

# Xitron Plugin Manual



## Linotronic

September 13, 2002

### Overview

A Xitron plugin is the sole method of outputting data to an imagesetter or printer from Xitron software. When the Xitron software is launched it scans a directory called "devices" for plugin files. For each plugin it finds, it loads that plugin and begins to query the plugin for a description of the capabilities of the recorders in the family it supports. This includes media widths, resolutions, density ranges, etc. In this manner the plugin configures the RIP to output a bitmap to a recorder in its family.

Plugins for the Xitron software are dynamic link libraries. They act as device drivers for the software and control all actions of an output device. This includes checking device status, device setup, the imaging of data, and advancing and cutting material. The plugin relays to the Xitron software all the physical characteristics of an engine such as supported resolutions and imageable area.

Plugins for use with Windows consist of three software modules. The first is the core plugin that is written specifically for each device. The plugin controls a particular family of recorders and understands the messages and errors. These DLLs consist of 32-bit code and can run under Windows NT, Windows 2000 Server, and Windows 2000 Professional. The second module is a kernel mode device driver. This is the part of the software that communicates with the Xitron interface boards and moves the bitmap data from the PC to the PCI interface board. The third module is a 'helper' DLL that translates calls from the plugin to the Windows device driver.

When a page is sent to an output device to image, the Xitron software loads the correct plugin and begins a series of steps to begin output. First the plugin initializes the engine and checks that it is ready. Assuming it is, it begins to read bitmap data off the hard disk (or renders the data in "Single/If" mode) into the Printer Buffer and tells the plugin where the data is in memory. When the software has filled the printer buffer, the plugin starts the output device. As the output device consumes the data, the plugin relays this information to the software, which then refills the memory. This continues until all of the data has been output. The software then tells the plugin that the job is complete and waits for the plugin to indicate that the recorder has finished. This process is repeated for each page being output to an engine.

### ***Raster Blaster***

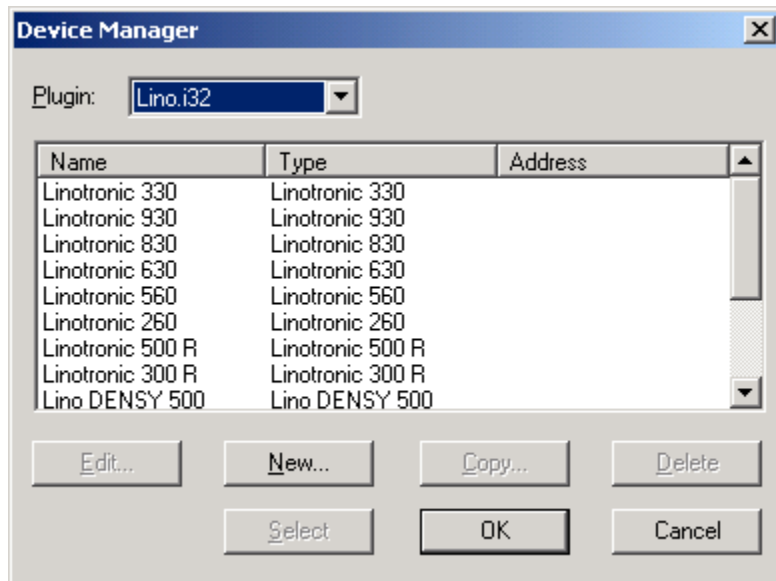
Plugins used by the Xitron Raster Blaster have the same functionality as those for the Xitron Navigator RIP and the same options will be available for configuration. Unless otherwise specified, all the information in this plugin manual will apply. See the Raster Blaster Manual for where to configure plugins in the Raster Blaster.

## Configuring Devices

***The following section applies only to Navigator RIPs.***

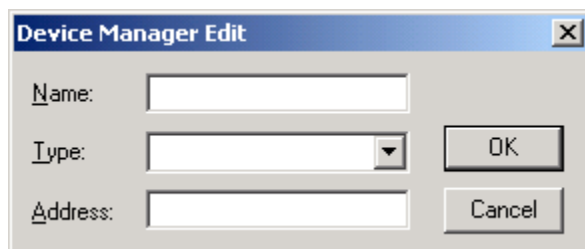
Xitron distributes a separate plugin for each recorder family. This plugin, in conjunction with firmware on the particular PCI board, has the capability to drive all the devices in each recorder family. More than one plugin can be installed at once and within a single plugin more than one engine type can be configured. A plugin must have one device configured before it can be used. Devices are configured using the “Device Manager” which is shown below.

**Generally these devices are already configured when the plugin is loaded. In most cases the user will not have to add or configure the devices. The following information about Device Manager is provided for the rare occasion where adding a device becomes necessary.**



In the display above, the available Lino devices are configured. The Name will appear in the Output device field in the Page Setup dialog box.

To configure a device for a plugin, select it from the listbox labeled “Plugin:”. Click on the “New” button. To edit an existing device highlight it and click on “Edit” or double click on it in the window. In either case the following dialog box will appear.



Enter the name of the device in the field next to “Name” as you wish to have it appear in Page Setup. This name is for the users’ benefit so as to remember which device is configured. It can be any string of up to 32 characters. Select the specific recorder from the listbox next to “Type:”. Ignore the address field as it is not used. When you have made your selections, click “OK” to keep them or “Cancel” to ignore them.

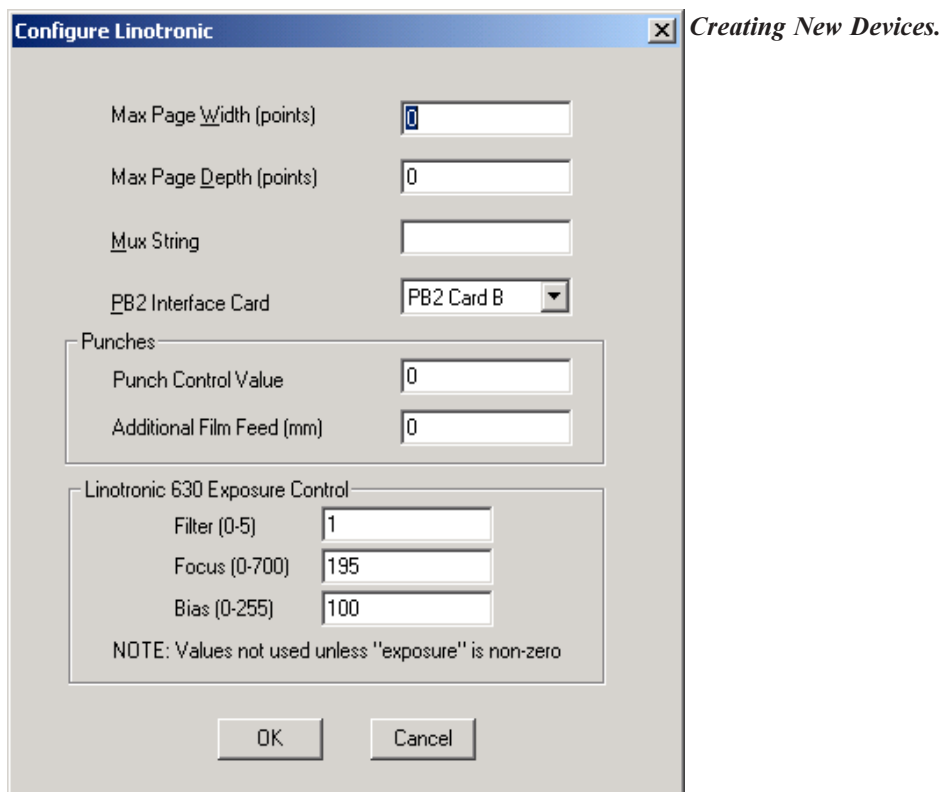
# Linotronic

Xitron supports many members of the Linotronic family of recorders. These include:

- \*200p, \*200SQ, \*230, 300D, 500D, 300, 330, 500, 530, 560
- 630
- 830, 930

**\* Note: These devices may require different boards and drivers than those covered in this Plugin Manual.**

After installing the Lino plugin you will be able to create Page Setups using the Linotronic plugin. Select the appropriate resolution, density, and page orientation from the main window of the Page Setup. You should also configure the options specific to the Lino plugins. Click on "Configure Device" under the Device Type list box. The following dialog box will appear:



From this dialog box you can configure the following options:

- **Max Page Width:** This value is used to override the built in width clipping in the plugin. When this value is set to 0, the plugin will always clip images at the maximum width of the imager. If this value is non-zero, it will be used as the clip width.
- **Max Page Depth:** This value is used to set the maximum length of an imaged job. If this value is set to 0 on a capstan-type imager, the length clipping feature is essentially disabled. If this value is set to 0 on a drum or cutsheet type imager, images will be clipped at the maximum length allowed by the imager. Non-zero values will cause the plugin to clip images over the set length.
- **Mux String:** This is used in an environment with a multiplexor to select one or more input devices to scan for a connection. This should be left blank.
- **PB2 Interface Card:** If more than one interface (PB2 or ArborSB) card is in the PC, select the appropriate interface for the page setup. The default for this box which is blank, will cause the first configured card to be used.

- **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 punches are flushed off the drum.
- **Linotronic 630 Exposure Control:** This group of 3 settings supplements the “exposure” setting on the Page Setup dialog to provide all necessary laser intensity control of the Linotronic 630 recorder. Please refer to the documentation for the Linotronic 630 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 Linotype equipment and software.

### ***Linotronic General Notes:***

In order for the Xitron software to function correctly, the following imager setup must be performed. After the LI2 and LI5 cables have been attached between the Xitron Linotronic board and the imager, use the Linotronic’s front panel to select the LI5 interface. An indication that the imager is in the LI5 mode is an “L” in the upper left corner of the LCD on the front panel. 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 much of the software’s configurability. This mode will allow image data to be recorded on the engine correctly only if parameters are set to match on the software and the engine.

For LI2-Only mode, the Linotronic should be set for “panel” interface and before imaging can start, the engine must be placed in imaging mode by pressing the “Start” button on the Lino’s front panel. When the Lino is in the imaging mode, a reverse “P” will appear on the left side of the LCD on the imager. To feed and cut output, the “Stop” button (shift-stop) on the front panel must be pressed, followed by the cut button.

Care should be taken to take the imager out of imaging mode before the software is shut down or when the software is not launched.

The error message “**LI5 OVRUN**” will occasionally appear on the Linotronic’s 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.

### ***Additional setup on the Linotronic recorder***

The Linotronic recorder has some features that may interfere with the operation of the Xitron software. Specifically, there is a group of settings in the front panel that control the width of the imageable area and a hardware left margin setting. 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 software for maximum configurability.

## Attaching the Lino to the Xitron Software

The Xitron interface for the 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 the next paragraph). The Xitron cable part number 020-0423-020 is used to attach the 50-pin mini-scsi connector on the back of the PB2 card to the LI2 port on the back of the recorder. Command and status information to control the recorder is carried on the LI5 interface via Xitron cable number 020-0422-010, which is attached from the 9-pin D-shell type connector on the back of the PB2 card to the LI5 port (25-pin D-shell) on the back of the recorder.

For some installations where LI5 is not available, it is possible to configure the output plugin to drive the recorder with only the LI2 interface. For this type of installation, only the LI2 cable is used (Xitron part number 020-0423-010). In this mode, setting of resolution and density (and others) is not possible and these parameters will have to be configured on the recorder's front panel. Also remember to select the device type "LI2 Only" from the supported devices listed in the Device Manager. When running "LI2 Only" mode, the recorder must be started before the software can image to it. This is done by pressing the 'Start' button on the front panel of the recorder. If running in the "LI2 Only" do not plug in the LI5 cable.

## Plugin Messages

From the time a plugin 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 also convey warnings and report errors from an engine. The quantity of these messages can be controlled by a setting called the "debug level". This can range from 0 (almost no messages) to 4 (very high message traffic). This is described in the Xitron TechNote *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.
- Data being left at the end of the job.
- Certain settings in the .ini file overriding defaults.

When a plugin encounters an error on an output device, an appropriate error message will be generated. The short form of this message will appear in the Throughput Controller. The long form will appear in the software's Monitor window. If the error encountered is one that can be easily remedied, i.e. an empty paper tray, then the plugin 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 plugin will automatically request that the software disable output and the page will be placed back in the Active Queue automatically.