Torrent Installation Manual

for the HighWater PCI card & Plugin

Torrent Version 5.1

April 2000

Manual Release Date April 2000

Copyright Notice

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Introduction

This manual describes the installation and configuration of the Torrent RIP and the RIP Plugin software for imaging via HighWater's range of PCI image-setter interface cards. It will guide you through the installation of both the software and the hardware. You will need to install the Torrent RIP before installing the PCI interface card and the HighWater Plugin. If you have previously installed the Torrent RIP, or another ScriptWorks-based RIP, you can go straight to Chapter 3.

This Installation Guide is the first of a suite of three manuals which are contained in the Torrent package. The other two are as follows:

Torrent Handbook

The Torrent Handbook enables you to create, calibrate and broadcast page setups for use with HighWater's PCI cards. It contains the information that you need to configure the HighWater plugins. However, for information about the Torrent RIP not directly related to HighWater's PCI cards, you should consult the Torrent Reference Guide.

Torrent Reference Guide

The Torrent Reference Guide is based on the ScriptWorks manual provided by Harlequin. It provides detailed descriptions of the full range of facilities provided by the Torrent RIP. It also contains excellent general introductions to topics such as Screening (chapter 6). However, it does not contain the specific

information needed to set up Torrent to run with the HighWater plugins. All references to the Torrent User's Guide are to Edition 5, published in February 1999.

1.1 Guide to using this Manual

To install the Torrent RIP:

Follow the instructions in Chapter 2, *Installing the Torrent RIP*. You'll be guided through the installation procedure for the RIP, the dongle drivers and the AppleTalk protocol. If you've bought the HighWater plugin but you already have a ScriptWorks-based RIP installed, you do not need to install Torrent.

To install the HighWater PCI card:

Go to Chapter 3 for directions for installing each of the HighWater PCI cards. Make sure that you observe the precautions for avoiding static electricity.

To install the HighWater plugin:

Follow the instructions in Chapter 4, *Installing the HighWater Plugin Software*. You must already have the Torrent RIP installed, or another ScriptWorks-based RIP.

Problems?

Check the information given in Chapter 5, *Troubleshooting*.

1.2 System Requirements

1.2.1 Torrent

Full details of Machine Requirements for running the Torrent RIP are given in the Torrent User's Guide, section 2.1. The basic (minimum) requirements are as follows:

- a 486 or Pentium Processor, 48MBytes RAM, Windows NT, or
- a DEC Alpha or PowerPC processor, 64MBytes RAM, Windows NT.

A fast SCSI disk drive for the Page Buffers folder is also essential.

Note that the symmetric multiprocessing (SMP) version of Harlequin's ScriptWorks is not currently available as a part of Torrent.

1.2.2 HighWater PCI Interface card

This section gives information about the system and components which have been approved by HighWater for use with the imagesetter interface cards.

1.2.2.1 Motherboards for Intel systems

- Use genuine Intel motherboards, with a compatible PCI chipset. (This does not include non-Intel motherboards with Intel PCI chipsets).
- Avoid any motherboard (including Intel ones) with either the 430FX or the 450FX PCI chipsets.
- Avoid non-standard BIOSes. HighWater has used systems with AMI, Award and Phoenix BIOSes.

1.2.2.2 Motherboards for DEC Alpha systems

- Use genuine Digital motherboards only.
- Avoid any motherboard with a bridged PCI bus. Systems such as the Digital Personal workstation 433a, 500a and AlphaServer 1000a all have bridged PCI buses.

1.2.2.3 Compatible PCI Video cards

Some PCI video cards cause problems with the HighWater interface card, producing errors such as "System too slow". Owing to the large and rapidly-changing number of video cards that are available, we cannot provide a definitive list of approved cards. Generally, AGP or ISA cards are prefereable.

1.3 Manual assumptions

This manual assumes that you are familiar with both the Macintosh and Windows NT platforms. If not, then please refer to the relevant operating system manuals for further details about working in these environments.

It is also assumed that you will be using the AppleTalk input plugin to transfer your PostScript jobs from a Macintosh or a PC to the Torrent workstation. Other non-Macintosh computers connected to the network which are able to use AppleTalk can also use Torrent as an AppleTalk printer. There are several other input options available if you cannot use AppleTalk. Refer to Chapter 8 of the Torrent User's Guide for further details.

2

Installing the Torrent RIP

You must install the Torrent RIP before you install the HighWater Plugin and the PCI imagesetter interface card. If you already have either the Torrent RIP or another ScriptWorks-based RIP from Harlequin, go straight to Chapter 3.

The Torrent RIP can be installed on either an Alpha workstation or an Intel PC, which must be running the Windows NT operating system. In order to run the RIP and HighWater Plugin, we recommend a minimum of 48MBytes of RAM on an Intel-based PC, or 64MBytes of RAM on a DEC Alpha workstation. However, the more memory you have, the better your system will perform.

If you are running Windows NT version 4.0 or later, you must ensure that you are installing version 4.1r0a or later of the Torrent RIP.

This chapter describes how to install:

- The dongle.
- The Torrent RIP software.
- The dongle driver for an Alpha workstation or an Intel computer.
- The AppleTalk protocol for the network.

2.1 Installing the Dongle

The Torrent RIP software is protected by a hardware dongle. You will not be able to run the software unless the dongle is connected.

Install the dongle on the LPT1 parallel port. If a printer or other device already occupies the port, remove the cable, install the dongle and re-connect the cable to the dongle. If another dongle is present, you can connect the Torrent dongle to it, so that they are in series.

2.2 Installing the RIP Software

You must have Administrator privileges to install the Torrent RIP. The installation procedure is simpler if Internet Explorer is used as the web browser.

1. Log in to Windows NT as **`Administrator`** (with the appropriate password). Make sure there are no other applications running, and no DOS windows open.
2. ***If you have an Internet Web browser:***

   Insert the CD into the drive. The CD will automatically open its home page using your Web browser. Follow the instructions for installation.

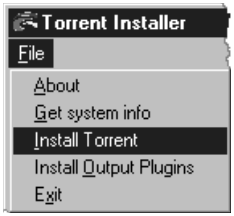
   If you do not have an Internet Web browser:

   Insert the CD into the drive.

   Read the **`Readme.txt`** file at the top level of the CD, and follow the instructions.
3. You will see a Torrent Installer window on the screen.
4. Select **Get System Info** from the Torrent Installer's **File** menu to display the System Info Log. This provides a summary of the details of your PC, for example the size of RAM. Investigate any warnings, which appear in red on the log, by double-clicking on the appropriate line.

   Note: *Warnings are only likely to occur if you are trying to install the software on a PC which does not have at least the recommended minimum amount of RAM.*

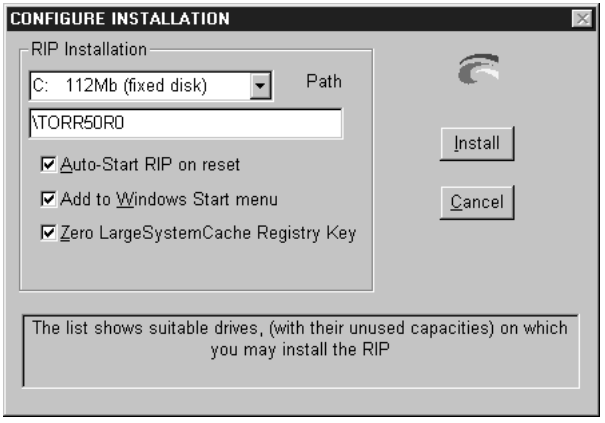
5. Select **Install Torrent** from the Torrent Installer's **File** menu to start the installation process.



6. You will be prompted to enter a destination drive and directory for the Torrent software. We recommend that you accept the defaults, which are typically similar to `C:\TORR51R0`. (You may change the defaults, if required.)

   Note: *On some versions of the RIP, the default directory is* `C:\HIGHWI` *(Intel-based PCs) or* `C:\HIGHWA` *(DEC Alpha).*

7. You also need to configure installation settings. If you enable **Auto-Start RIP on reset**, Torrent will launch as part of the Windows NT startup sequence.



8. Click on **Install** to continue with the installation process.

9. You will be able to see the System Info Log in the Installer window. This is updated as the various files are installed onto your computer. Always read this log to check that the process has completed successfully. Warning messages occur if there are any errors. You can double-click on the Warning to get more information about what may have gone wrong.

Note: *You can view the Install Log at any time, but the double-click option for further information is only available during installation.*

10. Select **Exit** from the Torrent Installer **File** menu.

Once you have installed the RIP software, you need to add the dongle driver for the Alpha workstation or Intel computer and the software for the AppleTalk protocol, if this is not already installed on your version of Windows NT. These are described in the following two sections.

2.3 Installing the Dongle Driver in Window NT

For installing the dongle driver under Windows 2000, see Section 2.4 on page 11.

1. *If you are using a version of Windows NT earlier than version 4.0:*

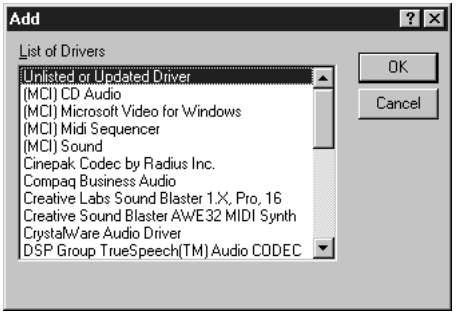
Double-click on the **Drivers** icon in the **Control Panel**.

If you are using Windows NT version 4.0 or later:

Go to the **Control Panel**, and double-click on the **Multimedia** icon, to reveal a dialog similar to the following:

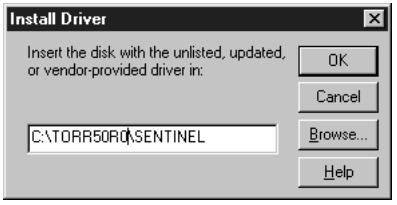
If necessary, click on the **Devices** tab at the top of the window to bring that page to the front.

2. Click on the **Add...** button to display a window similar to the following:

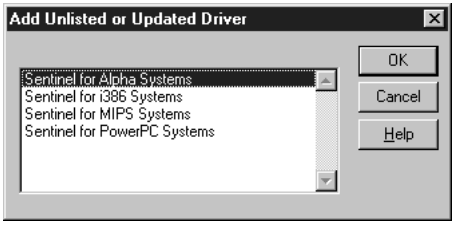


3. Select **Unlisted or Updated Driver** and click on **OK**.

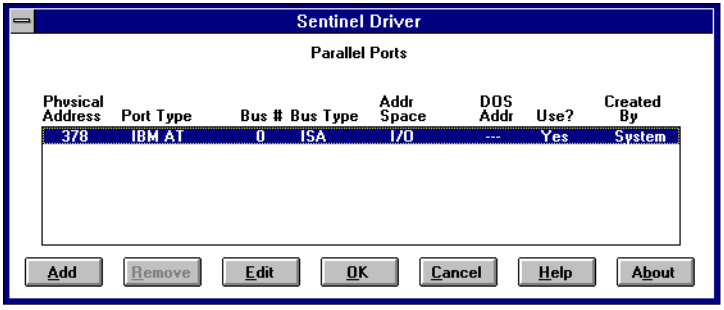
4. The drivers are located under the main RIP software directory in a sub-directory called `sentinel`. Thus, if you accepted the default drive and directory when you installed the RIP software, the correct path name will be similar to `c:\torr50r0\sentinel`. Enter this pathname and click on **OK**. (If you did not use the default installation, enter the appropriate pathname.)



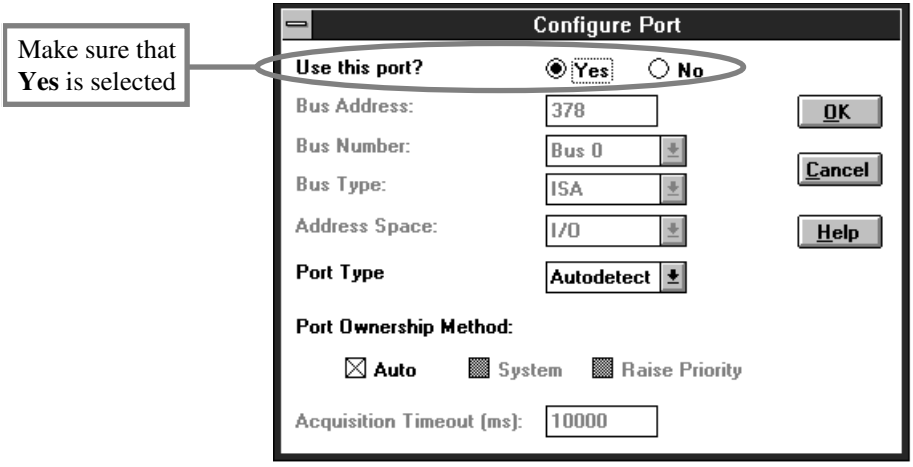
5. A list of Sentinel drivers appears. Select **Sentinel for i386 Systems** if you are installing the RIP on an Intel system, or select **Sentinel for Alpha Systems** if you are installing the RIP on an Alpha workstation. Click on **OK**.



6. A screen similar to the following will be displayed, which describes the port configuration. Check if the **Use?** column is set to **Yes**.



7. If the **Use?** column is set to **No**, make sure the appropriate entry is selected and click on the **Edit** button to display the following dialog:



8. Click on the **Yes** radio button to enable **Use this port?** and click on **OK**.

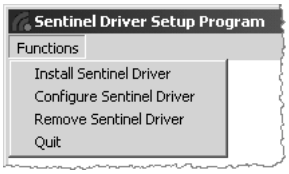
9. The Sentinel Driver screen is re-displayed. Check that the **Use?** entry is now set to **Yes**, then click on **OK**.

10. You need to restart the PC before it will recognise the new driver, but you should do this after you have checked (or installed) the AppleTalk protocol. Click on the **Don't Restart Now** button.

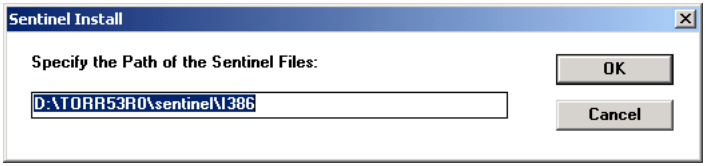
2.4 Installing the Dongle Driver under Windows 2000

The installstion for the Sentinel driver has been considerably simplified under Windows 2000.

1. Go to the directory where Torrent is installed, and open the **`sentinel`** sub-directory.
2. Double-click the **`setupx86.exe`** file to start the installer.

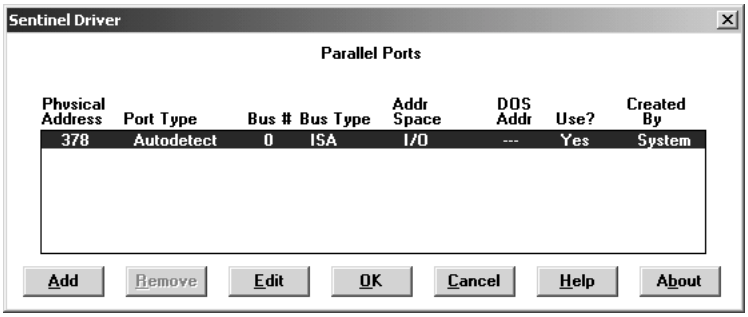


3. From the **Functions** menu, choose **Install Sentinel Driver**.



4. If the path for the sentinel files is correct, click on **OK**.
5. You will be asked to re-start your workstation after the installation has completed.

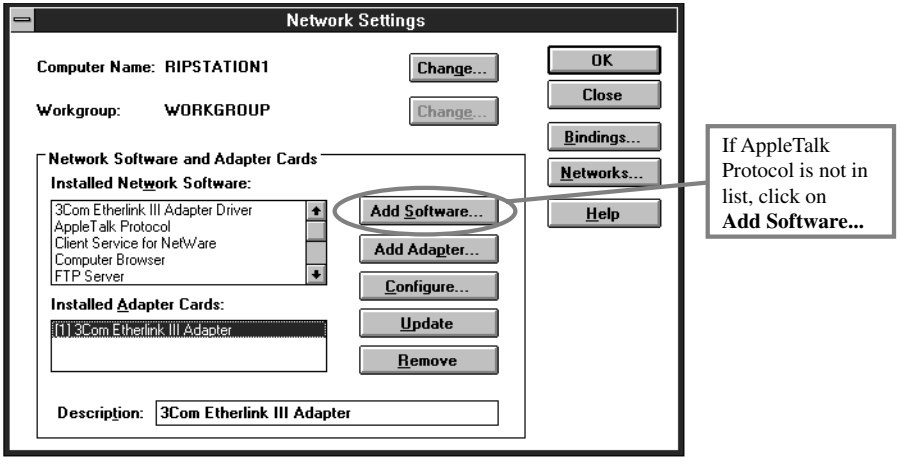
6. If you wish to check the settings after your workstation has restarted, re-launch the `setupx86.exe` file, and choose **Configure Sentinel Driver** from the **Functions** menu.



2.5 Installing the AppleTalk Protocol

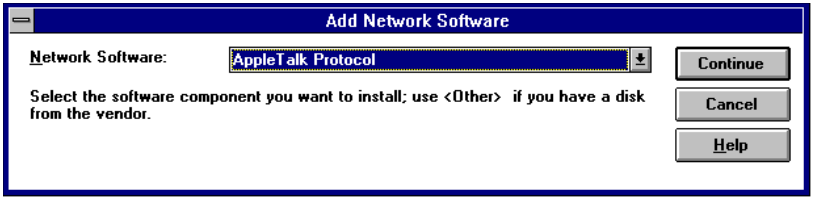
2.5.1 If you are running a version of Windows NT earlier than 4.0:

1. Double-click on the **Network** icon in the **Control Panel** to display a list of installed network software.
2. Check to see if the AppleTalk software has been installed. (If it has, it will be included in the list, as shown below.)



3. If it is not in the list, click on the **Add Software...** button.

4. Select **AppleTalk Protocol** from the **Network Software** pull-down menu and click on the **Continue** button.



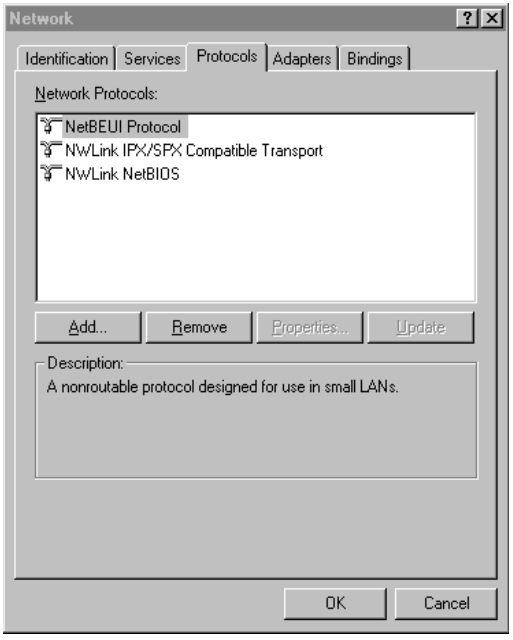
5. You will be prompted to enter the source pathname for the AppleTalk protocol software. The AppleTalk protocol is on the Windows NT CD that you used to install your Windows NT software. Insert the CD, enter the appropriate drive and directory (normally `<drive>:\i386` for Intel-based PCs and `<drive>:\alpha` for Alpha workstations) and click on **OK**.

6. Once you have loaded the AppleTalk protocol, the Network Settings screen will be re-displayed. Check that the AppleTalk protocol is now in the list and click on **OK.**

7. Click on the **Quit and Restart** button to exit Windows and reboot.

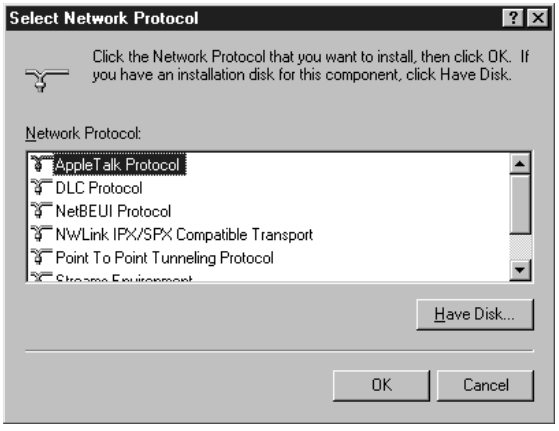
2.5.2 If you are running a version of Windows NT later than 4.0:

1. Go to the **Control Panel**, and double-click on the **Network** icon to reveal the following dialog:



   If necessary, click on the **Protocols** tab to bring it to the front.

2. Check to see whether **AppleTalk Protocol** is included in the list. If not, click on the **Add…** button, to reveal the **Select Network Protocol** window.



3. Select **AppleTalk Protocol** and then click on **OK**.
4. You will be prompted to enter the source pathname for the AppleTalk protocol software. The AppleTalk protocol is on the Windows NT CD that you used to install your Windows NT software. Insert the CD, enter the appropriate drive and directory (normally **`<drive>:\i386`** for Intel-based PCs and **`<drive>:\alpha`** for DEC Alpha workstations) and click on **OK**.
5. Once you have loaded the AppleTalk protocol, the Network Settings screen will be re-displayed. Check that the AppleTalk protocol is now in the list and click on **OK.**
6. Click on the **Quit and Restart** button to exit Windows and reboot.

2.6 Installing the NTPrint input plugin

The NTPrint input plugin installer is copied onto your machine during the standard Torrent installation process, but you need to run the installer yourself.

You will be asked to re-start your machine when the installation has been completed.

1. Go to the directory in which Torrent was installed, and open the **`ntprint`** sub-directory.
2. Double-click on the **`setup.exe`** icon.
3. Follow the on-screen instructions for the installation. Make sure you locate the correct directory for the Torrent installation.
4. Re-start your machine at the end of the installation.

2.6.1 Installing the NTPrint Title Page Feature

Before you create an NTPrint queue, you will find it convenient to install and enable the NTPrint Title Page Feature within Torrent, so that job-names are preserved for all jobs printed to an NTPrint queue.

To install the Print Title Page Feature, copy the file **`NTprintTitlePF`** from the installation CD into the **`SW\Page Features`** directory of your Torrent installation directory. Then re-start Torrent.

3

Installing the HighWater PCI Interface Card

This chapter describes how to install HighWater's PCI imagesetter interface card.

> ***WARNING***
>
> *During installation, make sure that both you and the computer are grounded. We recommend that you always wear an ESD grounding wrist strap when working with the board. We also recommend that you leave the computer plugged in but switched off at the mains. This ensures that the computer is grounded without being connected to a power source. By following these procedures you will protect both yourself and the board from static electricity.*
>
> *Always follow the manufacturer's recommendations for your model of PC. Consult your PC documentation before you start the installation.*

3.1 Preliminary information

Your PCI interface card should be appropriate to your imagesetter, as described below:

Imagesetter	Interface Card
ECRM	HW470, HW770
Linotronic/Scangraphic LI2/LI5	HW472, HW772
Scangraphic FPI	HW773
Ultre	HW474
Ultre / Exxtra Exxpress / Canon BX	HW774
Ultre / Exxtra / Canon BX	HW475
Exxtra Maxxima / Exxtra Exxcalibur	HW775
AGFA	HW476, HW776
Scitex	HW778

You will also be provided with a data cable for all cards, a serial cable for the HW472 and HW772 cards, and a ribbon cable for the HW475 card.

Note: *You must insert the PCI card into a PCI bus master slot. Consult your motherboard manual if you are unsure about this.*

3.1.1 Static Electricity

Before you begin the installation process, you must discharge any static electricity from yourself and the PC:

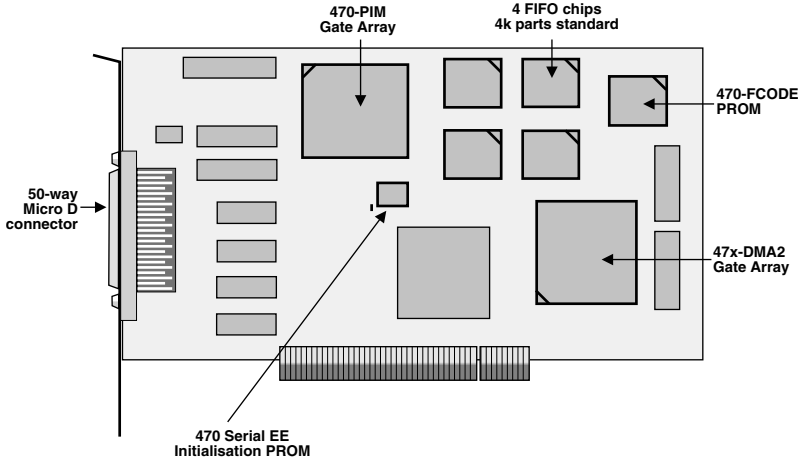
- Once you have opened the case, tap your finger on the metal frame of the PC chassis.
- Wear an ESD grounding wrist strap. The ESD wrist strap is supplied with its own instructions for wear and use.
- Do not remove the antistatic wrappers from the board until you are grounded and about to start installation.
- Always return the board to its antistatic bag if you have to remove it from the PC.

3.2 Installing the board

If you are installing an HW475 or an HW775 card, please see the next section.

◆***Warning:*** *Before you start to install the board, make sure that you have the correct components and tools ready, and that you have carried out the safety rules for grounding as described in the Static Electricity section. HighWater Designs Limited can accept no liability or responsibility for any injury or damage to persons or property, whether direct or consequential, that may result from installing the board.*

1. It is good practice to take a backup of all valuable data on the hard disk before installing new software or hardware.
2. Shut down both PC and imagesetter, and disconnect any peripheral devices. Keep the computer plugged in but switched off at the mains.
3. Remove the lid of the PC. *(Refer to the manufacturer's manual for instructions on removing the lid.)*
4. Choose an empty PCI expansion slot. Unscrew and remove the cover plate in the back panel that lines up with the slot. Store the plate in a safe place for future use.



The HW470 card

5. Put on the ESD protective wrist strap, if you have not done so already.
6. Open the protective antistatic bag and gently slide out the PCI board. Place the antistatic bag on a flat surface.

7. Hold the board by the top or by the metal bracket at its rear. If you have to put the board down for any reason, place it on top of the antistatic bag.

   Note: *If you go away, re-connect to the wrist strap and touch the bag before handling the board. Do not place the board on any surface other than the antistatic bag and do not cover the board with paper, polythene or any other similar material.*

8. Align the PCI board over the slot and gently, but firmly, press down on the card until the connector is completely seated.

   Note: *Don't force the board down. If you meet a lot of resistance, pull the board out and try it again, making sure that the board is properly aligned over the connector on the PC's motherboard.*

9. Secure the PCI board with the screw from step 4.
10. Replace the lid on the PC.
11. Plug the data cable into the data connector on the rear of the PCI board, and connect it to the imagesetter.

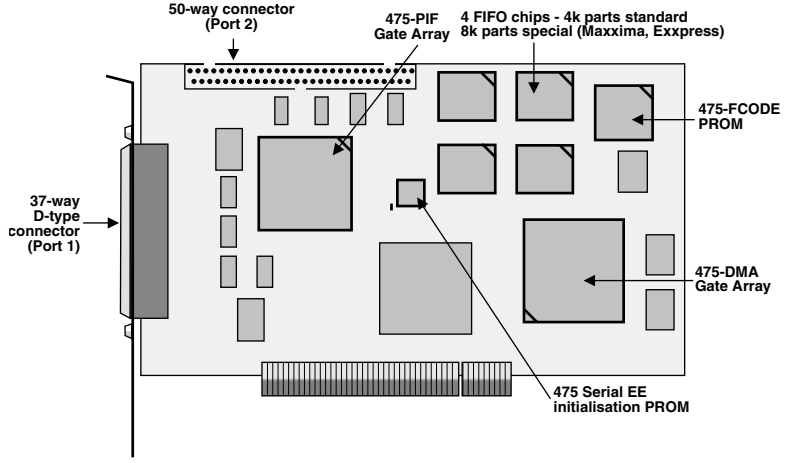
If you are installing an HW472 or an HW772 card:

12. Plug the serial cable into the serial connector on the rear of the PCI board. Connect the data cable to the LI2 connector on the imagesetter, and the serial cable to the LI5 connector on the imagesetter. Please refer to your imagesetter documentation for further details about connectors.

3.3 Installing the HW475 card

If you are installing for a Canon BX laser printer, you need to have a Canon buffer card already installed in the printer. If you do not, contact your printer supplier or HighWater Designs for further information.

The HW475 card has two ports. You therefore need two empty slots in your computer so that you can use both ports. One of the slots must have a PCI connection so that the card can be inserted into it, but the second slot does not need a connection: you will attach a ribbon cable between Port 2 on the card and this slot.



The HW475 card

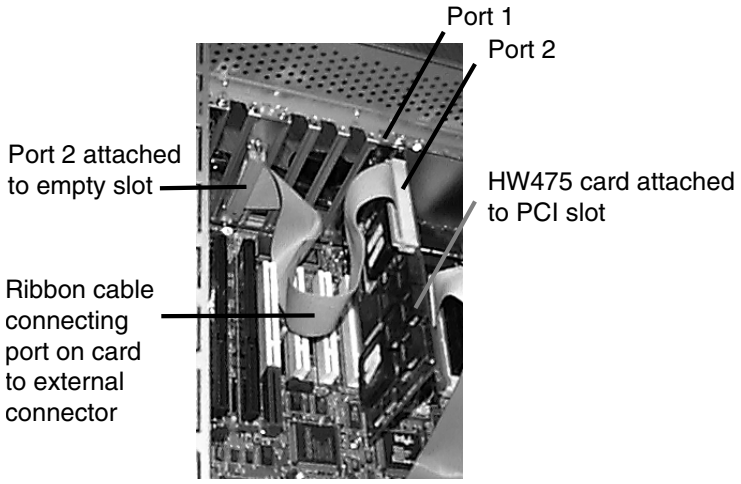
Port 2 has been designed to take both 37-way and 50-way ribbon cables. Refer to the table below to find which cable is needed for which imagesetters. In both cases, the ribbon cable will have a two-row connector at one end, which will be inserted into Port 2 of the card, and a connector bracket at the other end, which will be attached to a vacant slot at the back of the computer. The available connection options for the HW475 card are as follows:

Imagesetter	Port 1	Port 2
Ultre	✔	✔ 37-way ribbon cable
Exxtra / Exxpress	✔	✔ 37-way ribbon cable
Canon BX	✔	✔ 37-way ribbon cable
Maxxima	✖	✔ 50-way ribbon cable

◆***Warning:*** *Before you start to install the board, make sure that you have the correct components and tools ready, and that you have carried out the safety rules for grounding as described in the Static Electricity section. HighWater Designs Limited can accept no liability or responsibility for any injury or damage to persons or property, whether direct or consequential, that may result from installing the board.*

1. It is good practice to take a backup of all valuable data on the hard disk before installing new software or hardware.

2. Shut down both PC and imagesetter, and disconnect any peripheral devices. Keep the computer plugged in but switched off at the mains.
3. Remove the lid of the PC. *(Refer to the manufacturer's manual for instructions on removing the lid.)*
4. Choose an empty PCI expansion slot, and another vacant slot for use with Port 2 of the card. Unscrew and remove the cover plates in the back panel that line up with both slots. Store the plates in a safe place for future use.



5. Put on the ESD protective wrist strap, if you have not done so already.
6. Open the protective antistatic bag and gently slide out the PCI board. Place the antistatic bag on a flat surface.
7. Hold the board by the top or by the metal bracket at its rear. If you have to put the board down for any reason, place it on top of the antistatic bag.

   Note: *If you go away, re-connect to the wrist strap and touch the bag before handling the board. Do not place the board on any surface other than the antistatic bag and do not cover the board with paper, polythene or any other similar material.*
8. Align the board over the PCI expansion slot and gently, but firmly, press down on the card until the connector is completely seated.

Note: *Don't force the board down. If you meet a lot of resistance, pull the board out and try it again, making sure that the board is properly aligned over the connector on the PC's motherboard.*

9. Secure the PCI board with one of the screws from step 4.

10. Take the ribbon cable, and align the connector bracket in the vacant slot that you selected in step 4. Secure it with the remaining screw.

11. Insert the two-row connector into Port 2 of the card.

12. If you are using a Canon BX, an Ultre, an Exxtra or an Exxtra Exxpress imagesetter, plug the data cable into either of the two ports. If you are using a Maxxima imagesetter, plug the data cable into the Port 2 connector.

3.4 Configuring the Imagesetter

In order to ensure that the HighWater PCI interface card can drive your imagesetter, you will need to configure the imagesetter accordingly.

Imagesetter	Card	Imagesetter Configuration
ECRM Mako & Knockout Series	HW470, HW770	Serial mode Overscan Mode = OFF → Image Offset = 100 units Overscan Mode = ON → Image Offset = 300 units
Linotronic/Scangraphic LI2 Mode Linotronic LI5 Mode Scangraphic LI5 Mode	HW472, HW772	8/16 MHz Clock, Sender Master, Receiver Clock 9600 Baud, 8 Data Bits, 1 Stop Bit, No Parity, CTS/RTS Flow Control 9600 Baud, 8 Data Bits, 1 Stop Bit, No Parity, XON/XOFF Flow Control
Scangraphic FPI mode	HW773	Set the Data Input mode to FPI
Ultre/Exxtra	HW474, HW774	Exxtra: Any Stop/Start mode except Controlled Backup
Ultre/Exxtra/ Maxxima/Canon BX	HW475, HW775	Exxtra: Stop/Start in Controlled Backup mode only
Agfa	HW476, HW776	No special configuration required
Dolev	HW778	See section 3.5
Herkules	Herkules	No special configuration required

3.5 Connecting to a Scitex Dolev imagesetter

When you connect the cable from an HW778 PCI card to a Dolev imagesetter, you will find there is a choice of ports to connect to - either **`Host A`** or **`Host B`**. **`Host A`** is normally used for one of the Dolev's own cards, but it may be disconnected.

The installation procedure depends upon the type of Dolev you are using.

3.5.1 Connecting to a Dolev 450 or earlier

For a Dolev 450 or earlier, you will need a 25-way D-type connector between the HighWater PCI card and the imagesetter. If you connect to **`Host B`**, you need to ensure that a switch on one of the Dolev's internal cards is set correctly.

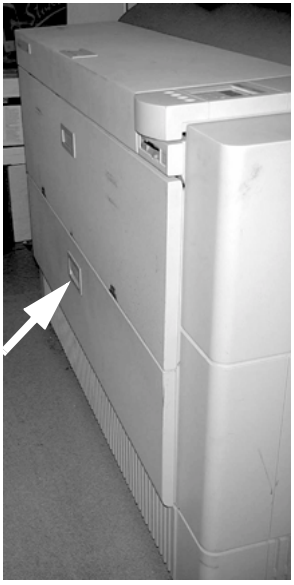
1. Power down the imagesetter and the workstation.
2. On the front of the imagesetter, open the panel on the right.
3. Slide out the rightmost card from the card rack.
4. Locate the switch labelled **`U114`** on the lower right corner of the card.
5. The switch should be set to **`SCI`**. If necessary, slide the switch from **`SERIAL`** to **`SCI`**.
6. Slide the card back into the imagesetter.
7. Plug the 25-way D-type cable into the port labelled **`Host B`**, if available. Otherwise, use **`Host A`**.
8. Replace the right panel.
9. Re-start the imagesetter and the workstation.

3.5.2 Connecting to a Dolev 800 or later

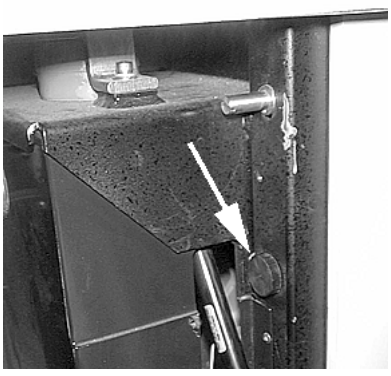
For a Dolev 800 or later, you will need a high-density D-type connector between the HighWater PCI card and the imagesetter.

1. Power down the imagesetter and the workstation.
2. You need to open the panel on the right (looking from the front). To do this:

- Open the bottom panel on the front



- Then unscrew the knurled nut on the right (marked with an arrow in the picture).



- You can now open the panel on the right.

3. Plug the high-density D-type cable into the port labelled **`Host B`**, if available. Otherwise, use **`Host A`**.

4. Replace the right panel.
5. Re-start the imagesetter and the workstation.

4

Installing the HighWater Plugin Software

The Plugin will only work with the Torrent RIP, or a ScriptWorks RIP from Harlequin, with a version number of 3.3R7 or greater. The RIP must be installed before you install the Plugin.

There are two Plugin installation disk sets, one for Intel-based platforms, the other for DEC Alpha.

This chapter describes:

- The system requirements.
- How to install the Plugin software.
- What happens to the files that make up the Plugin software.

4.1 Installing the Plugin Software

4.1.1 System Requirements

In addition to the RIP requirements, we recommend that imaging is performed from a SCSI hard disk driven by a PCI-based controller. This enables the system to achieve reliable output without stop/start of the printer.

4.1.2 Before you start the installation...

The Installer will install the Plugin software and also configure the appropriate files for your imagesetter, if possible. Make sure that you know the name of the directory where the RIP software is installed before you install the Plugin. Refer to the section within Chapter 2, *Installing the RIP Software*, step 8.

The table below lists the files that are installed, together with their locations.

Type of Files	Installed In	File Names
Plugin	**<RIPDIRECTORY>\SW\DEVICES** The Installer gets the **<RIPDIRECTORY>** name from the drive and directory that you selected during the installation.	**HWPLUGIN.AXP** **HWPLUG2.AXP *** **HWPLUG3.AXP *** (DEC Alpha only) **HWPLUGIN.I32** **HWPLUG2.I32 *** **HWPLUG3.I32 *** (Intel only) ***** for multiple installations only
Personality module(s)	**<SYSTEMROOT>** This is the root directory of your operating system, normally **\WINNT40**.	**HW470.DLL HW770.DLL** **HW472.DLL HW772.DLL** **HW773.DLL** **HW474.DLL HW774.DLL** **HW475.DLL HW775.DLL** **HW476.DLL HW776.DLL** **HW778.DLL**
Interface program file(s)	**<SYSTEMROOT>** This is the root directory of your operating system, normally **\WINNT40**.	**HW770.RBF** **HW772.RBF** **HW773.RBF** **HW774.RBF** **HW775.RBF** **HW776.RBF** **HW778.RBF**
Configuration files	**<SYSTEMROOT>**	**<settername>.4xN** **<settername>.7xN** **Generic.4xN** **Generic.7xN**
Driver	**<SYSTEMROOT>\SYSTEM32\DRIVERS**	**HWPLOT.SYS** **(HighWater cards)**

The Installer will provide you with the set of configuration files that are appropriate for the specific card that you have purchased. For example, if you are installing the software for an ECRM 3000, you will have a file called `ECRM 3000.4X0`, together with other files, with extension `.4X0`, which are specific to other imagesetters that require the HW470 card. You will also have

another file `Generic.4x0`, which contains all possible parameters, and needs to be manually edited before being used. See the next chapter for more details.

4.1.3 Performing the installation

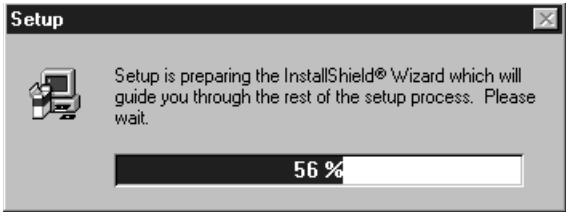
1. If you are installing from a CD, and you have an Internet Web browser:

- Insert the CD into the drive. The CD will automatically open its home page using your Web browser. Follow the instructions for installation.

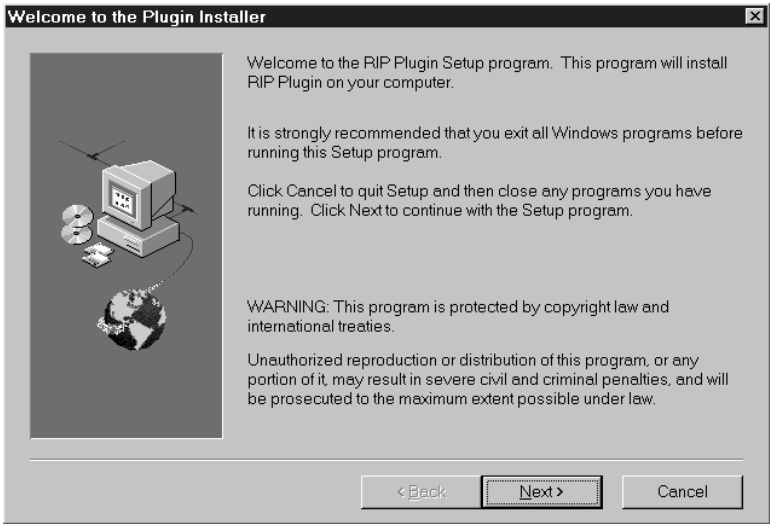
If you are installing from a CD, but you do not have an Internet Web browser:

- Insert the CD into the drive.
- Read the **`Readme.txt`** file at the top level of the CD, and follow the instructions.

2. As the Installer starts up, it will display a progress meter:

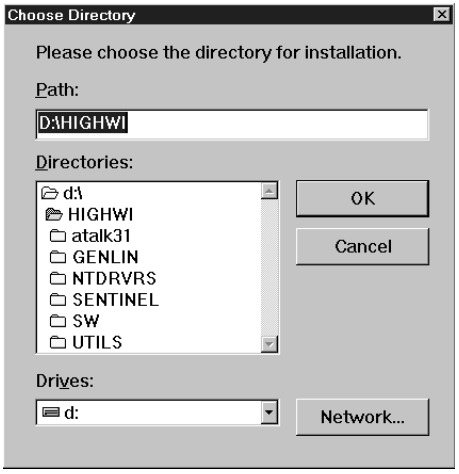


3. You will then be shown the Welcome screen:



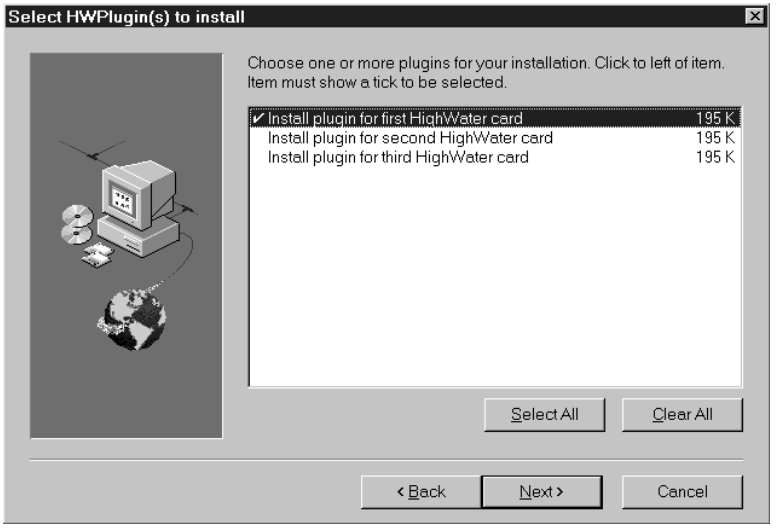
4. The Installer screens are self-explanatory, and will guide you through the process. Move to the next screen by clicking **Next**; click **Back** to return to the Welcome dialog.
5. The Installer will then search the disk for the location of existing ScriptWorks-based RIP software.
6. You are then asked to select where the Plugin should be installed:

For new installations, the Installer will recommend placing it within the folder containing the RIP software. If you are upgrading an older version, the Installer will suggest writing over it. Alternatively, click on **Browse...** to reveal the following dialog:



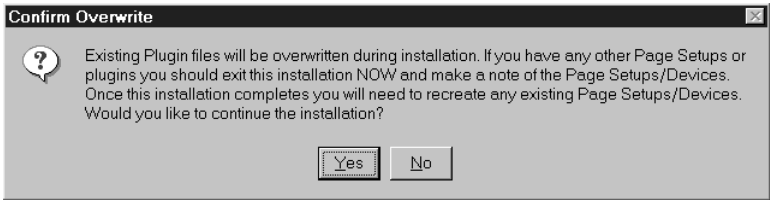
Choose the directory where you prefer to install the Plugin, and click on **OK**.

7. You are now asked whether to install for one, two or three separate plugins. (For Herkules users, this option is not yet enabled).

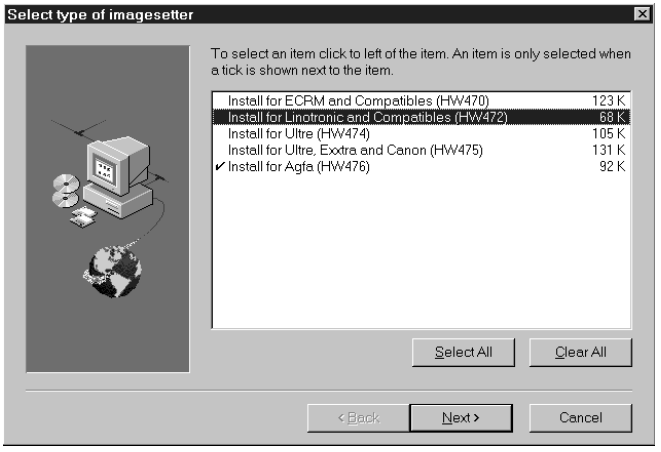


For example, to install for just one plugin, click the first entry. To install for two plugins, click the first two entries. Then click on **Next**.

8. If you are upgrading your Plugin, you will need to re-create your Page Setups. Make sure that you have retained the information contained within them before they are over-written by the Installer. The **Confirm Overwrite** window will appear as a final warning.

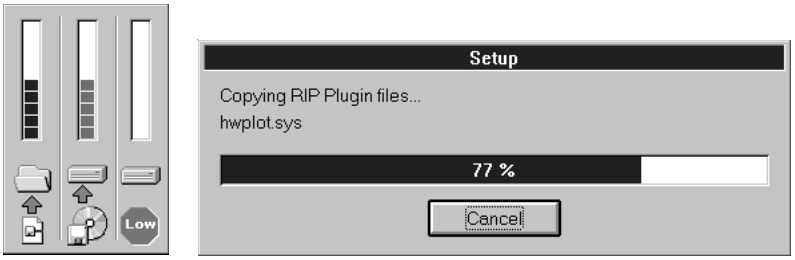


9. On the next screen, the Installer will ask you to identify the type of imagesetter that you are using:



Click to the left of the name of the imagesetter to select it. (If you have purchased more than one PCI card, select each one from the list.) The configuration files that are installed on your hard disk will be the ones that have been tailored for your imagesetter, and others of the same make.

10. The preparation has now been completed, and the installation will be performed. Various progress meters will be displayed.



After installation, you will be asked whether you want to view the **`README.TXT`** file. If you do so, remember to exit Notepad afterwards so that the Installer can finish. Finally, you will be notified that the installation has completed.

11. If you have one of the standard imagesetters, go straight to the next chapter, “Configuring the Imagesetter”.

If you have installed for an imagesetter other than the ones listed, you will need to go to the Appendix, “Configuring the Plugin”.

5

Troubleshooting

This chapter provides brief troubleshooting information, should you experience problems installing Torrent and the Plugin. It describes:

- Hardware incompatibility problems.
- Troubleshooting the software.
- The RIP monitor.
- Contacting HighWater Support.

Please refer to Appendix A of the Torrent User's Guide for troubleshooting information that is specific to the RIP.

5.1 Hardware Incompatibility Problems

These notes are provided in case you are experiencing problems installing or using a HighWater PCI imagesetter interface card.

> **WARNING**
>
> *Changing BIOS settings and/or Registry Settings on your system can cause it to become unbootable. Make sure you have a record of all BIOS settings before you change any values, and that you have an up-to-date Emergency Repair Disk for Windows NT (refer to the Windows NT documentation for details of how to create an up-to-date emergency repair disk).*

5.1.1 Intel systems only

Refer to the System Requirements section in Chapter 1.

5.1.2 Non-Intel motherboard based systems

There have been problems with some systems which use clone motherboards. Some vendors supply motherboards fitted with BIOSes which do not allow you any control over vital aspects of the system (e.g. PCI chipset control). Wherever possible, HighWater interface cards should be installed into systems with genuine Intel motherboards.

5.1.2.1 BIOS Settings

There are too many BIOS types and settings to list here. Below are several settings which can have a dramatic impact on system/interface card performance.

DRAM access speed If available, set this to match the speed of the slowest DRAM SIMMs in your system.

IDE settings If your system does not contain any IDE components, make sure you have disabled all IDE related items in the BIOS.

PCI Burst Some systems may not function properly with this option enabled.

If you are still experiencing problems, try adjusting other PCI-related BIOS controls.

5.1.3 All systems

5.1.3.1 Video cards

If you get “System too slow” or “PCI bus problem” errors, the underlying problem may be associated with the video driver. To test this possibility, reboot the system in VGA mode: the problem should then disappear. If it remains, the video driver cannot be responsible for the errors.

Refer to Chapter 1 for details of the PCI video controllers approved by HighWater.

5.1.3.2 EISA Configuration

Systems which are EISA/PCI-based require the use of a vendor-specific EISA configuration utility (which you should have received with your system). This allows the user to configure the address/interrupt assignments for EISA cards installed in the system. You should ensure that the EISA configuration for your system is correct, in order to prevent any interference with PCI devices.

5.1.3.3 Interference from other interface cards

Matrox graphics cards - Some of the Matrox PCI video controllers use device configurations which are unfriendly to other devices attempting to use the PCI bus. In particular, you should make sure that the `SynchroniseEngine` registry value is set to 1. Its default setting is 0, which can cause the PCI bus in your system to become unresponsive. Please refer to your video controller documentation for further information, or contact your dealer.

5.1.3.4 Interface card positioning

Sometimes an improvement in performance can be made by moving the HighWater interface card to a different PCI slot in your system.

5.1.3.5 Disk performance problems

Some systems are still supplied with internal IDE hard disks. We recommend a minimum of 1 SCSI hard disk for any system using a HighWater interface card. This disk should be controlled via a PCI SCSI disk controller, for example Adaptec / Symbios (formerly NCR) / Qlogic etc. If the output device has a high data transfer requirement - for example, high speed ECRM/Exxtra

imagesetters - a second disk may be required, so that one may be used as a paging disk for Windows NT and the second as the disk containing the data for imaging.

For very high performance imagesetters, you may need to implement a RAID disk solution to maintain the data rates required for continuous imaging. Windows NT provides a facility to implement software RAID: two or more disks may be merged into a 'stripe set', which causes NT to see both drives as one volume. NT then stripes data across the volume to increase the data transfer rate. Please refer to your Windows NT documentation for further details.

5.1.3.6 Still having trouble?

As a last resort, you may need to remove non-essential components from the system. For example, if you have a PCI network interface card installed, it can be removed temporarily. You could also try changing the interface card for one of a different make or type. If you have a PCI video controller, you could temporarily replace it with another video controller. We have often found that using an ISA video controller provides a significant improvement in areas of system performance which are not related to the video display.

5.2 Troubleshooting the Software

If you are experiencing problems during your initial setup, you may find the following tips useful.

- Check that the version of Windows NT is compatible with the version of the Torrent RIP. If you are running Windows NT 4.0 or later, you must use Torrent version 4.1r0a or later.
- Remember that this is a single-processor RIP, not a multi-processor RIP.
- Ensure that the dongle has been installed correctly, together with the Sentinel software.

5.2.1 The RIP Monitor

The main window of Torrent acts as a RIP monitor which shows the progress of jobs through Torrent. It also displays information about timing, errors, job completion, fonts and other messages. Check this for error messages if you are experiencing problems with the Plugin or the RIP. Refer to Chapter 3 of the Torrent User's Guide for further details about the RIP Monitor.

5.2.2 Imaging problems

If you are having problems with orientation or quality of output, you should review the job with the ROAM window, which is the most useful tool available for troubleshooting imaging problems in the Torrent RIP. All of the jobs are listed in the Output Controller's Active Queue or Held Queue windows: select the job and then click on the **ROAM** button. The job will appear on the output media as it appears in the ROAM window.

If the images are rotated incorrectly and are being cropped, check that you have specified your media width correctly in the Cassette Manager and that you have printed the job with the correct orientation.

For other problems, please contact HighWater Support, who will be pleased to assist you.

5.2.3 Creating a logfile for the HighWater plugin

If the Troubleshooting guidelines above have not been sufficient, you may need to create a logfile which can be sent to HighWater Support. To do this, you need to set the `debuglevel` in the appropriate configuration file.

1. In the Torrent RIP, go to **Torrent** menu, and choose **Device Manager**.
2. Make a note of the **Type** of the Device, for example `SelectSet 7000` in the example below.
3. Exit the RIP, and go to the Windows NT boot directory, e.g. `C:\WINNT`.
4. Locate the configuration filewith the name as the Device Type. For example, for the `SelectSet 7000` there will be a file called `SelectSet 7000.4x6`, where `4x6` is an extension based on the interface card type (i.e. a 476 card). Open this file using a plain text editor such as **Notepad**.
5. Locate the parameter `debuglevel`. If you are experiencing a problem with serial communications, set this to `5`. If you are experiencing a hardware problem, set this to `10`.
6. Save the file and exit the text editor. In the RIP folder, delete any file there called `hwplugin.log`. Restart the RIP.
7. Try to reproduce your problem as quickly as possible (to restrict the size of the logfile).
8. Exit the RIP. Rename the logfile, or copy it elsewhere (so that it doesn't get over-written next time you restart the RIP). Send the logfile to HighWater Support. If you can compress the file prior to sending it, this will reduce the time required to send it.

Contacting HighWater Support

Telephone Number	+44 (0) 1242 542102
Fax Number	+44 (0) 1242 251600
Email address	`support@highwater.co.uk`
Postal Address	HighWater Designs Limited 1-6 St. George's Business Park Alstone Lane Cheltenham GL51 8HF

6

Appendix: Configuring the Plugin

The Installer will install configuration files for most models of imagesetter. This appendix, therefore, provides information on the fields in the configuration files so that a user can create a new configuration file, if required.

This chapter describes:

- The configuration file.
- Editing the configuration file.
- The fields in the configuration file.

6.1 The Configuration File

The Torrent Plugin can be used to output to a number of different imagesetters. You specify the details that are appropriate to your imagesetter by editing the configuration file, which is installed in the Windows NT **SYSTEMROOT** directory.

You may have several configuration files. The extension on the file name matches the number of the HighWater PCI interface card which is installed in your PC. You need to edit the file that relates to your imagesetter.

The name of the configuration file is set up according to the following scheme:

<imagesetter name>.4XN

For example, an ECRM 3000 setter, which uses a 470 card, will have a configuration file called

ECRM 3000-2540.4X0

whereas an Ultre setter, which can use either a 474 or a 475 card, will have configuration files called

Ultre 72P.4X4
Ultre 72P.4X5

There is also a generic file, which contains all possible parameters, and which should be edited if you have an unlisted model. This is called

Generic.4xN

where N is the last digit of the card number.

6.2 Editing the Configuration File

You may need to refer to the imagesetter's documentation when you edit the configuration file, in order to supply some of the necessary parameters.

1. Quit Torrent.
2. Select the appropriate configuration file and open it in an application which will allow you to save it as a text file: for example, use the standard Windows plain text editor, Notepad.
3. Edit the individual fields to configure the file for your imagesetter. The fields are described in the table which begins on the next page.
4. Save the file (as a text file).

5. Start Torrent. (If the RIP was running when you edited the file, you will need to restart Torrent so that the changes can come into effect.)
6. You are now ready to configure the imagesetter for use with the HighWater Plugin. Refer to Chapter 5 of this manual for further details.

6.3 The fields in the configuration file

The standard fields in the configuration file are described in the following table.

Field	Description
bxtopmargin **bxleftmargin** **bxrightmargin**	These three parameters apply to Canon BX setters ONLY. These parameters specify the minimum top, left and right margins that are required to ensure that all of the image is on the paper.
cassetteselect	*For use with Agfa Avantra imagesetters.* **0** (Default) Automatic cassette selection in Torrent disabled. This is recommended if you are using multiple cassettes to provide continuous media supply. In this case, the imagesetter itself should be set to switch between cassettes automatically. You should configure the Page Setup so that the media size is specified, using the Page Layout dialog, but you should not create specific cassette definitions. **1** Enable automatic cassette selection. This is recommended if different media sizes or types are used in each cassette. Specifying the cassette in the Page Setup ensures that the correct cassette is accessed on the imagesetter.

Field	Description
clockgenBX **clockgenUltre**	Most imagesetters provide a clock signal. The 475 cards include a Cypress ICD2053B clock generator to enable output on those imagesetters which do not provide a data clock signal, e.g. Canon BX printers. These two decimal parameters control the frequency of the pulse generated by the on-board clock, relative to the reference frequency of 16MHz. `ClockgenBX` is used for generating a clock signal for Canon BX printers. `ClockgenUltre` is used for generating a clock signal for Ultre imagesetters.
cuttimeout	4x6 cards only This controls how long the software waits while the imagesetter cuts the media.
debuglevel	Set the level of debugging messages that the software provides: higher numbers lead to more messages. `0` No debugging messages. `1` Minimal debugging messages. `10` Maximum debugging messages.
defaultres	Enter the default resolution. This will appear on the Page Setup dialog when you use the Plugin for the first time. This must be one of the **res** entries previously entered. (See Chapter 6 of this manual.)
dmatimeout	If there is a delay in the data output on the imagesetter, the Plugin will wait for the number of seconds specified by this parameter before reporting an error.

Field	Description
endjobtimeout	This field applies ONLY to those imagesetters which require a 476 card. It can be omitted for other setters. This is the maximum time (in seconds) which the imagesetter will wait for the successful completion of the end-of-job serial sequence. If this time is set too short, an error will be returned and the imagesetter may be left in an unusable state, requiring the imagesetter to be reset. This timeout is used to overcome problems with some on-line processors, where an automatic advance can make the imagesetter busy for long periods at the end of a job.
exposure	Default exposure (units are setter-dependent) The range is `0-63`, and the default value is `16`. If **`hasexposure=0`** this parameter is not needed.
hasexposure	Enter one of the following values: `0` If the imagesetter does not support software-controlled exposure. `1` If you enter `1` (or any value other than zero), you will need to enter a default Exposure value when you create the Page Setup. You can always edit this value for a selected page from the Output Controller's Throughput Info dialog. (See Chapter 4 of the Torrent User's Guide.)
hasprfsupport	This specifies whether PRF serial commands are supported. `0` Does not support PRF serial commands (default) `1` Supports PRF serial commands. Currently, only the ECRM Knockout PRF imagesetter supports PRF commands.

Field	Description
haspunch	This specifies whether the device supports punch control. 0 Does not support punch control (default) 1 Supports punch control
hasserial	Enter one of the following values: 0 The imagesetter does NOT support serial communications. 1 The imagesetter DOES support serial communications.
li5devtype	Some imagesetters fail to report their device type correctly. This affects the way the Plugin operates and can cause errors in serial communications. 0 Use information from imagesetter (default). 1 Force "New Style" device. 2 Force "Old Style" device. 3 Scangraphic imagesetters.
limits	This specifies the mechanical limitations around the edge of the media. This is used to adjust the page size so that it fits into the imageable area rather than the actual media size. Note that the values are not symmetric. Four values are needed (in mm): **top bottom left right**
numres	Enter the number of different resolutions which the output device is capable of supporting. You will specify the actual resolutions and screen rulings in the **res** field.
pixelclock	This field applies ONLY to those imagesetters which require a 474 or a 475 card. It can be omitted for other setters. Location of the pixel clock generation source. 0 Imagesetter clock (default). 1 Optional on-board clock.

Field	Description
plxlatency-timer	This controls the amount of time that the interface card holds the PCI. Higher values lead to an increased time on the bus, and may improve the performance of the card relative to other cards on the bus. If you get a "System too slow" error, you could try increasing this value.
res	For each of the resolutions that the output device is able to support, enter the dots per inch (dpi), together with an appropriate screen ruling in lines-per-inch (lpi). For Ultre imagesetters, enter the required clock divide ratio. Make sure that you have the correct number of entries. For example, if you specify 6 for **numres**, you will need to enter six sets of values in the **res** field. Some configuration files also contain an exposure field. This is not applicable to the Torrent Plugin.
resdepends	Enter one of the following values: **0** Allows you to adjust horizontal and vertical values independently of each other. (When you change the horizontal value on the Page Setup, the RIP will still adjust the vertical value automatically to match it, but you will be able to overtype it.) **1** If you enter 1 (or any value other than zero), the RIP will assume that the resolutions must be equal.

Field	Description
serialconfig	4x2 cards only Allows you to configure the attributes of the serial comms channel. There are five fields: **baudrate** one of **2400** / **4800** / **9600** / **19200** **databits** between **5** and **8** **stopbits** one of **1** / **1.5** / **2** stopbits **parity** **0** = none / **1** = odd / **2** = even **flowcontrol** **0** = none / **1** = XON/XOFF / **2** = CTS/RTS
setterflags	Device-specific flags This is used to provide a default configuration for some items on the Page Setup dialog: **0** No special options. **256** Mirror output. **512** Rotate output 90 degrees. **768** Mirror output and rotate 90 degrees.
setterid	For HW475, HW774 and HW775 cards, this parameter has the following values: **0** Canon Mode **1** Exxtra / Exxpress / Maxxima Mode **2** Ultre Mode For HW476 and HW776 cards, **setterid** corresponds to the engine type.
setterlength	Enter **0.0** for continuous media devices, as these can handle images of any length. For drum devices, the length is measured along the drum. Otherwise, enter the maximum length of the imagesetter.

Field	Description
settertype	Enter one of the following values, depending upon drum type: **0** **Part-Drum**. A part-drum device feeds as much media as required in the direction of the x-axis (fast-scan, around the circumference of the drum), from a fixed-width continuous source. **1** **Full-Drum**. A full-drum device always fees a sheet to fill the drum. **2** **Capstan**. Fixed-width media is fed from a continuous source along the y-axis (slow direction) of the scan. **3** **Sheet**. Media is fed in separate sheets. Sheets of paper or a drum with manually fed sheets fall into this category. You must enter values for both **setterlength** and **setterwidth**. **4** **Unlimited**. An unlimited device has no media size or device considerations: this would be used for file formats or display. This option is not normally used.
setterwidth	Enter the maximum imageable width for the device. This corresponds to the width of the setter, in inches, minus the fixed margin of the imagesetter. For drum devices, the width is the distance measured around the drum. If you enter **0.0**, the RIP will assume that the imagesetter can cope with any width. (The actual media width and its location across the RIP are determined within the RIP.)
usemediamanager	Enter one of the following values: **0** The imagesetter does NOT support Media Manager control. 1 The imagesetter DOES support Media Manager control.

Field	Description
`vsreqtimeout`	Required for 474 cards only. Ultre imagesetters and compatible devices vary in the length of time taken for the imagesetter to become ready for output. This preference is provided to allow the HighWater software to handle this timing correctly for each type of device. If it is set too low the user will get an imagesetter offline error after attempting to output. It is recommended that the value is set to be not much higher than the minimum, otherwise it may take a long time to detect errors on the imagesetter.

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