



NAVIGATOR

PLUG-IN MANUAL

PRESSTEK

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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.

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.

THE PRESSTEK PLUG-IN

The Navigator Presstek plug-in offers the ability to drive a wide range of Presstek imaging devices. These include the Presstek Dimension platesetters and digital presses using Presstek imaging technology such as the Ryobi 3404, Heidelberg QuickMaster DI, and the KPG DirectPress. Depending on the device being driven, Xitron will issue a code specific to that family. For example, a Dimension code will not work in the Digital Press plug-in. In addition, this plug-in does not support the Heidelberg GTO-DI. A separate plug-in is available from Xitron to support the GTO-DI presses.

The Presstek plug-in takes incoming jobs and automatically converts them to the Presstek formats, which are known as DI files. After creating the files, the system places them on a drive location defined by the operator during setup. The Presstek GUI computer then receives the files from location specified. In addition, the plug-in automatically generates a low-resolution composite bitmap called a Thumbprint 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. Xitron’s Navigator RIP supports the following devices with the Presstek Plug-in:

Dimension 200 Series

Dimension 400 Series

Dimension 800 Series Ryobi 3404 DI
Heidelberg QuickMaster DI 46-4 Pro
Kodak DirectPress 5634 Kodak DirectPress 5334

INSTALLATION

Installation of the Presstek plug-in is similar to other Xitron plug-ins. When using the Navigator 7.X Plug-in Installation CD, select the appropriate RIP “Destination Folder.” For Navigator RIP installations the name of this folder is normally “Navigator” followed by the version number of the RIP. For example, “Navigator 7.1r2” will be the destination folder for a Xitron Navigator 7.1 revision 2 RIP.

Follow the on-screen prompts until directed to select components. Click the appropriate check box, and then click **Next**. The installer will ask for the Presstek password provided with your RIP. Enter the password and follow the on-screen prompts to complete the plug-in installation.

If using the stand-alone installer, like those available on the Xitron Support Web site, begin by double-clicking the installer icon. The Plug-in installer will ask for the path to the RIP’s location on the hard drive, labeled “Destination Folder.” As mentioned earlier, the name of this folder is normally “Navigator” followed by the version number of the RIP. Click **Next** and the installer will ask for the Presstek password. Enter the password and follow the on-screen prompts to complete the plug-in installation.

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.

The Presstek plug-in is slightly different in that no interface card is necessary to communicate with the various Presstek devices. However, it is important to note that it is possible to configure a single Navigator system for output to a Presstek unit *and* a separate device (such as an Agfa Avantra) through an interface card.

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.

FIGURE 1: DEVICE MANAGER ICON

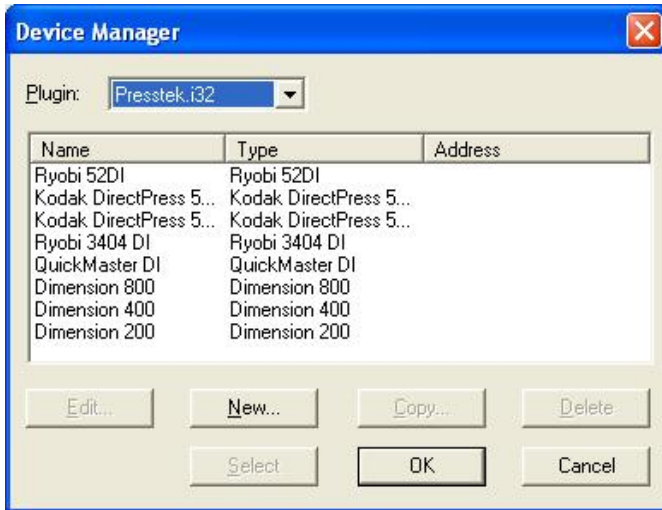


The Device Manager dialog box shown in Figure 2 will display. If the dialog displays the user's output device in the scrollable list, no further editing is necessary. The names of the available

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*.

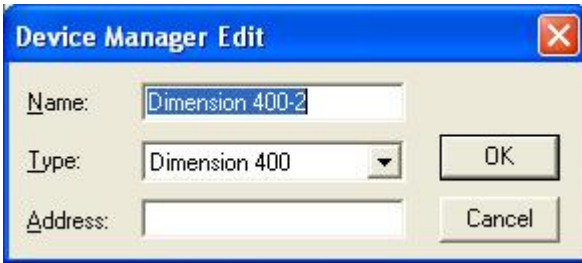
FIGURE 2: DEVICE MANAGER DIALOG



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 Dimension 400 platesetters are being driven by the same plug-in and differentiation between the two

is important, edit this field to reflect Dimension 400-1 and Dimension 400-2.

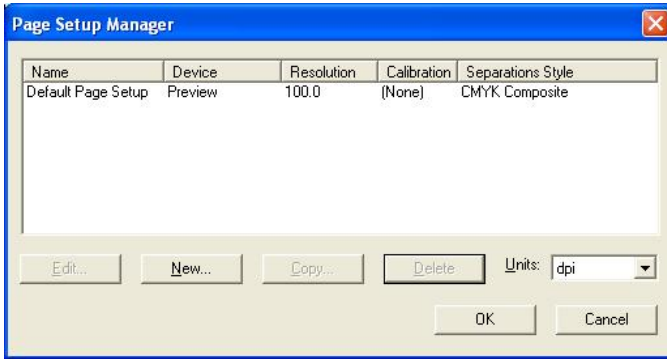
FIGURE 3: DEVICE MANAGER EDIT



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 5 later in this document.

After installation, it will be necessary to configure the device through the Page Setup Manager. (If RIP Inputs are running, stop them by clicking the icon with the red arrow. This will allow access to the Page Setup Manager.) Select Page Setup Manager from the FILE menu and the dialog box shown in Figure 4 will appear.

FIGURE 4: PAGE SETUP MANAGER



Click **New** to add a Page Setup for the Presstek Device. The Page Setup dialog box will appear as shown in Figure 5. From the Device pull-down menu, select the Presstek device appropriate for the installation.

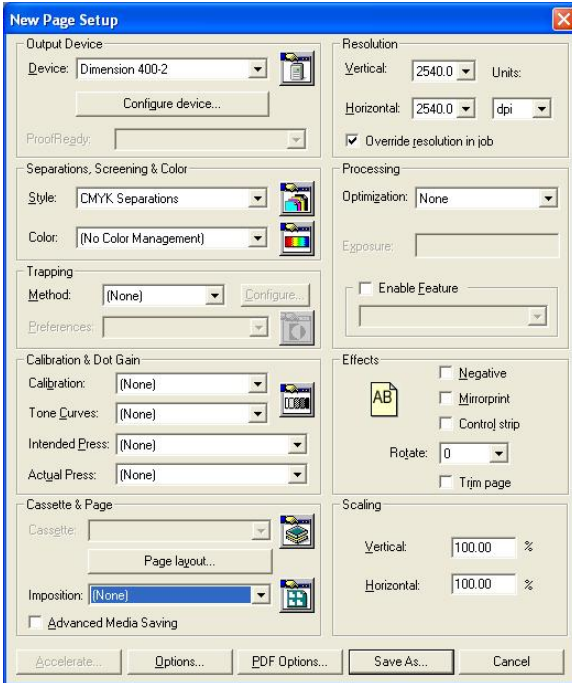
Since there are significant differences in configuration between the QuickMaster DI and the other Presstek devices, they will each be covered in separate sections.

CONFIGURING NON-QM DEVICES

Based on the device selected in the pull-down menu of the Page Setup, various capabilities regarding resolution, page orientation, and media dimension will automatically populate the available menu options. For example, choosing Dimension 400 provides a maximum page dimension of 604mm by

750mm, which match the maximum capability of the platemaker. Selecting Ryobi 52DI yields a 340mm by 510mm maximum area which matches the capability of the digital press.

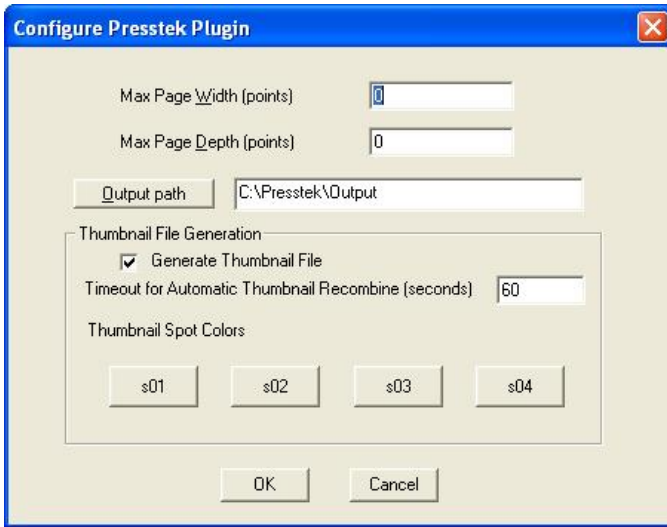
FIGURE 5: PAGE SETUP



Choose the appropriate resolution, and page orientation from the main window of Page Setup as shown in Figure 5. Click the button labeled, “*Configure device...*” to change settings that are more specific to the output device such as thumbnail

generation. Figure 6 illustrates the dialog box that appears (for all devices other than the QuickMaster DI).

FIGURE 6: CONFIGURE PRESSTEK PLUG-IN



- **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 job. The thumbnail is rotated 90 degrees counter-clockwise in order to be viewed properly from the Presstek GUI. The plug-in generates this file from the high-resolution bitmaps and the resulting thumbnail is placed in the same directory as the DI output files. The system generates the thumbnail consistent with the final output name and includes spot colors as outlined in the Spot Colors section.

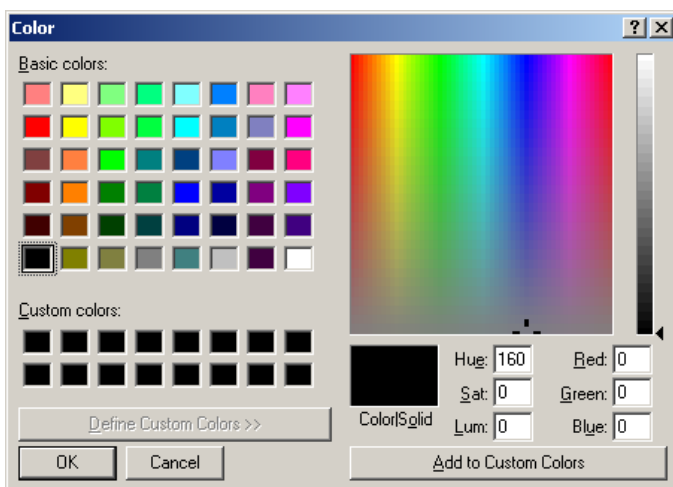
To have the plug-in generate a thumbnail for each job, place a check mark in the *Generate Thumbnail File* check box. After each set of plates for a given flat complete processing, the plug-in will generate a thumbnail file for that set of plates.

The timeout value refers to the amount of time the plug-in will wait before determining a plate set is 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 complete because processing of the next job triggers the thumbnail creation process.

A time-out value 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 in Figure 7.

FIGURE 7: SPOT COLOR WINDOW



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 choosing 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.

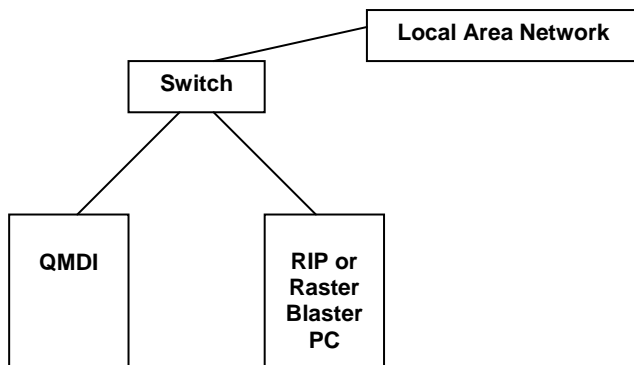
CONNECTING THE QMDI

When setting up communications between a Xitron Raster Blaster or Xitron Navigator RIP and a Heidelberg QMDI 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 in Figure 8. The switch must be capable of accepting a 10Base-T connection and no cross-over cable will be necessary.

FIGURE 8: QMDI NETWORK TOPOLOGY



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. **This IS case sensitive.**

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 the following 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 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."

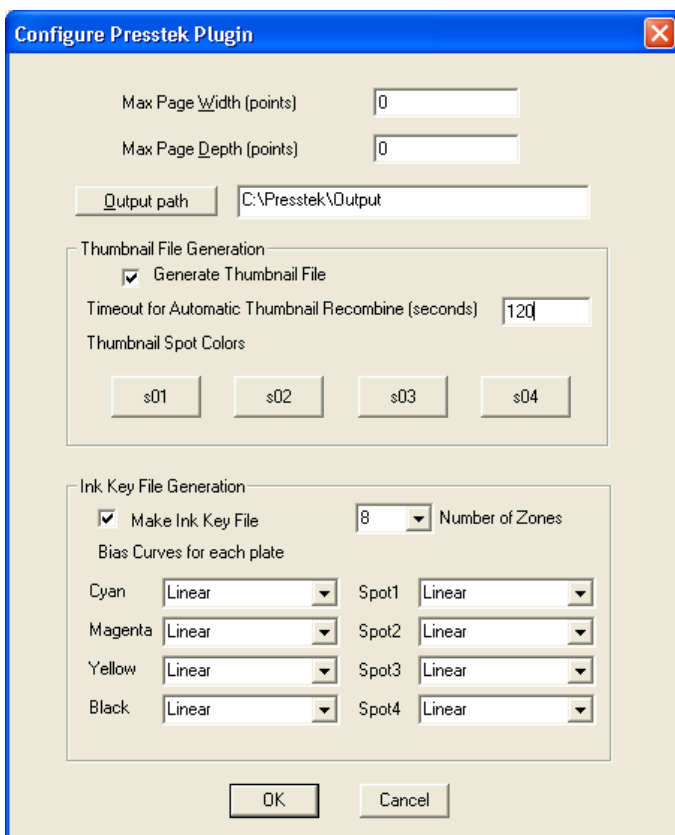
To run the utility, type `3c5x9cfg` and press **Enter**. (DO NOT AUTO CONFIGURE the adapter as this will change the I/O address. If this happens, view the netstart.inf file to find the proper I/O address.)

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 THE QUICKMASTER DI

To configure the system for use with a QuickMaster DI, choose it from the pull down menu in the Page Set-up as described on page 8. Click the **Configure device...** button and the dialog box shown in Figure 9 appears.

FIGURE 9: CONFIGURE QMDI PLUG-IN



- **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 is “DIRIP” and the shared and mounted folder on that RIP used for delivery of DI files is “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 QMDI/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. 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 QMDI/Presstek plug-in; **Linear** and **BumpCurve**. By default, these choices are set to Linear, which will set the ink keys for less ink coverage. 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.

COMPLETING THE SETUP

After completing each of the selections, click **OK** on each screen until you return to the main Page Setup window, saving the settings.

There are many other standard Navigator options such as resolution, color management, trapping, and calibration controlled through this window. Make the appropriate selections for these options before saving the Page Setup. Keep in mind that multiple Page Setups may be created for use with a single device, combining different output parameters. Repeat the above process for each setup required.

FILE NAMING CONVENTION

The Presstek Plug-in automatically appends a color extension to the job file name and numbers the pages. For example, the first page of a file will carry the file name with a “1” added (**WeeklyAd1_01.xxx**). Page two will carry the file name with a “2” added (**WeeklyAd2_01.xxx**). The **_01** (**underscore 01**) represents the recurrence of the particular file name, while **.xxx** represents one of the following color file extensions:

- .BLK** = Black
- .YEL** = Yellow
- .CYN** = Cyan
- .MAG** = Magenta

For Spot Colors the system uses the convention **.S0x**. In this example, **x** represents the Spot Colors 1-8 in sequence - as output; for example, S01, S02, S03 – S08.

Thumbnail files carry the extension **.BMP**. In addition, the plug-in creates temporary files with an extension of **.Iri** as it creates each individual color plate. Once all the pages have been received for a particular color, the system removes the temporary files and creates the final **.BMP** in the directory.

FILE NAMING LIMITATIONS

When sending single pages of a multi-page job or resending single or multiple pages of a job previously processed, the system will begin naming the individual pages with “_01” as described above. To avoid overwriting a previously sent page, it will increment the **_01** to the next unused number. If single pages are sent one-at-a-time, all the pages will have the same base file name (**WeeklyAd1**) and with an incrementing number (**_01, _02, _03** etc.) added to the name of each subsequent page.

Although it would be helpful to have the specific page numbers included in the file name (**WeeklyAd3** for page 3, for example), it is not possible when pages are presented to the RIP as individual files or individual print instances.

Keep in mind that if the file name is too long, the QMDI will either not see the file or will display it in red and it will not be selectable by the operator.

COMPUTER PLATFORM REQUIREMENTS

When driving the Dimension 200, a single processor platform with 1 GB of RAM memory is suitable for configuration with the Presstek Plug-in. When using TrapPro on the Navigator RIP, it is necessary to increase the RAM to 2GB. Xitron also recommends additional hard drive storage for high-volume installations or when it is desirable to store the plate files for long periods of time.

The Navigator Presstek Plug-in for the Dimension 400 or 800 requires a dual processor CPU platform equipped with at least 1 GB of RAM, (again, 2GB of RAM with TrapPro) and at least 120 GB of hard drive storage.

Due to the large size of the files for the Dimension 400 and 800, Xitron recommends that additional hard drive storage be added to the platform specifically for the DI files. For the Dimension 400, an additional 300GB or larger drive is recommended and more may be required depending on volume. For the Dimension 800, the additional 300+ GB drive is mandatory. Xitron recommends even more storage be added by the user.

When driving the DI presses with the Presstek plug-in, Xitron recommends a dual processor platform for best performance. At least 1 GB of RAM is required and 2 GB of RAM for TrapPro users. The hard drive storage needs will vary

according to the specific installation, however, a minimum 120 GB hard drive is recommended.

For the most current information on platform requirements, visit the Xitron website at www.xitron.com.

KNOWN ISSUES

If output is selected as COMPOSITE GRAY, the Presstek Plug-in will create a Spot Color for the Gray including all black text. This is the correct action, as the Gray component does not fall into the category of C, Y, M, or K.

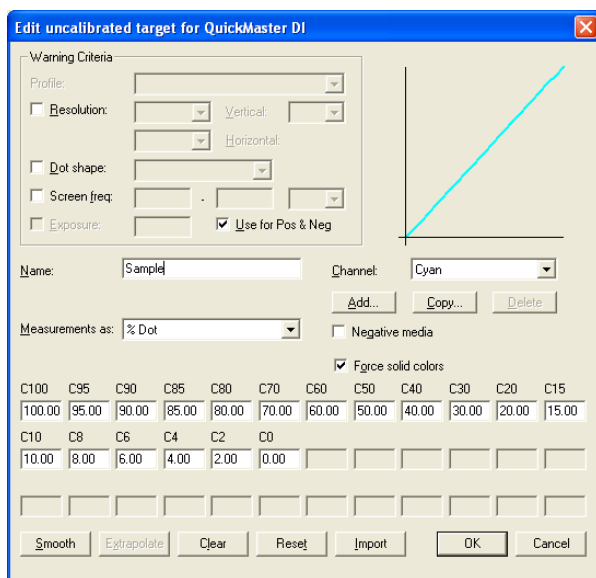
LINEARIZATION AND CALIBRATION

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 containing individual CMY & K swatches from 1% to 100%. The increments shown in Figure 10 are probably sufficient.
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. Locate the Calibration Manager and choose the proper device (QuickMaster DI, Presstek, etc.).
6. Create a "new" calibration as shown in Figure 10 and enter the requested dot percentage values for each color, from the readings recorded in step 4 above.

FIGURE 10: CALIBRATION



Note: the number of entries requested by the RIP will be fewer than the comprehensive readings shown above. It is only necessary to enter the requested numbers.

7. In the Page Setup(s) for the device, apply the calibration created above. All future jobs run through these Page Setups will produce linearized plates.
8. Adjustments for press gain (either adding or removing gain) should be performed using the "Tone Curves" option in the RIP.

Note: Experience suggests that running linear plates can produce excellent results when other process controls are in place. Properly configured, further press gain adjustments are rarely necessary. For more information regarding the use of the Page Setup, Calibration or Tone Curves functions of the Xitron Navigator RIP, see the Navigator RIP Users Manual.

PRESSTEK RECOMMENDATIONS

During installation, Presstek recommends performing calibration on printed stock as opposed to linearizing plates.