

Xitron Plugin Manual



Pelbox

December 20, 2001

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 generated by that family of recorders. 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

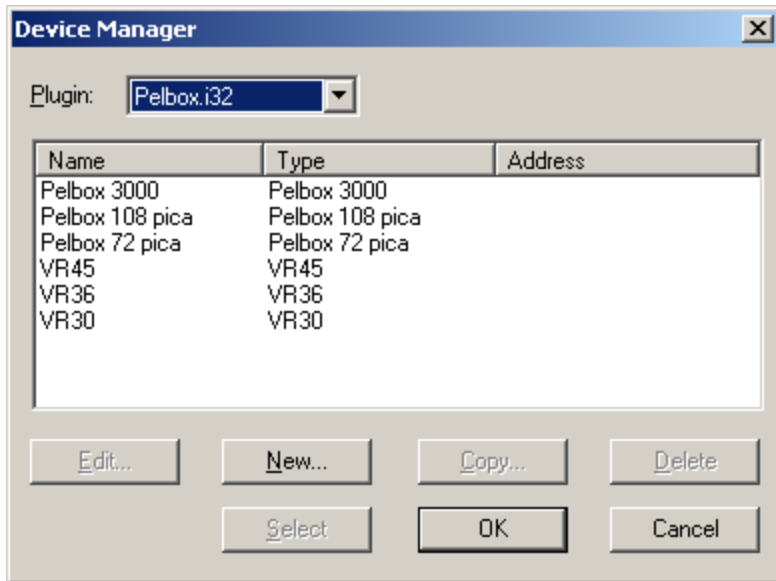
Plugins used by the Xitron Raster Blaster have the same functionality as those for the Xitron Navigator RIP and the same options will be available for configuration. Unless otherwise specified, all the information in this plugin manual will apply. See the Raster Blaster Manual for where to configure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

Configuring Devices

The following section applies only to Navigator RIPs.

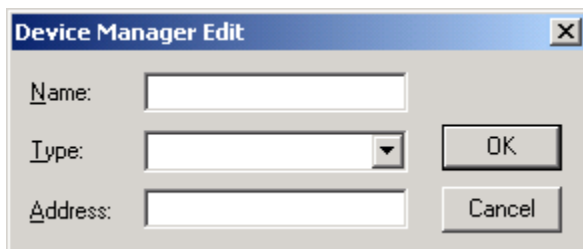
Xitron distributes a separate plugin for each recorder family. This plugin, in conjunction with firmware on the particular PCI board, has the capability to drive all the devices in each recorder family. More than one plugin can be installed at once and within a single plugin more than one engine type 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 Pelbox 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 box 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 list box 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.

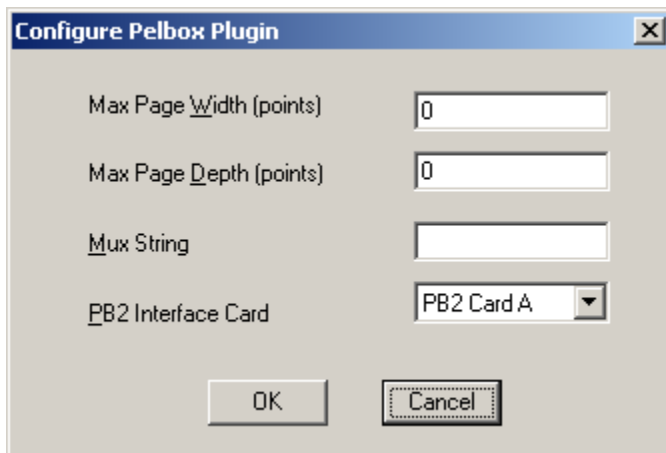
Pelbox

Xitron supports the following devices with the Pelbox plugin.

- VR30, 36, 36HS
- VR45, 45HS
- Pelbox 108, 108HS, 1030, 1045, 1045HS, 12xx series, 15xx series, 2030, 2530, 3000, 3030

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

For RasterBlaster, see the RasterBlaster manual section on *Creating New Devices*.



From this dialog box you can configure the following options:

- **Max Page Width (points):** 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 recorder. If this value is non-zero, it will be used as the clip width. This value is entered in points.
- **Max Page Depth (points):** This value is used to set the maximum length of an imaged job. If this value is set to 0 on a Pelbox type recorder, the length clipping feature is essentially disabled. Non-zero values will cause the plugin to clip, or cut off, images over the set length. This value is entered in points.
- **Mux String:** This value is used in an environment with a multiplexor to select one or more output devices to scan for a connection. This field should be left blank.
- **PB2 Interface Card:** If a second PB2 card or an ArborSB is in the PC, select the appropriate card for the output device from the drop down menu.

Pelbox Exposure Values

It is possible to control the recorder's laser intensity from the RIP on some Pelbox recorders in order to make adjustments to density. The Pelbox interface provides for this feature through two groups of interface lines. One is called Image Exposure (IE) and the other is called Neutral Density (ND). There are five IE lines and two ND lines which have been combined into a single 7-bit value in the Pelbox plugin. The resulting value for exposure has a range of 0 through 127 which corresponds to a continuous increase in resulting exposure from 0 (least intense) to 127 (most intense). The following table can be used to identify how this value is translated into the line settings on the Pelbox interface. This feature is not supported on the Pelbox 72 pica and the Pelbox 108 pica.

| Exposure Value in Page Setup | Selected Neutral Density Filter | Image Exposure Value |
|------------------------------|---------------------------------|----------------------|
| 0 | 3, 2.0D | 0 |
| 1 | 3, 2.0D | 1 |
| 2 | 3, 2.0D | 2 |
| * | * | * |
| 29 | 3, 2.0D | 29 |
| 30 | 3, 2.0D | 30 |
| 31 | 3, 2.0D | 31 |
| 32 | 2, 1.4D | 0 |
| 33 | 2, 2.4D | 1 |
| * | * | * |
| 62 | 2, 1.4D | 30 |
| 63 | 2, 1.4D | 31 |
| 64 | 1, 0.7D | 0 |
| 65 | 1, 0.7D | 1 |
| * | * | * |
| 94 | 1, 0.7D | 30 |
| 95 | 1, 0.7D | 31 |
| 96 | 0, 0.0D | 0 |
| 97 | 0, 0.0D | 1 |
| * | * | * |
| 126 | 0, 0.0D | 30 |
| 127 | 0, 0.0D | 31 |

Attaching the Pelbox Recorder to the Xitron Software

The Xitron interface for Pelbox recorders uses a single cable connecting the 50-pin mini-SCSI type connector on the Xitron card to the 50-pin D-Shell Pelbox interface connector on the back of the recorder (Xitron part number 20-0430-025).

Selecting Resolution Pairs on the Pelbox Recorder

Since the Pelbox interface does not provide for the selection of all possible resolutions from the interface, it is necessary for the operator to coordinate the resolution setting on the recorder's front panel (if available at all) with the selected resolution in the Xitron software (Page Setup). This resolution will normally be presented in the form of a resolution pair. The HRES line on the Pelbox interface will control whether the high or low value of this resolution pair is selected. On the recorders that support only a single resolution, make sure the correct resolution is selected in the Xitron software's Page Setup.

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 3 (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 Xitron plugin encounters an error on an output device it will generate an appropriate error message. The short form of this message will appear in the Output Controller/Monitor. The long form will appear in the software's System Monitor window. If the error is one that can be easily remedied, then the plugin will continue to periodically test the engine until the error has been cleared. During this time the user may be able to disable output by checking the "Disable Output" check box in the Output Controller/Monitor and dragging the page to either the Active or Held queue. If the error is serious, the plugin will request that the software disable output and the page will be placed back in the Active Queue automatically.