



# NAVIGATOR

## PLUG-IN MANUAL

# ECRM

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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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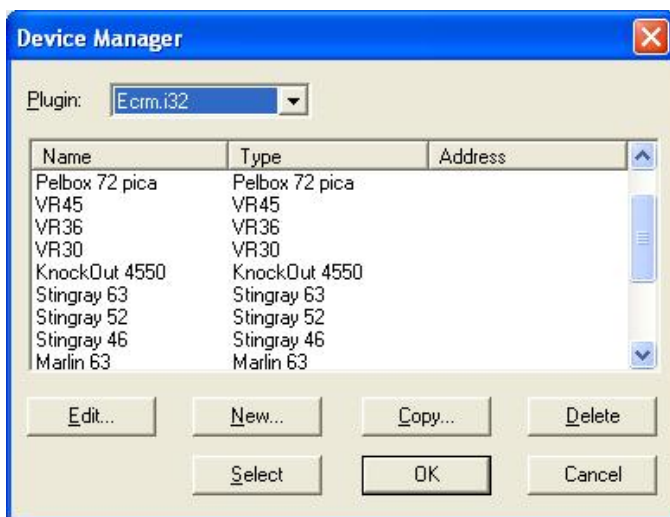
**FIGURE 1: DEVICE MANAGER ICON**



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.

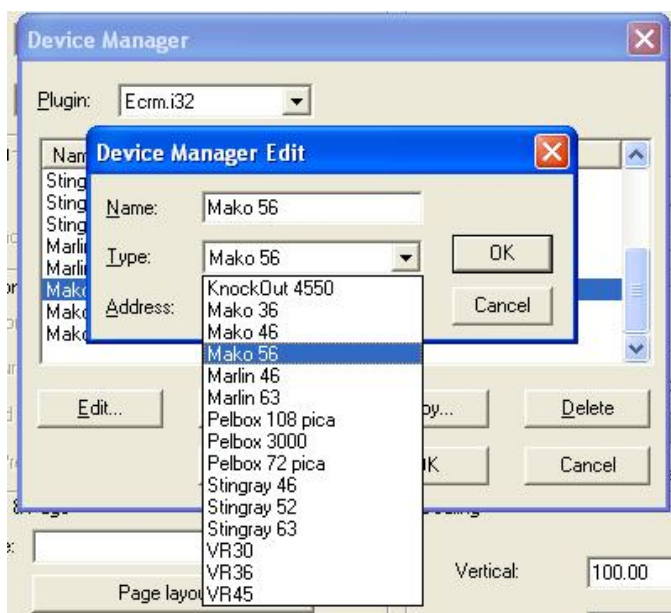
With the Device manager dialog window open, click **New** or select an existing device and click **Edit**.

FIGURE 2: DEVICE MANAGER DIALOG



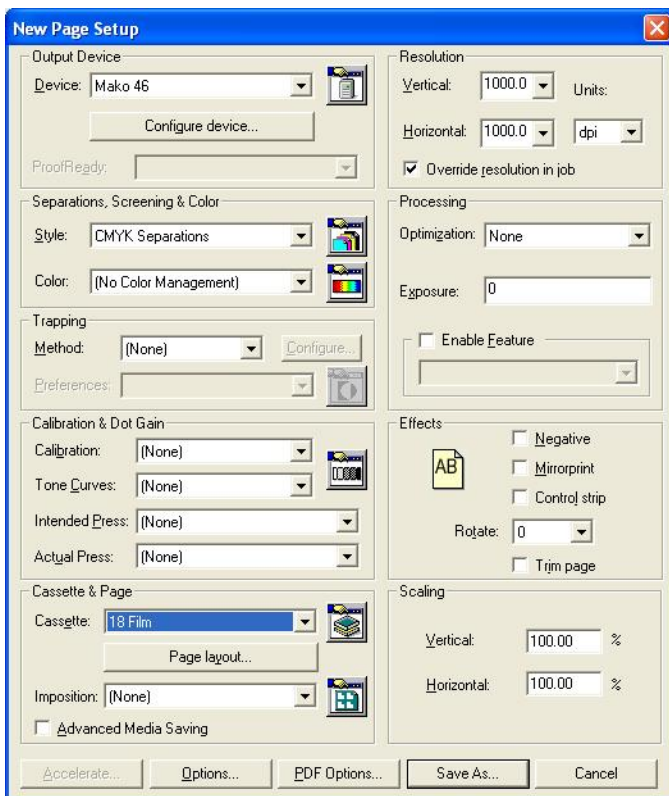
A dialog box similar to the one shown in Figure 3 will display. Enter a name for the device. This name will display in the Device pull-down menu as a selection in the Page Setup dialog. For example, if two Mako imagesetters are being driven by the same plug-in and differentiation between the two is important, edit this field to reflect Mako1 and Mako2.

FIGURE 3: DEVICE MANAGER EDIT



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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## ECRM SPECIFIC SETTINGS

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

Pelbox 3000	Pelbox 108	Pelbox 72
Stingray 63	Stingray 52	Stingray 46
Mako 36	Mako 46	Mako 56
VR30	VR36	VR45
Marlin 63	Marlin 46	
Knockout 4550		

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 Pelbox 3000 provides only six resolution options, which match the programming of the Pelbox device. Selecting Mako 56 yields six additional resolutions to match the capability of the Mako imagesetter.

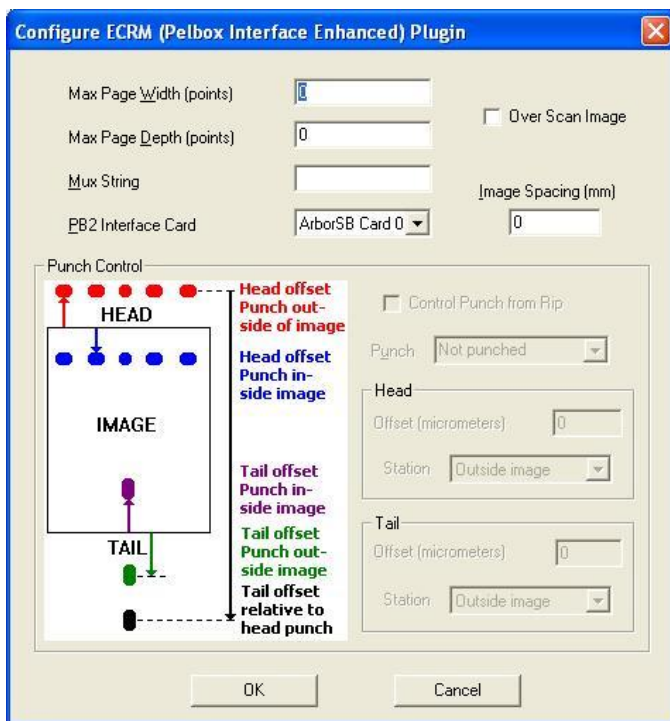
Choose the appropriate resolution, density, and page orientation from the main window of Page Setup as shown in Figure 4. Click the button labeled, ***Configure device...*** to change settings that are more specific to the output device such as punch positioning.

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



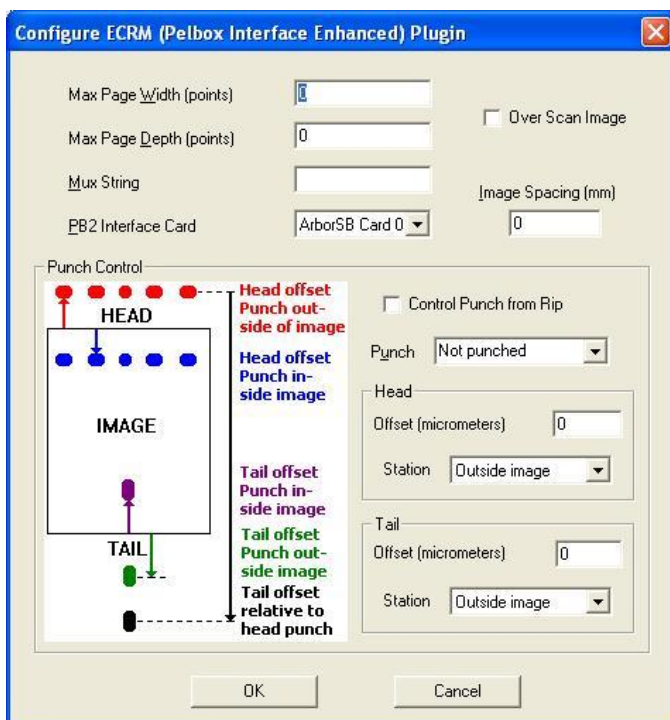
5, which shows the Configure Device window as it pertains to the Mako. In this example there are no selectable options for punching because of the limitations within the Mako.

FIGURE 5: MAKO CONFIGURE DEVICE



However, all of the options are available within the Configure Device dialog of the Marlin. This dialog box can be seen in Figure 6.

FIGURE 6: MARLIN CONFIGURE DEVICE



Again, depending on the device's capabilities, the following options may be configurable from this dialog box:

- **Max Page Width:** This value is used to override the built-in width-clipping feature of the plug-in. When this value is set to 0, the plug-in will always clip images at the maximum width built into the plug-in. Non-zero values will cause the plug-in to allow

images of the set value. Enter values in points. **Note:** **Entries that are too large will result in images that appear stretched in the direction of the film feed.**

- **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 to select one or more output devices to scan for a connection.
- **PB2 Interface Card:** If more than one interface (ArborSB) card is in the PC, you must select the appropriate interface here. The default for this box is blank, signifying that the first configured card will be used. Alternatively, if the interface is USB, the selection will appear as *Sedona*.
- **Over Scan Image:** This option may be used on recorders requiring extra “clocking” at the end of the scan line for a complete transfer. Leave this option un-checked unless instructed otherwise by a Xitron Support Specialist.

- **Image Spacing:** This value controls the space between images. A setting of 0 will place one image after the next as closely as possible on the film. If additional film spacing is needed between exposures, use this value (in millimeters) and adjust as necessary.
- **Control the Punch from the Rip:** Used to enable the punch control. If checked, punch setting and configuration follows the settings within this dialog box. Unchecked, the punch control and configuration are set at the recorder's front panel. **Note: This function is not available on Mako models and will be grayed out.**
- **Punch:** This box selects which punches are active. For example, the Stingray has both head and tail punches. The selections for this recorder are *Not punched*, *Head Punch*, or *Head & Tail Punch*.
- **Head Punch Offset:** This value, with the *Station* value, controls the position of the punch relative to the start of image. The value is specified in micrometers (thousandths of a millimeter). Consult your recorder's specification for valid minimum and maximum values.
- **Head Punch Station:** This box, with the *Offset* value, controls the position of the punch in relation to the start of the image. The user can specify if the

punch is *Outside image* or *Inside image* by the specified offset.

- **Tail Punch Offset:** This value, with the *Station* value, controls the position of the Tail Punch relative to the image. The value is specified in micrometers (thousandths of a millimeter). Consult your recorder's specifications for the valid minimum and maximum values.
- **Tail Punch Station:** This value, with the *Offset* value, controls the position of the Tail punch in relation to the end of the image or the Head punch, depending on the setting. If the user selects either *Inside image* or *Outside image*, the offset is applied relative to the end of the image (last scan line). If the user specifies *Head relative*, the offset is the distance from the Head punch.

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## EXPOSURE VALUES

The exposure value in the Page Setup dialog controls the laser intensity of the recorder. ECRM recorders generally have two values that impact laser intensity; an exposure value and a neutral density filter selection. These two values are represented in the Page Setup's exposure setting as follows:

The **Hundreds** digit of the value represents the ND (Neutral Density) setting of 0, 1, 2, or 3.

The **Tens** and **Ones** digits of the value represent the device's exposure in a range of 0 through 31.

For this reason, the exposure control on the Page Setup dialog can have the following values:

- 0-31 Neutral density filter 0, exposure value 0 through 31
- 100-131 Neutral density filter 1, exposure value 0 through 31
- 200-231 Neutral density filter 2, exposure value 0 through 31
- 300-331 Neutral density filter 3, exposure value 0 through 31

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## CONNECTING THE INTERFACE

Xitron's ECRM interface uses a single 50-pin, D-shell cable that connects the recorder's Pelbox interface port to the interface card. When connecting Xitron's Navigator or Raster Blaster to a Mako imagesetter, there are three additional steps:

1. The Mako must be set for serial communications. This is the only protocol that will work with the Xitron plug-in.
2. Through the front panel of the imagesetter, locate the setting for *Image Spacing* which is listed under *System Commands*. They should appear as follows: (25-95): 75, where (25-95) is the range of acceptable values and 75 is the current setting. From the *Configure Device Menu* (within the RIP's Page Setup), the *Image Spacing* value must be greater than the minimum setting described on the front panel of the imagesetter.

3. The system of measurement must be set to metric in the Xitron plug-in. If not, the device will not accept the *Image Spacing* value entered.