



# NAVIGATOR

## PLUG-IN MANUAL

# LINOTYPE

VERSION 7.2.1.1  
JUNE 23, 2008



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## OVERVIEW

Xitron's Navigator PostScript RIP and Raster Blaster TIFF Catcher rely on software modules called plug-ins to communicate with imaging systems. In many cases they work in tandem with an interface card, while in others it is simply a conversion to a bitmap file in a compatible format.

When interface cards are involved, these plug-ins act as device drivers and control most actions of the output devices. Some of these actions include checking device status, device setup, and advancing and cutting material. In addition, the plug-in relays all the physical characteristics of an engine such as supported resolutions and imageable area.

During the launch sequence, both Navigator and Raster Blaster scan a specific directory for plug-ins. The software loads each plug-in it finds, and then queries them for a description of the capabilities of the supported devices. In this manner the plug-in configures the RIP to output a bitmap to these devices.

Each plug-in controls a particular family of recorders and is able to understand most messages and errors communicated by the output device. Plug-ins for use with Windows-based platforms consist of three software modules. The first module is the core plug-in written specifically for a particular device. This DLL is 32-bit code and runs under Windows NT, Windows 2000 Server, Windows 2000 Professional, Windows 2003 Server and Windows XP. The second module is a kernel mode device driver. This module communicates with the

Xitron interface boards and moves the bitmap data from the PC to the output device's interface. The third module is a "helper" DLL that translates calls from the plug-in to the Windows device driver.

When a page is sent to an output device for imaging, the Xitron software loads the correct plug-in and begins a series of steps prior to output. The plug-in first initializes the engine and checks that it is ready. After receiving the proper signal, the plug-in will begin reading bitmap data from the platform's hard drive into a "printer buffer." Once the printer buffer is full, the plug-in will start communicating the data to the output device. As the output device consumes the data, the plug-in relays this information to the software, which then refills the buffer. This continues until all of the data has been communicated to the output device. The plug-in tells the software the job is complete and waits for an indicator that the recorder has finished. This process is repeated for each page being output.

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## RASTER BLASTER



Plug-ins used by Xitron's Raster Blaster have the same functionality as those for the Navigator RIP and the same options are available for configuration. Therefore, unless otherwise specified, the information in this manual will apply to both products. See the Raster Blaster Reference Manual for specific configuration information.

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## CONFIGURING DEVICES

Xitron distributes a separate plug-in for each recorder family. This plug-in, in conjunction with firmware on specific Xitron interfaces (PCI, PCI-X, USB), has the capability to drive most of the devices in each recorder family. Users may install more than one plug-in within a single RIP. In addition, it is possible to configure more than one engine type within a single plug-in.

Xitron pre-configures most plug-ins to display all output devices currently supported. To view these devices, click the Device Manager icon shown in Figure 1.

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FIGURE 1: DEVICE MANAGER ICON



The Device Manager dialog box shown in Figure 2 will display. If the dialog displays the user's output device in the scrollable list, no further editing is necessary. The names of the available output devices will appear in the Output Device pull-down menu of the Page Set-up dialog box. However, in the rare circumstance that another device name is necessary; the user has the option of customizing the name field.

With the Device manager dialog window open, click **New** or select an existing device and click **Edit**.

FIGURE 2: DEVICE MANAGER DIALOG

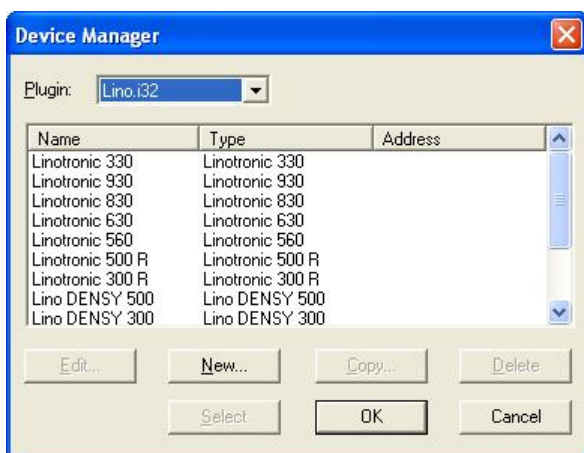
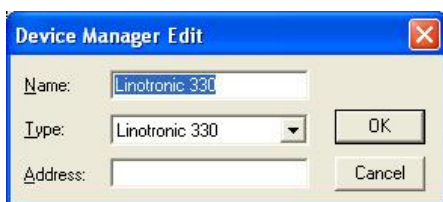


FIGURE 3: DEVICE MANAGER EDIT

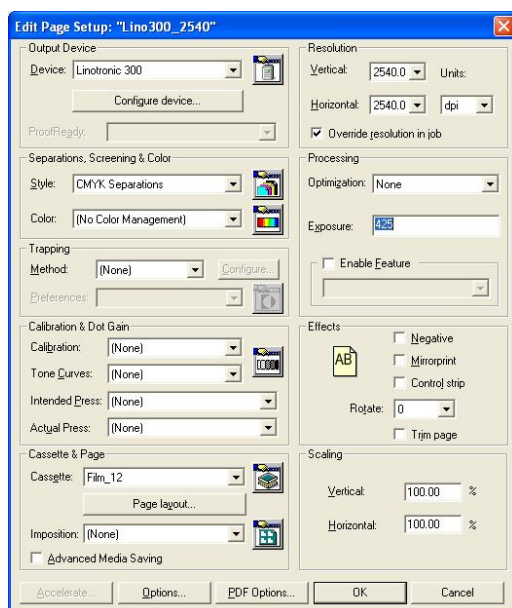


A dialog box similar to the one shown in Figure 3 will display. Enter a name for the device. This name will display in the Device pull-down menu as a selection in the Page Setup dialog.

For example, if two Linotronic 330 imagesetters are being driven by the same plug-in and differentiation between the two is important, edit this field to reflect Lino1 and Lino 2.

The name can be any string of up to 32 characters. Select the specific recorder from the pull-down menu labeled *Type*. Ignore the address field, as it is not used. After making the selections, click *OK* to make the device available in the Page Setup menu as seen in Figure 4.

FIGURE 4: PAGE SETUP



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## LINOTRONIC SPECIFIC SETTINGS

Xitron's Linotronic plug-in supports the following recorders:

- \*200p, \*200SQ, \*230, 300D, 500D, 300, 330, 500, 530, 560
- 630 (See additional document, "DLDBuild")
- 830, 930

Based on the device selected in the pull-down menu of the Page Setup, various capabilities regarding resolution, density settings, page orientations and film dimensions will automatically populate the available menu options. For example, choosing Linotronic 330 provides 10 resolution options between 423 dpi and 3387 dpi, which match the programming of the recorder. Selecting Linotronic 630 yields only three resolutions, which match the capability of that model.

Choose the appropriate resolution, exposure, and page orientation from the main window of Page Setup as shown in Figure 4. Click the button labeled ***Configure device...*** to change settings that are more specific to the output device such as punch positioning.

Some configuration options will be grayed out and non-editable. This occurs when the device chosen does not offer that particular functionality. An example can be seen in Figure 5, which shows the Configure Device window as it pertains to the L330. In this example only a few of the options are selectable by the operator.

FIGURE 5: L330 CONFIGURE DEVICE

Configure Linotronic

Max Page Width (points) 0

Max Page Depth (points) 0

Mux String

PB2 Interface Card ArborSB Card 0

Punches

Punch Control Value 0

Additional Film Feed (mm) 0

Linotronic 630 Exposure Control

Filter (0-5) 1

Focus (0-700) 195

Bias (0-255) 100

NOTE: Values not used unless "exposure" is non-zero

OK Cancel

However, the L630 dialog shown in Figure 6 allows operator entry for all variables. Explanations for each of the entries can be found below Figure 6.



FIGURE 6: L630 CONFIGURE DEVICE

Configure Linotronic

Max Page Width (points) 0

Max Page Depth (points) 0

Mux String

PB2 Interface Card ArborSB Card 0

Punches

Punch Control Value 0

Additional Film Feed (mm) 0

Linotronic 630 Exposure Control

Filter (0-5) 1

Focus (0-700) 195

Bias (0-255) 100

NOTE: Values not used unless "exposure" is non-zero

OK Cancel

- **Max Page Depth:** Use this value to set the maximum length of an imaged job. This feature is helpful if a film device is imaging plate material and the plate must be a consistent length. Setting this value to 0 disables the feature. If this value is set to 0 on a drum or cut sheet type imager, images will be clipped at the maximum length allowed by the plug-in. Non-zero values will cause the plug-in to allow images of the set value. Enter values in points.
- **Mux String:** This is used in an environment with a multiplexer, which can scan for a connection to one or more output devices.

- **PB2 Interface Card:** If more than one interface (ArborSB) card is in the PC, select the appropriate interface here. The default for this box is blank, signifying that the first configured card will be used. If the USB interface is being used, one PCI card and one USB may be configured for output to two systems. To configure a plug-in to output to the USB interface, select “Sedona” in the drop down menu.
- **Punch Control Value (Linotronic 630 ONLY):** This option allows the user to enable and disable punches on the Linotronic 630. Normally, a value of 7 will enable the punch and a value of 0 will disable the punch. In order to determine the values specific to the attached imager, input jobs from an existing Linotronic RIP first with the punches ON and then with the punches OFF. Examine the image placement after each exposure to determine the correct value.
- **Additional Film Feed (mm) (Linotronic 630 ONLY):** This value is added to the normal film feed (width of the job) after exposure to make sure the punched holes are flushed off the drum.
- **Linotronic 630 Exposure Control:** This group of 3 settings supplements the exposure setting on the Page Setup dialog, providing all necessary laser control of the Linotronic 630 recorder. Please refer to the Linotronic 630 documentation for more information.
  - **Filter:** This setting selects which filter to engage at this resolution.
  - **Focus:** This setting selects the focus lens position.

- **Bias:** This setting sets the current supplied to the laser when in the “off” state (dark). It is sometimes referred to as “Bias light current” on Linotronic equipment and software.

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## CONNECTING THE INTERFACE

The Xitron interface for Linotronic recorders uses the LI2 and LI5 ports on the back of the recorder. For almost all installations, both the LI2 and LI5 ports are connected. (For exceptions see **LI2-Only** under **Additional Set-Up**.) One Xitron cable (020-0423-020) attaches to the 50-pin mini-SCSI connector of the Xitron PCI card or USB interface, and the LI2 port on the back of the recorder. Command and status information to control the recorder is carried on the LI5 interface via the second Xitron cable (020-0422-010), which attaches to the 9-pin D-shell type connector on the card (or USB Interface Box), and the LI5 port (25-pin D-shell) on the back of the recorder.

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## ADDITIONAL SET-UP

After attaching the LI2 and LI5 cables between the Xitron interface and the imager, use the Linotronic front panel to select the LI5 interface. An indication that the imager is in LI5 mode is an “L” in the upper left corner of the Linotronic front

panel LCD. At this point, the system should be ready for initial testing.

The **LI2-Only** device type is provided for Linotronic machines that do not have an LI5 interface. Since the setting of all imager parameters like resolution and density is handled through LI5, the LI2-Only device type will not take advantage of all the Xitron plug-in features. LI2 mode will allow proper imaging only if the RIP and recorder parameters match.

Set the Linotronic for **Panel** interface and place it in imaging mode by pressing the **Start** button on the front panel. When the Linotronic is in imaging mode, a reverse **P** will appear on the left side of the imager's LCD. To feed and cut the film, press the **Stop** button (shift-stop) on the front panel, followed by the **Cut** button. Always take the Linotronic out of imaging mode before shutting down the Navigator RIP.

The error message "**LI5 OVRUN**" will occasionally appear on the Linotronic console during imaging. This is normal. In order to receive up-to-date status and error information from the imaging engine, it is necessary to poll the engine periodically while it is imaging. At certain points during the startup of the imaging process, the engine will stop responding momentarily to perform time-critical adjustments. These LI5 OVRUN messages occur during those periods. The Xitron software will timeout and retry the status request two seconds later without any indication that the overrun has occurred.

The Linotronic recorder has some features that may interfere with the operation of Xitron software. Specifically, a group of

settings in the front panel control the width of the imageable area and provide a hardware setting for the left margin. These options are available under the key labeled “X/Y” on the recorder’s front panel. Make sure that the setting labeled “X-Measure” correctly reflects the width of the imager: 12-inch for the 300 series and 18-inch for the 500 series. Make sure “X-LeftMargin” is set to 0. This will enable the recorder’s maximum imaging area and allow margins and image width to be controlled from the Xitron plug-in.

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## PLUG-IN MESSAGES

From the time a plug-in is loaded for the purpose of setting up and outputting to one of its devices, it begins to send messages to the software’s Monitor window. These messages are typically informational but can convey warnings and report errors from the engine. There is a user-changeable setting called “debug level” that controls the verbosity of these messages. This can range from 0 (almost no messages) to 4 (very high message traffic). This is described in the Xitron Tech Note *CreatingLogfile.pdf*.

Examples of informational messages are:

- PostScript job name
- Commands being sent to the PCI card to set up the engine
- Output start and stop time

Examples of warning messages are:

- A job being clipped to fit a recorder width

- Data being left at the end of the job.
- Certain settings in the .ini file overriding defaults

When the plug-in encounters an error from the output device, it will generate an appropriate error message. The short form of this message will appear in the Throughput Controller. The long form will appear in Navigator's Monitor window. If the error encountered is easily remedied, i.e. an empty cassette, then the plug-in will continue to periodically test the engine until the error has been cleared. During this time the user may disable output by checking the "Disable output" check box in the Throughput Controller and dragging the page to either the Active or Held queue. If the error is serious, the plug-in will automatically request that the software disable output and the page will be placed back in the Active Queue automatically.