DEClaser 5100 Printer

Documentation Addendum

Order Number: EK–DL510–AD. C01

Revision/Update Information: This is a revised addendum.

About This Addendum

This addendum provides additional information and corrections to the *DEClaser 5100 Printer Installation and Setup Guide* and the *DEClaser 5100 Printer User's Guide.* Known software compatibility problems are also included.

Digital recommends that you keep this addendum with the documentation that comes with your DEClaser 5100 printer.

This addendum provides the following supplemental information:

- Installation and service tips
- General use of your printer
- PostScript information
- PCL information
- Using your printer with Microsoft Windows
- Using your printer with Macintosh computers
- Using your printer with OpenVMS systems
- General use of printer options

Unless otherwise noted, the information in this addendum applies to printer firmware Versions 1.33 or later.

Installation and service tips

Important step when removing packing material

Section 1.3 of the Installation and Setup Guide describes the steps for removing the packing material as part of the installation procedure. You *must* remember to perform step 9 of this procedure while removing the packing material from the printer.

In this step, you must push down the fusing assembly levers on each side of the fusing unit as shown on the diagram on the card stock inside the rear door of your printer. A figure indicating the location of the fusing assembly levers is also given in Section 1.3 of the Installation and Setup Guide.

Failure to push down these levers during installation prevents your printer from properly fusing toner to the paper. As a result, the toner does not bind to the paper and can be rubbed off.

Locating your printer's firmware version number

You may need to provide the firmware version of your printer if you contact Digital Customer Services about your printer. Several version numbers, referring to portions of the printer firmware, can be found on the test pages. The overall printer firmware version number is printed on the PCL Menu Settings page, just beneath the words "DEClaser 5100." (Refer to Figure 2-4 in the User's Guide.)

If your printer has the DEClaser 5000 Series Ethernet Card installed, its status page is printed when you turn on your printer. The firmware version of your Ethernet card is located in the upper right corner of that page.

Turning off the Startup Test Page

The first time you power on your printer, a Startup Test Page prints to confirm that your printer is operating properly. This test page prints every time you power on your printer unless you disable this feature. You can turn off automatic printing of the Startup Test Page as follows:

1. Press `On Line` to pause the printer.

2. Press `Set-Up` to enter the Set-Up menu.

3. Use `⇐` and `⇒` to choose the **Miscellaneous** sub-menu.

4. Press `⇓` to choose the **Do start page** feature.

5. Press `⇓` again to display the current setting: **START PAGE=yes**.

6. Press `⇒` to change the display to **START PAGE=no**.

7. Press |Enter| to select and save the new setting.

8. Press |On Line| to return the printer online.

In printer firmware Version 2.50 or later, this action will also affect the status page generated by the optional DEClaser 5000 Series Ethernet Card. Refer to "Turning off the optional Ethernet Card Startup Page" in this document for more information.

General use of your printer

Determining whether your printer is processing data

When your printer is processing data for a print job, the Ready indicator flashes. The Data indicator lights and remains steady when the printer places data into the print buffer. Table 2-1 of the User's Guide incorrectly states that the Data indicator flashes in this situation.

Explanation of the "WAITING" message

You may see **PCL WAITING** or **PS WAITING** on the front panel while the printer is processing a print job. This message indicates that your printer is waiting for additional data from the host to complete the print job. Normally, the **WAITING** message lasts for only a few seconds, reflecting minor delays in the host computer sending information to the printer. If this message persists, you may have an application software or system problem.

Appearance of the test pages

Section 2.4 of the User's Guide provides figures that illustrate the several test pages that are built into your printer. Some of these illustrations do not reflect the actual test pages. The PostScript and PCL menus pages have been modified to more closely reflect the printer Set-Up menu features and several of the pages have had some design enhancements.

PostScript information

Limitation on interrupting print jobs

Section 2.2 in the User's Guide describes how to interrupt a PostScript print job during printing. You may be unable to interrupt some PostScript print jobs using this method, particularly if the PostScript code is compute-intensive. If this occurs, you may need to use your printer driver or host software to interrupt the print job, or power off your printer.

Enhancements to the error page

A PostScript Error Page prints when a PostScript error occurs in a print job, unless you have disabled this feature through the Set-Up menu or with a PostScript program. Section 10.3 of the User's Guide explains the information printed on this page and describes troubleshooting procedures. Three enhancements have been made to the PostScript Error Page that are not described in the User's Guide:

- Unprintable characters in the command causing the PostScript error and in strings in the operand stack are printed in hexadecimal notation (for example, the Escape control character will be shown as <1B>).

- When a **limitcheck** error occurs because of a display list overflow, the "errorinfo" field reads "**page protection required**." This extra notation indicates that your job may print successfully if you turn on the **Page protect** feature. (Refer to Chapter 7 of the User's Guide for more information on this type of error.)

- The graphics state section clearly indicates the current resolution and page protection settings.

Changing the wait timeout from the front panel

You can change the PostScript wait timeout through the **Wait timeout** feature in the Set-Up menu. However, the change does not take effect until the next time you power off and on your printer.

Programming information

The preface of the User's Guide gives incomplete information on programming documentation for Level 2 of the PostScript page description language. The following documents provide general information on Level 2 of the PostScript language:

- *PostScript Language Reference Manual Supplement for Version 2013* by Adobe Systems Incorporated, March 31, 1993; available through the Adobe Systems Developer Support organization.

- *PostScript Language Reference Manual, Second Edition* by Adobe Systems Incorporated, ISBN 0-201-18127-4; available in bookstores.

The following document provides product-specific PostScript information for the DEClaser 5100 printer:

- *DEClaser 5100 Printer Level 2 PostScript Programmer's Supplement* by Digital Equipment Corporation, order number EK-DLPL2-PS.

PCL information

Automatic printing of remaining data

Your application software may leave data in your printer's buffer. You can press `Form Feed`, after pausing the printer, to print this remaining data if you are at your printer. However, the DEClaser 5100 printer automatically prints any remaining data when the **I/O timeout** expires for the communication port that was used. This feature assists the use of your printer in a shared or multiple-host environment by not letting a partially complete job delay the printing of any following jobs.

Selecting a default page size

The **Page size** feature in the PCL sub-menu is used to select the default page size that your printer uses to format PCL print jobs. Normally, you select a page size through your application software, but this feature is provided for your convenience if your application software does not support selection of the media sizes supported by the DEClaser 5100 printer. This feature applies to all PCL print jobs, not just the internal tray as mentioned in Table A-9 of the User's Guide.

Correct description of the font source feature

Table A-9 in the User's Guide contains an incorrect description of the **Font source** feature in the PCL sub-menu. The following is the correct description of the feature.

Font source   Determines the source of the default font used by the PCL interpreter. Built-in fonts are indicated by **SOURC=internal**. Fonts on optional PCMCIA cartridges are indicated by **SOURC=left** or **SOURC=right**. Permanent soft fonts that your application has downloaded to the printer can be selected with **SOURC=soft font**.

Selecting a new font and symbol set from the front panel

If you use the **Symbol set** feature in the PCL sub-menu after selecting a font number with the **Font number** feature, the order of PCL fonts changes and the font number becomes invalid and is reset to 0. When you change both the default font number and symbol set, change the symbol set first.

List of supported symbol sets

Your printer supports two PCL symbol sets that are not listed in Table 5-3 of the User's Guide. These two symbol sets cannot be selected with the **Symbol set** feature in the Set-Up menu, but can be selected from your application program using the PCL symbol set ID in the following table:

Symbol Set Name	PCL Symbol Set ID
Windows 3.1 Latin 5	5T
ISO 6 ASCII	9U

Also, the five PCL symbol sets in the next table cannot be selected through the **Symbol set** feature. The front panel display names listed in Table 5-3 of the User's Guide do not display on your printer. You must use your application program to select these symbol sets using the PCL symbol set ID shown.

Symbol Set Name	PCL Symbol Set ID
Ventura Zapf Dingbats	9L
PS Zapf Dingbats	10L
Zapf Dingbats Series 100	11L
Zapf Dingbats Series 200	12L
Zapf Dingbats Series 300	13L

Programming information

Your printer supports the Enhanced PCL5 printer language as implemented in the HP LaserJet 4 printer. Technical documentation on the PCL printer language is provided by Hewlett-Packard in the *PCL5 Printer Language Technical Reference Manual* (HP part number 33491-90952).

Using your printer with Microsoft Windows

PCL printer driver for the DEClaser 5100

Digital has included a PCL printer driver on the Microsoft Windows driver diskette that comes with your printer.* The installation program on the driver diskette automatically installs both the PostScript and PCL drivers unless you select the "Custom" option. While you can use other PCL printer drivers with the DEClaser 5100, the provided PCL driver allows your application programs to take advantage of your printer's features and performance when using the PCL language.

Using the PostScript printer driver

The Adobe PostScript printer driver supplied with your printer allows you to download fonts to your printer's memory or to the optional hard disk, and to display or print a list of your printer's fonts. There are three known limitations in this program:

- The program does not display or print any built-in fonts that are not used by the program. However, fonts downloaded into your printer's memory, on the optional disk, or on a font cartridge will be displayed or printed.

- The "**Print font samples**" feature does not complete if you have more than thirty fonts in memory, on the optional hard disk, or in an optional font cartridge. A PostScript Error Page prints after the partial list if you have that feature enabled in the Set-Up menu.

- The "**Format device...**" feature does not work with the DEClaser 5100 optional hard disk. This feature is <u>not necessary</u> for the optional hard disk because it is automatically formatted the first time that the printer is powered on with a disk installed.

  Digital recommends that you not use the "Format device..." feature. Using this feature causes a PostScript Error Page to print and the printer's hard disk may become inoperative.

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* If your driver diskette does not include a PCL printer driver, an instruction card is included instead that describes how to receive the printer driver from Digital.

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This limitation is corrected in printer firmware Version 2.50 or later. However, when you format the optional hard disk with this feature, the printer will act as if it had been powered on. This will cause the printer driver to lose communication with the printer and show an error message dialog box reading "Error initializing device." You can safely ignore this error.

You can select the PostScript font page from the Test/Fonts menu (**Print PS fonts**) to get a complete list of your printer's fonts.

Modifying the PostScript printer driver settings to avoid automatic language sensing problems

If you print files from Microsoft Windows to a network printer queue that performs automatic language sensing, the printer queue can misinterpret your print job as ASCII text. To avoid this problem, make the following changes to the default settings of the printer driver:

1. Open the Microsoft Windows Print Manager.

2. Select the "Printer Setup" feature in the Options menu.

3. Check the "Installed Printers" field to make sure that the DEClaser 5100 printer is selected.

4. Select "Setup...".

5. In the Setup window, select "PS Options".

6. In the PS Options window, change the "Protocol Options" field to "None" and disable the "Send Binary Data" feature.

7. Select "OK" to close each window.

You can also make these changes from the "Print Setup..." feature in your application program by selecting "Options..." or "Setup..." (depending on your application) in the window that appears.

Using your printer with Macintosh computers

Using the LaserWriter Font Utility and LaserWriter Utility programs

The LaserWriter Font Utility is provided as a supplemental program with your Macintosh operating system software. You may also have a version of the LaserWriter Utility on your Macintosh computer if you have used LaserWriter printers. Both of these utilities can be used to download fonts to your printer's

memory or the optional hard disk, as well as perform some other functions. There are some known limitations with these utilities:

- When using the LaserWriter Font Utility program, you must first open the Chooser, select the "LaserWriter" driver icon, and reselect your printer. Reselect the "PSPrinter" driver icon in the Chooser after you have finished using the LaserWriter Font Utility.

- When using the LaserWriter Utility program, several features are not available for use because they are specific to Apple LaserWriter printers. You can select the "Print Configuration Page" feature from the Utilities menu, but a PostScript error occurs and no page is printed. Use the Test /Fonts menu (**Print test page**) to print the built-in test page. (Refer to Section A.2 in the User's Guide.)

  If you use Version 7.6.1 or later of the LaserWriter Utility, a PostScript Error Page prints when starting the program. You can turn off the PostScript Error Page through the Set-Up menu to suppress this error page. (Refer to Section A.5.2 in the User's Guide.) Also, a change in this program from earlier versions prevents you from using this utility to download fonts to the optional hard disk.

- You can also use either of these utilities to display or print a list of your printer's fonts. Because of a limitation in the program, fonts that are built into your printer (and are not used by the program) and fonts on optional font cartridges are not included in these lists. You can select the PostScript Font page from the Test/Fonts menu (**Print PS fonts**) to get a complete list of your printer's fonts.

  If you use Version 7.6.1 or later of the LaserWriter Utility, you cannot use the utility to print a list of PostScript fonts. This problem does not occur with printer firmware Version 1.36 or later.

Using the Adobe Downloader program

The Adobe Downloader program allows you to download fonts to your printer's memory or to the optional hard disk, and to display or print a list of your printer's fonts. There are two known limitations in this program:

- You cannot download fonts to the optional hard disk when using a LocalTalk network.

- The program does not display or print any fonts that are built into the printer but are not used by the program.

Naming your printer on both LocalTalk and EtherTalk networks

With the installation of the optional DEClaser 5000 Series Ethernet Card, you can use your printer simultaneously on LocalTalk and EtherTalk networks. If you do not change your printer's name, the Chooser displays the name "DEClaser 5100" in the Macintosh Chooser, regardless of which network your computer is currently using.

You can use a utility program, such as LaserWriter Utility, or a PostScript program to change the name of your printer. This new name is displayed in the Chooser, regardless of which network your computer is currently using. The NPmanage program that comes with your optional network interface card allows you to name your printer only on the EtherTalk network. This means that your printer can have different names on each network.

Repeated printer fault messages when using your printer over an EtherTalk network

When you print from a Macintosh computer, you may see messages describing printer problems on your computer screen. One typical message is: "DEClaser 5100" is out of paper.

Due to a limitation in the optional DEClaser 5000 Series Printer Ethernet Card, these messages may repeat several times when a problem occurs in a printer connected over an EtherTalk network. The messages will stop when your printer becomes completely idle and has no jobs printing from any of the printer's several communications ports.

Using your printer with OpenVMS systems

Correct required version of DECprint Supervisor

Your printer is supported by Version 1.0C (and later) of DECprint Supervisor for OpenVMS (DCPS).

Downloading fonts to the optional hard disk

A utility is supplied with Version 1.0C (and later) of DECprint Supervisor for OpenVMS (DCPS) to help you catalog, download, and delete PostScript fonts on the optional hard disk. The utility is in the SYS$COMMON:[SYSHLP.EXAMPLES.DCPS] directory.

This utility can only download PostScript fonts formatted for use on OpenVMS systems, such as fonts from the DECfonts Typeface Collection. You cannot upload PostScript fonts formatted for use on Microsoft Windows or Macintosh systems to an OpenVMS directory and then attempt to use the utility to download them to the printer. You must use the utility provided on Microsoft Windows or Macintosh systems to accomplish this.

General use of printer options

Additional step after removing the envelope feeder option

After you remove the optional envelope feeder, Digital recommends using the Set-Up or Feeder Select menus to reselect the default feeder. This step prevents anomalous messages indicating the envelope feeder is still in use.

Installing RAM SIMM upgrades

Section E.4 of the User's Guide describes the installation procedure for optional RAM SIMMs. You may install a single RAM SIMM in either the top or bottom slot in your printer. You may also install RAM SIMMs of different sizes in both slots. The DEClaser 5100 printer has no limitations on the placement or size of RAM SIMMs, up to the maximum size of 32 MB in each slot.

Ordering and installing the Resolution/Graphics Enhancement Option

The Resolution/Graphics Enhancement Option may include printer firmware Version 2.15, which is the minimum version necessary for the correct operation of the option. The option also requires that your printer have a minimum of 6 MB of RAM memory.

The printer firmware Version 2.15 <u>replaces</u> any earlier version. You should remove any earlier printer firmware when installing the option. However, if you already have printer firmware Version 2.50 or later before installing the option, continue to use it. Do not install the Version 2.15 printer firmware in this situation.

If your printer has . . .	Order option number . . .
2 MB of RAM[1]	LN09X-XM
6 MB of RAM	LN09X-XF

[1]The LN09X-XM option includes a 4 MB RAM SIMM and is designed for printers that have no RAM SIMMs installed. You may also order the LN09X-XF option and purchase additional RAM separately.

Using the Resolution/Graphics Enhancement Option

Section 6.3 of the User's Guide gives incomplete information on the features of the Resolution/Graphics Enhancement Option. This section replaces the text in Section 6.3.

The Resolution/Graphics Enhancement Option provides an edge enhancement technology that improves overall print quality for the built-in resolutions of 300 x 300, 600 x 300, and 600 x 600 dpi. When this feature is enabled, your printer smooths imaged text and graphics, reducing visible jagged edges.

When the option is installed, the **Enhancement** feature appears in both the PostScript and PCL sub-menus. Use this feature to control whether the printer applies edge enhancement to your PostScript or PCL print jobs. By default, the printer does not apply edge enhancement to your print jobs. You can also use PostScript or PJL commands from your host application or printer driver to control this feature.

The Resolution/Graphics Enhancement Option also provides a resolution doubling technology that provides two high-resolution settings that improve your document's overall appearance: 1200 x 600 dpi and 1200 x 1200 dpi. When you select a higher resolution, the printer generates a larger bitmap that is then analyzed and reproduced faithfully within the constraints of the 600 dpi print engine. The higher resolution also provides a wider range of gray levels, improving the appearance of graphics and images.

When the option is installed, the two new resolution settings appear in the **Resolution** feature in the PostScript and PCL sub-menus. To choose a higher resolution, use this feature or use PostScript or PJL commands from your host application or printer driver. Using a higher resolution will require additional memory if you need to use the **Page protect** feature.

Determining memory requirements for high resolution printing

Table 7-1 of the User's Guide gives incorrect information on the minimum memory requirements to support a resolution of 1200 x 1200 dpi in certain configurations. The following information replaces part of Table 7-1:

Page Size	Resolution	Page Protection Enabled	Jam Recovery Enabled
Letter or A4	1200	20 MB	55 MB
Legal	1200	27 MB	47 MB[1]

[1]To ensure full engine speed with page protection and jam recovery enabled, additional memory to store three page images in RAM is necessary. The DEClaser 5100 memory can be upgraded to support only two Legal size page images at 1200 x 1200 dpi. The number shown is the minimum amount of memory necessary to obtain maximum throughput with this configuration.

Limitation on the use of DECimage Plus with high resolution

DECimage Plus and the resolution doubling technology that provides 1200 x 600 and 1200 x 1200 dpi resolution are incompatible. The DECimage Plus image enhancement technology uses a technique of distributing device resolution dots over a unit area to enhance the number of gray tones in a print job. The resolution doubling technology provided in the Resolution /Graphics Enhancement Option, in attempting to reproduce these distributed dots, may cause darkening or blurring of the image. As a result, using both DECimage Plus and 1200 x 600 or 1200 x 1200 dpi resolution in your print job may cause unacceptable results. Digital recommends disabling DECimage Plus when using the high resolution settings.

Turning off the optional Ethernet Card Startup Page

The first time you install the optional DEClaser 5000 Series Ethernet Card and power on your printer, the card will print a Startup Page to confirm that the card is operating properly and listing important network protocol information.

To turn off automatic printing of this Startup Page with printer firmware earlier than Version 2.50, you can use only the NPmanage network card utility program that comes with your option. In Version 2.50 or later, the **Do start page** feature in the **Miscellaneous** printer sub-menu will also affect whether this Startup Page is printed.

Refer to "Installation and service tips" in this document, for information on changing the **Do start page** feature.