the on line and offline modes. If the printer is set offline while receiving data or printing, the reception is abruptly terminated, but the full page is printed.
⑧ <input type="button" value="Form Feed"/>	Activates the form feed process to print remaining buffer data. The key only works when the Data and Ready indicators are on, and when the printer is off line.
⑨ <input type="button" value="Error Skip"/> <input type="button" value="∧"/> ³	Returns the printer to the offline Ready mode from an error or alarm condition, and clears the Alarm indicator and the display message. The Alarm indicator will light again if the error condition is not corrected.
⑩ <input type="button" value="Test/Font"/> <input type="button" value="⏏"/> ³	Prints the test patterns that reside in the printer firmware. See Section 4.2 for operating information.
⑪ <input type="button" value="Reset"/> <input type="button" value="√"/> ³ <input type="button" value="Enter"/> ³	The following reset functions are performed automatically at power-up or when <input type="button" value="Reset"/> is pressed: <ul style="list-style-type: none"> • Clears the data from the buffer memory (DRAM). • Selects the values stored in RAM as current settings. • If pressed for longer than 10 seconds, activates the character dump mode. See Section 2.15, for more information. • Invokes the selected macro values. See Table 2–3 and Section A.2 for more information.

¹Color when lit is green.

³See Table 2–2 for description of this menu-scrolling key.

(continued on next page)

2.2 DEClaser 1100 Printer Control Panel Keys and Indicators

Table 2–1 (Cont.) DEClaser 1100 Printer Control Panel Indicators and Keys

Indicator	Function
⑫  ³	<p>Causes the printer to enter the Setup menu and redefines the function of the dual-labeled keys. Section 2.3 gives more information about the setup menus.</p> <p>Pressing and holding  for longer than 3 seconds causes the printer to enter the Port and Emulation Selection menu. See Section 2.17 for more information.</p>
⑬ 	<p>This key toggles the paper input selection between the cassette and tray. The following information is displayed by pressing :</p> <ul style="list-style-type: none">• Press and release to display the selected paper source.• Press twice to toggle the selected input if a paper feeder is installed.• Press and hold to activate the tray page size menu. See Section 2.16 for more information.

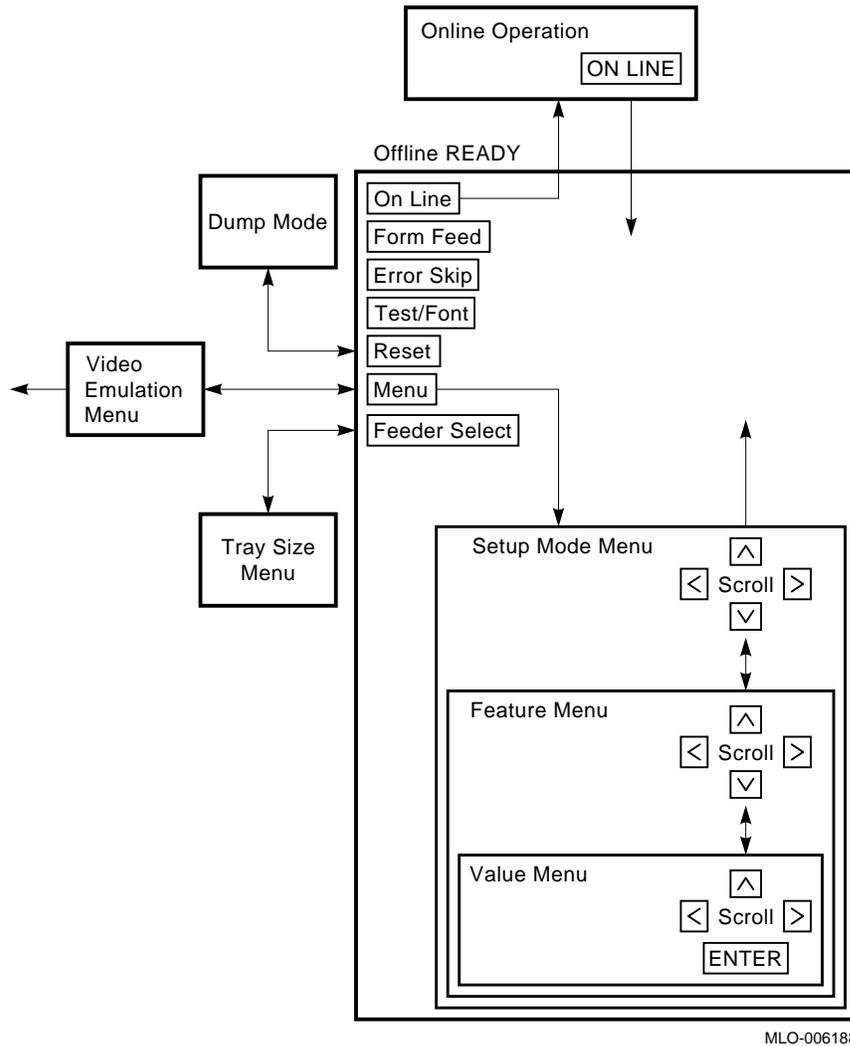
³See Table 2–2 for description of this menu-scrolling key.

2.3 Navigating Through the Setup Menu

2.3 Navigating Through the Setup Menu

Figure 2–2 shows the format of the Setup menu. Press **Menu** to enter the Setup menu.

Figure 2–2 DEClaser 1100 Printer Keypad Operation

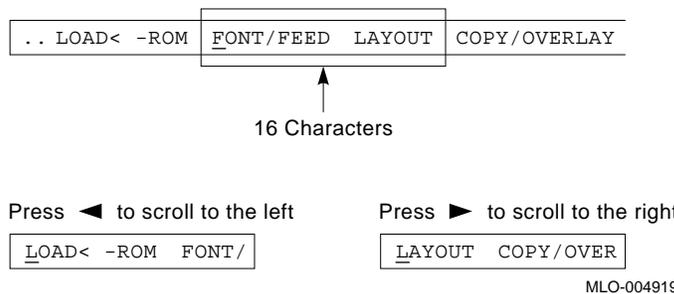


2.4 Setup Menu Format

2.4 Setup Menu Format

Figure 2–3 shows the format of the horizontal Setup menu. Press the scrolling keys to move through the selections. The selected text is left-justified and indicated by an underline cursor. Ignore any text, separated by a space, on the right of the display.

Figure 2–3 Setup Menu Display Text



2.5 Moving, Selecting, and Saving Values

The scrolling keys are activated when the control panel enters the Setup menu. Table 2–2 describes the action of the scrolling keys.

Table 2–2 Menu Scrolling Keys

Key	Function
⏶ and ⏷	These keys shift up and down through the value, feature, and setup levels of the Setup menus. Up-shifting stops at the offline Ready level. Down-shifting stops after the value level.
Enter	Enters the selected value into the operational memory space and marks the value with an equal (=) sign.
⏸ and ⏹	Use for scrolling through values, features, or Setup menus. When a scrolling key is pressed, the text and cursor move. The selected text is left-justified and is indicated by an underline cursor.

Table 2–3 shows the DEClaser 1100 Printer (PPL3) Setup menus and the features and values of each Setup menu.

2.5 Moving, Selecting, and Saving Values

Table 2–3 Setup, Feature, and Value Menus

Setup	Feature	Value	For more information
FONT/FEED	feeder	Cass. =Tray	Section 2.6
LAYOUT	autoNL	= ON OFF	Section 2.7
COPY/OVERLAY	copy	= 01 –99	Section 2.8
COMMAND	message	English =Finnish French German Italian Japan Norway Port. Spanish Swedish Danish Dutch	Section 2.9
INITIAL	macro ¹	= 000 –999	Section 2.10.1
	paint	= Partial Full Dual	Section 2.10.2
	paper	Letter =A4	Section 2.10.3
INTERFACE	i/f	= RS232C CENTRO	Section 2.11.1
	baud ²	19200 9600 4800 =2400 1200 600 300	Section 2.11.2

¹This changed value is not effective until invoked. Press to Reset invoke.

²This value appears only if you select RS232C.

The bold values are the factory defaults that are selected when the LOAD<–ROM setup is entered. The equal (=) sign indicates the selected value. When you scroll into a value level, the selected value is displayed first.

(continued on next page)

2.5 Moving, Selecting, and Saving Values

Table 2–3 (Cont.) Setup, Feature, and Value Menus

Setup	Feature	Value	For more information
	rsmode ²	8S 8SS =7OS 7ES 7OSS 7ESS 8OS 8ES	Section 2.11.3
	dtr ²	READY-H =Fix-H	Section 2.11.4
	xon/xoff ²	= ON OFF	Section 2.11.5
	etx/ack ²	=ON OFF	Section 2.11.6
SAVE->RAM	—	—	Section 2.12
SAVE->NVRAM	—	—	Saves values for power failure. Section 2.13
LOAD<-ROM	—	—	Loads factory values. Section 2.14

²This value appears only if you select RS232C.

The bold values are the factory defaults that are selected when the LOAD<-ROM setup is entered. The equal (=) sign indicates the selected value. When you scroll into a value level, the selected value is displayed first.

2.6 FONT/FEED

The following feature and values are available from the DEClaser 1100 printer (PPL3) FONT/FEED Setup menu:

feeder Cass.
 Tray

Comments: This feature operates exactly the same as pressing which toggles the input device selection between the cassette and the tray.

2.7 LAYOUT

2.7 LAYOUT

The following feature and values are available from the DEClaser 1100 printer (PPL3) LAYOUT Setup menu:

autoNL	ON
	OFF

Comments: Determines if the line of text is truncated or wrapped at the right margin. When set to ON, the printer automatically inserts a carriage return and line feed character to wrap the text on the next line. When set to OFF, the printer truncates the line at the right margin.

2.8 COPY/OVERLAY

The following feature and values are available from the DEClaser 1100 (PPL3) COPY/OVERLAY Setup menu:

copy	01-99
------	-------

Comments: Determines the number of copies of a page that the printer prints. For example, if set to 05, five copies of each page are printed before the printer accepts the next page from the host system. The number ranges from 01-99.

2.9 COMMAND

The following features and values are available from the DEClaser 1100 printer (PPL3) COMMAND Setup menu:

2.9 COMMAND

message	English Finnish French German Italian Japan Norway Port. Spanish Swedish Danish Dutch
---------	--

Comments: Status, operator call, and other error messages are displayed in the selected language. Setup menus and service messages are always displayed in English.

2.10 INITIAL

The following features and values are available from the DEClaser 1100 printer (PPL3) INITIAL Setup menu:

macro	000–999
paint	Partial Dual Full
paper	Letter A4

2.10.1 macro

The DEClaser 1100 printer (PPL3) macro feature allows you to select an environment for local compatibility. It assigns the proper user preference character set, enables/disables the initialization message, and specifies the return response (device identification) when a Device Attributes (DA) request is received. The macro feature is slightly different from other menu features because three parameters (user preference character set, initialization message, and device ID) are *added together* to determine the macro value. The user preference, initialization message, and device ID values cannot be selected independently; they must be added together to form the macro value. See Section A.2 for more macro information.

After changing the macro number, you must press **Reset** to invoke the change. See Table 2–1 for more information.

2.10 INITIAL

2.10.2 paint

The following values are displayed for the paint feature of the DEClaser 1100 printer (PPL3) INITIAL menu:

- Partial
- Full
- Dual

Which values are displayed depends on the amount of available memory:

- If the minimum amount of memory is installed (512 KB), you can only select the Partial value; Full and Dual are not displayed.
- If the 1-MB optional memory is installed, you can select Partial or Full; Dual is not displayed.
- If the 2-MB optional memory is installed, you can select Partial, Full, or Dual.

The paint selection allocates the page area of the available bitmapped memory. The bitmap stores the page or text and also caches downline loaded fonts.

- The Partial value is optimal for printing text and simple graphics that do not print on the entire sheet.
- The Full value bitmaps one full page and is necessary for complex graphics. A slight loss of speed may be noticed when printing text.
- The Dual value bitmaps two complete, full pages. This value enables faster printing of complex graphics, especially if printing on legal size paper.

2.10.3 paper

The following values are available from the paper feature of the DEClaser 1100 printer (PPL3) INITIAL menu:

- Letter
- A4

This value establishes the size of the tray image during power up. This saved value will override any value previously selected by the page format menu, as shown in Section 2.16. To save the paper value, select SAVE->NVRAM.

2.11 INTERFACE

2.11 INTERFACE

The following features are available from the DEClaser 1100 printer (PPL3) INTERFACE Setup menu:

- i/f
- baud
- rsmode
- dtr
- xon/xoff
- etx/ack

2.11.1 i/f

The following values are available from the i/f feature of the DEClaser 1100 printer (PPL3) INTERFACE menu:

- RS232C
- CENTRO

When you select CENTRO from the DEClaser 1100 printer (PPL3) INTERFACE menu, the parallel 8-bit Centronics port is activated. There are no features or values associated with the CENTRO selection. All speeds and signals are fixed.

If you select RS232C, the serial port is activated. See Section A.3.2 for serial port information. The following parameters are always printed on the TEST PRINT A sheet, but are displayed only when RS232C is selected:

- baud
- rsmode
- dtr
- xon/xoff
- etx/ack

2.11 INTERFACE

2.11.2 baud

The following values are available from the baud feature of the DEClaser 1100 printer (PPL3) INTERFACE menu:

19200	The baud selection establishes the baud rate of the serial port. The printer's baud rate must match the baud rate of the host system or data communication equipment where the serial port is connected.
9600	
4800	
2400	
1200	
600	
300	

2.11.3 rsmode

The following values, available from the rsmode feature of the DEClaser 1100 printer (PPL3) INTERFACE menu, define the characteristics of the serial data byte and must match the values of the equipment that the serial port is connected to:

8S	The following example shows the format:
8SS	
7OS	where:
7ES	8 is the number of data bits.
7OSS	O means odd parity, E means even parity. If no O or E, no parity
7ESS	checking.
8OS	S 1-S means one stop bit is used.
8ES	

2.11.4 dtr

The following values are available from the dtr feature of the DEClaser 1100 printer (PPL3) INTERFACE menu:

READY-H
Fix-H

2.11.5 xon/xoff

The following values are available from the xon/xoff feature of the DEClaser 1100 printer (PPL3) INTERFACE menu. Selecting ON, enables XON/XOFF flow control.

ON
OFF

2.11 INTERFACE

2.11.6 etx/ack

The following values are available from the etx/ack feature of the DEClaser 1100 printer (PPL3) INTERFACE menu. Selecting ON, enables ETX/ACK.

ON
OFF

2.12 SAVE→RAM

SAVE→RAM writes the selected values of feeder, autoNL, and copy into RAM. There are no features or values associated with this setup. The message "OK" is displayed to show that the function is accomplished.

2.13 SAVE→NVRAM

SAVE→NVRAM writes all the selected values into NVRAM. The contents of NVRAM are retained through a power-down cycle. There are no features or values associated with this setup. The message "OK" is displayed to show that the function is accomplished.

2.14 LOAD←ROM

LOAD←ROM loads all factory default values from the video control board ROM to selected values. There are no features or values associated with this setup. The message "OK" is displayed to show that the function is accomplished. A SAVE→NVRAM must be performed before the factory values are saved.

2.15 Control Representation Mode

2.15 Control Representation Mode

The Control Representation or Character Dump mode is used to print out raw (unprocessed) data or commands sent from the host computer. When the mode is activated and the printer is online, the printer prints all the normally invisible control characters, such as carriage returns and line feeds.

For additional information about the Control Representation mode, consult the *Digital ANSI-Compliant Printing Protocol Level 3 Programming Reference Manual*.

Use the following procedure to activate the Character Dump mode:

1. If the printer is online, press **[online]** to place the printer off line.
2. Press and hold **[Reset]** for about 10–20 seconds.
3. Release **[Reset]** when you see the message 03 DUMP replacing 03 RESET display.
4. After you release the key, the text 00 READY DUMP is displayed and the printer is in the Character Dump mode.
5. Press **[online]** to place the printer online.

The printer is now in the Character Dump, online Ready mode and will accept data or commands from the host system.

To exit the Character Dump mode, press **[online]** to set the printer offline, then press **[Reset]**.

2.16 Tray (Page Format) Size Menu

2.16 Tray (Page Format) Size Menu

The Page Format Size menu sets the size of the printed image when tray feeding is selected. The page format or tray image size is set by:

- Host-transmitted escape sequences
- Page Format menu
- Power-up default

When the power is turned off then on, any value previously selected by the Page Format menu is lost and one of two power-up values are loaded. The power-up default is selected through the paper value of the INITIAL Setup menu. See Section 2.10.3 for more information.

Use the following procedure to change the tray image size from the Page Format menu:

1. Press to set the printer offline.
2. Press and hold until one of the following display messages appears:
TRAY = LETTER
TRAY = LEGAL
TRAY = EXEC
TRAY = A4
3. Press to scroll through the above messages.
4. Press when the desired value is displayed. No selection step is necessary. The 00 READY DEC text is displayed and the page format size is selected.

2.17 Emulation and Video Mode Menu

2.17 Emulation and Video Mode Menu

The DEClaser 1100 printer can be programmed to emulate several printing protocols. The emulation affects the entire operation of the printer.

When DEC 00 is displayed, the resident Digital ANSI-Compliant Printing Protocol level 3 (DEC PPL3) emulator is invoked. See *Digital ANSI-Compliant Printing Protocol Level 3 Programming Reference Manual* and *Digital ANSI-Compliant Printing Protocol Level 3 Programming Supplement* for more information.

Other emulations can be loaded from program cards that install in specific font cartridge slots. Each emulation and program card has its own operator and installation documentation. A different emulation can be selected by commands transmitted from the host system or from the control panel.

Perform the following procedure to change the selected emulation:

1. Press **[online]** to set the printer offline.
2. Press and hold **[Menu]** for longer than 3 seconds to enter the emulation and video selection menu. The name of the currently selected emulation will be displayed.
3. Use **[↑]** or **[↓]** to scroll through the following text:
The equal (=) sign indicates the selected item.

```
MODE = DEC 00
MODE VIDEO
```

4. Press **[Reset]** to invoke the selected emulation and to return the printer to the online Ready mode.

Powering the printer off and on does not affect the emulation selection, unless the program card has been removed. In that event, the printer will default to DEC 00 emulation.

Consult the Canon LBP-LX video interface specification for more information about the operation and characteristics of the video port. Section A.3.3 gives pin-out information for the video connector.

Caution: *Before inserting or removing a card, turn off the printer power. If the font or program card is inserted or removed while the printer power is on, the printer will cease to operate and damage may occur to the printer or the card. Turn the power off then on to restore the operation of the printer.*

DEClaser 1152 Printer Control Panel

This chapter describes the keys, indicators, and operational modes of the DEClaser 1152 printer control panel.

The DEClaser 1152 printer runs in either the online Ready or offline Ready mode of operation. The On Line indicator shows the online or offline status. The text PS READY/IDLE is displayed when the printer is ready to receive commands.

The online Ready mode means that the printer is ready to receive commands, text, or font files from the host system. Most of the keypad keys are disabled when the printer is on line. If you press a disabled key, the control panel beeper sounds and the key is ignored.

The offline Ready mode means that the printer is ready to receive commands from the control panel. You can activate any of the keypad functions shown in Figure 3-2 when the printer is in the offline Ready mode.

3.1 DEClaser 1152 Control Panel Keys and Indicators

3.1 DEClaser 1152 Control Panel Keys and Indicators

Figure 3–1 shows the location of the DEClaser 1152 control panel indicators and keys. Table 3–1 describes how they work.

Figure 3–1 DEClaser 1152 Printer Control Panel Indicators

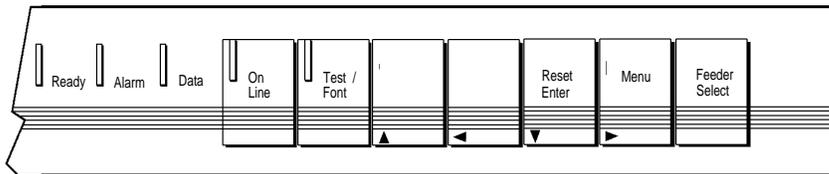


Table 3–1 DEClaser 1152 Control Panel Indicators and Keys

Indicator	Function
Ready ¹	The indicator is either on, off, or flashing. If on, the printer is ready. If flashing, the printer is performing a function (for example, the printer is warming up) and you must wait.
Alarm ²	Indicates that a status condition is disabling the printer. Alarm conditions require the attention of an operator or service person. The message display tells you the nature of the alarm indication.
Data ¹	Indicates the condition of the data in the buffer memory. The indicator is either flashing, off, or on. If flashing, the buffer is receiving print data from the host system. If off, the buffer is empty. If on, there is print data in the buffer.
On Line	Toggles the printer between the online and offline modes. If the printer is set offline while receiving data or printing, the reception is abruptly terminated, but the full page is printed. When the printer is online, the indicator is on. When the printer is offline, the indicator is off. When the printer is switching to offline mode, the indicator flashes.
Test/Font	Prints a test print or cleaning paper.

¹Color when lit is green.

²Color when lit is orange.

(continued on next page)

3.1 DEClaser 1152 Control Panel Keys and Indicators

Table 3–1 (Cont.) DEClaser 1152 Control Panel Indicators and Keys

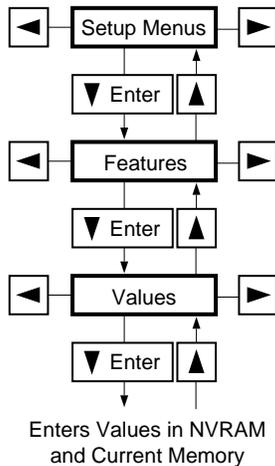
Indicator	Function
Reset Enter	The following reset functions are performed automatically at power-up or when Reset is pressed: <ul style="list-style-type: none">• Clears the data from the buffer memory (DRAM).• Selects the values stored in RAM as current settings.
Menu	Causes the printer to enter Menu mode. Section 3.2 gives more information about the Menu mode.
Feeder Select	This key toggles the paper input selection between the cassette and tray. The following information is displayed by pressing Feeder Select : <ul style="list-style-type: none">• Press and release displays the selected paper source.• Pressing twice toggles the selected input if a paper feeder is installed.

3.2 Navigating Through the Setup Menu

3.2 Navigating Through the Setup Menus

Figure 3–2 shows how to proceed through the Setup menus in Menu mode. Press **Menu** to enter Menu mode.

Figure 3–2 DEClaser 1152 Keypad Operation



MLO-005697P

The scrolling keys are activated when the control panel enters Menu mode. Table 3–2 describes the action of the scrolling keys.

Table 3–2 Menu Scrolling Keys

Key	Function
⏪ and ⏩	These keys shift up and down through the value, feature, and setup levels of the Setup menus. Up-shifting stops at the offline Ready level. Down-shifting stops after the value level.
Enter	Enters the selected value into the operational memory space.
⏪ and ⏩	Use for scrolling through values, features, or Setup menus.

3.3 Menu Descriptions

3.3 Menu Descriptions

This section describes the menus, features, and values of the printer.

The main menu choices for the DEClaser 1152 printer are as follows:

INTERFACE
PS PCL SETUP
PAPER HANDLING
MISCELLANEOUS

Table 3–3, Table 3–8, Table 3–10, and Table 3–11 show the features and values for these main menu choices.

3.3.1 Interface Selection

This feature selects the interface(s) used to communicate with the host computer(s).

Multiple simultaneous active interfaces are a feature of PostScript level 2. For example, the Centronics interface and a serial interface can be active at the same time.

If a serial line is connected and active when the interpreter switches to PCL4, the following occurs:

- The protocol switches from “normal” to “raw”.
- The flow control changes to “receive xon/xoff” if the previous mode was xon/xoff.

If a serial line is connected and active when the interpreter switches to PostScript, the following occurs:

- The protocol switches from “raw” to “normal”.
- The flow control changes to “xon/xoff” if the previous mode was receive xon/xoff.

3.3.2 INTERFACE Menu

The DEClaser 1152 printer supports parallel, serial, and LocalTalk interface connections. The interfaces of the printer must match the interfaces used by the host computers.

In Table 3–3, default values are shown in uppercase in the “Values” column.

3.3 Menu Descriptions

Although the SERIAL menu item and the SERIALB menu item share the same parameters and values, they are separate interfaces. Changing the settings in one does not change the same settings in the other. Use Table 3–3 as a reference for the features and values used by the SERIAL and the SERIALB menu items.

Note: *SERIAL* is enabled by default, *SERIALB* is not.

Table 3–3 INTERFACE Menu

Menu Item	Features	Values
I/F: SERIAL I/F: SERIALB	SER: ENABLED	ENA: YES ENA: no
	SER: INTERPRETER	INT: POSTSCRIPT INT: pcl4
	SER: PROTOCOL	PRO: NORMAL PRO: raw PRO: binary
	SER: BAUD RATE ¹	RATE: 300 baud RATE: 600 baud RATE: 1200 baud RATE: 2400 baud RATE: 4800 baud RATE: 9600 BAUD RATE: 19.2K baud RATE: 38.4K baud
	SER: PARITY ¹	PARITY: NO PARITY: odd PARITY: even PARITY: space PARITY: mark
	SER: FLOW CONTROL ¹	FLOW: XON/XOFF FLOW: dtr FLOW: etx/ack
	SER: DATA BITS ¹	DATA BITS: EIGHT DATA BITS: seven
	SER: STOP BITS ¹	STOP BITS: ONE STOP BITS: two
	SER: CHECKPARITY ¹	CHKP: yes CHKP: NO

¹Available only when I/F: SERIAL or I/F: SERIALB is selected.

(continued on next page)

3.3 Menu Descriptions

Table 3–3 (Cont.) INTERFACE Menu

Menu Item	Features	Values
I/F: PARALLEL	PAR: ENABLED	ENA: YES ENA: no
	PAR: INTERPRETER	INT: POSTSCRIPT INT: pcl4
	PAR: PROTOCOL	PRO: NORMAL PRO: raw PRO: binary
	PAR: OUTPUTDEVICE	OUT: serial OUT: serialb OUT: NONE
I/F: LocalTalk	LOC: ENABLED	ENA: YES ENA: no
	LOC: INTERPRETER	INT: POSTSCRIPT INT: pcl4

3.3 Menu Descriptions

3.3.2.1 I/F: SERIAL (I/F: SERIALB) Menu

Table 3–4 contains the values to use to set the serial communication features of the printer. Default values are shown in uppercase in the “Values” column.

Table 3–4 I/F: SERIAL (I/F: SERIALB) Menu

Feature	Values	Description
SER: ENABLED		Determines whether data arriving on the serial interface port should be considered as a job to be scheduled for execution.
	ENA: YES	Data to the serial port is accepted as a job.
	ENA: no	Data to the serial port is not scheduled for interpretation, but an interpreter may be able to read the port as PostScript data.
SER: INTERPRETER		Determines the type of executable job the arriving data represents.
	INT: POSTSCRIPT	The serial port is set to recognize a PostScript file.
	INT: pcl4	The serial port is set to recognize a PCL file.
SER: PROTOCOL		The communications rules that are available on the printer.
	PRO: NORMAL	Certain control characters have special meanings and indicate something about the job being received. “Normal” is used only with the PostScript interpreter.
	PRO: raw	Everything received by the device driver is data to be passed on, unchanged, to the printer emulator. “Raw” is used only by the PCL4 emulator, not by the PostScript interpreter.
	PRO: binary	The full range of 8-bit data can be sent. Emulators and the PostScript interpreter can use this mode. <i>Note: It is recommended to not use “binary” unless an Adobe Print Driver is being used. Refer to the Adobe Binary Communications Protocol, Technical Note #5081, (May 4, 1991).</i>

(continued on next page)

3.3 Menu Descriptions

Table 3–4 (Cont.) I/F: SERIAL (I/F: SERIALB) Menu

Feature	Values	Description
SER: BAUD RATE	RATE: 300 baud RATE: 600 baud RATE: 1200 baud RATE: 2400 baud RATE: 4800 baud RATE: 9600 BAUD RATE: 19.2K baud RATE: 38.4K baud	Sets the transmit and receive speed the printer uses to communicate with the host computer.
SER: PARITY		A part of the data format the printer uses to communicate with the host computer. The printer looks for the type of parity checking bit in each character. A system can use an odd, even, space, mark, or no parity checking, or may elect to use no checking. The selected settings will only be enforced if CHECKPARITY is set to YES.
	PARITY: NO	No parity bit is sent. This setting is valid only with 8 data bits.
	PARITY: odd	Each character received is checked for odd parity; each character transmitted will have an odd number of bits (odd parity). This setting is valid only with the following combinations: 7 data bits, 1 or 2 stop bits and 8 data bits, 1 stop bit.
	PARITY: even	Each character received is checked for even parity; each character transmitted will have an even number of bits (even parity). This setting is valid only with the following combinations: 7 data bits, 1 or 2 stop bits and 8 data bits, 1 stop bit.
	PARITY: space	Always sends a 0 in the parity bit.
	PARITY: mark	Always sends a 1 in the parity bit.

(continued on next page)

3.3 Menu Descriptions

Table 3–4 (Cont.) I/F: SERIAL (I/F: SERIALB) Menu

Feature	Values	Description
SER: FLOW CONTROL	FLOW: XON/XOFF	Uses software to control the flow of data to the input buffer of the printer. It is sometimes referred to as software handshaking protocol, a method the printer and the host computer use to exchange xon /xoff signals. These signals prevent the input buffer from overflowing with data. If the input buffer becomes full and handshaking is not enabled, the overflowing data will be lost. Xon/xoff must be enabled in systems that use this software handshaking protocol to prevent the loss of data.
	FLOW: dtr	Uses hardware to regulate the flow of data to the input buffer of the printer. The printer transmits a signal to the DTR line of the serial port when it is ready to receive data. This is sometimes referred to as the hardware handshaking protocol.
	FLOW: etx/ack	This feature is another type of handshaking protocol that is used on some systems to prevent data overflow. It uses software to regulate the flow of data to the input buffer by exchanging signals with the host computer. <i>Note: The end of text/acknowledge feature is not supported on Digital systems. Use xon /xoff or DTR if you have a Digital system.</i>
SER: DATA BITS	DATA BITS: EIGHT	The number of data bits the printer expects to see in each character it receives. The printer is set to receive and transmit characters composed of eight bits. This setting is valid with 1 or 2 stop bits and no parity.
	DATA BITS: seven	The printer is set to receive and transmit characters composed of seven bits. This setting is valid with 1 or 2 stop bits and even or odd parity.
SER: STOP BITS		Specifies the number of stop bits. Some systems use one stop bit while other systems require two.

(continued on next page)

3.3 Menu Descriptions

Table 3–4 (Cont.) I/F: SERIAL (I/F: SERIALB) Menu

Feature	Values	Description
	STOP BITS: ONE	One stop bit is used in the data format. This setting is valid with the following combinations: 7 data bits and even or odd parity, 8 data bits and any parity.
	STOP BITS: two	Two stop bits are used in the data format. This setting is valid with the following combinations: 7 data bits and even or odd parity, 8 data bits and no parity.
SER: CHECKPARITY	CHKP: yes CHKP: NO	This indicates whether the parity checking setting of SER: PARITY is enforced.

Table 3–5 defines restrictions on the interaction between communications options.

Table 3–5 Restrictions on the Interaction Between Communications Options

Option	Choices	Effected by Other Choices
Parity	NO, EVEN, ODD, SPACE, MARK	If 8 data bits and 2 stop bits have been selected and then you attempt to select EVEN, ODD, SPACE, or MARK parity, then the printer “beeps” and NO parity remains selected. If 7 data bits and 1 or 2 stop bits have been selected and you attempt to select NO parity, then the printer “beeps” and the current EVEN, ODD, SPACE, or MARK parity is retained.
Data Bits	8,7	If EVEN, ODD, SPACE, or MARK parity and 2 stop bits have been selected and you attempt to select 8 data bits, then the printer “beeps” and 7 data bits remain selected. If NO parity and 1 or 2 stop bits have been selected and you attempt to select 7 bits, then the printer “beeps” and 8 data bits remain selected.
Stop Bits	1,2	If 8 data bits and EVEN, ODD, SPACE, or MARK parity have been selected and you attempt to select 2 stop bits, then the printer “beeps” and 1 stop bit remains selected.

3.3 Menu Descriptions

3.3.2.2 I/F: PARALLEL Menu

Table 3–6 contains the values to use to set the parallel (Centronics) communication features of the printer. Default values are shown in uppercase in the “Values” column.

Table 3–6 I/F: PARALLEL Menu

Feature	Values	Description
PAR: ENABLED		Determines whether data arriving on the parallel (Centronics) interface port should be considered as a job to be scheduled for execution by the PostScript interpreter or an emulator.
	ENA: YES	Data to the parallel port is accepted as a job.
	ENA: no	Data to the parallel port is ignored.
PAR: INTERPRETER		Determines the type of executable job the arriving data represents.
	INT: POSTSCRIPT	The parallel port is set to recognize a PostScript file.
	INT: pcl4	The parallel port is set to recognize a PCL file.
PAR: PROTOCOL		The communications rules that are available on the printer.
	PRO: NORMAL	Certain control characters have special meanings and indicate something about the job being received. “Normal” is used only with the PostScript interpreter.
	PRO: raw	All characters received by the parallel port are to be passed on, unchanged, to the interpreter. “Raw” is used only by the PCL4 emulator, not by the PostScript interpreter.
	PRO: binary	The full range of 8-bit data can be sent. Emulators and the PostScript interpreter can use this mode.

(continued on next page)

3.3 Menu Descriptions

Table 3–6 (Cont.) I/F: PARALLEL Menu

Feature	Values	Description
PAR: OUTPUTDEVICE	OUT: serial OUT: serialb OUT: NONE	The parallel (Centronics) interface cannot send data back to the host computer. OUTPUTDEVICE allows PostScript to send back channel messages on an alternate return channel. <i>Note: If the selected output device is not enabled, back channel data will be lost.</i>

3.3.2.3 I/F: LocalTalk Menu

Table 3–7 contains the values to use to set the LocalTalk communication features of the printer. Default values are shown in uppercase in the “Values” column.

Table 3–7 I/F: LocalTalk Menu

Feature	Values	Description
LOC: ENABLED		Determines whether data arriving on the LocalTalk port should be considered as a job to be scheduled for execution.
	ENA: YES	Data to the LocalTalk port is accepted as a job.
	ENA: no	Data to the LocalTalk port is ignored.
LOC: INTERPRETER		Determines the type of executable job the arriving data represents.
	INT: POSTSCRIPT	The LocalTalk port is set to recognize a PostScript file.
	INT: pcl4	The LocalTalk port is set to recognize a pcl file.

3.3.3 PCL4 SETUP Menu

Operator panel messages will be the same for both the PostScript and the PCL4 protocols. You should print a test page to determine which protocol is active for a particular port.

3.3 Menu Descriptions

Table 3–8 contains the values to use to set the PCL4 features of the printer. Default values are shown in uppercase in the “Values” column.

Table 3–8 PCL4 SETUP Menu

Feature	Values	Description
PCL: COPIES	COPIES: 1 ¹ to COPIES: 99	Specifies the number of copies to print from 1 to 99.
PCL: ORIENTATION	ORIENT: PORTRAIT	Sets the printing so that the characters are parallel to the short edge of the paper. This page is printed in portrait orientation.
	ORIENT: landscape	Sets the printing so that the characters are parallel with the long edge of the paper.
PCL: LPI	LPI: 1.0 to LPI: 12.0 LPI: 6.0 ¹	Specifies the lines per inch on a printed page. This setting increments in steps of 0.1 inch.

¹Default setting.

(continued on next page)

3.3 Menu Descriptions

Table 3–8 (Cont.) PCL4 SETUP Menu

Feature	Values	Description
PCL: SYMBOL SET	SYM: ROMAN 8 SYM: pc-8 SYM: nor iso-60 SYM: nor iso-61 SYM: roman ext SYM: uk iso-4 SYM: fren iso-25 SYM: fren iso-69 SYM: german SYM: germ iso-21 SYM: greek SYM: ital iso-15 SYM: jis iso-14 SYM: chine iso-57 SYM: technical-7 SYM: math-8 SYM: ecma-94 l1 SYM: ocr-a SYM: ocr-b SYM: swed iso-10 SYM: swed iso-11 SYM: spanish SYM: span iso-17 SYM: span iso-85 SYM: port iso-16 SYM: port iso-84 SYM: ascii iso-6 SYM: legal SYM: irv iso-2 SYM: pc-8 dn SYM: pi font	A symbol set is collection of glyphs.
PCL: FONT PAGE	EXECUTE?	Prints the font test page.

(continued on next page)

3.3 Menu Descriptions

Table 3–8 (Cont.) PCL4 SETUP Menu

Feature	Values	Description
PCL: FONT ²	FONT: COURIER FONT: courier-O FONT: courier-B FONT: courier-BO FONT: helvetica FONT: helvetica-O FONT: helvetica-B FONT: helvetica-BO FONT: times-roman FONT: times-I FONT: times-B FONT: times-BI FONT: helvnrw FONT: helvnrw-O FONT: helvnrw-B FONT: helvnrw-BO FONT: other ³	Specifies the font style for the printed page.
PCL: FONT SIZE	SIZE: 8 to SIZE: 90 SIZE: 12 ¹	Specifies the font size for the printed page.
PCL: FONT PITCH	PITCH: 4 cpi to PITCH: 20 cpi PITCH: 10 cpi ¹	Specifies the font pitch for the printed page.

¹Default setting.

²These are the 17 built-in fonts for the DEClaser 1152 printer.

³This menu option is used for font cartridges that can be installed in the printer. These cartridge fonts can be selected using the values in Table 3–9.

3.3 Menu Descriptions

3.3.3.1 Selecting Fonts

You can use the features and values in Table 3–9 to access the fonts in any font cartridge you install in the DEClaser 1152 printer. Default values are shown in uppercase in the “Values” column.

Table 3–9 Selecting Fonts

Feature	Value	Description
FONT: FACE NUMBER ¹	FACE #: 0-255	This is an integer assigned to a particular typeface by Hewlett-Packard Company. For example, typeface 3 is Courier. The default typeface is Courier. See <i>Hewlett-Packard PCLx Technical Reference Manual</i> (where x is the version number of PCL you have) for a list of numbers and definitions.
FONT: SPACING	SPC: proportional	Assigns a different size space to each printed character. The characters in this book are proportionally spaced.
	SPC: FIXED	Assigns the same size space to each printed character.
FONT: STYLE	STYLE: UPRIGHT	Sets the style of the characters to upright print. This line is printed in the upright style.
	STYLE: italic	Sets the style of the characters to italic print. <i>This line is printed in the italic style.</i>

¹Not all typefaces are available from this printer. The menu choices shown in Table 3–9 allows access to any future font cartridge you might use.

(continued on next page)

3.3 Menu Descriptions

Table 3–9 (Cont.) Selecting Fonts

Feature	Value	Description
FONT: WEIGHT ¹	WEIGHT: ultrathin WEIGHT: extrathin WEIGHT: thin WEIGHT: ex-light WEIGHT: light WEIGHT: demilight WEIGHT: semilight WEIGHT: MEDIUM WEIGHT: semibold WEIGHT: demibold WEIGHT: bold WEIGHT: extrabold WEIGHT: black WEIGHT: ex-black WEIGHT: ultrblack	Selects the weight of the printed characters.

¹Not all typefaces are available from this printer. The menu choices shown in Table 3–9 allows access to any future font cartridge you might use.

3.3 Menu Descriptions

3.3.4 PAPER HANDLING Menu

Table 3–10 contains the values to use to set the paper handling features of the printer. Default values are shown in uppercase in the “Values” column.

Table 3–10 PAPER HANDLING Menu

Menu Item	Values	Description
DEFAULT FEEDER	FEED: CASSETTE ¹	Selects the paper cassette to automatically feed paper into the printer.
	FEED: front	Selects the multipurpose tray.
FRONT PAGE SIZE		The following values specify media sizes for multipurpose tray feed operation:
	FRNT: LETTER	Specifies letter size (8.5 in. x 11.0 in.)
	FRNT: a4	Specifies A4 size (210 mm x 297 mm)
	FRNT: legal	Specifies legal size (8.5 in. x 14.0 in.)
	FRNT: exec	Specifies executive size (7.25 in. x 10.5 in.)
	FRNT: a5 ²	Specifies A5 size (148 mm x 210 mm)
	FRNT: c5	Specifies C5 size (162 mm x 229 mm)
	FRNT: dl	Specifies DL size (C5/6) (110 mm x 220 mm)
	FRNT: 4.125x9.5	Specifies 4.125 in. x 9.5 in.
	FRNT: 3.875x7.5	Specifies 3.875 in. x 7.5 in.
	FRNT: b5	Specifies B5 size (182 mm x 257 mm)
	FRNT: halfletter	Specifies half letter size (5.5 in. x 8.5 in.)
	FRNT: 2/3 A4	Specifies two thirds A4 size (198 mm x 210 mm)
FRNT: 7x9	Specifies 7.0 in. x 9.0 in.	

¹Cassette is the default feeder if it is installed. If the cassette is not installed, multipurpose tray is the default feeder.

²To prevent paper jams, use 90 g/m² (24 lb.) paper when A5 size paper is required.

(continued on next page)

3.3 Menu Descriptions

Table 3–10 (Cont.) PAPER HANDLING Menu

Menu Item	Values	Description
ENV. CASS. SIZE ³		The following values specify envelope sizes used with the envelope cassette.
	ENV: 4.125X9.5 ⁴	Specifies 4.125 in. x 9.5 in.
	ENV: a5 ²	Specifies A5 size (148 mm x 210 mm)
	ENV: c5	Specifies C5 size (162 mm x 229 mm)
	ENV: dl	Specifies DL size (C5/6) (110 mm x 220 mm)
	ENV: 3.875x7.5	Specifies 3.875 in. x 7.5 in.
	ENV: halfletter	Specifies half letter size (5.5 x 8.5 in.) paper.

²To prevent paper jams, use 90 g/m² (24 lb.) paper when A5 size paper is required.

³The envelope cassette is designed to feed envelopes. Using the cassette to feed flat media may result in skewed printing and multiple feeds or jams. Test the media in the envelope cassette to ensure proper operation.

⁴Default value.

3.3 Menu Descriptions

3.3.5 MISCELLANEOUS Menu

Table 3–11 contains the values to use to set the following printer features: Default values are shown in uppercase in the “Values” column.

- Do start page
- Do jam recovery
- Wait timeout
- Language
- Job reset
- Set factory defaults

Table 3–11 MISCELLANEOUS Menu

Features	Values	Description
DO START PAGE	START PAGE: YES	Generates the PostScript startup page each time the PostScript interpreter is initialized. This page contains useful information, such as the version number of the PostScript interpreter and the name of the available fonts. The start page also confirms the readiness of the printer.
	START PAGE: no	Disables the PostScript startup page.
DO JAM RECOVERY	RECOVER JAM: yes	Enables the printer to perform complete jam recovery so that data from the jammed pages is not lost. There may be some adverse effect on throughput speed when this value is selected.

(continued on next page)

3.3 Menu Descriptions

Table 3–11 (Cont.) MISCELLANEOUS Menu

Features	Values	Description
	RECOVER JAM: NO	Disables the guarantee of complete jam recovery. However, the printer attempts to recover jams when possible. Choose this value if you want to ensure the best possible throughput speed from the printer.
WAIT TIMEOUT		The WAIT TIMEOUT feature (if not set to infinite) limits the time the printer waits to receive additional input for a job that is in progress. This timeout period protects the printer from being accessed indefinitely by a host that crashes or is disconnected when sending a file to the printer.
	TIMEOUT: 20 secs	Limits the time the printer waits for additional input to 20 seconds.
	TIMEOUT: 40 SECS	Limits the time the printer waits for additional input to 40 seconds.
	TIMEOUT: 60 secs	Limits the time the printer waits for additional input to 60 seconds.
	TIMEOUT: infinite	Places no limits to the time the printer waits for additional input.
LANGUAGE	LANG: ENGLISH LANG: Finnish LANG: French LANG: German LANG: Italian LANG: Norwegian LANG: Portuguese LANG: Spanish LANG: Swedish LANG: Danish LANG: Dutch	Displays front panel messages in the selected language.

(continued on next page)

3.3 Menu Descriptions

Table 3–11 (Cont.) MISCELLANEOUS Menu

Features	Values	Description
JOB RESET	RESET: YES	Allows resetting of the current job from the front panel.
	RESET: no	Disables the resetting of the current job from the front panel.
SET FACTORY DEFS	A SETTING	Sets all features of the printer to their factory default settings using letter size paper.
	b setting	Sets all features of the printer to their factory default settings using A4 size paper.

3.4 Selecting the Input Tray

Pressing produces the following choices:

FEED: CASSETTE
FEED: front

These settings are not persistent across power cycles, can be overridden by software, and the cassette selection is visible only when the optional cassette is installed.

4

DEClaser 1100 Printer Test Prints

This chapter explains how to print and use the following test prints on the DEClaser 1100 printer:

- Test Print A
- Test Print B
- Font List A
- Cleaning test
- Engine test print

4.1 DEClaser 1100 Printer Test Print A

4.1 DEClaser 1100 Printer Test Print A

Figure 4–1 is an example of Test Print A. To print Test Print A, press and release **Test/Font** briefly. TEST PRINT A is displayed during the printing process.

Table 4–1 lists a brief description of each item in the TEST PRINT block.

Table 4–1 DEClaser 1100 Test Print Block

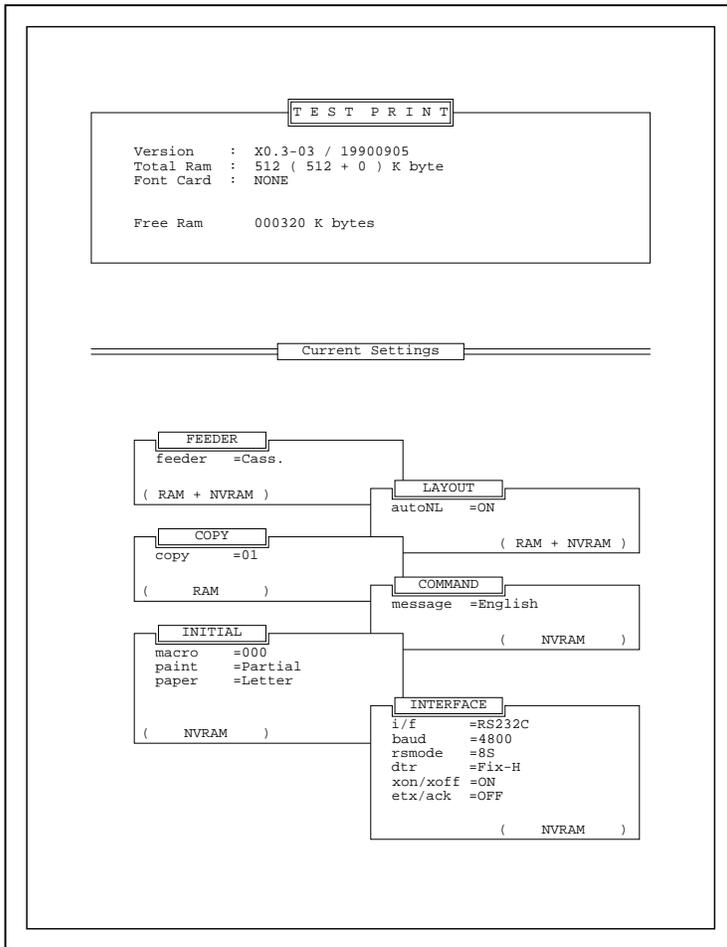
Version	Line lists the current revision level of the printer firmware.
Total Ram	Lists the amount of random-access memory (RAM) available in the printer. Figure 4–1 shows there are 512 KB of RAM. This is the minimum amount of memory and represents the internal stock memory. This number increases by 1 or 2 Mbytes when you add a memory expansion option.
Font Card	Shows the number of installed font cartridges.
Free Ram	Indicates the amount of unused or available dynamic RAM (DRAM) space.

The Current Settings block shows:

- The selected value of each setup menu
- The area of memory where the values can be stored. For example, (RAM + NVRAM) means the current setting can be stored in RAM or NVRAM. Chapter 2 explains the Setup menu settings.

4.1 DEClaser 1100 Printer Test Print A

Figure 4-1 DEClaser 1100 Printer Test Print A



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4.2 DEClaser 1100 Printer Test Print B

4.2 DEClaser 1100 Printer Test Print B

Test print B, shown in Figure 4–2, consists of an incrementing alphanumeric test pattern.

To print TEST PRINT B, press and hold **Test/Font** for about 5 seconds or until the 01 TEST PRINT B message is displayed. The printer then continuously prints the test pattern until you press **Test/Font** or **On Line**.

TEST PRINT B pattern is a useful for troubleshooting the following:

- The pattern of sequentially changing characters is printed across the entire page and is readable. You can easily see any missing characters, changes in image density, and most image defects.
- The TEST PRINT B pattern runs continuously, which exercises the printer and enables you to thoroughly test the printer in offline operation.

4.3 DEClaser 1100 Printer Font List A

4.3 DEClaser 1100 Printer Font List A

Font List A is a list of internal, cartridge, and downline loaded fonts.

Press **Test/Font** twice to print font list A. The text 06 FONT LIST A is displayed while the font list is printing.

Fonts are selected by escape sequences sent from the host computer. You cannot select a font from the control panel. For information about selecting fonts, refer to the following documents:

- *Digital ANSI-Compliant Printing Protocol Level 3 Programming Reference Manual*
- *Digital ANSI-Compliant Printing Protocol Level 3 Programming Supplement*

4.4 DEClaser 1100 Printer Cleaning Test

The cleaning test print is shown in Figure 4-3.

The two-pass cleaning test cleans the fixing unit rollers. Perform the cleaning test when:

- Installing a new EP-L cartridge
- Staining occurs at the top or bottom of transparencies
- Paper frequently jams in the fixing unit

The following procedure describes the cleaning test:

1. Press and hold **Test/Font** until the message 08 CLEANING PAP. is displayed.

If an A4 or letter size cassette is installed, cassette feeding is automatically selected. If any other size cassette is installed or if no feeder is installed, tray feeding is selected and one of the following messages is displayed:

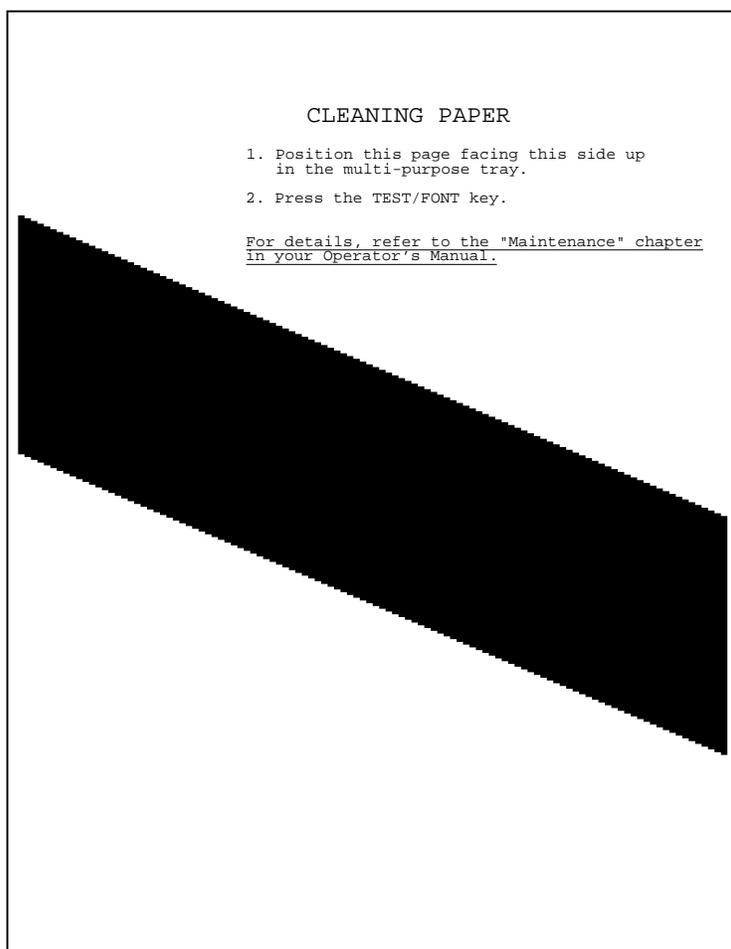
PT LOAD LETTER
PT LOAD A4

2. After loading the requested size sheet, press **On Line** to print the cleaning test print. The message 08 CLEANING PAP. is displayed during the printing process.
3. After the sheet is ejected, the 08 SET THE PAPER message is displayed. Place the sheet printed side up in the tray.
4. Press **Test/Font** to start the second pass of the cleaning test.

4.4 DEClaser 1100 Printer Cleaning Test

5. The message 08 CLEANING is displayed as the sheet passes through and cleans the paper path rollers. No printing is done during the second pass.

Figure 4-3 DEClaser 1100 Printer Cleaning Test Print



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4.5 DEClaser 1100 Printer Engine Test Print

4.5 DEClaser 1100 Printer Engine Test Print

Figure 4-4 is an example of the Engine Test print.

Figure 1-3 shows the location of the TEST PRINT button. Use a pencil or other suitable tool to press it and the printer will respond as follows:

1. If the printer is on line and printing, the current job finishes printing.
2. The On Line indicator goes off.
3. The orange Alarm indicator lights.
4. The 15 ENGINE TEST message is displayed.
5. One copy of the test pattern is printed.
6. After printing, the printer returns to the offline Ready mode.

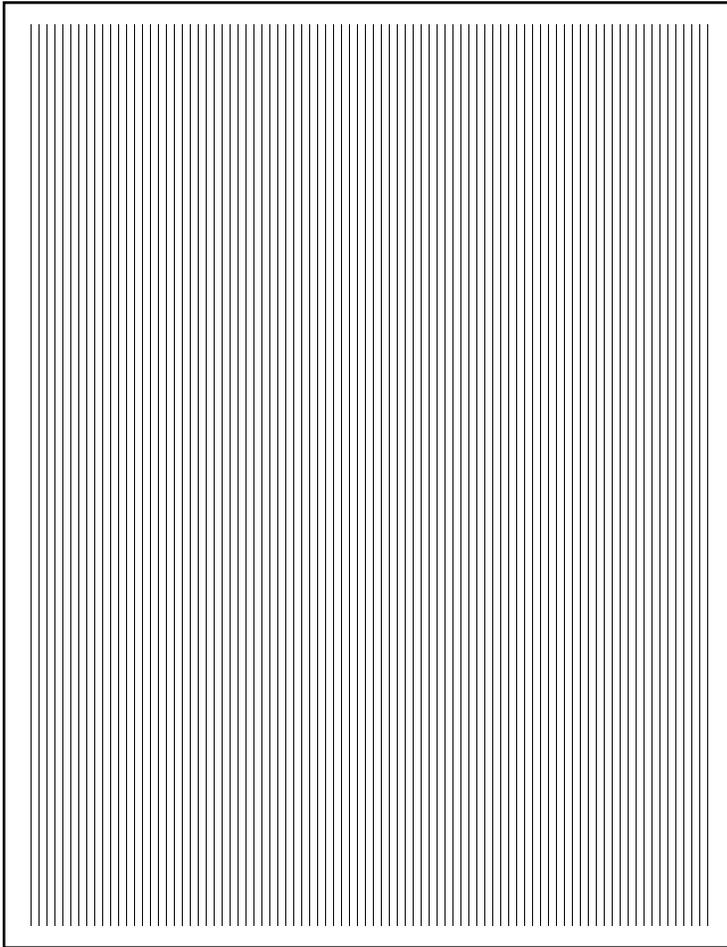
The Engine Test print is used for the following purposes:

- To check toner dispersion and line weight.
- To verify the condition of the print engine if the video control board, control panel, or interface board are not installed.

The white area of the Engine Test print should be free of toner or smudges, and the lines must print cleanly across the entire page with no faded areas. If the print quality is poor, refer to Section 8.1.

4.5 DEClaser 1100 Printer Engine Test Print

Figure 4-4 DEClaser 1100 Printer Engine Test Print



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5

DEClaser 1152 Printer Test Prints

This chapter explains how to print and use the following test prints on the DEClaser 1152 printer:

- Test Print
- PCL Emulator Test Page
- Cleaning test
- Engine test print

5.1 DEClaser 1152 Printer Test Print

5.1 DEClaser 1152 Printer Test Print

Figure 5–1 shows a sample test print. A Test Print shows the current printer settings.

Use the following procedure to print a Test Print:

1. Press **On Line** to put the printer off line.

2. Press and release **Test/Font**.

Note: *Holding down **Test/Font** for 3 seconds or longer causes a cleaning paper to print.*

The test print prints.

3. Press **On Line**.

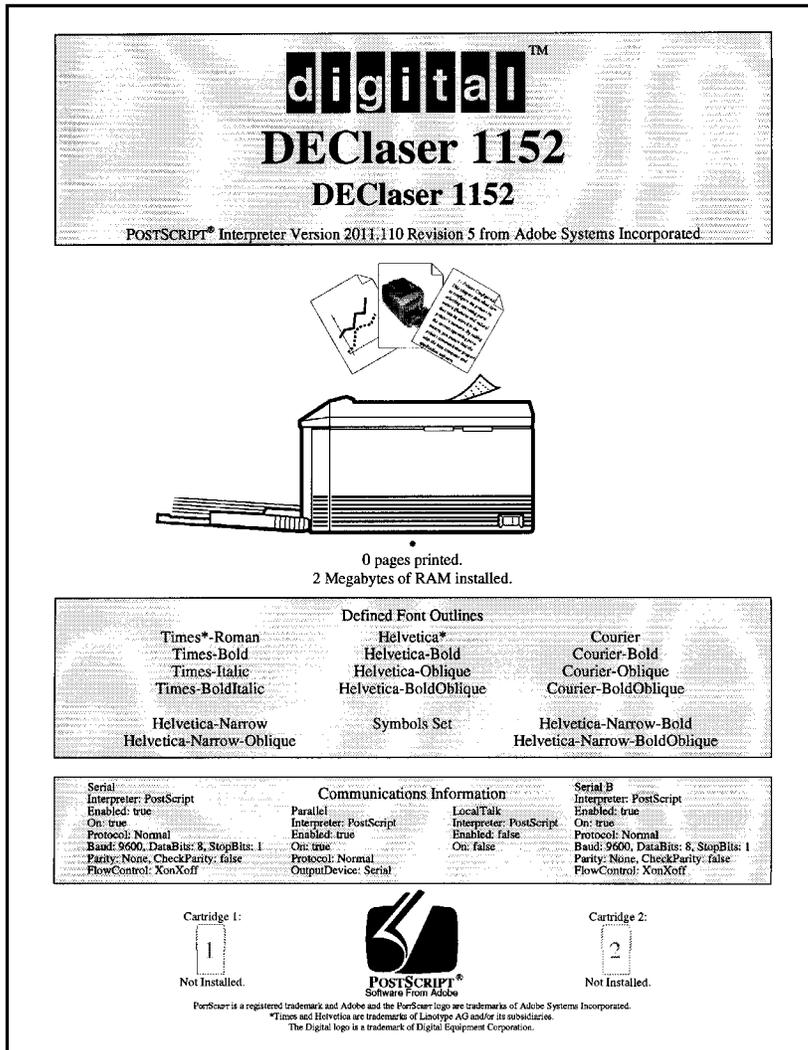
Table 5–1 describes the items on the Test Print page.

Table 5–1 DEClaser 1152 Printer Test Print

Item	Description
Version	This is the version of internal firmware the printer has installed.
Pages Printed	This is the total number of pages printed to date.
Installed RAM	This indicates the total amount of installed megabytes of RAM.
Defined Font Outlines	This lists the names of the installed fonts.
Communication Settings	This shows the current settings of all the communication interfaces. Note: <i>The Serial and the Parallel sections list the interpreter as LaserJetIIP. The front panel of the printer shows the interpreter as PCL4. The reason for the difference is there is not enough space on the front panel to print LaserJetIIP.</i>
Cartridge 1/Cartridge 2	This shows the active font cartridge slot.

5.1 DEClaser 1152 Printer Test Print

Figure 5-1 DEClaser 1152 Printer Test Print



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5.2 DEClaser 1152 Printer PCL Emulator Test Page

5.2 DEClaser 1152 Printer PCL Emulator Test Page

Figure 5-2 shows a sample PCL Emulator Test Page, which lists the internal, cartridge, and downline loaded fonts. To print the PCL Emulator Test Page, using the following procedure:

1. Enter Menu mode.
2. Select PS PCL SETUP.
3. Select PCL: FONT PAGE.
4. Press .
- EXECUTE?** displays on the front panel.
5. Press .

5.2 DEClaser 1152 Printer PCL Emulator Test Page

Figure 5-2 DEClaser 1152 Printer PCL Emulator Test Page

PCL Emulator Test Page				
Internal Scalable Typefaces:				
Name	Face #	Spacing	Style	Weight
Courier	3	Fixed	Upright	Medium
CourierPC	3	Fixed	Upright	Medium
CourierPC850	3	Fixed	Upright	Medium
CourierPC8dn	3	Fixed	Upright	Medium
Courier-Oblique	3	Fixed	Italic	Medium
CourierPC-Oblique	3	Fixed	Italic	Medium
CourierPC850-Oblique	3	Fixed	Italic	Medium
CourierPC8dn-Oblique	3	Fixed	Italic	Medium
Courier-Bold	3	Fixed	Upright	Bold
CourierPC-Bold	3	Fixed	Upright	Bold
CourierPC850-Bold	3	Fixed	Upright	Bold
CourierPC8dn-Bold	3	Fixed	Upright	Bold
Courier-Bold	3	Fixed	Upright	Bold
Courier-Bold	3	Fixed	Upright	Bold
Courier-BoldOblique	3	Fixed	Italic	Bold
CourierPC-BoldOblique	3	Fixed	Italic	Bold
CourierPC850-BoldOblique	3	Fixed	Italic	Bold
CourierPC8dn-BoldOblique	3	Fixed	Italic	Bold
Helvetica	4	Proportional	Upright	Medium
Helvetica	4	Proportional	Upright	Medium
Helvetica-Oblique	4	Proportional	Italic	Medium
Helvetica-Oblique	4	Proportional	Italic	Medium
Helvetica-Bold	4	Proportional	Upright	Bold
Helvetica-Bold	4	Proportional	Upright	Bold
Helvetica-BoldOblique	4	Proportional	Italic	Bold
Helvetica-BoldOblique	4	Proportional	Italic	Bold
Times-Roman	5	Proportional	Upright	Medium
Times-Italic	5	Proportional	Italic	Medium
Times-Italic	5	Proportional	Italic	Medium
Times-Bold	5	Proportional	Upright	Bold
Times-BoldItalic	5	Proportional	Italic	Bold
Times-BoldItalic	5	Proportional	Italic	Bold
Helvetica-Narrow	12	Proportional	Upright	Medium
Helvetica-Narrow	12	Proportional	Upright	Medium
Helvetica-Narrow-Oblique	12	Proportional	Italic	Medium
Helvetica-Narrow-Oblique	12	Proportional	Italic	Medium
Helvetica-Narrow-Bold	12	Proportional	Upright	Bold
Helvetica-Narrow-Bold	12	Proportional	Upright	Bold
Helvetica-Narrow-BoldOblique	12	Proportional	Italic	Bold
Helvetica-Narrow-BoldOblique	12	Proportional	Italic	Bold
Palatino-Roman	15	Proportional	Upright	Medium
Palatino-Italic	15	Proportional	Italic	Medium
Palatino-Bold	15	Proportional	Upright	Bold
Palatino-BoldItalic	15	Proportional	Italic	Bold
Souvenir-Light	16	Proportional	Upright	Light
Souvenir-LightItalic	16	Proportional	Italic	Light
Souvenir-Demi	16	Proportional	Upright	Demi Bold
Souvenir-Demitalic	16	Proportional	Italic	Demi Bold
NewCenturySchlbk-Roman	23	Proportional	Upright	Medium
NewCenturySchlbk-Italic	23	Proportional	Italic	Medium
NewCenturySchlbk-Bold	23	Proportional	Upright	Bold
NewCenturySchlbk-BoldItalic	23	Proportional	Italic	Bold
AvantGarde-Book	31	Proportional	Upright	Medium
AvantGarde-BookOblique	31	Proportional	Italic	Medium
AvantGarde-Demi	31	Proportional	Upright	Demi Bold

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5.3 DEClaser 1152 Printer Cleaning Test Page

5.3 DEClaser 1152 Printer Cleaning Test Page

Figure 5–3 shows a Cleaning Test page.

The two-pass cleaning test cleans the fixing unit rollers. Perform the cleaning test when:

- Installing a new EP-L cartridge
- Staining occurs at the top or bottom of transparencies
- Paper frequently jams in the fixing unit

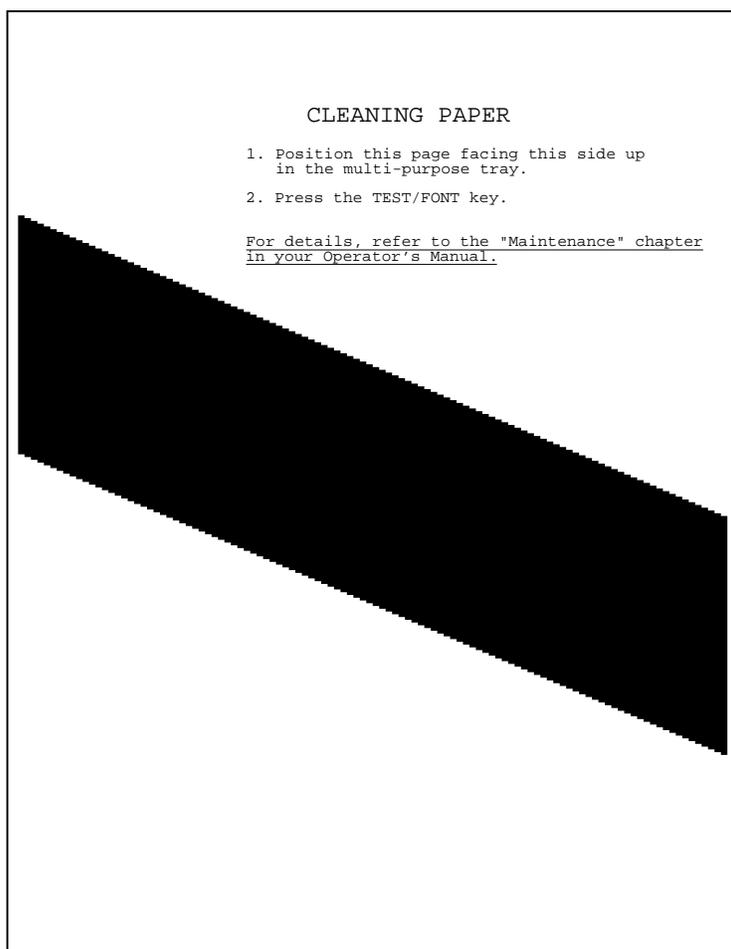
Note: *Always use plain white paper to generate the cleaning paper. It can be A4-size, letter-size, or legal-size paper.*

Use the following procedure to clean the fixing assembly:

1. Be sure the printer is not printing and the display reads **PS READY/IDLE**.
 2. Press **On Line**.
 - The On Line indicator shuts off.
 - **PS OFFLINE** displays on the control panel.
 3. Press and hold down **Test/Font** until the display reads **CLEANING PAPER** and the LED lights on the Test/Font button.
 - The cleaning paper prints.
 4. Insert the printed cleaning paper into the paper tray with the printed side facing up.
 5. Press **Test/Font** to run the cleaning paper through the printer.
 - The cleaning paper moves to the output tray, indicating that the fixing assembly is clean.
 6. Press **On Line**.
 - The On Line indicator lights.
 - **PS READY/IDLE** displays on the control panel.
- Discard the cleaning paper.

5.3 DEClaser 1152 Printer Cleaning Test Page

Figure 5-3 DEClaser 1152 Printer Cleaning Test Print



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5.4 DEClaser 1152 Printer Engine Test Print

5.4 DEClaser 1152 Printer Engine Test Print

Figure 5-4 is an example of the Engine Test print.

Figure 1-3 shows the location of the TEST PRINT button. Press the TEST PRINT button with a pencil or other suitable tool to print an engine test print.

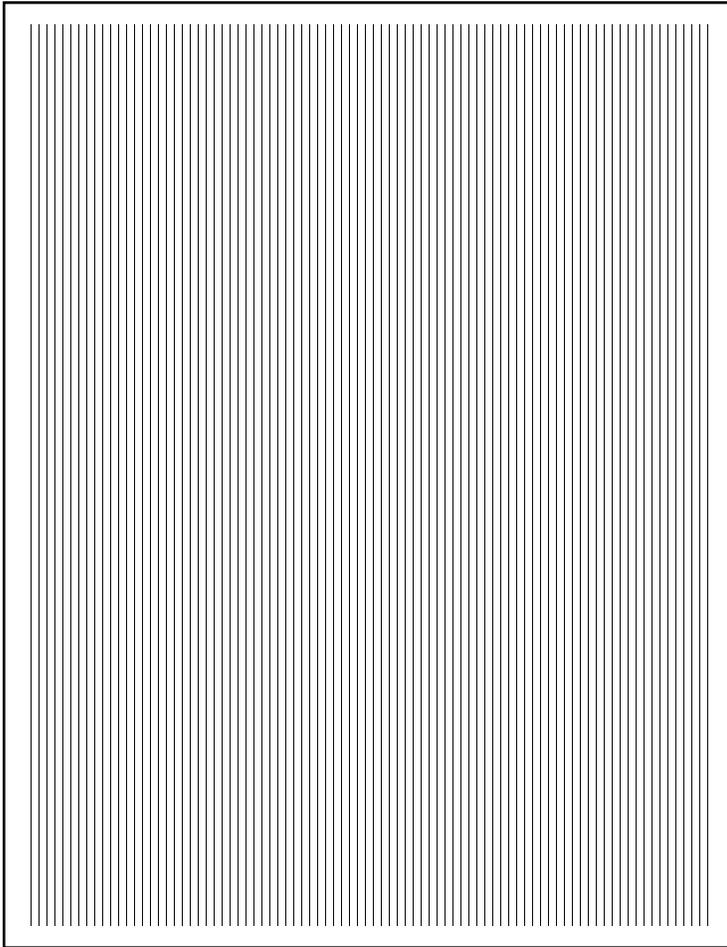
The Engine Test print is used for the following purposes:

- To check toner dispersion and line weight
- To verify the condition of the print engine if the video control board, control panel, or interface board are not installed

The white area of the Engine Test print should be free of toner or smudges, and the lines must print cleanly across the entire page with no faded areas. If the print quality is poor, refer to Section 8.1.

5.4 DEClaser 1152 Printer Engine Test Print

Figure 5-4 DEClaser 1152 Printer Engine Test Print



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6

Control Panel Messages FIPs

Chapter 6 describes the control panel messages of the DEClaser 1100 and 1152 printers.

6.1 Control Panel Messages

Use the following list for directions to the tables that interpret the control panel display text and provides troubleshooting information. All control panel messages are displayed with the Alarm indicator, except 00 READY DEC.

- Status messages, Table 6-1
- Operator call messages, Table 6-3
- Functional messages, Table 6-4
- Service messages, Table 6-5

6.2 Status Messages

Table 6-1 lists the messages on the DEClaser 1100 printer. Table 6-2 lists the status messages on the DEClaser 1152 printer.

Table 6-1 DEClaser 1100 Printer Status Messages

Number Message	Description and Action
00 READY DEC	The printer is ready to print. If the On Line indicator is on, print files can be sent from the host. If the On Line indicator is off, the printer is in the offline Ready mode.
01 TEST PRINT B	The printer is generating and printing Test Print B. See Section 4.2 for more information about Test Print B.

(continued on next page)

6.2 Status Messages

Table 6–1 (Cont.) DEClaser 1100 Printer Status Messages

Number Message	Description and Action
02 WARMING UP	The printer is waiting for the fixing unit to reach operating temperature. If the fixing unit fails to reach the correct operating temperature, the 50 SERVICE message is displayed.
03 RESET	This message is displayed for about four seconds to confirm that the reset function is completed. Pressing <input type="button" value="Reset"/> or transmitting a SET command from the host initiates the reset function.
04 TEST STOP	This message is displayed to show that the generation and printing of a test pattern is stopping. The message is displayed while the remaining paper is printed and ejected.
05 TEST PRINT A	This message is displayed during the generation and printing of Test Print A.
06 FONT LIST A	This message is displayed during the generation and printing of the FONT LIST.
08 CLEANING PAP.	This message is displayed while the fixing unit cleaning pattern is printing.
08 SET THE PAPER	This message prompts you to set the cleaning sheet, faceup, in the paper tray.

Table 6–2 DEClaser 1152 Status Messages

Message	Description and Action
PS INITIALIZING	The PostScript interpreter is initializing. This occurs at power up.
PS READY/IDLE	The printer is ready to print. If the On Line indicator is on, print files can be sent from the host. If the On Line indicator is off, the printer is in the offline Ready mode.
PS OFFLINE	The printer is in an offline state.
PS HOLDING	This is an intermediate message showing the state of the I/O serializer.
PS PROCESSING	The interpreter is processing data.
PS WAITING	This message displays when the printer is printing and the input buffer is waiting for more data.

(continued on next page)

6.2 Status Messages

Table 6–2 (Cont.) DEClaser 1152 Status Messages

Message	Description and Action
PS WAIT FOR IDLE	This message displays when job reset is set to no on the front panel and the user presses ONLINE while a job was printing.
PS TEST PRINT	This message appears while processing and printing the test page. The control panel keys are buffered during the test print. You cannot perform a control panel reset of the test print.
CLEANING PAPER	This message is displayed while the fixing unit cleaning paper is printing.
LOAD PAPER	This message means the printer is ready to receive the cleaning paper or manually fed paper.
PS RESET TO STOP	The message appears when the job reset is set to yes on the front panel and the user presses ONLINE to take the printer off line. To flush the job, press RESET . To continue the job, press any other key.
PS RESETTING JOB	This message displays while the communications buffer is being cleared and the job is reset.

6.3 Operator Call FIP

When an operator call condition occurs, the printer goes off line and an operator call message is displayed. The message clears automatically as soon as the condition is corrected.

Table 6–3 lists all operator call messages, explains the message, and provides troubleshooting information if the message cannot be cleared or is displayed for no apparent reason.

6.3 Operator Call FIP

Table 6–3 Operator Call Messages

Number Message	Description and Action
10 CHECK PAPER	<p data-bbox="560 714 1226 787">This message indicates a feeding problem from the selected input device and is caused by bad media or a circuit malfunction of the feed roller solenoid.</p> <p data-bbox="560 829 1226 882">Troubleshooting: Respond to this error with the following steps.</p> <ol data-bbox="560 903 1226 1350" style="list-style-type: none"><li data-bbox="560 903 1226 1081">1. Remove the paper and perform the following checks:<ul data-bbox="609 945 1226 1081" style="list-style-type: none"><li data-bbox="609 945 1226 1008">• Inspect the paper for static electricity, adhesive contamination, or damage.<li data-bbox="609 1018 1226 1081">• Thoroughly fan the paper and load it in the tray or cassette.<li data-bbox="560 1102 1226 1350">2. Perform the following steps if the problem occurs when feeding from the cassette:<ul data-bbox="609 1165 1226 1350" style="list-style-type: none"><li data-bbox="609 1165 1226 1260">• Remove the cassette and inspect the condition of the cassette solenoids (SL901 and SL902). Fix or replace any damaged FRU that you find.<li data-bbox="609 1270 1226 1312">• Swap the cassette feeder board.<li data-bbox="609 1323 1226 1350">• Swap the DC control board.

(continued on next page)

6.3 Operator Call FIP

Table 6–3 (Cont.) Operator Call Messages

Number Message	Description and Action
	<p>Paper check errors when feeding from the paper tray.</p> <ol style="list-style-type: none">3. Perform the following steps if the problem occurs when feeding from the paper tray:<ul style="list-style-type: none">• Open the front door and inspect the condition of the solenoid (SL501) that actuates the tray feed clutch. Fix or replace any damaged FRU that you find.• Inspect the 9-pin plug connecting to J209 on the DC control board.• Check the cables that run between J209 and the front door.• Swap the DC control board.• Swap the front door unit.
11 PAPER OUT ¹	<p>The cassette is empty or no cassette is installed. The paper out sensor and linkage detects an empty cassette.</p> <p>Troubleshooting: Inspect and swap the following components, in the order listed, to fix a paper out fault:</p> <ol style="list-style-type: none">1. Inspect and swap the cassette.2. Swap the feeder assembly or paper out sensor.3. Swap the DC control board.4. Swap the video control board.

¹This message is not displayed if the feeder option is not installed.

(continued on next page)

6.3 Operator Call FIP

Table 6–3 (Cont.) Operator Call Messages

Number Message	Description and Action
11 TRAY PAPER <i>xx</i>	<p><i>xx</i> indicates the paper size. This message prompts you to load the empty tray with a specific size paper. The tray must be selected. The paper size is determined by the Page Format menu, as shown in Section 2.16.</p> <p>When the tray is empty, the lever of the paper out tray sensor (PS501) drops down. PS501 then signals the DC control board which sends the error to the video control board which displays the message.</p> <p>After you load the paper, PS501 detects it and the printer returns to online READY and continues printing.</p> <p>Troubleshooting: Perform the following steps to fix an 11 TRAY PAPER error:</p> <ol style="list-style-type: none">1. Inspect the operation of the tray paper sensor linkage. It should move freely and not bind or stick. If you press the sensor, the printer will feed and ultimately cause a jam. If the sensor or linkage is damaged, replace the front door unit.2. Inspect the 9-pin plug connecting to J209 on the DC control board.3. Check the cables that run between J209 and the front door.4. Swap the DC control board.5. Swap the video control board.6. Swap the front door unit.

(continued on next page)

6.3 Operator Call FIP

Table 6–3 (Cont.) Operator Call Messages

Number Message	Description and Action
12 PRINTER OPEN ²	<p data-bbox="561 705 1187 737">Any one of the following causes this message to appear:</p> <ul data-bbox="561 753 1024 926" style="list-style-type: none"><li data-bbox="561 753 1024 785">• The front door of the printer is open.<li data-bbox="561 802 873 833">• The fixing door is open.<li data-bbox="561 850 954 882">• No EP-L cartridge is installed.<li data-bbox="561 898 951 930">• The cooling fan is not turning. <p data-bbox="561 947 1227 1077">The door sensor is actuated by the tang on the shutter of the EP-L cartridge. When the front door is closed, a gear rack on the end of the door rod flips up the shutter lever. The shutter lever lifts the EP-L shutter and interrupts the sensor.</p> <p data-bbox="561 1094 1234 1167">The fixing door sensor is actuated by a tang on the left side of the fixing door. The fixing door must be fully closed to actuate the sensor.</p> <p data-bbox="561 1184 1170 1228">A sensor in the fan is actuated by the rotation of the armature.</p>

²If the two errors occur simultaneously, the 13 PAPER JAM message takes priority over the 12 DOOR OPEN message.

(continued on next page)

6.3 Operator Call FIP

Table 6–3 (Cont.) Operator Call Messages

Number Message	Description and Action
12 PRINTER OPEN ² (Cont.)	<p data-bbox="561 705 1235 762">Troubleshooting: Do the following to fix a 12 PRINTER OPEN malfunction:</p> <ol data-bbox="561 783 1235 1631" style="list-style-type: none"><li data-bbox="561 783 1235 840">1. Carefully inspect the operation of each door. Fix or replace any components that are damaged.<li data-bbox="561 856 1235 913">2. If the fan blades are not turning or turn slowly, replace the fan.<li data-bbox="561 930 1235 1302">3. Check the following for damage, misconnection, or misseating:<ul data-bbox="610 1003 1235 1302" style="list-style-type: none"><li data-bbox="610 1003 1235 1060">• 3-pin plug connecting to J701 of the density adjust board<li data-bbox="610 1077 1235 1134">• 9-pin plug connecting to J213 on the DC control board<li data-bbox="610 1150 1235 1207">• 9-pin plug connecting to J209 on the DC control board<li data-bbox="610 1224 1235 1255">• Cables running between J209 and the front door<li data-bbox="610 1272 1235 1302">• Door sensor connectors<li data-bbox="561 1318 1235 1631">4. Swap the following FRUs to isolate malfunction:<ol data-bbox="610 1371 1235 1631" style="list-style-type: none"><li data-bbox="610 1371 1235 1402">a. EP-L cartridge<li data-bbox="610 1419 1235 1451">b. Fan<li data-bbox="610 1467 1235 1499">c. Door sensor<li data-bbox="610 1516 1235 1547">d. Density adjustment board<li data-bbox="610 1564 1235 1596">e. DC control board<li data-bbox="610 1612 1235 1631">f. Front door unit

²If the two errors occur simultaneously, the 13 PAPER JAM message takes priority over the 12 DOOR OPEN message.

(continued on next page)

6.3 Operator Call FIP

Table 6–3 (Cont.) Operator Call Messages

Number Message	Description and Action
13 PAPER JAM ²	<p>This message is displayed when paper is jammed in the printer paper path and the DC control board inhibits printer operation.</p> <p>The jam display message clears when you open and close the front door or fixing door, or when you press Error Skip.</p> <p>At power up or before the printer goes on line, the rollers turn for a time to eject any stalled paper from the paper path. If the paper is jammed or the exit or paper feed sensors are inoperative, the 13 PAPER JAM message is redisplayed.</p> <p>The printer may require repair if you cannot clear the error message and display or if jams occur shortly after the printer resumes feeding.</p> <p>Troubleshooting: To begin troubleshooting a jam, turn to the jam FIP, Chapter 7.</p>

²If the two errors occur simultaneously, the 13 PAPER JAM message takes priority over the 12 DOOR OPEN message.

(continued on next page)

6.3 Operator Call FIP

Table 6–3 (Cont.) Operator Call Messages

Number Message	Description and Action
PT LOAD A4 PT LOAD B5 PT LOAD LETTER PT LOAD LEGAL PT LOAD EXEC LOAD PAPER nn	<p>This message is displayed when the host system sends a command to change the size of the paper in the tray. The tray may or may not be empty. The printer goes off line waiting for the paper tray sensor to detect paper. After you load the paper, the printer goes on line and starts to print.</p> <p>nn is a user defined number in the range of 80–99 that is transmitted from the host system.</p> <p>Troubleshooting: Use the following procedure to isolate the malfunction and fix the printer:</p> <ol style="list-style-type: none">1. Inspect the operation of the tray paper sensor linkage. It should move freely and not bind or stick.2. Check the following for damage, misconnection, or misseating:<ul style="list-style-type: none">• 9-pin J209 connector on the DC control board• Cables running between J209 and the front door3. Swap the following to isolate the failing component:<ul style="list-style-type: none">• Front door unit• DC control board

(continued on next page)

6.3 Operator Call FIP

Table 6–3 (Cont.) Operator Call Messages

Number Message	Description and Action
PC LOAD A4 PC LOAD B5 PC LOAD LETTER PC LOAD LEGAL PC LOAD EXEC PC LOAD PAPER <i>nn</i>	<p>This message¹ is displayed when the host system sends a command to change the size of the installed cassette. Install the requested size cassette and press <input type="button" value="On Line"/> or <input type="button" value="Error Skip"/> to continue.</p> <p><i>nn</i> is a user defined number in the range of 80–99 that is transmitted from the host system.</p> <p>Troubleshooting: Use the following procedure to isolate the malfunction and fix the printer:</p> <ol style="list-style-type: none"> 1. Inspect the condition of the size keys that are molded into the cassette. See Table 1–5 for more information on the cassette size keys. 2. Remove the cassette. Manually actuate and inspect the operation of the size-sensing levers and switches. 3. Swap the feeder or the feeder control board. 4. Swap the DC control board.
OC <i>nn...nn</i> (13 characters)	<p>This is the operator comment text that is transmitted from the host computer. To clear the message and continue, press <input type="button" value="On Line"/> or <input type="button" value="Error Skip"/>.</p>
15 ENGINE TEST	<p>This message is displayed during the generation and printing of the print engine internal test pattern, which is initiated when you press the TEST PRINT button on the DC control board.</p>

¹This message is not displayed if the feeder option is not installed.

6.4 DEClaser 1100 Printer Functional FIP

6.4 DEClaser 1100 Printer Functional FIP

The DEClaser 1100 printer functional error messages are firmware errors as opposed to hardware errors. They are set when resident firmware detects an error condition such as a memory checksum, memory overflow, or communication errors. The error condition can be caused by incorrect operation or by a malfunctioning control board in the printer.

Table 6–4 lists all status messages, explains the message, and provides troubleshooting information if the message faults.

Table 6–4 DEClaser 1100 Printer Functional Messages

Number Message	Description and Action
FE FONT REMOVAL	A font cartridge was removed or inserted while the printer was powered on. To clear this error, power off the printer, then on. Always insert or remove a font cartridge while the printer is powered off. Swap the video control board if you cannot clear the error.
FF FONT FULL	There is insufficient memory space for the loading of an additional font or there are too many downline loaded fonts. Memory can be cleared by a software command from the host or by pressing Reset .
20 PAGE FULL	The host system is overflowing the page (input) buffer memory. Press Error Skip , then On Line to print the overflow data on the next page. To avoid this error, delete unused character sets and use the full paint mode. If this error occurs frequently, the customer can install optional memory to increase available RAM.
21 COMPLEX DATA	The host system is loading the page buffer faster than the printer can print. Press Error Skip , then On Line to continue printing on the next page. Set the paint = full value from the initial Setup menu.

(continued on next page)

6.4 DEClaser 1100 Printer Functional FIP

Table 6–4 (Cont.) DEClaser 1100 Printer Functional Messages

Number Message	Description and Action
22 LINE ERROR	<p>The host is sending data when the printer is in the busy state. This causes an overflow of the receive buffer memory. Press <input type="button" value="Error Skip"/>, then <input type="button" value="On Line"/> to continue. The overflow data does not print.</p> <p>This error can occur for the following reasons:</p> <ul style="list-style-type: none"> • If the customer powers up the printer before powering up the attached host system • If the baud rate, flow control, or other interface parameters are set incorrectly <p>If this error occurs frequently, check the data cable between the host and printer and make sure the printer interface settings match the settings of the host.</p> <p>If you cannot clear this error, swap the Interface board and then the Video control board.</p>
23 MEMORY FULL	<p>An overflow occurred while the host was downline loading user defined character patterns to the printer.</p> <p>Press <input type="button" value="Error Skip"/>, then <input type="button" value="On Line"/> to continue receiving data and ignore the data that caused the error.</p> <p>If this error occurs too frequently, the customer can increase memory by installing an optional RAM expansion.</p>
24 FULL PAINT REJ	<p>Insufficient memory space to use full paint mode. The customer can increase memory space by installing an optional RAM expansion.</p> <p>Press <input type="button" value="Error Skip"/>, then <input type="button" value="On Line"/> to continue printing in partial paint mode.</p>

(continued on next page)

6.4 DEClaser 1100 Printer Functional FIP

Table 6–4 (Cont.) DEClaser 1100 Printer Functional Messages

Number Message	Description and Action
25 VECTOR REJ	<p>Vector graphics commands from the host system cannot be used because the printer is not in full paint mode. You have two possible actions:</p> <ul style="list-style-type: none"> • Press <input type="button" value="Error Skip"/>, then <input type="button" value="On Line"/> to continue printing. Subsequent vector graphics commands are treated as text and printed. • Stop sending data from the host, select the paint = full value from the initial setup menu, then send the data from the host again.
26 MEMORY FULL	<p>Note: <i>Vector graphics commands cause the printer to fill in closed areas of circles, ellipses, and other shapes.</i></p> <p>The work memory used by the video control board has overflowed and the current operation cannot be done. If this happens frequently, the customer can increase the available memory by installing an optional RAM expansion board.</p> <p>Press <input type="button" value="Error Skip"/>, then <input type="button" value="On Line"/> to continue receiving data from the host. The offending operation is ignored.</p>
27–39	Not used.
40 LINE ERROR	<p>The printer detects errors in the serial data received from the host. The printer stops printing before the offending page and displays the error message.</p> <p>Do the following:</p> <ol style="list-style-type: none"> 1. Press <input type="button" value="Error Skip"/>, then <input type="button" value="On Line"/> to continue receiving data. 2. Inspect the data cable and connectors between the host and printer and make sure the printer interface settings match the settings of the host.
41 PRINT CHECK	<p>A soft error occurred that can cause a print defect. Remove and discard the top sheet from the stack. Then press <input type="button" value="Error Skip"/> to continue printing and to reprint the discarded sheet.</p> <p>Troubleshooting: If the problem occurs frequently, use the troubleshooting procedure listed under 51 SERVICE in Table 6–5.</p>

6.5 Service FIP

A service message is displayed to indicate a hardware malfunction. When it occurs, the printer is disabled. To clear the service error, the printer must be powered off, then on.

Table 6–5 lists all service error messages, explains the message, and provides troubleshooting information if the message faults.

Table 6–5 Service Messages

Number Message	Description and Action
50 SERVICE	<p>This message indicates a malfunctioning fixing unit temperature. Section 1.10 describes each failure condition.</p> <p>Troubleshooting: Use the following procedure to correct the fixing unit temperature problem:</p> <ol style="list-style-type: none"> 1. If the error occurs at power up, the malfunction might be corrected, but you may not have allowed a full 3 minutes of power-off time for the error to clear. 2. Inspect the connection of the 2-pin connector to J101 of the LVPSA. Section 10.8 shows the location of J101. 3. Inspect the 10-pin plug connecting to J209 on the DC control board. 4. Inspect or swap the fixing unit. Make sure the fixing unit connectors are undamaged and the pins align correctly with the sockets. If you find any damage, replace the fixing unit. 5. Swap the LVPSA assembly. 6. Swap the DC control board. 7. Swap the front door assembly.

(continued on next page)

6.5 Service FIP

Table 6–5 (Cont.) Service Messages

Number Message	Description and Action
51 SERVICE	<p>This message is displayed when the video control board fails to detect the beam detect (BD) signal from the DC control board. The DC control board monitors the intensity of the laser beam light through the fiber optic cable and generates the BD signal to indicate the start of a scan line.</p> <p>Troubleshooting: Perform the following steps:</p> <ol style="list-style-type: none">1. Check the following for damage, misconnection, or misseating:<ul style="list-style-type: none">• Connectors at each end of the fiber optic cable• 7-pin J202 and J401 plugs that connect the DC control board to the laser diode assembly• 6-pin J203 and J301 plugs connecting the DC control board to the scanner assembly• J204 (fiber optic connector) on the DC control board• Condition of the tang on the EP-L cartridge that operates the laser safety shutter• Condition of the laser cavity cover. Is the cover seated and properly secured? Does the safety shutter function properly?2. Swap the following components:<ol style="list-style-type: none">a. EP-L cartridgeb. DC control boardc. Laser assemblyd. Scanner assembly

(continued on next page)

6.5 Service FIP

Table 6–5 (Cont.) Service Messages

Number Message	Description and Action
52 SERVICE	<p>The scanner motor is not up to speed. Check the scanner assembly electrical connectors for good connections.</p> <p>Troubleshooting: Perform the following steps:</p> <ol style="list-style-type: none"> 1. Inspect the 6-pin J203 and J301 plugs connecting the DC control board to the scanner assembly. 2. Swap the scanner assembly. 3. Swap the DC control board. 4. Swap the LVPSA.
SERVICE 53–59	Not used.
60 SERVICE 61 SERVICE 63 SERVICE 68 SERVICE 71 SERVICE 72 SERVICE 73 SERVICE 74 SERVICE	<p>This range of numbers indicates a failure of an electronic on-board component or the failure of a connection or communication pathway between components. The errors are detected by the on-board CPUs. See Section A.1, Extended Service Messages, for more information on this range of error messages.</p> <p>Troubleshooting: Swap the following components:</p> <ol style="list-style-type: none"> 1. Video control board 2. DC control board 3. Interface board
70 SERVICE	<p>This is the expansion RAM memory error.</p> <p>Troubleshooting: Swap the following components:</p> <ol style="list-style-type: none"> 1. RAM expansion board 2. Video control board 3. DC control board 4. Interface board

(continued on next page)

6.5 Service FIP

Table 6–5 (Cont.) Service Messages

Number Message	Description and Action
75 SERVICE 80 SERVICE 81 SERVICE 82 SERVICE 83 SERVICE	This range of numbers indicates a failure of an electronic on-board component or the failure of a connection or communication pathway between components. The errors are detected by the on-board CPUs. See Section A.1, Extended Service Messages, for more information on this range of error messages.
84 SERVICE 85 SERVICE 86 SERVICE 87 SERVICE A0–FF SERVICE	Troubleshooting: Swap the following components: <ol style="list-style-type: none"><li data-bbox="431 911 597 942">1. Font Card<li data-bbox="431 957 727 989">2. RAM expansion board<li data-bbox="431 1003 699 1035">3. Video control board<li data-bbox="431 1050 672 1081">4. DC control board<li data-bbox="431 1096 651 1127">5. Interface board

7

Paper Jam FIPs

This chapter describes jam and image defect sections of the DEClaser 1100 series printer fault isolation procedures (FIPs). Power down the printer before removing jammed paper.

Note: *Before servicing a DEClaser 1100 printer, do the following:*

- *Remove any installed font cartridge.*
- *Make sure the DEC 00 emulation is selected, as shown in Section 2.17.*
- *Make sure RS232C value is selected from the i/f feature of the interface menu, as shown in Table 2-3.*

7.1 Jams and Paper Misfeeding

7.1 Jams and Paper Misfeeding

FIP Note: *This section is the FIP for troubleshooting paper jamming or paper feeding problems. Chapter 6, Control Panel Messages FIPs, verifies the malfunction and points you to the next troubleshooting section.*

1. Inspect and clear any paper from the paper path. Power on the printer. What message is displayed?

If the Message Is...	Then Do This...
13 Paper Jam	Go to the power up jam, Section 7.3.
00 Ready or PS Ready Idle	Go to the step 2.

2. Set the printer off line. Select and load the paper tray. Print a test print. What does the printer do?

If the Printer....	Do this....
Prints the test print with no problem.	Go to step 3.
Displays the message 13 PAPER JAM.	Go to step 4.

3. Print a test print from the cassette.

If the Printer....	Do this....
Prints the test print with no problem.	Go to step 5.
Displays the message 13 PAPER JAM.	Go to the cassette pickup area jam, Section 7.5.

7.1 Jams and Paper Misfeeding

- Determine where the jam first occurs.

Does.....	If No...	If Yes...
The sheet feed, the tray pickup lift, the pickup roller turn?	Go to the jam entry submenu, Section 7.1.1.	Check if the leading edge actuates the paper feed sensor. If it doesn't, go to the tray area jam, Section 7.4. If it does, go to fixing and delivery area jam, Section 7.6.

- Print many copies of the test print from the cassette and tray.

If Jams Occur...	If Jams Do Not Occur...
Determine the location of the jam: <ul style="list-style-type: none">Tray area (Section 7.4)Cassette pickup area (Section 7.5)Fixing and delivery area (Section 7.6)	Perform TCC, as described in Appendix C.

7.1.1 Jam Entry Submenu

If the sheet does not feed, the tray pickup elevator does not lift, or the pickup roller does not turn, remove the right-side panel. Press Test/Font and check the gear on the main motor shaft:

7.1 Jams and Paper Misfeeding

If the Shaft Rotates	If the Shaft Does Not Rotate
Check the following:	Check the following:
<ul style="list-style-type: none">• Drive assembly gears• Feed roller gear that drives the front door gears• Pickup roller gear and clutch assembly• 10-pin J209 plug that connects to the DC control board	<ul style="list-style-type: none">• Operation of the door rod and interlock switch• 6-pin J210 connector on the DC control board
Swap the following:	Swap the following:
<ul style="list-style-type: none">• Drive assembly• Tray pickup roller assembly• DC control board• Front door assembly• Feed assembly	<ul style="list-style-type: none">• LVPSA• DC control board• Main motor

7.2 Detecting and Clearing Jams

Jams are detected by the paper pickup (PS13) and fixing unit exit (PS12) sensors. The DC control board examines the sensors as the sheet proceeds through the paper path. If the sheet fails to arrive under a sensor or remains under the sensor too long, the DC control board stops the main motor, shuts down the fixing heater, and sends the error to the video control board. The 13 PAPER JAM message is then displayed by the video control board.

FIP Note: *Section 1.3.1 and Section 1.3.2 describe the paper path and components of the paper path. Figure 1-7 shows where PS12 and PS13 can be found.*

7.2 Detecting and Clearing Jams

Press **Error Skip** or open and close the front or fixing door to clear a 13 PAPER JAM message. The following rounding cycle happens as the jams detection circuits clear:

- The main motor runs.
- Any paper caught in the paper path is ejected.
- If the pickup rollers are not parked at the home position, they will rotate and feed the top sheet of paper.

7.3 Power-Up Jams

An electrical malfunction of the DC control board, sensors, or wiring can produce a power-up or phantom alarm. The term phantom describes a jam alarm that occurs when there is no paper in the paper path. Phantom jams can occur intermittently or can be predictable and can occur during operation or when the printer is idle. Phantom jams cannot be directly connected or linked to a malfunctioning roller or paper path guide.

Perform the following steps to fix a power-up or phantom jam alarm:

1. Examine the linkage arms that operate the paper pickup (PS13) and exit sensors (PS12). Look for anything that may interfere with the operation of the sensor linkages, such as shreds of paper or dirt. Manually toggle the linkages to see if they move freely and fall to the home position in the paper path. Fix or replace any damaged component.
2. Inspect the plug that connects PS12 and PS13 to the wiring harness. Look for damage, misconnection, or misseating.
3. Inspect the 3-pin J208 plug that connects to the DC control board. Look for misconnection or bent pins.
4. Swap the following components:
 - DC control board
 - Exit sensor PS12
 - Density adjustment board
 - Feed roller assembly which contains the PS13 paper pickup sensor

7.4 Tray Area Pickup Jams

7.4 Tray Area Pickup Jams

FIP Note: *Paper fails to feed from the paper tray or multiple feeds occur.*

Table 7–1 Tray and Pickup Jams

Symptoms	Action
Tray pickup roller fails to turn. Pickup roller fails to push leading edge to paper pickup (PS13) sensor.	<p>Open the door, remove the pickup roller, and do the following:</p> <ul style="list-style-type: none">• Inspect the condition of the surface of the tray pickup roller. Surface should be free of dirt, pliable, and not cut or worn. If damaged, replace the pickup roller assembly.• Look for missing gear teeth or for signs of any other type of damage. If damaged, replace the pickup roller assembly.• Inspect the condition of the solenoid that actuates the tray pickup roller clutch. The armature should move freely and the spring should be in good condition. If parts are missing, replace the front door assembly.• Inspect the 10-pin J209 connector that connects to the DC control board. <p>Swap the following components:</p> <ol style="list-style-type: none">1. Pickup roller2. Front door assembly3. Drive unit gears4. DC control board

(continued on next page)

7.4 Tray Area Pickup Jams

Table 7–1 (Cont.) Tray and Pickup Jams

Symptoms	Action
Shingle or multiple feeding from paper tray.	Shingle feeding occurs when the leading edge and trailing edges overlap. Inspect the condition of the separation pad, the pickup clutch and the solenoid (SL501) that operates the pickup clutch. Swap the following parts: <ol style="list-style-type: none"><li data-bbox="654 888 873 915">1. Separation pad<li data-bbox="654 936 906 963">2. Tray pickup roller<li data-bbox="654 984 894 1012">3. DC control board<li data-bbox="654 1033 932 1060">4. Front door assembly

7.5 Cassette Area Pickup Jams

7.5 Cassette Area Pickup Jams

Paper feeds successfully from the tray but jams occur when feeding from the cassette. Use the following list to inspect the cassette, paper feeder, and paper supply. If you find any damaged components in the paper feeder, replace the entire feeder assembly.

1. Make sure the cassette is and can be fully pushed in.
2. Remove the cassette and inspect for the following:
 - Paper overloading
 - Incorrect type of paper
 - Nonstandard size of paper
 - Paper not under the hold-down tabs
 - Wrinkled, folded, or damaged paper
 - Broken, damaged, or deformed plastic
 - Bent, missing, or damaged metal guides
3. Inspect the plastic guides in the paper feeder that the cassette slides into.
4. Remove the paper feeder from the printer.
5. Inspect the condition of all mechanical components of the paper feeder. Look for damaged gears, pickup and feed clutches, and SL901 and SL902 clutch solenoids.
6. Inspect the surface of the pickup and feed rollers.
7. Remove the EP-L cartridge and turn the printer over on its side. Inspect the paper path that directs the sheet up into the feed rollers. Look for obstructions or burrs in the plastic that may impede or interfere with the paper.
8. Make sure the 6-pin J902 plug on the cassette feeder board is fully connected to the DC control board.
9. Make sure the 9-pin J205 plug is connected to the DC control board.

Troubleshooting: Perform the following steps to fix a cassette jamming problem:

1. Try fresh paper.
2. Try a different cassette.
3. Swap the feeder control board.

7.5 Cassette Area Pickup Jams

4. Swap the feeder unit.
5. Swap the DC control board.
6. Swap the video controller board.

7.6 Fixing and Delivery Area Jams

FIP Note: *Paper jams occur in the paper path after a successful pick up and feed from the paper tray. If the jam involves multiple sheet feeding or other pickup failures, go to Section 7.4.*

The paper may be sitting in the paper path undamaged or may be folded up around an obstruction.

Preliminary Inspection: First open the front door of the printer and use the following list to thoroughly inspect the condition of the paper path. Fix or replace any components that are damaged.

1. Inspect mechanical operational condition of the following sensors and DC control board connectors:
 - PS13 paper pickup sensor linkage and J208
 - PS12 exit sensor linkage, connector, and J213
2. Inspect the surface condition of the paper path rollers that push the sheet through the paper path.
 - Large and small feed rollers
 - Transfer roller and OPC drum and drive gears
 - Fixing unit rollers
 - Facedown delivery rollers
3. Inspect the surface condition of the following paper path guide plates. Look for broken plastic, surface contamination, or out of alignment components.
 - EP-L cartridge guides
 - Fixing unit entrance guides
 - Transfer roller entrance guides
 - Stack selector mechanism and facedown paper path guides

7.6 Fixing and Delivery Area Jams

Troubleshooting: Match the type of jam in the symptom column and perform the action.

Table 7–2 Fixing and Delivery Jams

Symptom	Action
Paper stops under the pickup sensor and/or before the exit sensor or fixing rollers.	<p>Caused by a malfunction of the sensor circuit or feed rollers. Because the pickup was successful, the feed roller drive gears and shaft are most likely working satisfactory. Swap the following components:</p> <ol style="list-style-type: none">1. Feed rollers and pickup sensor assembly2. PS12 exit sensor3. Density adjustment board4. DC control board
Paper jams or folds under the EP-L cartridge shutter.	<p>This type jam occurs when the OPC drum and/or transfer roller fails to turn. Perform the following steps:</p> <ol style="list-style-type: none">1. When the front door is closed, make sure the release button is completely depressed. The OPC drum and transfer roller will not turn unless the release button is fully depressed.2. Inspect the release mechanism for bending or damage. If damaged, fix or replace the drive assembly.3. Swap the drum drive unit.4. Swap the EP-L cartridge.5. Swap the transfer roller.
Sheet folds up or fails to enter fixing rollers.	<p>This occurs if the fixing unit rollers fail to turn. Perform the following steps:</p> <ol style="list-style-type: none">1. Swap the fixing unit.2. Replace the front door assembly.

(continued on next page)

7.6 Fixing and Delivery Area Jams

Table 7–2 (Cont.) Fixing and Delivery Jams

Symptom	Action
Sheet jams after the exit sensor.	The sheet actuates the exit sensor, then either stops or folds up in the fixing exit or delivery rollers. Inspect, fix, or swap the following components: <ol style="list-style-type: none"><li data-bbox="654 804 1122 835">1. Linkage that actuates the exit sensor<li data-bbox="654 852 829 884">2. Exit sensor<li data-bbox="654 900 995 932">3. Density adjustment board<li data-bbox="654 949 894 980">4. DC control board<li data-bbox="654 997 829 1029">5. Fixing unit<li data-bbox="654 1045 932 1077">6. Front door assembly

Image Defects FIPS

This chapter describes the image defect fault isolation procedures (FIPS) for the DEClaser 1100 series print engine.

8.1 Image Defects FIP

Caution: *Refilled EP-L cartridges may work well but can cause minor image defects or serious damage to the printer. Look for the refill plug to determine if you have a refilled cartridge.*

You must evaluate the quality of the printed image whenever you service the DEClaser 1100 printer. Inspect test prints for satisfactory print image quality. Figure 8-1 and Table 8-1 provide examples of the common types of image defects and refer you to the correct repair section.

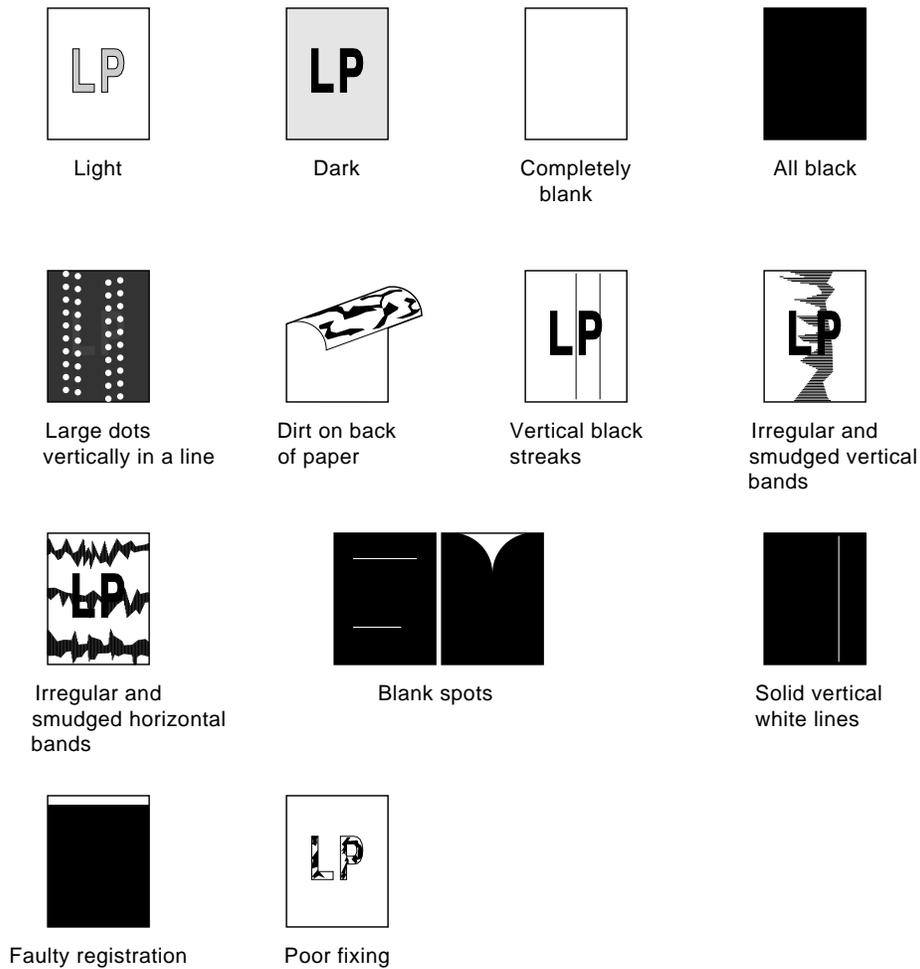
8.1 Image Defects FIP

Table 8–1 Image Defect Lookup Table

Image Defect	See Section
Light printing	8.2
Dark printing	8.3
Sheet is completely blank	8.4
Sheet is all black	8.5
In-line vertical spots	8.6
Toner on reverse side of paper	8.7
Vertical black streaks	8.8
Black, irregular, and smudged vertical bands	8.9
Black, irregular, and smudged horizontal bands	8.10
Blank spots in dark areas	8.11
Solid white vertical lines in dark areas	8.12
Bad leading edge registration	8.13
Bad Fixing	8.14
Wrinkled and torn paper	8.15
Background staining on envelopes	8.16

8.1 Image Defects FIP

Figure 8-1 Image Defect Examples



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8.2 Light Printing

8.2 Light Printing



The text and dark areas of the printed image are too light. Light printing or low density can be caused by the toner or paper supply, or by a malfunction of the high-voltage supplies or of the transfer circuits. Perform the following steps and checks:

- The normal position for the density adjuster is the second detent position from the left, as shown in Figure 1–14.
- Try new paper from a different source. Use a recommended paper.
- The supply of toner in the EP-L cartridge might be caked or exhausted. Agitate and lightly rap the EP-L cartridge to break up compacted or caked toner. Caking happens when the toner gets damp, or if it has been sitting too long. Damp toner can dry out if the cartridge is left in a dry room for a day or so.
- Are the high-voltage connectors of the HVPSA and EP-L cartridge dirty or damaged?
- Inspect the 10-pin J206 plug that connects to the DC control board.
- Inspect the 10-pin J601 plug that connects to the HVPSA.

Swap the following FRUs to correct the problem:

1. EP-L cartridge
2. Transfer charging roller
3. Density adjustment board
4. DC control board
5. Video control board
6. HVPSA

8.3 Dark Printing

8.3 Dark Printing



The printed text is too dark and heavy. Inspect the following elements and replace if damaged:

- Density adjustment may be set too dark. Figure 1–14 shows the correct setting.
- High-voltage connectors of the HVPSA and EP-L cartridge
- 10-pin J206 plug that connects to the DC control board
- 10-pin J601 plug that connects to the HVPSA

Swap the following FRUs to correct the problem:

1. EP-L cartridge
2. Density adjustment board
3. DC control board
4. HVPSA

8.4 Sheet Is Completely Blank



The sheet is completely white; no toner is printed on the sheet. Inspect the following and replace if damaged:

- If the EP-L cartridge was recently installed, check that the toner seal was completely removed.
- High-voltage connectors from the HVPSA to the transfer roller
- Interface board.

The Interface board affects the printing of the control panel test patterns. If the Interface board is removed, all control panel invoked test patterns will result in a blank page. The Engine Test print will print correctly.

If the engine test pattern prints, you know the HVPSA and EP-L cartridge work satisfactorily and that most of the DC control board functions.

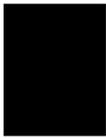
Swap the following FRUs to correct the problem:

1. EP-L cartridge
2. Interface board

8.4 Sheet Is Completely Blank

3. Video control board
4. HVPSA
5. DC control board

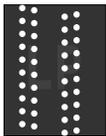
8.5 Sheet Is All Black



Inspect the connectors of the HVPSA and EP-L cartridge for dirt or damage. Swap the following FRUs to correct the problem:

1. EP-L cartridge
2. HVPSA
3. DC control board

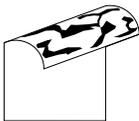
8.6 In-line Vertical Spots



Inspect the high-voltage HVPSA connectors and the ground connections of the static eliminator. Do the following:

1. Clean the static charge eliminator.
2. Replace the transfer charging roller.
3. Replace the HVPSA.

8.7 Toner on Reverse Side of Paper



Toner, spilled into the paper path, gets on the reverse side of the sheet. Completely clean the following paper path components and find the toner leak.

1. Clean the fixing unit rollers using the procedure shown in Section 4.4. Perform two or three cleaning passes if necessary. Replace the fixing unit if the rollers do not clean.
2. Thoroughly vacuum and clean the entire paper path, especially the following components:
 - All paper path guides
 - Transfer charging roller
 - Cassette or tray pickup roller

8.7 Toner on Reverse Side of Paper

- Fixing unit pressure roller
3. Inspect the EP-L cartridge for signs of leaking toner.
 4. Swap the fixing unit.

8.8 Vertical Black Streaks



The symptoms are caused by a dirty primary charge roller, by failure of the OPC drum, or by failure of the fixing unit.

Lift the drum shield. If you can see the streaks on the surface of the OPC drum, replace the EP-L cartridge. If you can see the streaks on the surface of the fixing unit, replace the fixing unit. Swap the following FRUs:

1. EP-L cartridge
2. Fixing unit

8.9 Black, Irregular, and Smudged Vertical Bands



Caused by a failure of a cleaning component in the EP-L cartridge. Replace the EP-L cartridge.

8.10 Black, Irregular, and Smudged Horizontal Bands

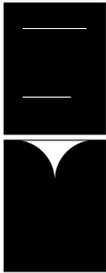


Caused by a failure of a component in the fixing unit or EP-L cartridge. Examine the spacing between the bands and do the following:

1. If the spacing of the bands is regular, replace the EP-L cartridge.
2. If the spacing of the bands is random or irregular, replace the fixing unit.

8.11 Blank Spots in Dark Areas

8.11 Blank Spots in Dark Areas



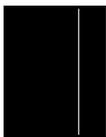
The dark areas of the paper have large splotchy white spots. Damp toner or paper or an over-exposed OPC drum can cause these symptoms. Storing the EP-L cartridge in cold temperatures or high humidity makes the toner damp and causes caking. Prolonged exposure to room level lighting will damage the OPC drum. Perform the following steps:

1. Inspect the condition of the high-voltage connectors that connect the EP-L cartridge to the HVPSA.
2. Remove the EP-L cartridge and agitate according to the direction on the cartridge.
3. Try some dry paper from the center of a new package.
4. Swap the EP-L cartridge.

If you suspect damp toner or a light damaged drum, try storing the cartridge in a dark, dry, room temperature location for a day or so. The OPC drum may recover and the toner should dry out.

5. Swap the EP-L cartridge.
6. Swap the HVPSA.

8.12 Solid White Vertical Lines in Dark Areas



This symptom can be caused by an obstruction in the laser beam path or by unevenly distributed toner in the EP-L cartridge. Perform the following steps:

1. Remove and agitate the EP-L cartridge, as shown on the cartridge label.
2. Look for foreign matter that can obstruct the path of the laser beam.
3. Swap the EP-L cartridge.

8.13 Bad Leading Edge Registration

8.13 Bad Leading Edge Registration



The registration is factory set and should require no adjustment in the field. Use the following procedure to verify correct registration:

1. Use the following procedure to measure the leading edge registration:
 - a. Print one sheet of the Engine Test print, as shown in Section 5.4.
 - b. Use a metric ruler to measure the distance between the leading edge of the paper and the start of the vertical bars.
 - c. The image is positioned correctly if the distance measured above is 3.6 mm. Adjusting VR201 can shift the image ± 2.40 mm.
If the alignment is slightly off and all components of the printer are in good shape, try adjusting VR201 on the DC control board to correct the error.
2. The cassette or tray may be overloaded with paper.
3. If an incorrect type of paper is being used, try some different paper.
4. Swap the paper feed and pickup sensor assembly.
5. Swap the DC control board.

8.14 Bad Fixing



The text or image can be brushed off or easily rubbed off. Perform the following steps:

1. The paper may be bad. Try new paper from a different source.
2. Is the correct type of paper being used?
3. Inspect the transfer roller for dirt or surface deformation or damage.

8.14 Bad Fixing

4. Clean the fixing unit rollers using the procedure shown in Section 4.4. Perform two or three cleaning passes if necessary. Replace the fixing unit if the rollers cannot be cleaned.
5. Swap the fixing unit.
6. Swap the DC control board.

8.15 Wrinkled and Torn Paper

The paper feeds and prints without jamming but wrinkles or skews (turns) in the paper path. Inspect the following and fix, swap, or replace any damaged or worn components:

1. Try some paper from a different source. Inspect the paper supply.
 - Is the correct type of paper being used?
 - Is the paper the correct size? The cassettes hold standard size paper only. Nonstandard size sheets must be fed through the adjustable paper tray.
 - Is the paper wrinkled, damp, or is the stack compressed? Remove and fan the stack. Paper should easily slide off the stack, not stick or bind to the lower sheets.
 - Is the paper tray guide adjusted correctly? Wrinkling and skew results if the adjustable guide is too tight or too loose.
 - Is the tray or cassette overloaded?
2. Clean and inspect the paper path guides. Look for broken or badly seated components and clean up any contamination.
3. Clean the fixing unit rollers, using the procedure shown in Section 4.4. Perform two or three cleaning passes if necessary. Replace the fixing unit if the rollers do not clean.
4. Inspect or swap the following paper path rollers. Look for dirt, glazing, nicks, or cuts. Replace any FRU that has deteriorated rollers.
 - Tray pickup roller
 - Cassette feed rollers
 - Feed rollers
 - Fixing rollers
 - Faceup delivery rollers

8.16 Background Staining on Envelopes

8.16 Background Staining on Envelopes

Light background staining occurs in white areas of envelope. Staining is not noticeable when printing cut sheets.

- Is the density adjustment set too light? Try moving the density adjuster to the darker setting. This should decrease the amount of background staining. See Section 1.11 for more information.

Swap the following FRUs to correct the problem:

1. EP-L cartridge
2. HVPSA
3. DC control board
4. Density adjustment board

9

Recommended Spares List and Parts Locator

9.1 Recommended Spares List (RSL)

Table 9–1 identifies the spare parts that are stocked for servicing the printer. If you need a part that is not on the RSL, consult the *DEClaser 1100 Printer Illustrated Parts Breakdown* for the part number or order information.

Table 9–1 DEClaser 1100/1152 Printers Recommended Spares List (RSL)

1100 Number	1152 Number	Description
29–29018–01	29–30382–01	Video controller board
29–29051–01	(same)	Door rod assembly
29–29050–01	(same)	Photo-interrupter used for door and exit sensing
29–29017–01	29–30569–01	Control Panel
29–29019–01	(same)	Multipurpose (Front) tray
29–29002–01	(same)	Lens assembly
29–29004–01	(same)	Feed rollers and paper pickup sensor (PS13) assembly
29–29015–01	29–30567–01	Front cover (door) unit, 115V
29–29016–01	29–30568–01	Front cover unit, 240V
29–29009–01	(same)	Fan
29–29006–01	(same)	AC inlet assembly, 115 Vac (LVPSA)
29–29021–01	(same)	AC inlet assembly, 240 Vac (LVPSA)
29–29010–01	(same)	DC stepping (main) motor

(continued on next page)

9.1 Recommended Spares List (RSL)

Table 9-1 (Cont.) DEClaser 1100/1152 Printers Recommended Spares List (RSL)

1100 Number	1152 Number	Description
29-29005-01	(same)	Tray pickup roller assembly
29-29007-01	(same)	Separation pad
29-29000-01	(same)	Laser assembly
29-29001-01	(same)	Scanner assembly
29-28994-01	(same)	Transfer charging roller
29-29014-01	(same)	Fixing unit assembly, 115V
29-29020-01	(same)	Fixing unit assembly, 240V
29-29003-01	(same)	Drive assembly
29-29008-01	(same)	Density adjustment board
29-29013-01	29-30383-01	Interface board assembly
29-28997-01	(same)	DC control board
29-28999-01	(same)	High-voltage power supply assembly (HVPSA)
29-28998-01	(same)	Cassette feeder board
NA	21-23613-04	EEPROM (NVM)
LN07X-TF ¹	(same)	Optional paper feeder unit and letter cassette
LN07X-TG ¹	(same)	Optional paper feeder unit and A4 cassette
LN07X-AA ¹	(same)	Toner/Supplies Cartridge Kit (EP-L)
LN07X-TB ¹	(same)	Legal cassette
LN07X-TC ¹	(same)	Letter cassette
LN07X-TD ¹	(same)	Envelope cassette
LN07X-TE ¹	(same)	Executive cassette
LN07X-TA ¹	(same)	A4 cassette
LN07X-MA ¹	NA	1-MB optional RAM board
LNO7X-MC ¹	NA	1-MB optional RAM expansion board
NA	LN07X-UF ¹	2-MB RAM board

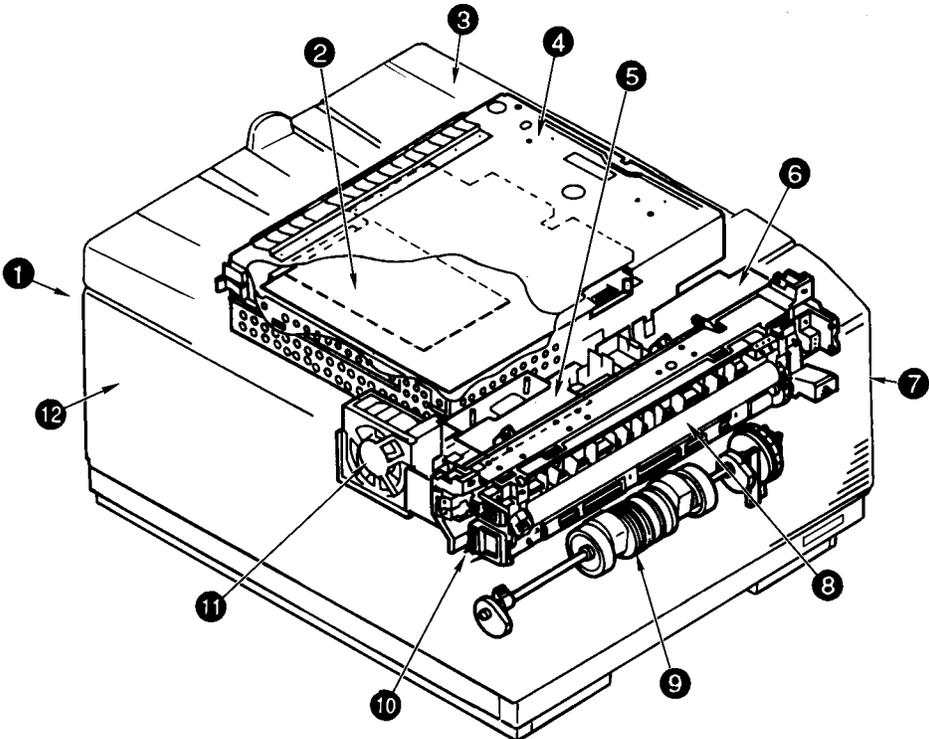
¹DECdirect part number

9.2 Parts Locator

9.2 Parts Locator

Figure 9-1 shows the locations of some of the major parts. Table 9-2 identifies the part and the section number of its removal and replacement procedure. The EP-L cartridge and drum drive assembly are not shown.

Figure 9-1 Parts Locator 1



9.2 Parts Locator

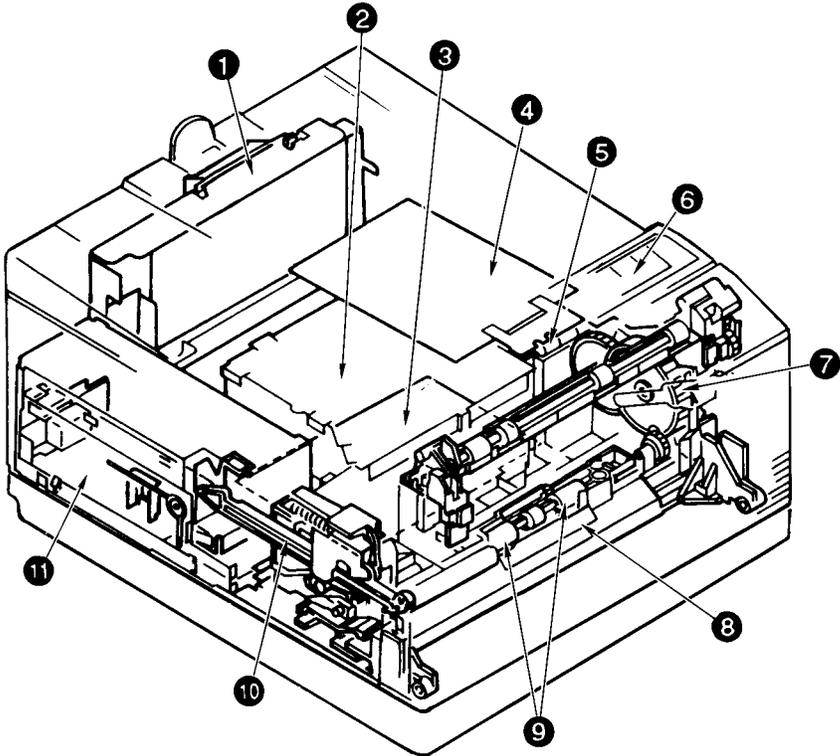
Table 9–2 Parts Locator 1

Component	Procedure
❶ Rear cover	Section 10.1
❷ Video control board and optional RAM	Section 10.20.1
❸ Upper cover	Section 10.2
❹ VCU	Section 10.20
❺ Density adjustment board	Section 10.17
❻ Exit and door/EP-L sensors	Section 10.24
❼ Front cover (door) unit	Section 10.5.1
❽ Transfer charging roller	Section 10.14
❾ Tray pickup roller	Section 10.10
❿ Fixing unit	Section 10.15
⓫ Fan	Section 10.7
⓬ Right side cover	Section 10.3

9.2 Parts Locator

Figure 9-2 shows the locations of some of the major parts. Table 9-3 identifies the part and the section number of its removal and replacement procedure. The EP-L cartridge and drum drive assembly are not shown.

Figure 9-2 Parts Locator 2



MLO-006127B

9.2 Parts Locator

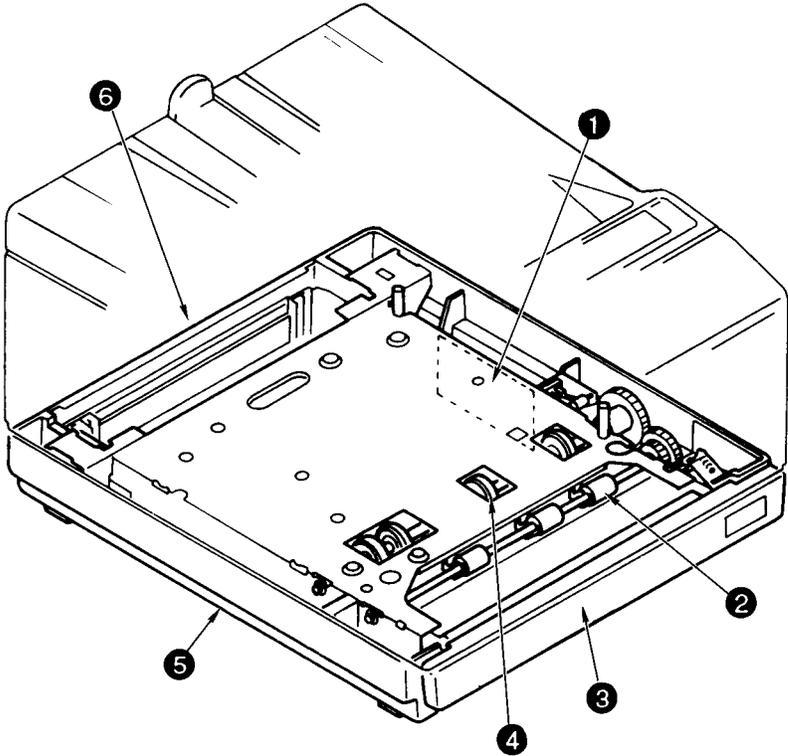
Table 9–3 Parts Locator 2

Component	Procedure
❶ Interface board	Section 10.18
❷ Laser and scanner	Section 10.12.1 and Section 10.12.2
❸ HVPSA	Section 10.21
❹ DC control board	Section 10.19
❺ Main motor	Section 10.9
❻ Control panel	Section 10.6
❼ Drive assembly	Section 10.16
❽ Separation pad	Section 10.11
❾ Feed rollers and paper pickup sensor (PS13) assembly	Section 10.25
❿ Door rod assembly	Section 10.23
⓫ LVPSA	Section 10.8

9.2 Parts Locator

Figure 9-3 shows the location of the major assemblies of the paper feeder. Table 9-4 identifies the part and gives the page number of its removal and replacement procedure, if a procedure exists. FRU swapping is the recommended repair procedure for most of the feeder malfunctions.

Figure 9-3 Feeder Parts Locator



MLO-006121B

9.2 Parts Locator

Table 9–4 Feeder Parts Locator

Component	Procedure
❶ Cassette feeder board	Section 10.22
❷ Feed roller shaft	No removal and replacement procedure
❸ Cassette	No removal and replacement procedure
❹ Pickup roller shaft	No removal and replacement procedure
❺ Optional paper feeder unit	Section 10.4
❻ Stop cover	No removal and replacement procedure

10

Removal and Replacement Procedures and RSL

This chapter contains the recommended spares list (RSL) and the removal and replacement procedures for the field replaceable units (FRUs) of the DEClaser 1100 series printer. To remove an FRU, you find the procedure and then follow the steps. To replace an FRU, you reverse the procedure, unless otherwise noted.

The removal of most FRUs requires the removal of other components. For that reason, a procedural step can refer you to another procedure. For example, to remove the DC control board, you must perform the procedure to remove the video control unit (VCU) and the upper and side covers. You should always remove and replace the components in the order shown in the procedures.

Warning: *Before you disassemble the DEClaser 1100 printer, make sure the power switch is off and the ac line cord is disconnected from the rear of the printer.*

If you must operate a disassembled printer, power the printer on, do the required task, then turn the power off, and pull the plug.

Use of controls or adjustment procedures other than those specified in this manual may result in hazardous laser light exposure to yourself or to other persons in the room. The safety information presented in Safety Warnings only applies while the scanner cover is fully installed.

Before servicing the optical components, you must have attended the training specified in Section D.1.

10.1 Rear Cover

10.1 Rear Cover

Use the following procedure to remove and replace the rear cover from the DEClaser 1100 printer:

1. Move the printer so the rear cover hangs over the edge of the table or desk.
2. Loosen the two captive screws that hold the top of the rear cover to the bulkhead.
3. Open the rear cover.
4. Press down the two hinge tabs **1** and pull the rear cover away from the printer to disengage the rear cover hinges.

Caution: *Handle the hinge clips gently. The hinge clips are made of soft plastic that will easily cut or nick. When nicked, the hinge will not securely engage.*

5. Remove the cover.

006042s

10.2 Upper Cover

10.2 Upper Cover

Use the following procedure to remove and replace the upper cover from the DEClaser 1100 printer:

1. Loosen the two top screws and open the rear cover, as shown in Section 10.1.
2. Open the front door.
3. Remove the two screws that hold the upper cover to the chassis flanges.

006043s

10.2 Upper Cover

4. Lift the upper cover to gain access to the control panel connector.
5. Unplug the control panel connector from the video control board.
6. Remove the upper cover.

006044s

10.3 Right and Left Side Covers

10.3 Right and Left Side Covers

Use the following procedure to remove and replace the right and left side covers:

1. Remove the upper cover, as shown in Section 10.2.
2. Wiggle the side covers to disengage the hook **1** and remove the side covers.

006045s

10.4 Optional Paper Feeder Unit

10.4 Optional Paper Feeder Unit

Use the following procedure to remove and replace the paper feeder unit.

1. Remove the EP-L cartridge, as shown in Section 10.13.
2. Remove the cassette from the paper feeder.
3. Lay the printer on its upper cover.
4. Remove the four thumb screws that hold the feeder to the printer bulkhead. Arrows are embossed into the sheet metal to mark the location of each screw.
5. Pry up one side of the feeder unit to disconnect the 9-pin connector. When you replace the printer on the feeder, engage the alignment pins first. Then, lower the feeder onto the 9-pin connector.

006046s

10.5 Front (Multipurpose) Tray

10.5 Front (Multipurpose) Tray

Use the following procedure to remove and replace the front tray from the front door of the DEClaser 1100 printer. The front tray is also referred to as the multipurpose tray.

1. Remove the paper feeder unit, if installed, as shown in Section 10.4.
2. Move the printer so the tray is hanging over the edge of the desk.
3. Press each side, as shown, slightly bending the tray, until the hooks ❶ disengage from the door.
4. Drop the tray down until the hinge pins freely separate from the door.

006047s

10.5 Front (Multipurpose) Tray

10.5.1 Front Cover (Door) Unit

Use the following procedure to remove and replace the front cover (door).

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the following components:
 - a. Front (multipurpose) tray, as shown in Section 10.5
 - b. EP-L cartridge, as shown in Section 10.13
 - c. Fixing unit, as shown in Section 10.15
 - d. Upper cover, as shown in Section 10.2
 - e. Right and left side covers, as shown in Section 10.3
 - f. VCU, as shown in Section 10.20
2. Pinch the locking tab and unplug the 2-pin connector J101 from the LVPSA.
3. Pull the cable free of the molded restraints.

006048s

10.5 Front (Multipurpose) Tray

4. Unplug the 10-pin J209 connector ❶ from the DC control board.
5. Remove the single screw that holds the braided ground clip to the baseplate.
6. Using a suitable tool, pry out the center pin ❷ from the lower cable restraint.
7. Remove the wires from the restraints.

006049s

10.5 Front (Multipurpose) Tray

8. Use a small screwdriver to gently unsnap and remove the cable cover.

006050s

10.5 Front (Multipurpose) Tray

9. Restrain the top of the door rod with one hand. When you remove the screw in the next step, the spring-loaded door rod can loudly snap back and surprise you.
10. Hold the door rod and remove the screw that holds the door rod to the door. Allow the door rod to gently retract.

006051s

10.5 Front (Multipurpose) Tray

11. Move the printer till the door hangs over the front edge of the table.
12. Use a small screwdriver to pry loose the plastic hinge pins ③.
13. Remove the two hinge pins.
14. Remove the front door.

006052s.

10.6 Control Panel

10.6 Control Panel

Use the following procedure to remove and replace the control panel:

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the upper cover, as shown in Section 10.2. Place the upper cover down on a work surface.
2. Remove the two screws that hold the control panel plate to the upper cover.

006053s

10.6 Control Panel

3. Unsnap and lift the control panel plate.
4. Unplug the 2-pin beeper connector ❶ and remove the control panel plate.

006054s

10.6 Control Panel

5. Remove the three screws that hold the control panel to the upper cover. When replacing the control panel, make sure to correctly configure the mounting ③ and ground ④ clips.
6. Remove the control panel.

006055s

10.7 Fan

10.7 Fan

Use the following procedure to remove and replace the fan (FM1) from the DEClaser 1100 printer:

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the upper cover, as shown in Section 10.2.
2. Remove the left side cover, as shown in Section 10.3.
3. Use small diagonal cutters to cut the plastic cable tie.
4. Unplug the 3-pin connector from J701 ❶ on the density adjustment board.
5. Tilt, lift, and remove the fan.

006056s

10.8 Low-Voltage Power Supply Assembly (LVPSA)

10.8 Low-Voltage Power Supply Assembly (LVPSA)

The LVPSA consists of the ac input, low-voltage power supplies, and the high-current controller for the heater in the fixing unit.

Use the following procedure to remove and replace the low-voltage power supply assembly (LVPSA):

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the following components:
 - a. Upper cover, as shown in Section 10.2
 - b. Right and left side covers, as shown in Section 10.3
 - c. VCU, as shown in Section 10.20
2. Remove the four screws that hold the end plate to the printer chassis.
3. Remove the end plate.
4. Remove the screw that holds the LVPSA to the side of the baseplate.

006057s

10.8 Low-Voltage Power Supply Assembly (LVPSA)

5. Unplug the 4-prong connector ❶ from the ac power switch.
6. Use the following procedure to unclip the stake that holds the wire tie ❷ to the baseplate.
 - If a cassette is installed, remove it.
 - Lift the rear of the printer to gain access to the stake.
 - Use needlenose pliers to pinch the clips and push the stake through the baseplate hole.
7. Remove the screw that holds the foot of the LVPSA to the printer baseplate.

006058s

10.8 Low-Voltage Power Supply Assembly (LVPSA)

8. Unplug the 9-pin J212 connector from the DC control board.
9. Unclip and remove the power supply cable.
10. Remove the power supply cable from the its restraints ③.

006059s.

10.8 Low-Voltage Power Supply Assembly (LVPSA)

11. Pinch the locking tab and unplug the 2-pin connector J101 from the LVPSA.
12. Remove the screw that holds the LVPSA to the printer baseplate.
13. Lift and remove the LVPSA.

006060s

10.9 Stepping (Main) Motor

10.9 Stepping (Main) Motor

Use the following procedure to remove and replace the stepping motor:

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the following components:
 - a. Upper cover, as shown in Section 10.2
 - b. Right and left side covers, as shown in Section 10.3
 - c. VCU, as shown in Section 10.20
 - d. DCU, as shown in Section 10.19
2. Remove the two screws that hold the flange of the stepping motor to the plastic bulkhead.
3. Remove the two wire harnesses from the molded restraints.
4. Remove the stepping motor.

006061s

10.10 Paper Tray Pickup Roller

10.10 Paper Tray Pickup Roller

Use the following procedure to remove and replace the pickup roller from the front door:

1. Open the front door and remove the EP-L cartridge, as shown in Section 10.13.
2. Remove the three screws that hold each end of the pickup roller shaft to the front door.

006062s

10.10 Paper Tray Pickup Roller

3. Lift and disengage the shaft from the ground saddle ❶. When replacing the pickup roller, make sure the shaft is in the ground saddle and each end bearing is correctly seated.

Caution: *Do not disassemble the pickup roller assembly. A special tool and alignment procedures are necessary to replace components on the pickup roller shaft.*

4. Remove the pickup roller from the front door.

006063s

10.11 Separation Pad

10.11 Separation Pad

Use the following procedure to remove and replace the separation pad:

1. Open the front door and remove the EP-L cartridge, as shown in Section 10.13.
2. Pull on the plastic tab to unsnap and loosen the separation pad from the bulkhead of the printer chassis.
3. Remove the separation pad.

Caution: *Do not touch the surface of the separation pad with your fingers. Finger oil can contaminate the surface and decrease the service life of the pad.*

006064s

10.12 Handling the Optical Components

10.12 Handling the Optical Components

If the optical components of the printer are mishandled, image defects or beam detection errors can result. Beam detection errors are immediately detectable, but image defects may go unnoticed and show up later as a problem. Replace any component that you suspect is damaged.

The following types of damage can occur to the optical components:

- Mechanical damage is caused by dropping or other forms of rough handling or by misadjustment of the mirrors or lenses in the optical cavity.
- Contamination damage of the mirrors or lenses is caused by the biological oils and acids found in fingerprints. Some mirrored surfaces are affected more than others. The oils cause a decrease in beam intensity. The acids can etch, stain, and over time deteriorate the surface of a mirror or lens.
- Electrical damage is caused when static electricity discharges through sensitive electronic components. Always use the antistatic equipment.

Warning: *Use of controls or adjustment procedures other than those specified in this manual may result in hazardous laser light exposure to yourself or to other persons in the room. The safety information presented in Safety Warnings only applies while the scanner cover is fully installed.*

Before servicing the optical components, you must have attended the training specified in Section D.1.

Table 10–1 gives a short description of each part. Figure 10–1 shows the locations of various components within the optical cavity.

10.12 Handling the Optical Components

Table 10–1 Optical Cavity

Component	Description
❶ Scan lens	The scan lens adjusts the scan to assure correct linearity of the beam on the surface of the drum.
❷ Scanning assembly	The high-speed mirror causes the laser light to scan through the scan lens.
❸ Laser assembly	Generates an invisible beam of infrared light and focuses the light onto the surface of the scanning mirror.
❹ Beam start mirror	The beam is reflected into the beam detect lens by the beam start mirror. Slight adjustment of this assembly causes a large shift of the side-to-side registration, or causes beam detect errors. For additional information about beam detect errors, see the SERVICE 51 entry in Table 6–5. Warning: <i>Do not remove or adjust the beam start mirror while in the field.</i>
❺ Beam detect lens and fiber optic connector	The lens focuses the beam into the fiber optic cable. The detector on the DC control board converts the light into the BD signal. The BD signal causes the printer to feed paper and send data.

10.12 Handling the Optical Components

Figure 10–1 Optical Cavity Components

006065s

10.12 Handling the Optical Components

10.12.1 Laser Assembly

Figure 10–2 shows the laser assembly:

- ❶ is the laser diode housing.
- ❷ is the lens housing.

Caution: *If the lens and diode housings are disassembled, do not use the scanner assembly.*

The laser diode is very sensitive to static electricity. Use the static mat and wristband and avoid excessive handling.

Figure 10–2 Laser Assembly

006066s

10.12 Handling the Optical Components

Use the following procedure to remove and replace the laser assembly:

Warning: *Use of procedures other than those specified here can result in hazardous laser light exposure to yourself or to other persons in the room.*

Before servicing the optical components, you must have attended the training specified in Section D.1.

1. Make sure the power is off and the ac line cord is unplugged.
2. Remove the following components:
 - a. Upper cover, as shown in Section 10.2
 - b. Right and left side covers, as shown in Section 10.3
 - c. VCU, as shown in Section 10.20
 - d. DCU, as shown in Section 10.19
3. Disconnect the 7-pin J401 connector from the laser assembly. See the following illustration to locate the correct two recessed screws.

Caution: *If you loosen the wrong screws, replace the laser assembly.*
4. Remove the two recessed screws that hold the laser assembly to the optical cavity.
5. Remove the laser assembly.

10.12 Handling the Optical Components

006067s

10.12 Handling the Optical Components

10.12.2 Handling the Scanner Assembly

Figure 10–3 shows the laser scanner assembly and the location of the mirrored surfaces ❶. A strong mechanical shock in the axial direction causes damage to the armature and bearings.

Caution: *Do not use an assembly that has been dropped, abused, or has had the mirrored surface touched.*

Figure 10–3 Scanner Assembly

006068s

10.12 Handling the Optical Components

10.12.2.1 Lens and Scanner Assembly

This procedure consists of two parts. To remove and replace the lens assembly, perform steps 1–5. Perform all steps to remove and replace the scanner assembly.

Use the following procedure to remove and replace the lens or scanner assembly:

Caution: *Use the static mat and wristband and avoid excessive handling.*

1. Make sure the power is off and the ac line cord is unplugged.
2. Remove the following components:
 - a. Upper cover, as shown in Section 10.2
 - b. Right and left side covers, as shown in Section 10.3
 - c. VCU, as shown in Section 10.20
 - d. DCU, as shown in Section 10.19

10.12 Handling the Optical Components

Warning: *Use of procedures other than those specified here can result in hazardous laser light exposure to yourself or to other persons in the room. Before servicing the optical components, you must have attended the training specified in Section D.1.*

3. Remove the screw that holds the top of the optical cavity.
4. Release the four clips and remove the top of the optical cavity.

006069s

10.12 Handling the Optical Components

5. Remove the three screws that hold the plastic lens assembly.

Caution: *Be careful when handling the scanner lens. Do not drop the assembly or touch the surface of the lens.*

6. Lift the lens assembly off the alignment pins and remove the lens assembly. If your intention is to replace the lens assembly, stop the procedure at this point. Continue the procedure to replace the scanner assembly.

006070s

10.12 Handling the Optical Components

7. Disconnect the 6-pin J301 connector from the scanner assembly.
8. Remove the three screws that hold the scanner assembly. The scanner assembly screws are noticeably longer than the lens assembly screws.
9. Lift and remove the scanner assembly from the laser cavity.

006071s.

10.13 EP-L Cartridge

10.13 EP-L Cartridge

Use the following procedure to remove and replace the EP-L cartridge:

Caution: *Do not attempt to disassemble the EP-L cartridge.*

Refilled EP-L cartridges may work well but can cause minor image defects or serious damage to the printer. Look for the refill plug to determine if you have a refilled cartridge.

Caution: *The EP-L cartridge is not light proof. Prolonged exposure (more than 5 minutes) to room light can cause damage that will produce noticeable image defects.*

1. Open the front door of the printer.
2. Grasp the EP-L tab and pull the cartridge out of the printer.

006072s

10.13 EP-L Cartridge

3. If installing a new EP-L cartridge, pull the orange tab to release the toner supply.

006073s

10.14 Transfer Charging Roller

10.14 Transfer Charging Roller

Use the following procedure to remove and replace the transfer charging roller from the front cover:

Caution: *Do not touch the surface of the transfer roller with your fingers. Finger oil can contaminate the surface causing image defects and a decrease of the service life.*

1. Open the front cover of the printer.
2. Unhook each end ❶ of the transfer roller shaft.
3. Disengage the ground saddle ❷ from the shaft of the pickup roller and remove the transfer roller and guide assembly.

006074s.

10.14 Transfer Charging Roller

4. Unhook each end of the transfer roller shaft from the guide.

006075s

10.15 Fixing Unit

10.15 Fixing Unit

Use the following procedure to remove and replace the fixing unit:

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the EP-L cartridge, as shown in Section 10.13.
2. Remove the five shoulder screws that hold the fixing unit to the front cover.
3. Open the jam clearance plate ❶.

006076s

10.15 Fixing Unit

4. Use the following procedure to unhook the left and then the right end of the fixing unit:

Use your fingers and thumb to slightly bend the edge of the front cover and lift the fixing unit. When the cover bends, it unhooks from the fixing unit, allowing you to remove the fixing unit.

006077s

10.15 Fixing Unit

5. Lift, unplug, and remove the fixing unit from the front cover.

006078s

10.16 Drive Assembly

10.16 Drive Assembly

The drive assembly transfers mechanical power from the motor to all mechanical components of the printer.

Use the following procedure to remove and replace the drive assembly:

Caution: *Make sure you do not overtighten the screws that screw directly into the plastic bulkhead.*

1. Remove the following components:
 - a. EP-L cartridge, as shown in Section 10.13
 - b. Upper cover, as shown in Section 10.2
 - c. Right and left side covers, as shown in Section 10.3
2. Using needlenose pliers, pry out the center pin from the lower cable restraint.
3. Remove the wires from the restraint.

006079s.

10.16 Drive Assembly

4. Remove the wires from the cable clip.
5. Remove the screw holding the ground strap to the chassis.
6. Remove the three screws that hold the drive assembly to the bulkhead of the printer.
7. Remove the drive assembly.

006080s

10.16 Drive Assembly

10.16.1 Drum Drive Unit

Use the following procedure to remove and replace the drum drive unit gears:

Caution: *Make sure you do not overtighten the screws that screw directly into the plastic bulkhead.*

1. Remove the following components:
 - a. EP-L cartridge, as shown in Section 10.13
 - b. Upper cover, as shown in Section 10.2
 - c. Right and left side covers, as shown in Section 10.3
 - d. Drive assembly, as shown in Section 10.16
2. Remove the three screws that hold the drum drive assembly to the plastic bulkhead.
3. Remove the drum drive assembly.

006081s

10.17 Density Adjustment Board

10.17 Density Adjustment Board

Use the following procedure to remove and replace the density adjustment board:

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the following components:
 - a. EP-L cartridge, as shown in Section 10.13
 - b. Upper cover, as shown in Section 10.2
 - c. VCU, as shown in Section 10.20
2. Unplug the 9-pin J215 connector ❶ from the DC control board.
3. Unclip the wire harness clips ❷.
4. Remove the wire from the clips.

006082s

10.17 Density Adjustment Board

5. Remove the two screws that hold the sensor bracket to the plastic bulkhead.
6. Lift the sensor bracket and unplug the 3-pin connectors from the door and paper exit sensors.

006083s

10.17 Density Adjustment Board

7. Unplug the 3-pin J701 fan connector from the density adjustment board.
8. Remove the two screws that hold the density adjustment board to the plastic chassis.
9. Remove the density adjustment board.

006084s

10.18 Interface Board

10.18 Interface Board

Use the following procedure to remove and replace the interface board:

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Unscrew the two captive screws and open the rear panel.

006085s

Note: *The illustration shows the interface board of the DEClaser 1100 printer. Although the interface board for the DEClaser 1152 printer is different, its removal and replacement procedure is the same.*

Caution: *The interface boards for the DEClaser 1100 and DEClaser 1152 printers are not interchangeable. Installing the wrong board can damage the printer.*

10.18 Interface Board

2. Remove the two screws that hold the interface board shield to the printer bulkhead.
3. Pull the handle ❶ to unplug, unclip, and remove the interface board assembly.

006086s

10.19 DC Control Unit (DCU) or DC Control Board

10.19 DC Control Unit (DCU) or DC Control Board

This procedure is in three parts.

- Part 1 shows how to disconnect the DC control board connectors.
- Part 2 shows how to remove and replace the DCU.
- Part 3 shows how to remove and replace the DC control board.

Part 1, The Connectors

Use the following procedure to disconnect the DC control board. Turn to one of the following two procedures to remove or replace the DCU or DC control board.

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the following components:
 - a. Upper cover, as shown in Section 10.2
 - b. Right and left side covers, as shown in Section 10.3
 - c. VCU, as shown in Section 10.20

10.19 DC Control Unit (DCU) or DC Control Board

2. Remove the four screws that hold the end plate to the printer chassis.
3. Remove the end plate.

006089s

10.19 DC Control Unit (DCU) or DC Control Board

4. Unplug the following connectors:

- | | | | | |
|--------|--------|--------|--------|--------|
| ❶ J212 | ❷ J213 | ❸ J202 | ❹ J203 | ❺ J204 |
| ❻ J205 | ❼ J206 | ❽ J208 | ❾ J209 | ❿ J210 |

5. Turn the page to part 2 or part 3.

- Part 2 for removing and replacing the DCU.
- Part 3 for removing and replacing the DC control board.

006090s

10.19 DC Control Unit (DCU) or DC Control Board

Part 2, The DCU

Use the following procedure to remove and replace the DC control unit (DCU):

6. Perform part one of this procedure to disassemble the printer and to disconnect the DC control board.
7. Remove the wires from the cable clamps.
8. Remove the LVPSA cable from the metal restraints ❶.
9. Remove the two screws that hold the front of the DCU to the plastic bulkhead.
10. Remove the two screws that hold the right side of the DCU to the side of the baseplate of the printer.
11. Remove the DCU.

006091s

10.19 DC Control Unit (DCU) or DC Control Board

Part 3, The DC Control Board

Use the following procedure to remove and replace the DC control board:

6. Perform part one of this procedure to disassemble the printer and to disconnect the DC control board.
7. Open the restraint clip and remove the wires.
8. Remove the four screws that hold the DC control board to the chassis of the printer.
9. Remove the DC control board.

006092s

10.20 Video Control Unit (VCU)

10.20 Video Control Unit (VCU)

The VCU consists of the video control board and the EMI shielded box. Remove the VCU to gain access to the components that reside under the VCU, for example, the DC control board, scanning unit, HVPSA, or LVPSA.

Note: *The following illustrations show the VCU for the DEClaser 1100 printer. Although the video control board for the DEClaser 1152 printer is different, its removal and replacement procedure is the same.*

Caution: *The VCU for the DEClaser 1100 and DEClaser 1152 printers are not interchangeable. Installing the wrong VCU can damage the printer.*

10.20 Video Control Unit (VCU)

Use the following procedure to remove and replace the video control unit (VCU):

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the following components:
 - a. Upper cover, as shown in Section 10.2
 - b. Right and left side covers, as shown in Section 10.3
 - c. Interface unit, as shown in Section 10.18. Do not disassemble the interface assembly.
2. Unplug the 4-pin connector from the VCU.
3. Remove the two screws that hold the metal shield of the VCU to the top of the printer.

006093s

10.20 Video Control Unit (VCU)

4. Remove the two screws that hold the metal shield of the VCU to the right side of the printer.

006094s

10.20 Video Control Unit (VCU)

5. Remove the recessed screw that holds the bottom of the VCU to the printer.

006095s

10.20 Video Control Unit (VCU)

6. Remove the screw that holds the VCU tab to the chassis tab of the printer.
7. Lift, unplug, and remove the VCU from the printer.

006096s

10.20 Video Control Unit (VCU)

10.20.1 Video Control Board

Use the following procedure to remove and replace the video control board:

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the following components:
 - a. Upper cover, as shown in Section 10.2
 - b. Right and left side covers, as shown in Section 10.3
 - c. Interface unit, as shown in Section 10.18
 - d. If installed, the optional RAM memory board, as shown in Section 10.20.2
2. Unplug the 4-pin connector ❶ from the VCU.
3. Remove the following eight screws:
 - The four screws that hold the metal shield to the left side of the VCU
 - The two screws that hold the metal shield to the top of the printer
 - The two screws that hold the top of the metal shield to the VCU

006097s

10.20 Video Control Unit (VCU)

4. Remove the two screws from the rear of the VCU.
5. Remove the two screws from the side of the VCU.
6. Lift and remove the metal shield from the VCU.

006098s

10.20 Video Control Unit (VCU)

7. Remove the four screws that hold the video control board to the bottom of the VCU.
8. Rock, lift, and disconnect the video control board.

006099

10.20 Video Control Unit (VCU)

10.20.2 Optional RAM and Expansion Memory

Use the following procedure to remove and replace the optional RAM memory and the expansion memory boards from the DEClaser 1100 printer:

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Open the rear cover and remove the interface board, as shown in Section 10.18.
2. Pull back firmly on the molded handle and remove the optional RAM memory board. Place the board on a work surface.

006100s

10.20 Video Control Unit (VCU)

3. Unclip the expansion board from both restraining posts. Use a small needlenose pliers to pinch together the two clips, while gently prying the board up the post.
4. Lift, unplug, and remove the expansion option.

006101s

10.21 High-Voltage Power Supply Assembly (HVPSA)

10.21 High-Voltage Power Supply Assembly (HVPSA)

Use the following procedure to remove and replace the high-voltage power supply assembly:

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the following components:
 - a. Upper cover, as shown in Section 10.2
 - b. Right and left side covers, as shown in Section 10.3
 - c. VCU, as shown in Section 10.20
 - d. LVPSA, as shown in Section 10.8

10.21 High-Voltage Power Supply Assembly (HVPSA)

2. Unplug the single prong connector ❶ that connects the transfer roller charge.
3. Remove the previously unplugged wire from the cable restraints.
4. Pull out the HVPSA to gain access to the connector.
5. Disconnect the 3-pin J602 ❷ connector from the HVPSA.
6. Disconnect the 10-pin J601 ❸ connector.
7. Slide the HVPSA out and remove it.

006102s

10.22 Cassette Paper Feeder Board

10.22 Cassette Paper Feeder Board

Use the following procedure to remove and replace the cassette paper feeder control board from the cassette paper feeder:

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the EP-L cartridge, as shown in Section 10.13.
2. Remove the paper feeder unit from the printer, as shown in Section 10.4.
3. Remove the two screws that hold the mounting bracket to the feeder bulkhead.

006103s

10.22 Cassette Paper Feeder Board

4. Lift the mounting bracket and unplug the 7-pin connector from J902 on the paper feeder board.

Caution: *When you replace the mounting bracket, make sure the tab ❶ on the bracket engages the slot on the bottom of the bulkhead. If the bracket is incorrectly mounted, the feeder size-sensing switches may work incorrectly or can produce intermittent errors.*

5. Remove the bracket assembly and place on a work surface.
6. Remove the four screws that hold the paper feeder board to the mounting bracket.
7. Remove the paper feeder board.

006104s

10.23 Door Rod Assembly

10.23 Door Rod Assembly

Use the following procedure to remove and replace the door rod assembly:

1. Remove the following components:
 - a. EP-L cartridge, as shown in Section 10.13
 - b. Fixing unit, as shown in Section 10.15
 - c. Upper cover, as shown in Section 10.2
 - d. Right and left side covers, as shown in Section 10.3

Caution: *This note affects replacement of the rod assembly only. Before you replace the components, close the front door to align the hook ❶ with the rack ❷. Damage to the EP-L shutter hinge can result if the alignment is not as shown.*

006105s

10.23 Door Rod Assembly

2. Restrain the top of the door rod with one hand. When you remove the screw in the next step, the spring-loaded door rod can loudly snap back and surprise you.
3. Hold the door rod and remove the screw that holds the door rod to the door. Allow the door rod to gently retract.

006106s

10.23 Door Rod Assembly

4. Remove the two screws that hold the rod assembly to the plastic chassis.
5. Lift the rod assembly off the alignment pins and remove the assembly.

006107s

10.24 Paper Exit and Door/EP-L Sensor

10.24 Paper Exit and Door/EP-L Sensor

Use the following procedure to remove and replace the bracket that holds the paper exit and door/EP-L sensor from the DEClaser 1100 printer:

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the EP-L cartridge, as shown in Section 10.13.
2. Remove the upper cover, as shown in Section 10.2.
3. Remove the two screws that hold the sensor bracket to the plastic bulkhead.
4. Lift the sensor bracket and unplug both 3-pin connectors from the door and paper exit sensors.
5. Unsnap the plastic sensor clips to remove the sensor from the bracket.

006108s.

10.25 Feed Roller and Paper Pickup Sensor (PS13) Assembly

10.25 Feed Roller and Paper Pickup Sensor (PS13) Assembly

Use the following procedure to remove and replace the feeder assembly rollers:

Caution: *Use the standard antistatic equipment and procedures when you handle this sensitive electronic component.*

1. Remove the following components:
 - a. EP-L cartridge, as shown in Section 10.13
 - b. Upper cover, as shown in Section 10.2
 - c. Right and left side covers, as shown in Section 10.3
 - d. Drive assembly, as shown in Section 10.16
2. Remove the gear and bushing.
3. Wipe the grease from the end of the drive shaft.

006109s

10.25 Feed Roller and Paper Pickup Sensor (PS13) Assembly

4. Open the sensor cover and unplug the connector ❶ from the paper pickup sensor.
5. Remove the two screws with a short screwdriver.
6. Withdraw the feed roller unit through the front of the printer.

006110s

A

General Information

This appendix contains general information that you may find useful.

A.1 Extended Service Messages

Table A-1 lists all service error messages and gives a brief description of the error. For troubleshooting information, turn to Table 6-5 in Chapter 6.

Table A-1 Service Messages

Number Message	Description
50 SERVICE	Fixing unit malfunction.
51 SERVICE	The video control board fails to detect the beam detect (BD) signal from the DC control board.
52 SERVICE	The scanner motor is not up to speed.
SERVICE 53-59	Not used.
60 SERVICE	This is a direct memory access (DMA) error that occurs after you power up the printer.
61 SERVICE	A checksum error was detected in the program and font ROMs.
63 SERVICE	DRAM errors were detected after power-up.
68 SERVICE	NVRAM errors were detected after printer power-up.
70 SERVICE	Errors were detected in the expansion board RAM.
71 SERVICE	Errors were detected in the S-CPU during power-up.
72 SERVICE	A communication error occurred between the S-CPU and M-CPU.
73 SERVICE	An error was detected in the S-CPU during operation.
74 SERVICE	A power-up error is detected in the M-CPU.

(continued on next page)

A.1 Extended Service Messages

Table A-1 (Cont.) Service Messages

Number Message	Description
75 SERVICE	A signaling or communication problem has occurred between the DC and video control boards.
80 SERVICE	No STATUS signal after the COMMAND signal.
81 SERVICE	A COMMAND or STATUS signal parity error is detected.
82 SERVICE	Bit 3 of the printer status bit is a 1.
83 SERVICE	Bit 7 of the printer status bit is a 1.
84 SERVICE	This is a time-out error.
85 SERVICE	This is a time-out error.
86 SERVICE	An illegal command or status is detected.
87 SERVICE	An incorrect video control board is installed or incorrect data from the DC control board.
A0-FF SERVICE	Video control board internal error.

A.2 Macro Numbers

The macro feature is a selection of the INITIAL menu. Table 2-3 and Section 2.10 provide a brief description of the macro feature. Press **[Reset]** to invoke the macro number.

The macro feature allows you to select an environment for local compatibility. It assigns the proper user preference character set, enables/disables the initialization message, and specifies the return response (device identification) when a Device Attributes (DA) request is received. The macro feature is slightly different from other menu features because three parameters (user preference character set, initialization message, and device ID) are *added together* to determine the macro value. The user preference, initialization message, and device ID values cannot be selected independently; they must be added together to form the macro value.

The macro feature allows you to choose the user preference character set appropriate for your application or system. Consult the *Digital ANSI-Compliant Printing Protocol Level 3 Programming Reference Manual* for more information about the user preference sets. Table A-2 lists the user preference character sets and their values.

A.2 Macro Numbers

Table A–2 User Preference Character Set

User Preference Character Set	Value
DEC Supplemental	00 ¹
ISO Latin-1 Supplemental	10
JIS Katakana	20
ISO Latin-Hebrew Supplemental	30
DEC Latin-Hebrew Supplemental	40
DEC 7-Bit Hebrew	50
DEC Technical	60

¹Factory default setting

The initialization message is sent to connected devices (when the printer is powered on or reset from the control panel) to indicate that the printer is reinitializing. This feature is designed for use with future applications and should be set to disable at this time. Consult the *Digital ANSI-compliant Printing Protocol level 3 Programming Supplement* for additional information about this feature.

Table A–3 Initialization Message

Initialization Message	Value
Disabled	00 ¹
Enabled	05

¹Factory default setting

The DEClaser 1100 printer can identify itself as a Digital ANSI-compliant level 3 (DEC PPL3) printer, and therefore can be recognized as such by symbiont and terminal drivers that conform to the Digital ANSI-compliant architecture. This identification is also compatible with level 2 devices, since all level 2 sequences are also supported. You can also select an LN03 identification for applications that require the printer to identify itself as an LN03 printer. For example, the DECmate word processing system requires an LN03 device identification. The device identification values are shown in Table A–4.

A.2 Macro Numbers

Table A-4 Device Identification

Device ID	Value
Digital ANSI-compliant level 3 device	00 ¹
LN03	01

¹Factory default setting

A.2.1 Examples Using the Macro Feature

The examples in Table A-5 demonstrate how to determine the macro value.

Table A-5 Macro Feature Examples

Character Set and Value		Initialization Message and Value		Device ID and Value		Macro Value
DEC 7-Bit Hebrew (50)	+	Disabled (00)	+	Level 3 (00)	=	50
DEC Technical (60)	+	Disabled (00)	+	Level 3 (00)	=	60
DEC Supplemental (00)	+	Disabled (00)	+	LN03 (01)	=	01

A.3 Interface Interconnections

The DEClaser 1100 printer can connect to a host system through the 8-bit parallel bus or through the serial connector. The term “port” is commonly used when referring to the physical connector or to the software connection. You select a port through the I/F (interface) display.

A.3.1 Parallel Port

The parallel port uses a Centronics interface protocol and a 36-pin connector. Table A-6 gives the pin numbers, signal names, and signal direction.

A.3 Interface Interconnections

Table A–6 DEClaser 1100 Parallel Interface Pin Assignment

Pin Number	Signal	Direction
1	$\overline{DataStrobe}$	In
2	Data 1	In
3	Data 2	In
4	Data 3	In
5	Data 4	In
6	Data 5	In
7	Data 6	In
8	Data 7	In
9	Data 8	In
10	\overline{ACK}	Out
11	Busy	Out
12	Call (PE)	Out
13	Select	Out
14–15	Not connected	–
16	Logic ground	–
17	Chassis ground	–
18	5 volts	Out
19–29	Ground	–
30	$\overline{InputPrimeRet}$	Out
31	$\overline{InputPrime}$	In
32	\overline{Fault}	Out
33	Aux out 1 ¹	–
34	Not connected	–
35	Aux Out 2 ¹	–
36	Not connected	–

¹Ignored

A.3 Interface Interconnections

Table A-7 DEClaser 1152 Parallel Interface Pin Assignments

Pin	Signal	Direction
1	$\overline{DataStrobe}$	In
2	Data 0	In
3	Data 1	In
4	Data 2	In
5	Data 3	In
6	Data 4	In
7	Data 5	In
8	Data 6	In
9	Data 7	In
10	\overline{ACK}	Out
11	Busy	Out
12	Call (PE)	Out
13	Select	Out
14-15	Not Connected	None
16	0 Volts (Logic Ground)	None
17	Chassis Ground	None
18	+5 Volts	Out
19-30	Ground	None
31	$\overline{InputPrime}$	In
32	\overline{Fault}	Out
33	Ground	None
34-36	Not Connected	None

A.3 Interface Interconnections

A.3.2 Serial Port

The serial port is EIA-232-D (RS232C) compatible and connects through a 25-pin connector. Table A-8 lists the pin numbers, signal names, signal direction, and wiring connections inside a null modem cable. Pin numbers that are not mentioned are not used.

Note: *The pin out information presented here refers to equipment manufactured by Digital only. For connection to other equipment, consult the manufacturer's documentation.*

Table A-8 DEClaser 1100 Serial Interface

Printer Pin	Signal Name	Signal Direction	Host Pin Null Modem
1	Frame Ground (FG)	Not directional	Not applicable
2	Transmit Data (TD)	To host system	Pin 3
3	Receive Data (RD)	From host system	Pin 2
4	Request To Send (RTS)	To host system	5
6	Data Set Ready (DSR)	From host system	20
7	Signal Ground (SG)	Not directional	Not applicable
20	Data Terminal Ready (DTR)	To host system	6

Table A-9 DEClaser 1152 Serial Interface

Pin	Signal	Direction
1	Not Used	None
2	Transmit Data	Out
3	Receive Data	In
4	Request to Send	Out
5	Clear To Send	In
6	Data Set Ready	In
7	Signal Ground	None
8-19	Not Used	None
20	Data Terminal Ready	Out
21-25	Not Used	None

A.3 Interface Interconnections

A.3.3 DEClaser 1100 Video Port

Table A–10 gives the pin assignment, direction of travel, and signal names of the 37-pin video connector. The information complies with Canon's LBP–LX video interface specification.

Table A–10 DEClaser 1100 Video Interface Pin Assignments

Pin		Signal	Pin		Signal
1	-	Reserved	20	-	Reserved
2	←P	\overline{BD}	21	-	BD
3	←P	PPRDY	22	-	Ground return
4	←P	\overline{RDY}	23	-	Ground return
5	←P	\overline{TOP}	24	-	Ground return
6	←P	$\overline{SB SY}$	25	-	Ground return
7	C↔P	\overline{SC}	26	-	Ground return
8	C↔P	\overline{SCLK}	27	-	Ground return
9	C⇒	\overline{CBSY}	28	-	Ground return
10	C⇒	\overline{PRNT}	29	-	Ground return
11	-	Reserved	30	-	Ground return
12	C⇒	CPRDY	31	-	Ground return
13	C⇒	\overline{VDO}	32	-	VDO
14	-	Reserved	33	-	Reserved
15	-	Reserved	34	-	Reserved
16	-	Reserved	35	-	Reserved
17	-	Reserved	36	-	Reserved
18	-	Reserved	37	C⇒	\overline{PRFD}
19	-	Reserved			

←P Signal travels from the printer to controller.

C⇒ Signal travels from the controller to printer.

C↔P Signal is bidirectional.

A.3 Interface Interconnections

A.3.4 DEClaser 1152 LocalTalk Interface Specifications

Table A–11 lists the pin signals for the LocalTalk interface connector.

Table A–11 DEClaser 1152 LocalTalk Interface Pin Assignments

Pin	Signal	Direction
1	Unused	None
2	Input handshake/external clock	In
3	Transmit Data (-)	Out
4	Ground	None
5	Receive Data (-)	In
6	Transmit Data (+)	Out
7	Unused	None
8	Receive Data (+)	In

A.3.5 DEC423 Interface Specifications

Table A–12 lists the pin signals for the DEC423 interface connector.

NOTE: *Using DEC423 interface on the DEClaser 1100 printer requires adaptor H-8571-E.*

Table A–12 DEC423 Interface Pin Assignments

Pin	Signal	Direction
1	Data Terminal Ready	Out
2	Transmit Data	Out
3	Ground	None
4	Common	In
5	Receive Data	In
6	Data Set Ready	In

A.4 Interface Cables and Adapters

A.4 Interface Cables and Adapters

Table A-13 lists the cables and adapters you need to connect equipment manufactured by Digital to the DEClaser 1100 and DEClaser 1152 printers. These cables and adapters may not work when connected to equipment made by other computer or peripherals manufacturers.

Table A-13 DEClaser 1100 Cables and Adapters

System or Connector	Cable or Printer Adapters
25-Pin Plug Connector	
VAXStation 3200/3500 VT100 Series DECserver 200/MC (DSRVB-AA) CPU RS232 Ports	H8571-A (25-pin-to-MMJ) BC16E ¹ H8571-E ¹
9-Pin Plug Devices (DEC)	
VT200 Series DECmate PRO Series VAXStation 2000	H8571-B (9-pin-to-MMJ) BC16E ¹ H8571-E ¹
DEC423 (MMJ) Serial Devices	
VAXmate MicroVAX 2000 DECserver 300 DECserver 200/DL (DSRVB-BA) VT300 Series CPU DEC423 Ports	BC16E ¹ H8571-E ¹
25-Pin Socket Devices	
Rainbow Digital Modems	H8571-D BC16E ¹ H8571-E ¹

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

(continued on next page)

A.4 Interface Cables and Adapters

Table A-13 (Cont.) DEClaser 1100 Cables and Adapters

System or Connector	Cable or Printer Adapters
9-Pin Plug Devices (IBM PC/AT Type)	
DECstation 210, 212 DECstation 316, 320 IBM PC/AT	H8571-J BC16E ¹ H8571-E ¹ Use data transmit ready (DTR) flow control. Refer to the <i>DEClaser 1100 Printer Operator's Guide</i> .
European DECstations Serial Port	
200 Series	12-27591-01 Extended cable H8571-A BC16E ¹ H8571-E ¹
300, 350 Series	H8571-A BC16E ¹ H8571-E ¹
European DECstations Parallel Port	
200, 300, 350 Series	BC19M-10
Existing Cable	
BC22D cable (already installed)	H8571-C BC16E ¹ H8571-E ¹ 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.4 Interface Cables and Adapters

Table A–14 DEClaser 1152 Printer Cables and Adapters

Host	Interfaces DEC423	EIA-232	Parallel	LocalTalk
DECstation 3xx DECstation 4xx IBM PC	H8571-J and BC16E ¹	BC22D	BC19M-10	N/A
DECstation VAXstation	BC16E ¹	N/A	N/A	N/A
Macintosh	N/A	N/A	N/A	Apple Part Number: M2068
DECserver 90L+ LATprint	BC16E ¹	N/A	N/A	N/A
VT3xx VT4xx	BC16E ¹	N/A	N/A	N/A
VT2xx	H8571-J and BC16E ¹	N/A	N/A	N/A

¹This interface cable comes with the DEClaser printer.

B

DEClaser 1100 Series Printers Specifications

This appendix gives general specifications for the media and operation of the DEClaser 1100 series printers.

B.1 Print Media

The types of print media described in this section are paper, labels, transparencies, and envelopes. For additional information about print media, consult the *Digital Laser Printers Guide to Paper and Other Media*, available from DECdirect.

B.1.1 Paper Handling and Storage

Even if the customer is using paper that meets all specifications, improper handling and storage can alter paper quality and printer performance. Paper jams, misfeeding, and image defects are directly traceable to the mishandling and improper storage of paper.

Paper Handling

Be aware of the following considerations when handling paper:

- Load the cassette to its proper capacity rather than adding small amounts at a time.
- When you unwrap a new package of paper, discard the top and bottom sheets, as they tend to absorb more humidity from the surrounding environment.
- Load the paper with the top side up in the cassette. On most paper packages, an arrow indicates the top side of the paper.

B.1 Print Media

Paper Storage

Be aware of the following considerations when storing paper:

- Do not unwrap paper until you are ready to load the cassette. The wrapping protects the paper against humidity.
- Do not store paper directly on the floor because floors are generally very damp.
- Lay paper on a flat surface to prevent in-ream paper curl.

B.1.2 Available Standard Size Cassettes

Table B–1 lists cassettes that are available for use in the DEClaser 1100 series printers.

Table B–1 Available Cassettes

Paper Size	Dimensions
A4	8.27 in x 11.69 in (210 mm x 297 mm)
Executive	7.25 in x 10.5 in (184.1 mm x 266.7 mm)
Letter	8.5 in x 11.0 in (215.9 mm x 279.4 mm)
Legal	8.5 in x 14.0 in (215.9 mm x 355.6 mm)
Envelopes	Envelope size is variable. See Section B.1.3.

Table B–2 lists the technical specifications of paper that is acceptable for use in the DEClaser 1100 printers.

Table B–2 Paper Specifications

Category	Specification
Paper weight: plain paper	60 g/m ² to 105 g/m ² basis weight (16 lb to 28 lb)
Paper weight: envelopes	60 g/m ² to 90 g/m ² basis weight (16 lb to 24 lb)
Moisture content	5% to 8%
Smoothness	100–300 Sheffield
Brightness	84% minimum recommended
Heat tolerance	150°C (302°F) for 0.1 second
Cotton (rag) content	25% maximum

B.1 Print Media

Special Considerations When Printing on Paper

Use caution when you print on the following types of papers:

- The ink from some printed papers, such as those with a company letterhead, can cause smearing and, in some extreme cases, can damage the fixing unit heat roller.
- Some colored papers use an applied coating of ink or other coloring agent. The coating can come off and contaminate the fixing unit rollers.
- Do not use thermal papers.
- Do not use carbon papers.

Caution: *Print test samples of the paper before you use it for the first time. This is particularly important when using chemically treated or coated paper, such as printed forms or colored paper. The inks and pigments used on these papers must also be able to withstand the high heat and pressure of the fixing unit. Consider also the heat limitations of transparencies and of the glues used on envelopes and labels.*

B.1.3 Envelopes

Envelopes must meet the same specifications as the paper listed in Table B-2.

Do not use the following types of envelopes with the printer:

- Envelopes with sealing flaps that are open
- Envelopes with sealing flaps at the leading or trailing edges
- Envelopes with three or more layers of paper at the leading and trailing edges
- Envelopes that have windows
- Envelopes that have clasps, snaps, or strings

Special Considerations When Printing on Envelopes

Observe the following considerations when printing on envelopes:

- Use the front output (faceup) tray.
- Do not load more than five envelopes in the paper tray.
- Envelopes can be printed only on the front side.
- Printing in the 15 mm (3/5 in) border around the envelope causes print quality problems with some envelopes.

B.1 Print Media

B.1.4 Transparencies

Table B-3 contains information on the sizes of transparencies that can be used in the DEClaser 1100 printers.

Table B-3 Transparency Sizes

Size	Dimensions
A4	210 mm x 297 mm (8.26 in x 11.69 in)
Letter	215 mm x 279.4 mm (8.5 in x 11.0 in)

Table B-4 lists the specifications of transparencies that can be used with the DEClaser 1100 printers.

Table B-4 Transparency Specifications

Category	Specification
Transparency weight: front output tray only	135 g/m ² to 150 g/m ² basis weight
Thickness	0.095 mm to 0.115 mm
Heat tolerance	150°C (302°F) for 0.1 second

Special Considerations When Printing Transparencies

Please be aware of the following considerations when printing on transparencies:

- Transparencies can be fed from the cassette but tray feeding is recommended.
- Prevent curling by using the faceup front stack.
- Prevent sticking by removing each hot transparency as it is ejected into the stack.
- Do not use transparencies that have a paper backing.

B.2 Labels

A label consists of a face sheet, an adhesive sheet, and a carrier sheet. The face sheet (or printing surface) is usually composed of photocopying paper and should meet the same specifications for paper, as described in Table B-1. The carrier sheet and adhesive used for the labels must also be able to meet the heat tolerance specification of 150°C (302°F) for at least 0.1 second.

Do not expose the adhesive on the labels. Doing so could cause damage to the printer. An easy way to test for adhesive that may be exposed is to press a plain piece of paper on top of the sheet of labels. If the paper does not stick to the labels, they are acceptable to use.

Special Considerations When Printing on Labels

Observe the following considerations when printing on labels:

- Feed labels from the paper tray.
- Be sure that the carrier sheet is not exposed.
- Be sure that no adhesive is exposed.
- Use the front faceup stacking tray.

B.3 Operating Specifications

This section contains the operating and interface specifications for the DEClaser 1100 printers.

Type:	Desktop page printer
Printing Method:	Electrophotographic, using laser beam scanning
Resolution:	300 dpi
Printing Speed:	4 pages/minute maximum using A4 or letter-size paper from the cassette
Warm-Up Time:	Less than one minute at 20°C (68°F)
Paper Tray:	Approximate capacity is 50 sheets of paper, labels, or transparencies. A maximum of five envelopes can be loaded in the paper tray.
Optional Paper Cassettes:	Approximate capacity is 250 sheets Letter (8 ½ in x 11 in) A4 (210 mm x 297 mm) Executive (7¼ in x 10 ½ in) Legal (8½ in x 14 in)
Top Output Tray Capacity:	50 sheets (facedown stacking)

B.3 Operating Specifications

Front Output Tray Capacity:	20 sheets (faceup stacking)
Paper Weight Range Cassette Feed:	60 g/m ² to 90 g/m ² basis weight (16 lb to 24 lb)
Paper Weight Range Paper Tray Feed:	60 g/m ² to 105 g/m ² basis weight (16 lb to 28 lb)
Built-in Font Files: (DEClaser 1100 printer)	The DEClaser 1100 printer has 36 built-in font files. The font files consist of four fonts and nine character sets. These fonts are:

- Courier 10-point normal¹ portrait
- Courier 10.3-point normal portrait
- Courier 6.7-point normal landscape
- Elite 10-point normal portrait

For each font the following character sets reside in the printer:

- ASCII
- DEC Supplemental
- ISO Latin-1 Supplemental
- DEC Technical
- DEC Special Graphics (VT100 Line Drawing)
- DEC 7-Bit Hebrew
- DEC Hebrew Supplemental
- ISO Latin-Hebrew Supplemental
- Legal

¹Normal means that the font is not set in bold or italics or otherwise attributed.

B.3 Operating Specifications

**Built-in Font Files:
(DEClaser 1152 printer)**

The DEClaser 1152 printer has the following font files:

- Courier — Oblique, Bold, and Bold Oblique
- Helvetica — Oblique, Bold, and Bold Oblique
- Times — Italic, Bold and Bold Italic
- Helvetica Narrow — Oblique, Bold, and Bold Oblique
- Symbol

Font Cartridges:

Capacity for two optional font cartridges

**Built-in RAM:
(DEClaser 1100 printer)**

512 KB, expandable to 2.5 MB
with optional RAM boards

**Built-in RAM:
(DEClaser 1152 printer)**

2MB, expandable to 4MB
with optional RAM boards

Host Interface:

Parallel (Centronics) serial (RS232C), and Localtalk
for the DEClaser 1152 printer

Acoustic Noise:

43 dB(A) maximum during standby
53 dB(A) maximum during printing

Operating Temperature:

10°C to 32.5°C (50°F to 90.5°F)

Operating Humidity:

20% to 80% relative humidity (no condensation)

Storage Temperature:

0°C to 35°C (32°F to 95°F)

Storage Humidity:

10% to 80% relative humidity (no condensation)

Power Requirements:

100–115 Vac, 50/60 Hz
220–240 Vac, 50 Hz

Power Consumption:

Less than 550 Watts

Installed Weight:

Approximately 11.0 kg (25 lb)

Dimensions:

Width: 350 mm (13.8 in)
Depth: 405 mm (15.9 in)
Height: 204 mm (8.0 in)
Height: 259 mm (10.2 in)
with the optional paper feed unit
and cassette installed

Thermal Dissipation:

Printing = 550 Watts maximum

Cable Supplied:

BC16E and H8571-E adapter

Nominal Line Voltage:

115 Vac, in US/GIA area
220 Vac, in Europe

B.3 Operating Specifications

Line Frequency:	50/60 Hz
Line Current:	4.8 A at 115 Vac 2.5 A at 220 Vac
Type of Power Line:	Single phase

C

Total Call Concept

C.1 Performing Total Call Concept

The total call concept (TCC) procedure is performed whenever a service engineer is called to repair or service a printer. Always repair the printer first and then perform the TCC procedure.

C.2 Maintenance Log

You must keep an accurate maintenance history to ensure the long life and reliability of the DEClaser 1100 printers. When you first arrive at the site, review the maintenance log for information that can assist you to troubleshoot and repair the malfunctioning printer. After you fix the problem, record your activity in the maintenance log for the benefit of the next service person.

The part number of the DEClaser 1100 Printer Maintenance Log pad is EN-02022-12.

A special adhesive-backed pouch is available for storing the maintenance log at the customer's site. The order number for the pouch is 36-18307-04. Attach the pouch to the side cover or underneath the printer.

C.3 Preventive Maintenance Procedure

The DEClaser 1100 and 1150 printers do not have a page counter, so time in service is used to estimate the preventive maintenance (PM) interval.

The DEClaser 1152 printer has a page counter that you can use to estimate the PM interval. To find the page count, print a test print. The number of printed pages is listed on the test print.

- Every 20 months or 50,000 pages, replace the following parts:
 - 29-29007-01, Separation pad
 - 29-29005-01, Tray pickup roller assembly

C.3 Preventive Maintenance Procedure

- Every 60 months or 150,000 pages, replace the following parts:
 - 29-29007-01, Separation pad
 - 29-29005-01, Tray pickup roller assembly
 - 29-29014-01, Fixing unit assembly, 115 Vac
 - 29-29020-01, Fixing unit assembly, 240 Vac
 - 29-28994-01, Transfer charging roller

C.4 TCC Procedure

When you perform the TCC procedure you enhance the reliability of the printer and reduce the number of service calls that are required to support the printer. A slight increase in MTTR results in a large increase in MTTF. The customer and you win in the end.

Use the historical information from the maintenance log to analyze the reliability of the printer and of a component within the printer. If you are uncertain that a component is worn, broken, or contaminated but suspect that it is, replace it anyway. This preventive action will reduce the number of service calls over the lifetime of the printer.

Damaged, worn, or broken printer components cause intermittent problems and accelerate the aging of mechanical components. Pinched or frayed wires can randomly short circuit. Paper dust, dirt, and toner on rollers, bearings, and gears cause premature failures. Replace any rollers that have flat spots, surface glazing or cracking, or dust and toner contamination.

C.4.1 Cleaning and Inspection

Clean and vacuum toner, paper dust, and dirt from the following areas of the DEClaser 1100 printer:

Caution: *Always use the special vacuum cleaner in Section D.2 for cleaning up toner. The toner powder can pass through the bag or filter of a conventional vacuum cleaner and cause damage.*

- Inside and outside of the cassette and optional feeder
- Feed roller assembly
- Remove and clean the EP-L cartridge
- Paper path guides
- Fixing unit entrance and exit areas
- Facedown delivery rollers

C.4 TCC Procedure

- Facedown and faceup stacking tray
- Walls and floor of the empty EP-L cavity.
- Inside the printer. Look for toner spills, paper dust, or foreign objects.

Inspect the surface condition of the pickup roller and separation pad. Do not contaminate the surface of the roller or pad with grease from your fingers.

Press Test/Font to print several copies of TEST PRINT B while you are filling out service call paperwork. This ensures that the printer is functioning and in good operating order.

D

Training, Tools, and Documentation

This appendix contains information on training, tools, and documentation.

D.1 DEClaser Training

Before attempting to use this book and repair the printer, you must attend the specific Digital Education training course and all other prerequisite training courses.

The following table gives the ordering numbers and information about the courses.

Number	Description or Course Name
EY-F474E-P0	DEClaser 1100 Printer Maintenance SPI/lab training course is offered at FTC A and B sites worldwide.
United States Training Prerequisite Courses	
EY-7629E-IV	Hardcopy and video specialist core course
EY-5528E-IV	Laser safety and printer concepts course
Europe and GIA Training Prerequisite Courses	
EY-2830E-IV	Data Communication Fundamentals
EY-2239E-IV	Hardcopy Theory
EY-2423E-IV	Laser Printer Concepts
EY-2424E-IV	Laser Concepts and Safety

D.2 Tools

D.2 Tools

Table D-1 lists the ordering number of the tools that are needed to service the DEClaser 1100 printer in the field.

Table D-1 Tools

Number	Description
29-26106-00	50-Hz terminal tool kit
29-26109-00	60-Hz terminal tool kit
29-11762-00	Antistatic kit
29-26259-00	Vacuum ¹ and attachments, 200 volts
29-25526-00	Vacuum ¹ and attachments, 120 volts
29-26017-00	Filter bags and filter shell
29-26234-00	Cleaning kit
29-27340-01	Terminal tool kit

¹Special vacuum cleaner for toner powder

D.3 Documentation Ordering Information

Table D-2 lists the ordering numbers for this service guide and for other related DEClaser 1100 documentation.

Table D-2 Documentation

Number	Description
EK-DCL11-DK-002	The DEClaser 1100 Series Printer Service Guide Documentation Kit includes one service guide and one maintenance log pad.
EK-DCL11-SV-002	<i>DEClaser 1100 Series Printer Service Guide</i>
EN-02022-12	<i>DEClaser 1100 Maintenance Log pad</i> Replacement pads can be ordered.
EK-DECLP-IG	The DEClaser 1152 Installation/Operator's Guide
EK-DECLP-UG	The DEClaser 1152 User's Guide
EK-DL100-IP	<i>DEClaser 1100 Printer Illustrated Parts Breakdown</i>

(continued on next page)

D.3 Documentation Ordering Information

Table D-2 (Cont.) Documentation

Number	Description
AA-PBWHB-TE	<i>Digital ANSI-Compliant Printing Protocol Level 3 Programming Supplement</i>
EK-PSPTR-RM	PostScript Level 2 Printers Programmer's Supplement
AA-PBWFA-TE	<i>PostScript Translators Reference Manual for ReGIS and Tektronix 4010/4014</i>
EK-LASER-GD	<i>Digital Laser Printers Guide to Paper and Other Media</i>

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