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Plug-in Manual for use with Raster Blaster

Presstek

Version 6.4.0.4
October, 2005

Xitron Part Number Doc-1005RB 10/05

Overview

Xitron's Navigator PostScript RIP and Raster Blaster TIFF Catcher rely on software modules called plug-ins to communicate with imagesetters, platesetters, and proofers. These plug-ins are written and compiled to a format known as Dynamic Link Libraries, or DLLs. They act as device drivers for the software 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 directory called "devices" for plug-in files. 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." When the printer buffer is full, the plug-in starts 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.

Raster Blaster

The Presstek plug-in accepts one-bit TIFF files (the standard input file type for Raster Blaster) and converts them to the Presstek format (hereafter referred to as DI files). When using the standard Dimension setup, the plug-in will then send the DI files via network connection to a mapped drive on a PC, which is connected to the Presstek/DI device. This mapped drive is an external USB 2.0 drive supplied by Xitron and connected to the Presstek GUI computer. In addition, the plug-in automatically generates the low-resolution composite bitmap called a Thumbnail, which is used to help identify the job at the CTP device or press console.

Supported Devices

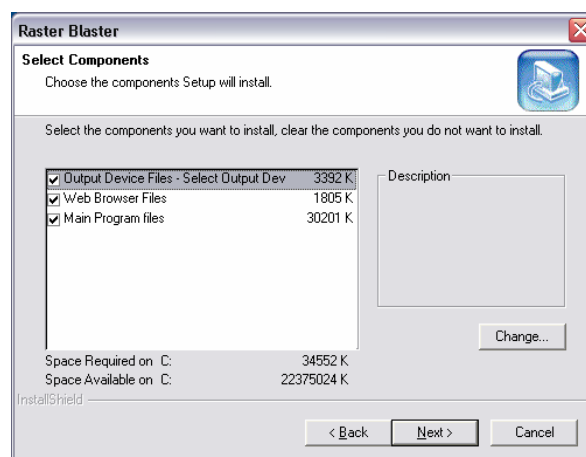
Presstek devices include CTP imagers as well as direct to press or “DI” devices that utilize Presstek technology. The most common and default resolution is 2540 dpi. However, they may also output at 1270, or 2400 dpi, depending on their configuration. Xitron’s Raster Blaster supports the following devices with the Presstek Plug-in.

Presstek Dimension 200, 225
(AB Dick Vector 52)
Presstek Dimension 400,425
Presstek Dimension 800 Series
Ryobi 3404 DI
Heidelberg QuickMaster DI 46-4 Pro
Kodak DirectPress 5634
Kodak DirectPress 5334

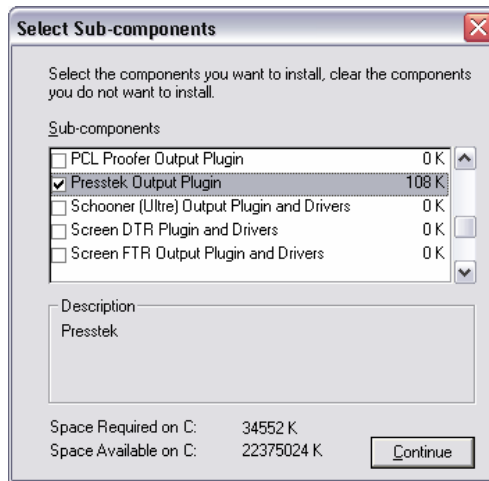
Installation

Install the plug-in from the Raster Blaster software release CD during installation of the Raster Blaster program. It can also be installed and/or updated using the stand-alone plug-in installer found Xitron’s Web site at www.xitron.com.

When installing the plug-in from the Raster Blaster software release CD, after double-clicking the Raster Blaster Installer icon, the following window appears:

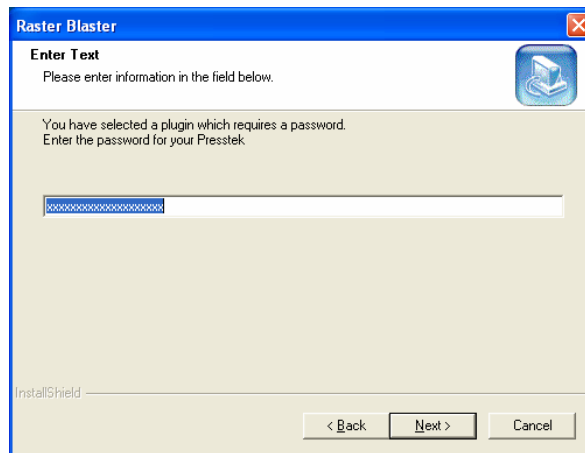


Highlight the “Output Device Files – Select Output Dev” option and click the “Change...” button. The Select Sub-components window (shown on the next page) will appear.



Click the box next to “Presstek Output Plug-in.” Be sure that “Diag and Utilities” are also selected (this should be the default). It may be necessary to scroll through the choices to find these. Deselect the “Bitmap Output Plug-in” if it is selected before clicking the “Continue” button. Proceed with the remainder of the installation as instructed by the Raster Blaster Users Manual and the screen prompts.

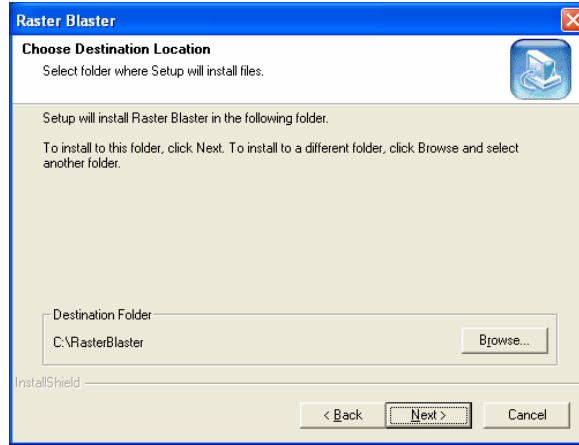
The following window will appear:



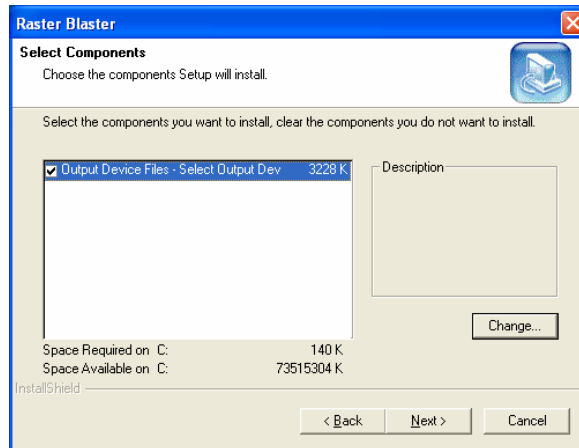
As shown, the installer is requesting a password for the QuickMaster DI/Presstek Plug-in. Although there is already an entry in this field, it will be necessary to enter the 20-character alphanumeric code found with the installation materials.

Note: This password can also be entered after installation using the PB2Diag program.

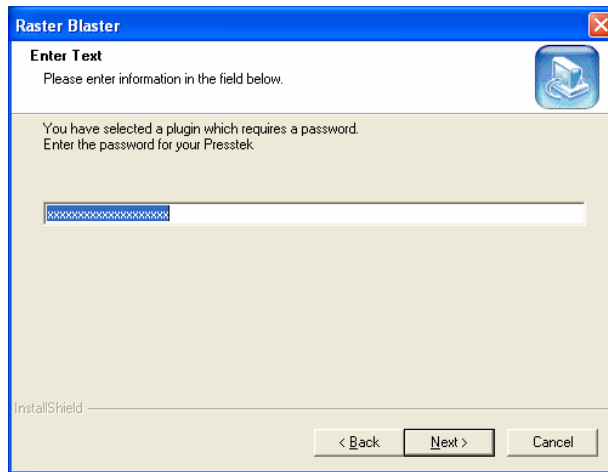
If using the stand-alone plug-in installer, the following window will appear after double-clicking the icon:



Point the installer to the directory containing the installed Raster Blaster application. Once the proper directory has been chosen, click the Next button and the following window will appear:



It is not necessary to select the output device type when using the stand-alone plug-in installer. Simply click the Next button to proceed. The following window will appear:



As shown, the installer is requesting a password for the QuickMaster DI/Presstek Plug-in. Although there is already an entry in this field, it will be necessary to enter the 20-character alphanumeric code found with the installation materials.

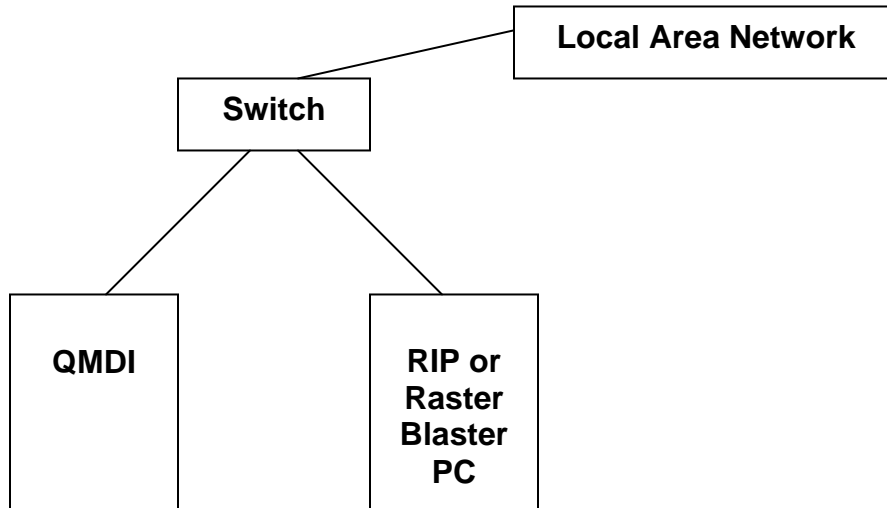
Note: This plug-in password can also be entered after installation using the PB2Diag program.

Connecting the QM-DI

When setting up communications between a Xitron Raster Blaster or Xitron Navigator RIP and a Heidelberg QM/DI press with a DOS-based user interface, the following items are critical.

It may be necessary to have two network cards in the computer connecting to the DI, as the DI connection is most likely a 10Base-T “cross-over” cable and is not a part of the LAN. One card will be configured to talk over the LAN and the other to talk exclusively to the DI.

An alternate option is to have a single network interface card (NIC) in the RIP or Raster Blaster computer, networked to a dedicated switch which is also attached to the DI and the LAN as illustrated below. The switch must be capable of accepting a 10Base-T connection and no cross-over cable will be necessary.



When using the dual NIC/crossover cable method, the NIC connected to the DI must be running the NetBEUI Protocol and have “Client for Microsoft Networking” and “File and Print Sharing” loaded. Xitron recommends that no other protocols be active on the NetBEUI card. Activating TCP/IP on the NetBEUI card can and will cause communication errors.

NOTE: The NetBEUI Protocol is not supported, or readily available on the Windows XP or Windows 2003 operating systems. If it becomes necessary to install it, locate and follow the instructions found in the Microsoft support article “Q301041” or search the Microsoft TechNet for the page entitled “How to install NetBEUI on Windows XP.” If using Windows XP, Xitron recommends the Windows firewall and IEEE Authentication be turned off.

IMPORTANT: The following steps should be taken **ONLY** while the new PC or the old DI RIP PC is not connected to the Local Area Network. Do not connect these two machines to the local area network at the same time.

Establishing communication between the DI and Xitron’s Raster Blaster or Navigator RIP requires re-naming the Raster Blaster or Navigator PC to the same “machine name” as the DI RIP being replaced. Field experience has shown that these older RIP PCs are generally named “QM_RIP1” or something similar. However, to insure success it will be necessary to determine this name from the previous RIP PC before proceeding. After booting the old PC and verifying the name, rename the Raster Blaster or Navigator RIP platform to match the name exactly.

Next, verify the name of the Workgroup assigned to the old RIP. Normally, this will be something similar to “Heidelberg_DI.” Change the Raster Blaster or Navigator PC’s Workgroup name accordingly. Then, create a “User” on the new PC for the DI computer user interface. Give this User Administrative privileges with the same name as the User Name of the DI. Verify the User Name by checking the list of users on the old RIP PC or by checking the list of “connected users” in the Windows network

management area of the old RIP PC while it is still connected to the DI press. Field experience has shown that this user name will be "QM_PRESS1" or something similar.

It will be necessary to create a shared folder structure on the new PC where the system will place the "DI files." This folder structure *must* match the folder structure being used on the old RIP PC. Normally this consists of a folder named "OUTPUT," which contains another folder named "UNSKEWED." Most commonly, the OUTPUT folder is shared and the share name for the folder is "BITMAP." Again, verify by checking the shared folder structure on the old RIP PC.

Create a folder structure "X:\OUTOUT\UNSKEWED" where X is the drive letter for the drive containing the folders. It will not matter which drive is used but is important that the drive has a large amount of free space. Share the "OUTPUT" folder using the share name "BITMAP."

After completing all the steps above, it should be possible to simply unplug the proper network cable from the back of the old RIP PC and plug it into the proper network card on the new Raster Blaster or RIP PC. At this point, files written into the "UNSKEWED" folder should appear and be accessible on the DI press.

A restart of the new PC and the DI press should not be necessary. However, if communication problems occur after checking that all of the above mentioned settings, rebooting the DI and the Raster Blaster or Navigator PC may solve the problem.

About the QMDI Coaxial Connection

Many QMDI systems were originally installed using a 10base-T coaxial connection. Typically, the interface card also has an RJ-45 port that can be used with Cat 5 Ethernet cable. However, simply plugging the RJ-45 connector into the port will not work because only one port can be active at a time. Changing the active port on the card requires the network configuration utility be run and the utility is only accessible through the DOS interface.

Locate an AT style keyboard or use a PS2 keyboard with an AT adapter. Plug this into the AT connection under the console. Reboot the platform using Control-Alt-Delete. The monitor will eventually display the message, "Starting MS-DOS." When this occurs, interrupt the startup by pressing the F8 key.

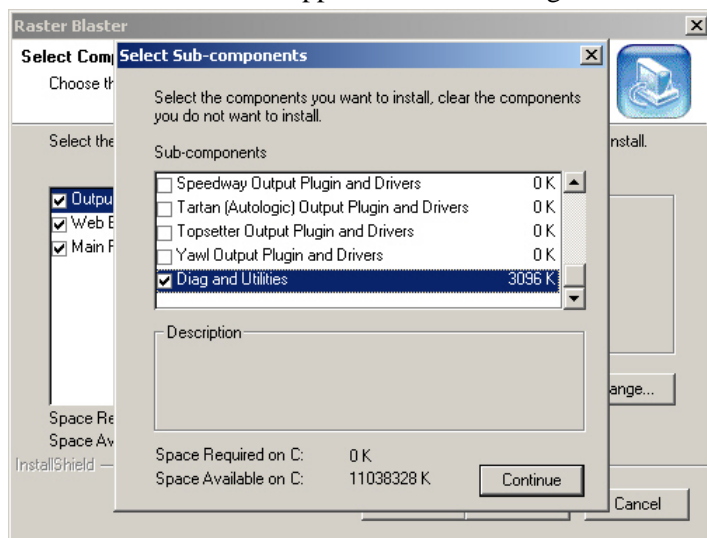
Config.sys will run first before a Y or N prompt appears for each query. Enter Y to each item until the display asks, "Do you want to run Autoexec.bat?" Enter N and a DOS prompt (C:>) will appear. If the interface card is a 3Com 3C5x9, the configuration utility will be located in that directory. Change to that directory by typing the following: cd 3c5x9. Confirm the existence of the configuration utility by typing dir/w. This will display all files found in the 3c5x9 directory. Locate the file labeled, "3c5x9cfg.exe.

To run the utility, type 3c5x9cfg and press enter. (DO NOT AUTO CONFIGURE the adapter as this will change the I/O address. If this happens, view the netstart.inf file to find the proper I/O address.)

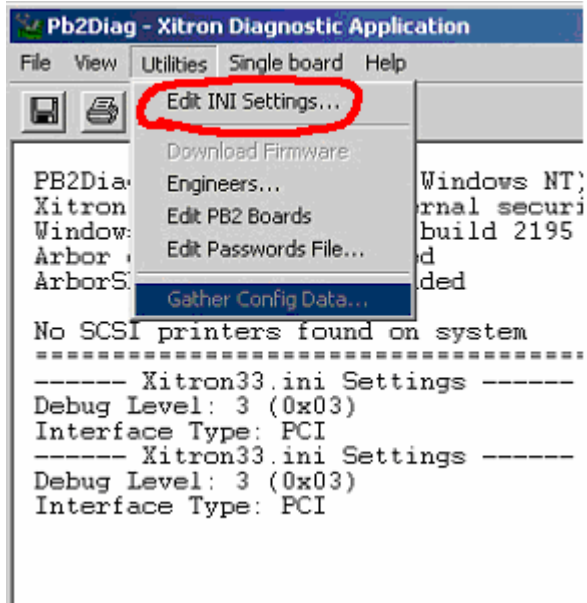
Use the tab key to navigate the menu until you reach “Configure Adapter.” Tab over to the transceiver type, choose RJ-45, press Enter and quit the utility. Reboot the platform and it should communicate through the RJ-45 port.

Configuring PB2 Diag

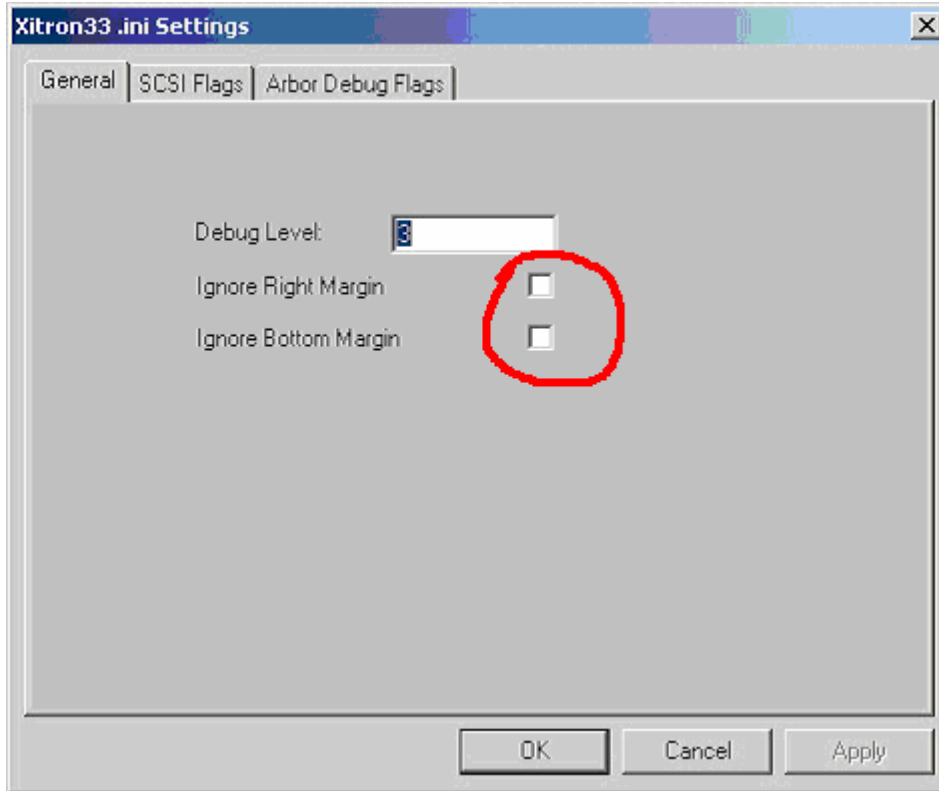
PB2 Diag must be installed in order to enable margin control within Raster Blaster. This utility is available on the Raster Blaster CD and installs with the Raster Blaster software by default. If it becomes necessary to re-install PB2 Diag, simply insert the Raster Blaster CD into the drive. If the installer doesn't automatically start, double-click the disc icon. After choosing a destination folder, the main Raster Blaster install menu will appear. Highlight Output Device files and click the Change Button. The sub-component menu shown below will appear. Select the Diag and Utilities option before clicking the Continue button.



This will install PB2Diag on the Raster Blaster Hard drive. Once complete, Launch PB2 Diag from the Start Menu and locate the ini settings option under the Utilities Menu.



De-select the two check boxes labeled, “Ignore Right Margin” and “Ignore Bottom Margin.”



Installation of External USB Drive

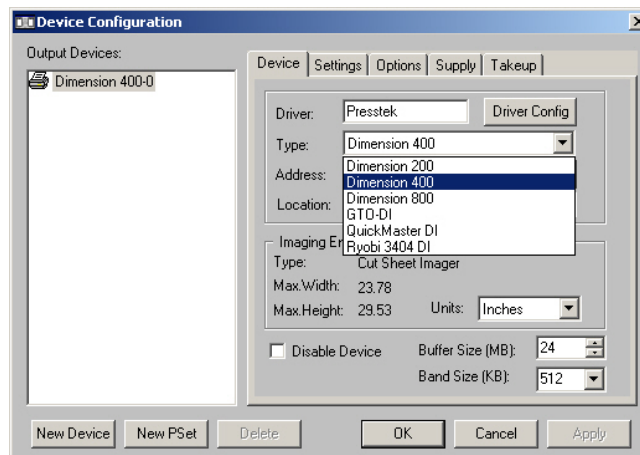
To attach the drive, simply shut down the Presstek GUI computer and attach the external drive to an open USB 2.0 port. Restart the computer. Create an images folder on the USB drive and network share of the entire drive for Raster Blaster to write the DI files. Next, reconfigure the Presstek GUI to monitor the images folder on the external USB drive. Please refer to your Presstek documentation for instructions on how to complete this task.

The drive should arrive from Xitron with an NTFS format. If the drive has a FAT32 format, it will be necessary to reformat it as NTFS.

Note: Do not connect the drive to an occupied USB port; no other device should be connected to this port. Also, do not connect the drive to a FireWire port, as it will interfere with the communication to the platemaker.

Configuring the Device

After installing the plug-in, it is necessary to set up the proper device. This is done in the Raster Blaster Device Configuration window shown below. In-depth instructions for establishing devices can be found in chapter 4 of the Raster Blaster Users Manual found in PDF form on the installation CD.

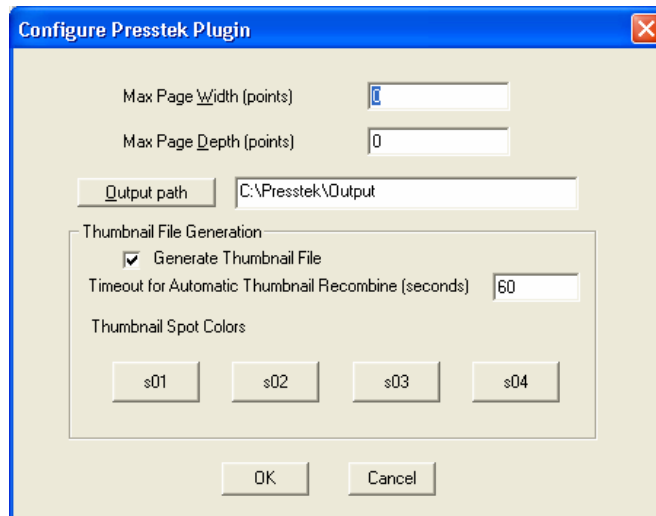


It is acceptable and often preferable to create more than one device in the Device Configuration window. Each device can have a different input folder (Queue) and different settings for other parameters like plate size or centering.

From the device “Type” list, select the appropriate Presstek Device. There are significant differences in configuration between the QuickMaster DI and all other Presstek Plug-ins. These are covered separately on the following pages.

Configuration Common to All QM-DI/Presstek Devices

The window above shows the Dimension 400 as the selected device. However, the following information applies to all QuickMaster-DI/Presstek Devices. After you have selected the proper device type, press the “Driver Config” button and the following window will appear:



Max Width and Depth Settings

Do not alter the Maximum Page Width and Depth settings unless instructed by a Xitron Support Specialist.

Output Path

The “Output Path” selection describes where the system will write the DI files. For a digital press, this should be set to the input folder on the DI device, or some other shared folder that can be “seen” and used as a spool/input folder by the DI device. Since DI files can be quite large, it is important to consider storage capacity and network throughput when configuring the outgoing folder.

Note: *Output path information specific to the QuickMaster DI can be found in the section entitled “Configuring The QuickMaster DI Device.”*

Xitron recommends - and in some cases requires - additional hard drive storage be added to the computer platform to which the DI files will be written. See the **Computer Platform** section at the end of this document for more details.

Thumbnail File Generation

This feature allows the plug-in to generate a 72 dpi indexed color BMP file allowing the plate or press operator to preview the file. The thumbprint is rotated 90 degrees counter-clockwise in order to be viewed properly from the Presstek GUI. This file is derived from the high-resolution files and the resulting BMP

file is placed in the same directory as the DI files. The system generates the thumbnail consistent with the final output name and will include spot colors as outlined in the Spot Colors section.

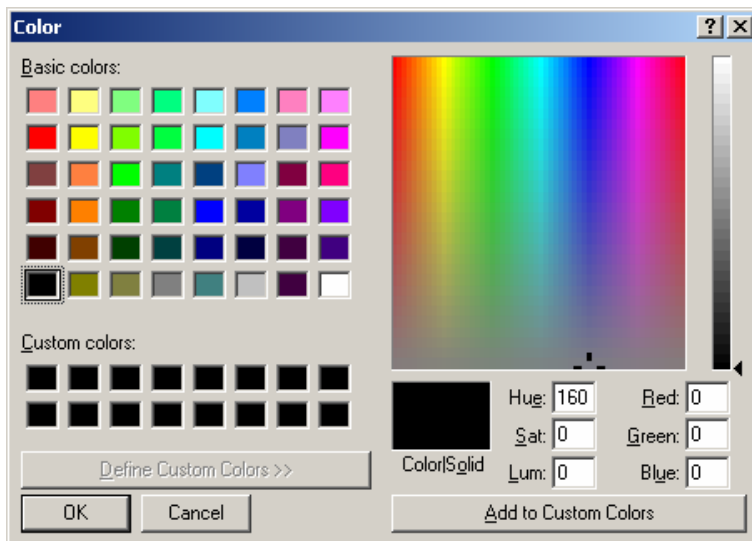
If a thumbnail file is required, place a check mark in the “Generate Thumbnail File” option. When this option is enabled (checked), after each set of plates for a given flat are complete, the Plug-in will generate a thumbnail file for that set of plates.

The timeout value refers to the amount of time the plug-in will wait before determining that sets of plates for a “flat” are complete. The system generates the thumbnail file only after the amount of time specified in the timeout value has elapsed, or if the Plug-in detects that a new (different) job has begun processing. For example, if only one job is being run, and the timeout value is set to 120, the Plug-in will wait 120 seconds from completion of the last color of that job before creating the thumbnail file. If a job is followed immediately by another job, the Plug-in will create the thumbnail immediately after the last color of the first job is completed because processing of the next job triggers the thumbnail creation process.

Note: *A low time-out value, especially one of less than 60 seconds may result in the system seeing colors of a single page as separate jobs. If the Plug-in is producing more than one thumbnail for each job, increase the value of the timeout until this behavior is corrected.*

Thumbnail Spot Colors

Clicking any of the Spot Color Buttons, S01-S04, will bring up the window shown below:

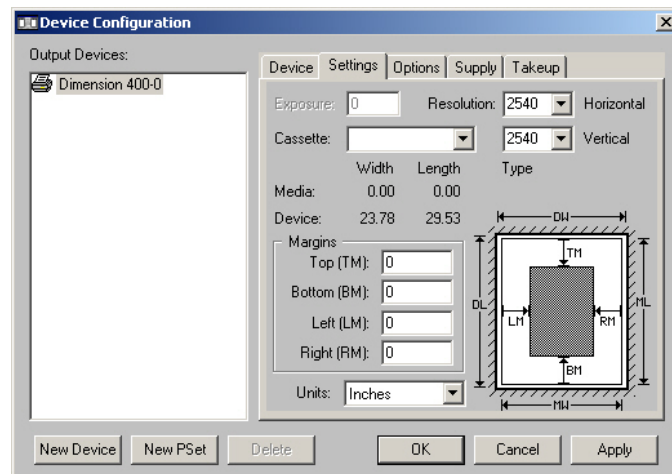


From this window, select the color the system will display for Spot Colors when they are shown in the .BMP file on the Presstek GUI. Xitron recommends that you choose a color close to the actual spot color ink. However, if a large number of spot colors are in use, choose colors that are easily identifiable by the Dimension or DI press operator.

If no colors are chosen, the spot colors will appear black in the thumbnail. This may make it difficult to properly view a job.

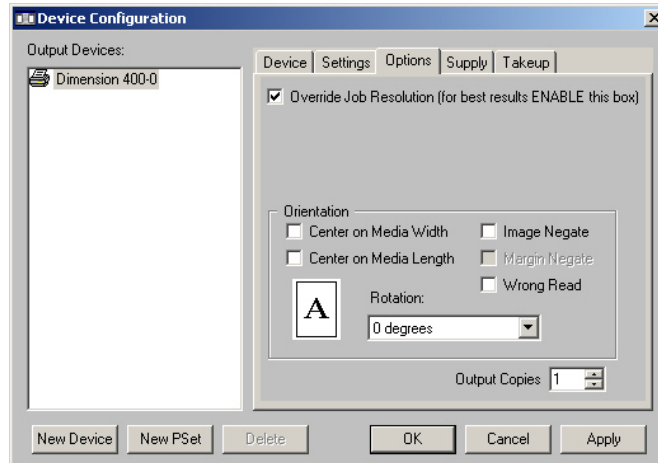
Note: *Changing the spot color representation in the thumbnail will not affect the final printed piece and will not change spot color representations when using the DI View program supplied by the press manufacturer.*

After completing the settings in the Configure Presstek Plug-in window, click on the settings tab. The following window will appear:



This version of the plug-in includes settings for margin control. To enable the margin settings, it will be necessary to first configure PB2Diag, which was explained earlier in this document. Set the resolution according to the capabilities of the output device.

Next, select the Options tab. The window below will appear:

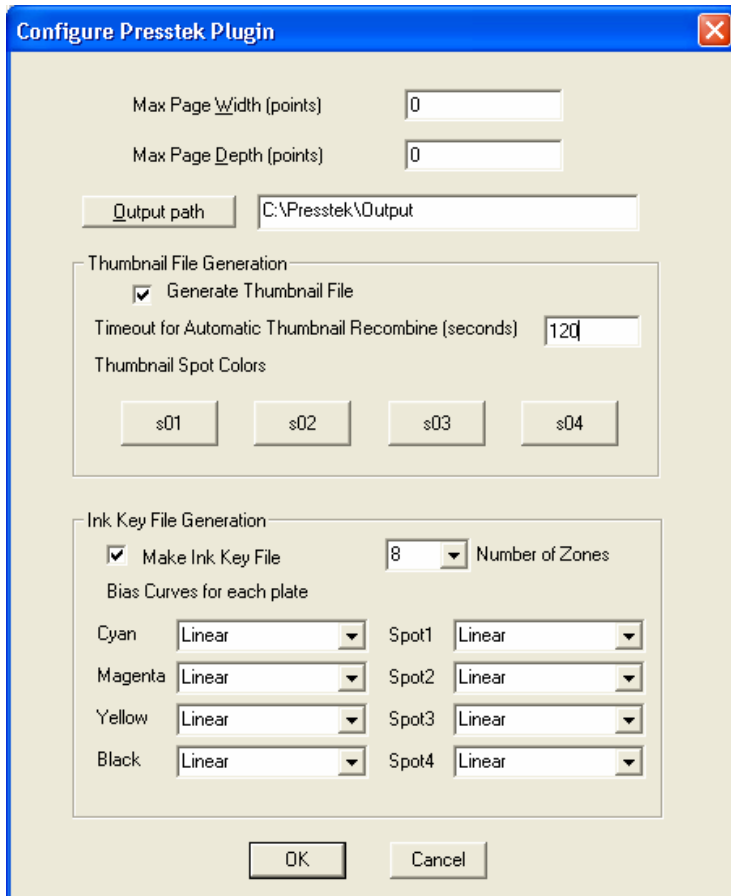


Ensure that “Override Job Resolution . . .” is enabled. ***Un-checking this box results in unpredictable behavior from the Raster Blaster.***

The rotate, negate and mirror functions are very processor intensive and should be avoided by properly configuring the RIP or workflow upstream. Neither centering options (width or length) have an effect on output because output is a file, not media. Do not attempt to use these options.

Configuring the QuickMaster DI Device

To configure the system for use with a QuickMaster DI device, choose the appropriate device in the Page Set-up menu as described on page 4. Click the “Configure device...” button and the following dialog box appears.



Max Width and Depth Settings

Do not alter the Maximum Page Width and Depth settings unless instructed by a Xitron Support Specialist.

Output Path

If using this plug-in with a “classic” QuickMaster DI, the press console may be running under DOS and it will need to communicate with Navigator or Raster Blaster via NetBEUI. If the Xitron software is running on a computer with Windows XP Pro or Windows 2003, it will be necessary to install the NetBEUI protocol in order to communicate with the press console. More information on installation of NetBEUI on an XP system can be found at:

<http://support.microsoft.com/default.aspx?scid=kb:en-us:301041>.

If using 2003 server, Microsoft does not provide NetBEUI and doesn't support the protocol in the OS. In this case, if you require NetBEUI, you can install the version supplied on the Windows XP installation CD-ROM in the \valueadd\msft\net\netbeui subfolder. Copy the nbf.sys file into the %systemroot%\system32\drivers directory, copy netnb.inf into the %systemroot%\inf\ directory, then open network connection properties and click Install to add NetBEUI. Unfortunately, Xitron cannot guarantee the performance of this workaround.

When connecting to a “classic” QuickMaster DI, the press console will look for the DI files using the path from its original Configuration. To avoid changing the settings in the QuickMaster DI press console, replicate the UNC path of the "old share" from the legacy rip. For example, if the computer name of the existing rip was “DIRIP” and the shared and mounted folder on that RIP used for delivery of DI files was “unskewed,” name the new computer running the Xitron RIP “DIRIP” and create a folder named “unskewed” before sharing it. Configure the Plug-in to drop the completed DI files into the shared folder named “unskewed.” If set up correctly, the operator of the QuickMaster DI should not notice any difference in operation once the old rip has been removed.

It is also possible to edit this path name within DOS on the press console in order to reflect a new UNC share path for the DI files, but the method for resetting the path is outside the practical ability of most users. Consult the QuickMaster DI documentation for more information on this procedure.

Ink Key File Generation

The QuickMaster DI is unique among the digital presses supported by the QM-DI/Presstek plug-in. This device makes use of a “.ink” file to preset the ink keys on the press console of the QuickMaster DI.

Enabling the “Make Ink Key File” checkbox will cause the Plug-in to generate these files and save them in the same output directory as the DI files.

Number of Zones

This selection instructs the system to generate a .ink file containing either 8 or 12 ink zones. Older presses such as the classic QuickMaster DI will use eight zones, while the newer presses (sometimes called a “plus” or “pro” QuickMaster DI) will use 12 zones. If this setting is not configured properly, the press may have problems imaging the job. If this setting is not configured properly, the press may have problems imaging the job. Specifically, the job name will appear in red and the QMDI will fail to output.

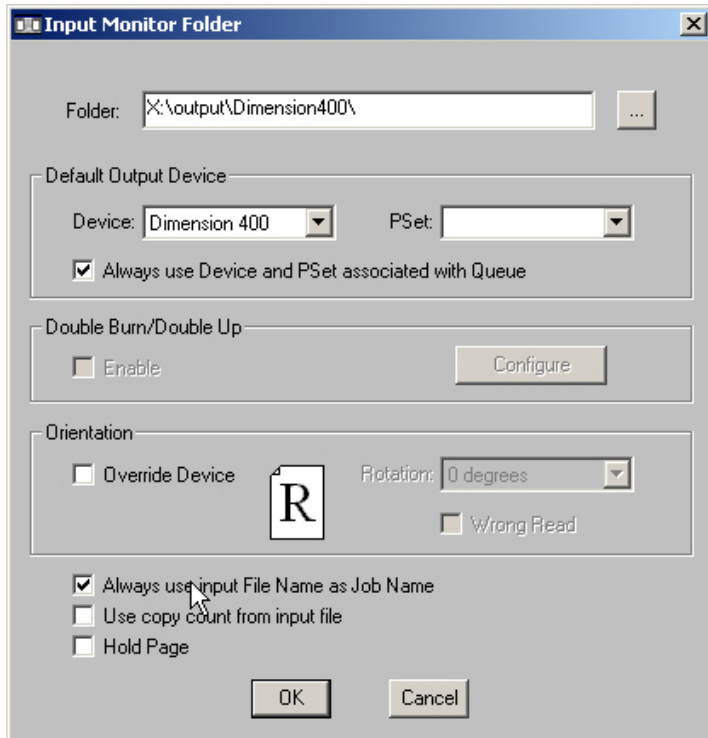
Bias Curves

These ink key adjustment curves mimic the curve settings found in legacy QuickMaster DI RIPs. There are two supplied bias curve choices available in the QM-DI/Presstek plug-in; “Linear” and “BumpCurve.” By default, these choices are set to Linear. This choice will set the ink keys for less ink coverage while the BumpCurve setting will set the ink keys for more ink coverage.

The proper choice for each application is subjective. Refer to previous settings used in the outgoing QuickMaster DI RIP for assistance in making the proper choice. Experimentation with various settings in consultation with the press operator is another option for determining proper ink key adjustment settings.

Queue Configuration

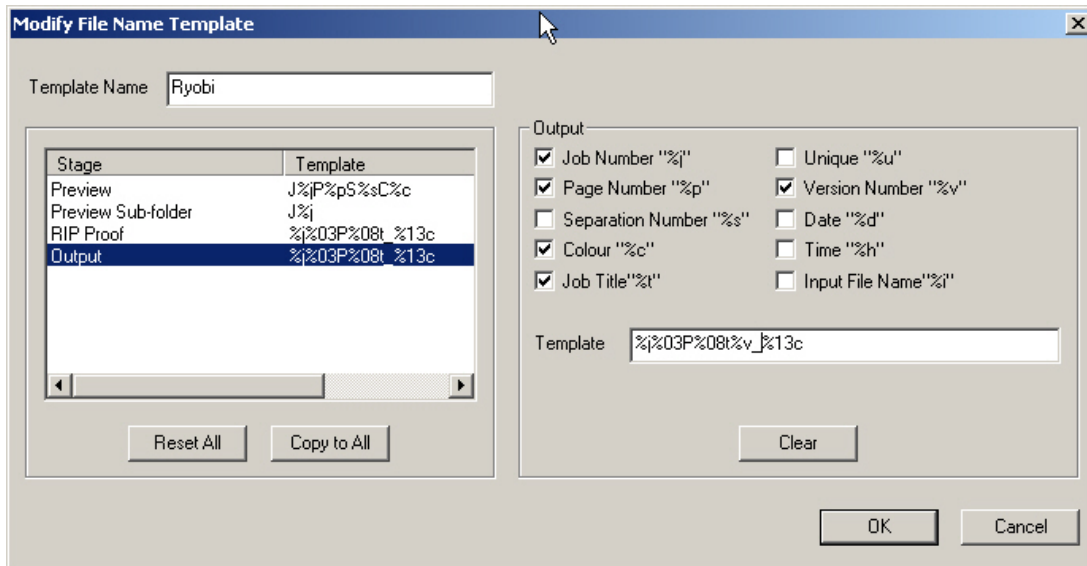
Select “Configure queue” from the file menu. Create a monitor point from which Raster Blaster will look for incoming files by clicking “Add Monitor.” The following dialog box appears:



Simply choose the folder from which Raster Blaster will find incoming TIFF files, select the appropriate device and ensure the “**Always use input Filename as Job Name**” check box is selected. Click OK to save your changes.

Device Setup in Xitron's Xenith Workflow System

If using Raster Blaster with Xenith, consider the following file name template for final output:



Also, if sending files from Xitron's Xenith to the Raster Blaster with Presstek plug-in, the orientation for a **Dimension** should be *bottom to top, left to right* in the device utility.

For the a **DI press**, the Fast Scan is 17.72 and Slow scan is 12.99; the orientation should be *Top to Bottom, Right to Left*.

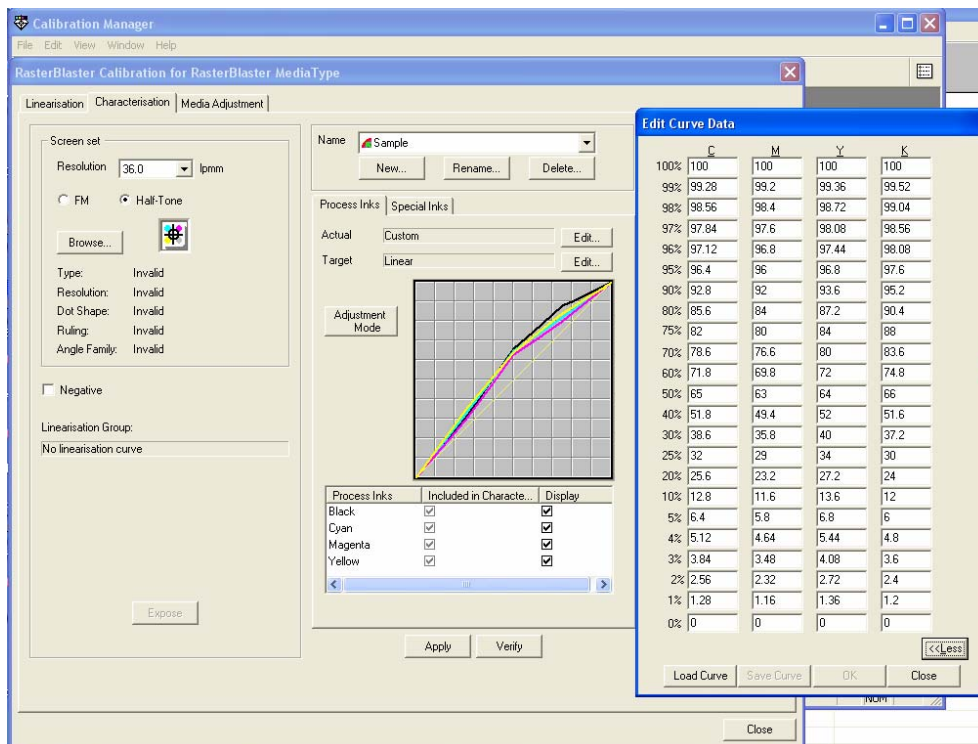
Linearization and Calibration Issues

It is good practice to begin an installation to any computer-to-plate or direct-to-press device with a dialogue of expectations. Xitron recommends a discussion at the start of the installation process specifically covering linearization and process control. Further, Xitron recommends that all process control adjustments beyond linearization (such as press gain compensation) be left to the customer.

The following is Xitron's suggested step-by-step procedure for "linearizing" a QMDI press when used with a Navigator RIP.

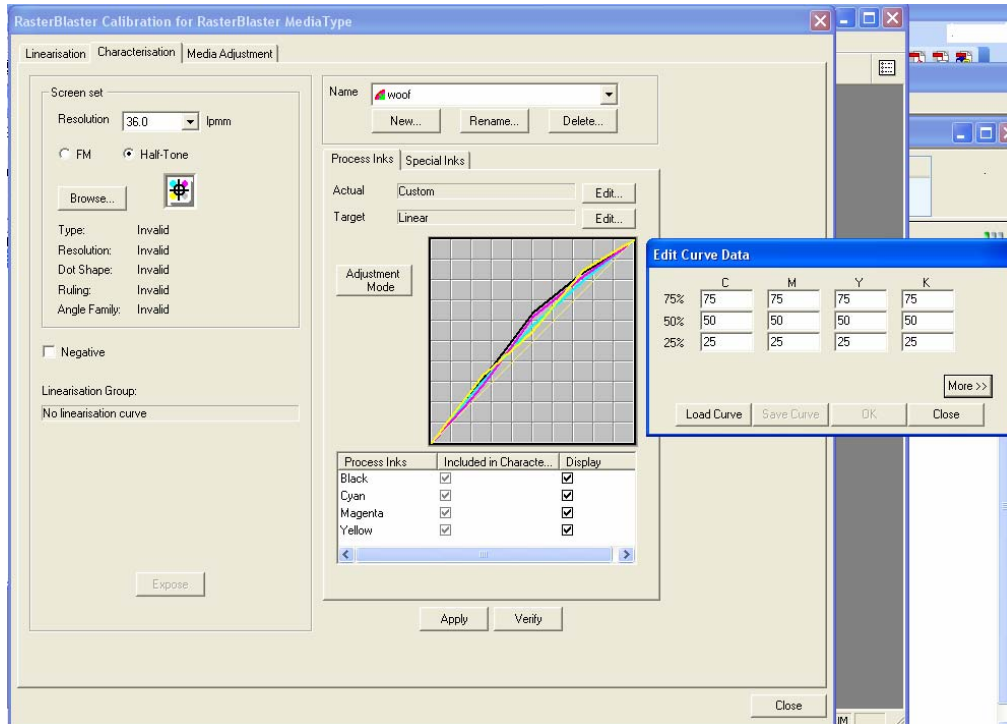
1. Create a file that contains 100% CMYK swatches for measuring density and contains swatches for each process color representing every screen value from 1% to 100%. Alternatively, use the last page of this document, which was designed for this implementation.

2. Making sure that no calibrations, press curves, characterization curves or tone curves have been applied in the RIP's Page Setups, run the file through the RIP and output it on the QMDI or platesetter.
3. For the QMDI, cut the plates from the press (all 4 colors) before they have been inked.
4. Read the percentage values on the plates using an appropriate plate densitometer. Make a note of each value for each percentage under each color.
5. In the Calibration Manager under the "recorders and proofers" section, locate the device being used for plate output and choose to "calibrate."
6. Within the Calibration window, choose the "characterization tab."
7. Within the Characterization window, create a new characterization and, in the Process Inks tab, choose to edit the "Actual" settings.
8. When the small Curve Data window opens press the "More" button to open the extended window shown below. Enter the requested values from the plate readings.



9. Ok the new values and Apply the new values before closing the calibration window.
10. Choose the new characterization in all Job Tickets being used for this output device.

11. Adjustments for press gain (either adding or removing gain) should be performed using the “Target” option in the Characterization Window. It is highly recommended that the limited Curve data window be used for making these adjustments. See screen capture below.



Press Gain adjustments will be speculative in that the values entered in the RIP will represent the larger or smaller dot sizes to be created on the plate and not directly represent the press output. As an example, entering 54 for 50 in this window will result in a 54% dot on the plate and a slightly larger dot (for instance 55 – 57) on the printed sheet.