



**NAVIGATOR**

PLUG-IN MANUAL

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**SCITEX DOLEV**

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Xitron Part Number Doc-1008-04/07

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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 interface cards (PCI & PCI-X), 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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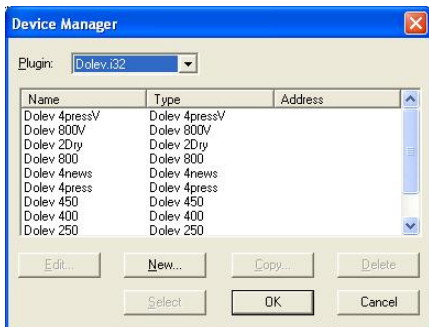
### FIGURE 1 : DEVICE MANAGER ICON



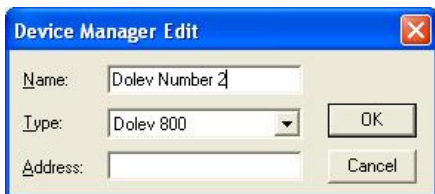
The Device Manager dialog box shown in Figure 2 will display. If the dialog displays the user's output device in the scrollable list, no further editing is necessary. The names of the available output devices will appear in the Output Device pull-down menu of the Page Setup dialog box. However, in the 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**

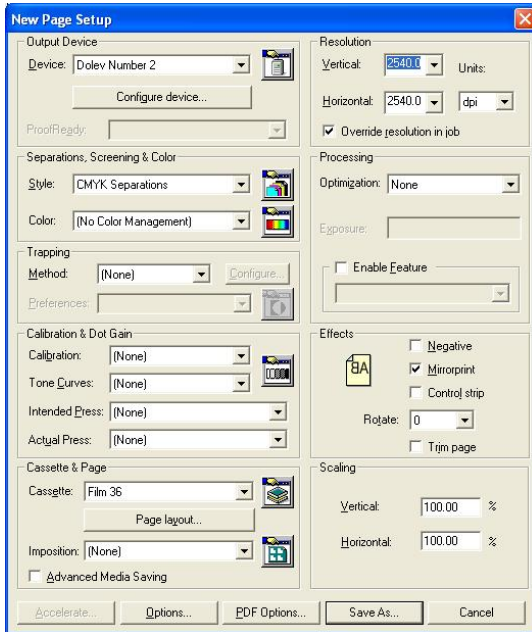


A dialog box similar to the one shown in Figure 3 will display. Enter a name for the device. This name will display in the Device pull-down menu as a selection in the Page Setup dialog. For example, if two Dolev imagesetters are being driven by the

same plug-in and differentiation between the two is important, edit this field to reflect Dolev Number 1 and Dolev Number 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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## SCITEX DOLEV SPECIFIC SETTINGS

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

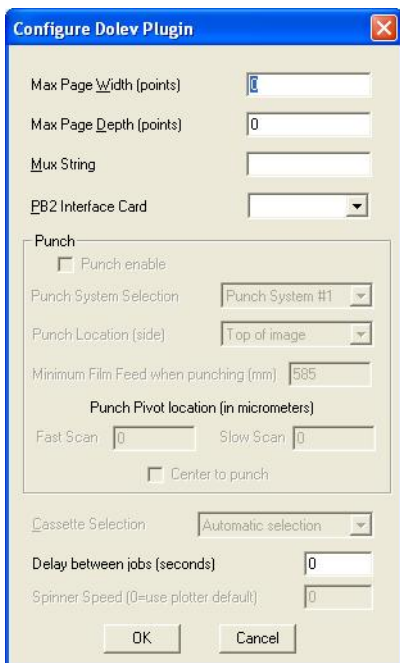
Dolev Type 1:	200	250	400	450
Dolev Type 2:	800	800V	800V2	2/Dry
	4/Press	4PressV	4/News	

Based on the device selected in the pull-down menu of the Page Setup, various capabilities regarding resolution, page orientations and film dimensions will automatically populate the available menu options. For example, choosing Dolev 800 provides six resolution options, the lowest being 1016 dpi, which matches the programming of the Dolev 800. Selecting Dolev 4News yields one less resolution but offers 762 dpi to match the capability of that device.

Choose the appropriate resolution, separation style 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.

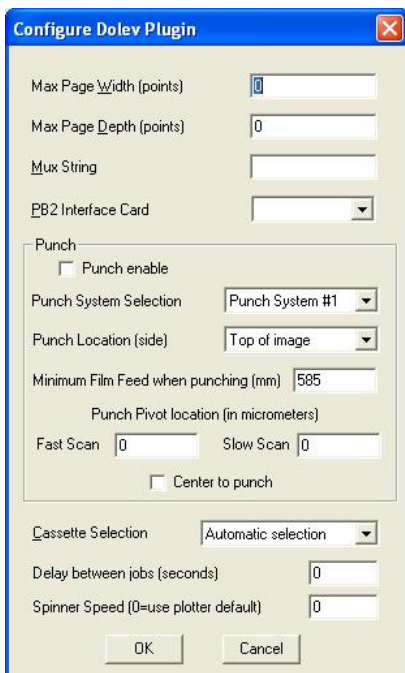
Some configuration options will be grayed out and non-editable. This occurs when the device chosen does not offer that particular functionality. An example can be seen in Figure 5, which shows the Configure Device window as it pertains to the Dolev 250. In this example there are no selectable options for punching because the 250 does not have the capability.

**FIGURE 5: DOLEV 250 CONFIGURE DEVICE**



However, all of the options are available within the Configure Device dialog of the Dolev 800v, including an area tasked with controlling the complex punch systems. This dialog box can be seen in Figure 6.

**FIGURE 6: DOLEV 800V 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. In the case of the Dolev 800, this will be 44 inches.

Non-zero values will cause the plug-in to clip images to the set value. Enter values in points.

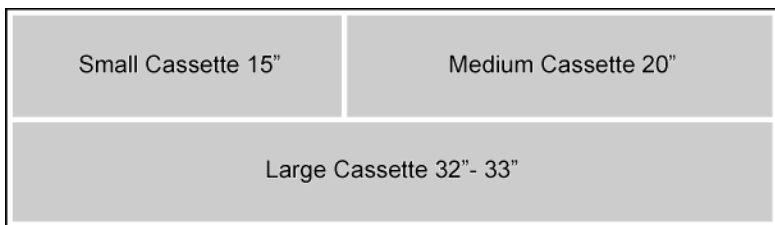
- **Max Page Depth:** Use this value to set the maximum length of an imaged job. This feature is helpful if a film device is imaging plate material and the plate must be a consistent length. Setting this value to 0 disables the feature. If this value is set to 0, images will be clipped at the maximum length allowed by the plug-in. Non-zero values will cause the plug-in to clip images to 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. This should be left blank.
- **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.
- **Punch Enable:** If the attached recorder allows the Navigator RIP to control the punch (Dolev 800's, 4Press, 4News), this option will enable it. Punch control is not available for Type 1 recorders.
- **Punch System Selection:** On the 4Press and 4News recorders, there can be up to five different punch systems configured. Each system can cause the placement of different holes in the output media in addition to having a different punch pivot (center point) and minimum film feed amount. The selections in this list box correspond one-for-one, in order, with the punch systems listed in the Dolev's front panel

punch configuration. Typically, the Dolev 800 has only one punch and the user should always select “Punch System #1.”

- **Punch Location (side):** This selection is used to define the location of the punch in relation to the image being exposed. Side punches (nibs located around the circumference of the drum) are selected as either “Top of image” or “Bottom of image.” Bar punches are selected as either “Left of image” (supply side) or “Right of image” (take up side). If unsure of which setting to use, prepare a test image measuring four inches by eight inches and use the Navigator’s ROAM feature to familiarize yourself with the orientation of the image before exposing it on the recorder with the punch turned ON. This value is only used when “Center to Punch” is selected. Please read the section on punch centering before using this feature.
- **Minimum Film Feed:** This setting controls the amount of film fed on a punched image. If the size of the image to be exposed is significantly smaller than the maximum device dimensions, this value will assure that enough film is ejected from the recorder. This value is only used when punching. However, any value entered here is the precise amount of film that will be fed.
- **Punch Pivot Locations—Fast Scan / Slow Scan:** These two values specify the point on which the image will be centered. They’re specified in micrometers (thousandths of a millimeter). These values are only used when “Center to Punch” is

selected. Please read the section on punch centering below when using this feature.

- **Center to Punch:** This checkbox enables the punch centering option. When checked, the exposed image is placed on the drum according to the punch pivot location. When unchecked, the exposed image is placed on the film starting at the upper left corner. Please read the section on punch centering before using this feature.
- **Cassette Selection:** This option applies only to the Dolev 800's, which have multiple supply cassettes. Most Dolev 800's are configured with three supply cassettes: small, medium, and large. In some instances, the medium and small cassettes have been removed and replaced with a second large (upper) cassette. If a specific supply cassette is desired, the user can select that cassette. Otherwise, "Automatic Selection" should be configured. In this case, the size of the output bitmap will dictate which supply cassette the system will use.



- **Delay between jobs:** Since most installations of the Xitron RIP will be maintaining existing Scitex RIPs and workflows, there may often be contention

for the use of the recorder between Xitron software and Scitex RIPs. If the desired effect is to give ultimate priority to the Xitron software, leave the value at the default of 0. In this case, the existing Scitex workflow will be effectively locked out of acquiring the recorder for output unless the Xitron software is idle. A value of approximately 45 seconds will allow the output to ‘ping pong’ back and forth between the Scitex RIP and the Xitron software.

- **Set Spinner Speed:** An entry here allows the operator to choose the speed at which the Dolev’s spinner motor exposes the film. Entering 0 or 65535 will instruct the Dolev to use its default value. Other values (24000 for example) will be honored by the system during exposure. **No entries should be made unless instructed by Xitron Support. Under no circumstances should this value be set higher than 65535.**

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## **DOLEV EXPOSURE VALUES**

It’s possible to control the recorder’s exposure from the Navigator RIP on certain Dolev recorders. These recorders are the 200, 400, 250, and 450. Other recorders require setting the exposure value at the front panel of the device.

From Navigator’s Page Set-up, enter a value between 1 and 9999 in the box labeled, “**Exposure.**” Entering 0 will instruct the system to use the exposure value programmed into the output device through the device’s control panel. If the

Exposure box appears gray and prohibits a value entry, the device chosen does not support exposure values from Navigator.

Note: Some values will cause imaging to fail while generating a “Laser Intensity Error” on the front panel of the Dolev. If this occurs, it may be necessary to reduce the value entered.

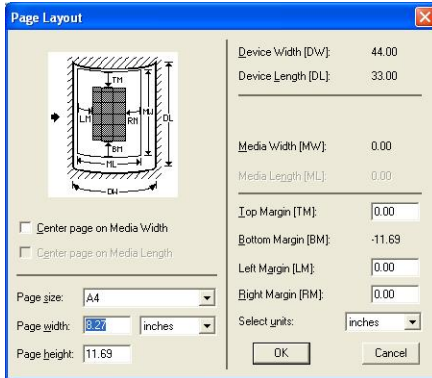
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### A NOTE ABOUT DRUM DEVICES

When discussing drum devices such as the Dolev 800, terms such as width, depth, or length can be confusing. Please note, as illustrated in Figure 7, that Media Width corresponds to Drum Length and Media Length corresponds to Drum Width.

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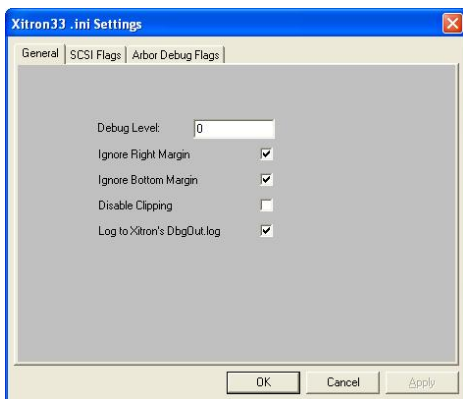
**FIGURE 7: MEDIA WIDTH AND DRUM LENGTH**



*Note: Do not change any values in the Page Layout dialog as they will conflict with Page Layout instructions within PostScript files and with values determining the Punch Pivot location. This may prevent proper placement of images in relation to the punches.*

It is also wise to verify the default margin settings through the use of PB2Diag, Xitron's diagnostic application. This application can be found in the RIP's Utilities folder. Launch the application by double-clicking the icon. In the Main menu, click and hold **Utilities** to select **Edit INI Settings**. A dialog similar to that shown in Figure 8 will appear. Verify the check boxes look exactly like those in the example.

**FIGURE 8: CHECK MARGIN SETTINGS**



If the settings are different from those in Figure 8, change them to match. Otherwise, do not change them from these settings unless instructed by a Xitron support specialist.

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## Punch Centering

The user can control the alignment of the exposed image to the punch on the Dolev 800's, 4Press, and 4News. This is done using the punch centering options. There are many punch configurations available on the Dolev recorders. The values for **“Punch Location (side)”** and the **“Punch Pivot Point location”** define where the image will fall on the output film.

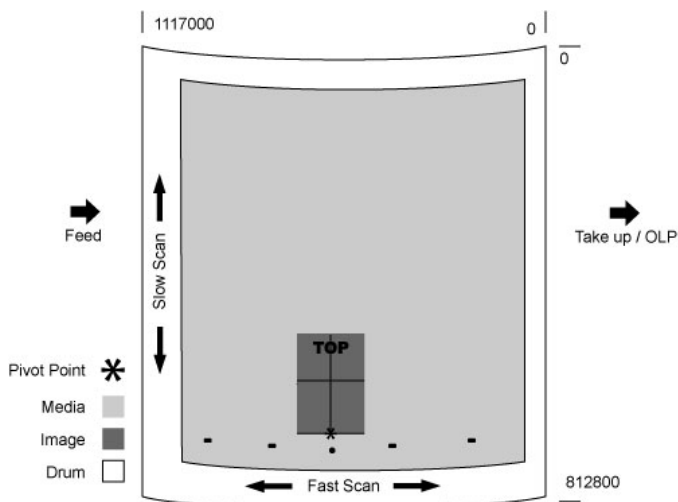
**IMPORTANT: All descriptions of Punch Location, i.e. side punch, bottom punch, etc., in this manual are oriented based on the feed direction of the film. The Xitron Plug-in is designed to control configurations of Bottom of image, Left of image, Right of image, or Top of image. Top of image punches are only available when using 32-inch film.**

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### **CONFIGURING PUNCH PIVOT LOCATION**

The diagram in Figure 9 demonstrates how the 0,0 point - at which the imagewriter begins imaging - is determined. The Punch Pivot location is based on values in relation to the 0,0 point. Fast Scan coordinates increase *around the width* of the drum. Slow Scan coordinates increase *across the length* of the drum.

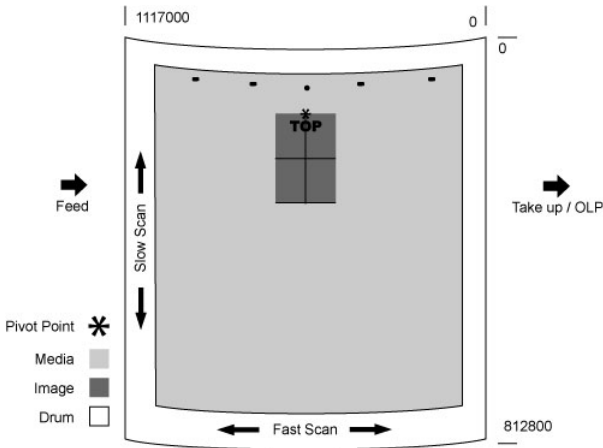
**FIGURE 9: PUNCH PIVOT-BOTTOM OF IMAGE**



Select Bottom of Image for the entry **Punch Location (side)** in the Configure Plug-in dialog box. In this example, configure the Pivot Point as Fast Scan = 609500 (609.5 mm in micro-meters) and Slow Scan = 788000 (788 mm in micro-meters) for 32 inch media. With **Center to punch** enabled, the system places the bottom edge of the image against the Pivot Point with half the image to the left of the Pivot Point and the other half to the right of the Pivot Point. **This is the standard Dolev 800 configuration. Note that these numbers will be close but may not be exact. It may be necessary to move the image in one or both directions by a few micro-meters to place the image properly.**

For 20 inch media the Pivot Point will be Fast Scan = 609500 (609.5 mm) and Slow Scan 483000 (483 mm). The Slow Scan 0-point moves down the drum by the difference in size between 32-inch and 20-inch media. Since the Pivot Point location is related to the 0,0 starting point, it moves accordingly. For 15-inch film, the Slow Scan 0-point moves even farther down the drum.

**FIGURE 10: PUNCH PIVOT-TOP OF IMAGE**



The example in Figure 10 illustrates the approximate values when using *Top of image* for the **Punch Location (side)** entry in the Configure Plug-in dialog box. In this illustration, the Pivot Point location will be Fast Scan = 588500 (588.5 mm in micro-meters) and Slow Scan = 262800 (262.8 mm in micro-meters). The system will place the top of the image so

that half is to the left of the Pivot Point and half is to the right of the Pivot Point after selecting *Center to punch* is enabled.

On 20-inch media, the Fast Scan remains the same and the Slow Scan value is reduced as the Slow Scan 0 moves down the drum. For 15-inch film, the Slow Scan 0 moves even farther down the drum.

**Note: It's only possible to have punches at the Top of Image on 32-inch media.**

**FIGURE 11: PUNCH PIVOT-LEFT OF IMAGE**

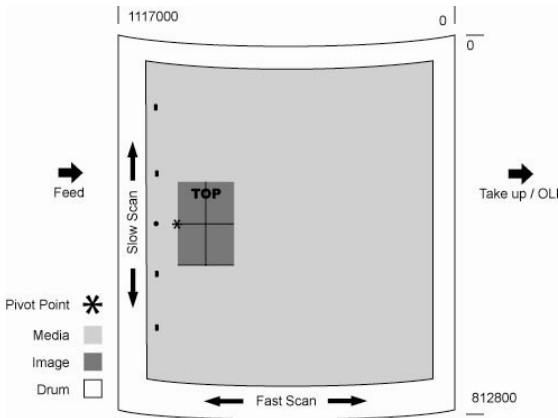


Figure 11 illustrates the image-to-punch pivot when using *Left of Image* for the *Punch Location (side)* entry. In this example, the Pivot Point will be Fast Scan = 10000 (10 mm in micro-meters), Slow Scan = 337424 (337.42 mm in micro-

meters) on 32 inch wide media. The system places the left edge of the image against the pivot point and, after selecting **Center to Punch**, half the image falls above the Pivot Point and half the image falls below the Pivot Point.

**FIGURE 12: PUNCH PIVOT - RIGHT OF IMAGE**

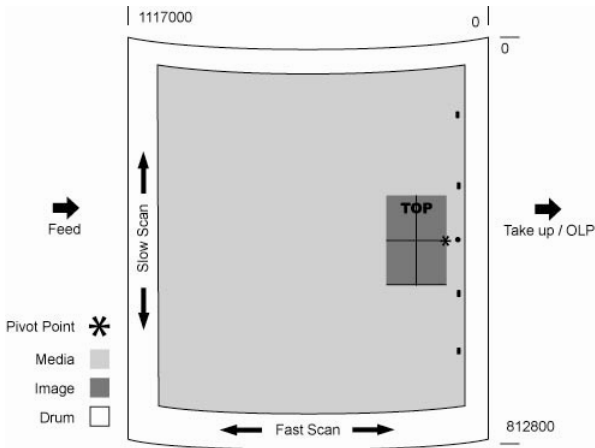


Figure 12 illustrates the result when using **Right of Image** as the entry for **Punch Location (side)**. In this example the Pivot Point will be Fast Scan = 549900 (549.90 mm in micrometers) and Slow Scan = 337424 (337.42 mm in micrometers). The system places the right edge of the image on the Pivot Point so that half of the image is above the Pivot Point and half of the image is below the pivot point after selecting **Center to punch**. **This is the standard configuration for the Dolev 4Press, 4News, and 4Dry.**

On 20-inch media, the Fast Scan remains the same and the Slow Scan value is reduced as the Slow Scan 0 moves down the drum. For 15-inch film, the Slow Scan 0 is moved even farther down the drum.

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## ATTACHING THE DOLEV INTERFACE

Xitron's Dolev interface takes advantage of the spare OMC port available on most Dolev imagesetters. The interface generates its own screen data, making the interface to the Continuous Tone/Line Work VLSI board unnecessary (fiber optic connection). In rare cases, the output of the VLSI board will remain plugged into one of the OMC ports, maintaining an existing Scitex workflow with the Scitex software's bitmap output attached to the other OMC port. The plug-in and interface firmware allow for concurrent OMC connections, with arbitration and sharing options discussed earlier in this document under *Delay between jobs* under *Configure Device*. However, Xitron strongly recommends against this configuration.

There are two different classifications of OMC ports in the Dolev recorder family:

**Dolev Type 1 Interface:** This is the interface used by the Dolev 200, 250, 400, and 450. The connector is a 25-pin D-Shell type and the port on the recorder is usually labeled "Host A" or "Host B."

**Dolev Type 2 Interface:** This is the interface used by the Dolev 800, 4Press, 4News and 2Dry. The connector is a 3-row, 26-pin, high density D-Shell type on the recorder. The ports are usually *unlabeled* as Scitex service personnel typically perform connections. However, the ports are easy to identify by the connector as no other port uses the same type.

**Important Note: The OMC ports use an interface type (ECL) that is susceptible to damage if connected or disconnected while power is applied to either the recorder or RIP. Make sure all units are powered down while connecting or removing cables. Also, observe the usual static electricity precautions.**

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## **PLUG-IN MESSAGES**

Once installed in the Navigator RIP, the plug-in will immediately begin sending messages to the monitor window. These messages are typically informational but can also convey warnings and report errors from the Dolev. 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*, which is available on the Xitron website.

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 plug-in encounters an error from 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 easily remedied, the plug-in 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 queues. If the error is serious, the plug-in will request that the software disable all output and the page will be placed back in the Active Queue automatically.

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## **TYPE 2 INTERFACE DEVICES: DOLEV 800, 4PRESS, 4NEWS, AND 2DRY**

Dolev Type 2 devices return error messages instead of codes. The interface is programmed to return these messages whenever possible. The returned message should give the user some idea of what went wrong but the ultimate authority is the recorder itself. The front panel of the recorder will display the most recent error when the F2 key is pressed.