

TROY

EtherWind[™]
802.11b Print Server



User's Guide

Part Number 40148-100
Revision 0.2

TROY Group, Inc. Wireless and Connectivity Division • 1692 Browning • Irvine, CA 92606-4809 USA
Tel: +1 (949) 399-0820 Fax: +1 (949) 399-0825 • E-mail: support@troxcd.com • www.troxcd.com

Copyright Notice

All rights reserved. No part of this publication may be reproduced, stored, in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of TROY Group, Inc. The information contained herein is designed only for use with this TROY product. TROY is not responsible for any use of this information as applied to other products.

Neither TROY nor its affiliates shall be liable to the purchaser of this product or third parties for damages, losses, costs, or expenses incurred by purchaser or third parties as a result of accident, misuse or abuse of this product or unauthorized modifications, repairs, or alterations to this product, or (excluding the U.S.) failure to strictly comply with TROY'S operating and maintenance instructions.

Warranty Notice

TROY GROUP, INC. SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS OF THIS PRODUCT FOR A PARTICULAR PURPOSE. TROY shall not be liable for any errors contained in this manual or for any damages resulting from loss of use, data profits, or any incidental or consequential damages arising from the use of TROY products or services.

Trademark Notice

EtherWind is a registered trademarks of TROY Group, Inc. *Bluetooth* is a trademark of *BLUETOOTH SIG*, Inc. and licensed to TROY.

General Notice: Other product names used herein are for identifications purposes only and may be trademarks of their respective owners. TROY disclaims any and all rights in those marks.

Copyright © 2001 by TROY Group, Inc.

Contents

Introduction

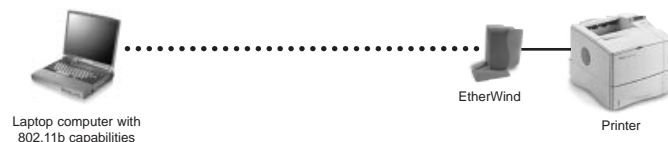
Windows System Requirements	2
About Your User's Guide	2

1 Installing the EtherWind Print Server Hardware	
Unpacking the Print Server	1-1
Before You Begin	1-1
EtherWind Connectors, Switches, and LED'S	1-2
Connecting the Serial EtherWind to an RS-232 Serial Device	1-3
Connecting to a Printer	1-4
Verifying Successful Installation	1-4
Verifying the Connection to the Printer	1-5
Configuring the EtherWind	1-5
2 Configuring the EtherWind 802.11b and IP Settings	2-1
3 Management Methods	
WP-Admin	3-1
XAdmin32	3-1
WebXAdmin	3-1
EtherWind Console	3-2
4 Windows Network Configuration	4-1
5 AppleTalk Network Configuration	5-1
6 Novell NetWare Network Configuration	6-1
7 UNIX Network Configuration	7-1
8 DEC LAT Network Configuration	8-1
9 Banyan VINES Network Configuration	9-1
10 PrintraNet Internet Remote Printing	10-1

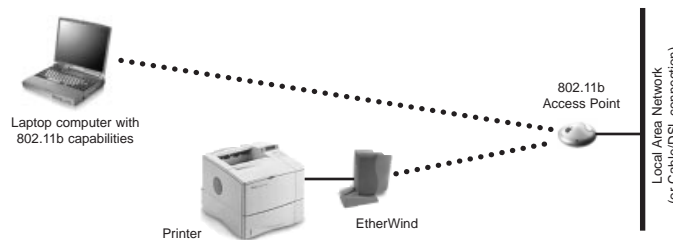
11	Troubleshooting	
	Troubleshooting Frequently Asked Questions	11-1
	Loading the Firmware	11-2
	Uninstalling the EtherWind Wireless Software	11-4
12	Where to Get Help	
	Worldwide Web Support	12-1
	Contacting TROY	12-1
	Returning Products	12-1
	Warranty	12-2
13	Notices	
	FCC Compliance Statement	13-1
	Declaration of Conformity	13-2

Introduction

The EtherWind 802.11b Wireless Print Server lets you communicate with printers from anywhere on an 802.11b wireless network. You can use the print server in ad-hoc (peer-to-peer) or infrastructure (access point) wireless mode, as shown below.



**Ad-Hoc Mode
(Peer-to-Peer)**



**Infrastructure Mode
(With Access Point)**

The print server operates at speeds of up to 11 Mbps on any IEEE 802.11b wireless compatible network. Your printer can be simultaneously connected to your PC or Macintosh via the USB port.

Follow the instructions in this manual to install the print server for your printer. For more information, and software downloads, check on the TROY web site (<http://www.troyxcd.com>).

System Requirements

To use the EtherWind for printing from a wireless network, you need an 802.11b wireless network. The wireless network will consist of either of the following:

- ▶ An 802.11b wireless enabled PC or Macintosh printing straight to the printer (Ad-Hoc or Peer-to-Peer Mode).
- ▶ An 802.11b wireless access point allowing wireless and wired Ethernet enabled computers to print to the EtherWind.

To configure and print to the EtherWind, you need the following:

- ▶ The MAC address from the label of the EtherWind (for example: 004017023F96)
- ▶ The following information from your wireless network administrator:
 - Wireless Mode (Infrastructure or Ad-Hoc)
 - The SSID (service set identifier) for your wireless network
 - The Radio Frequency Channel of the wireless network
 - If you are using TCP/IP (recommended for Windows Networks) and are not connected to a DHCP server (for obtaining an IP Address automatically), you will need a unique IP Address for the EtherWind (for example: 192.168.1.14). If the EtherWind is not on the same IP subnet as the computers you are printing from, you will also need a subnet mask and a router (default gateway) address.

1

Installing the EtherWind Print Server Hardware

Before You Begin

Before you install the EtherWind wireless print server, make sure that your printer or other device and your computer already function properly via a parallel, serial or USB printer cable. Refer to your printer's documentation for instructions on using and maintaining your printer.

In addition, make sure that you have properly installed the 802.11b wireless equipment and software you are using to communicate to the EtherWind as described in the documentation that came with that equipment.

Unpacking the Print Server

Your package should contain the following items:

- ▶ EtherWind Wireless Print Server
- ▶ EtherWind Wireless Print Server desktop mounting base
- ▶ EtherWind Wireless Print Server User's Guide (This Book)
- ▶ IEEE 1284 Parallel Cable – 25 Pin Male to 36 Pin Male
- ▶ Power Supply
- ▶ Installation CD-ROM

If anything is missing from the box, please contact TROY.

EtherWind Connectors, Switches, and LEDs

Test Switch. Press down this switch for less than 5 seconds to print a test page on the printer. The test page will show the current wireless and network settings of the EtherWind wireless print server. Press it down for more than 5 seconds to reset the EtherWind to its factory default parameters. To enable console mode on the serial port, hold in the test switch while powering on the Serial Server (see next section for additional details).

Power Connector. Plug the power supply into this connector.

LED status indicators. The yellow light stays lit when you have made a wireless connection to the EtherWind from a computer or access point. The green light blinks whenever data is transmitted over the wireless link.

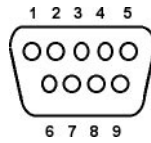
Parallel Port (DB25). This port is used for connecting to a parallel printer.

Serial Port (DB9). This port is used for connecting a serial printer or other serial device. Can also be used to access the command line console of the EtherWind for configuration and diagnostics.



Connecting the Serial EtherWind to an RS-232 Serial Device

The EtherWind has one standard PC-compatible 9-pin female D-connectors. The serial port uses PC-compatible 9-pin male D-connectors. Note that the standard off-the-shelf 9-pin female to 25-pin male PC cables will require a null modem in order to connect to most printers or terminals. The pin-outs are as follows:



DB9 pin	Signal	Signal	DTE pin	DCE pin
1	Not used	Not used	-	-
2	Receive Data	Transmit Data	2	3
3	Transmit Data	Receive Data	3	2
4	DTR out	DSR in	6	20
5	Signal Ground	Signal Ground	7	7
6	DSR in	DTR out	20	6
7	RTS out	CTS in	5	4
8	CTS in	RTS out	4	5
9	Not used	Not used	-	-

Basically, the cable must connect input signals (e.g., Receive Data) on the TROY EtherWind to the equivalent output signals (e.g., Transmit Data) on the device and vice-versa.

The serial port can be set to operate in console mode to allow you to configure and diagnose the EtherWind via a serial terminal (or PC with a terminal emulation program). To enable the console mode manual, unplug the power supply from the serial server, hold down the Test switch and simultaneously plug in the power supply. If no characters are received on the serial port during this time, then console mode is enabled on the port (if characters are received, then the unit goes into a special diagnostic mode).

The port will remain in console mode until the unit is power off.

You may also remotely enable console mode by connecting remotely to the EtherWind via WebXAdmin, TELNET, NCP, or XConfig (refer to Chapter 3 for information on how to use these utilities). With WebXAdmin, select **Configure**

Port from the main menu, click on serial port S1, select **Console Mode**, and click **Submit**. With TELNET or XCONFIG, use the following command:

```
SET PORT S1 CONSOLE ENABLED
```

You can remotely restore the port to normal serial operation by unselecting Console Mode from WebXAdmin or by using the console command SET PORT serialport CONSOLE DISABLED.

The serial ports are factory set at 115200bps, 8-bit data, CTS/RTS (Hardware) flow control, and no parity. If your printer or serial device requires different settings, you must use WebXAdmin or a console terminal connected to port S1 as described in the previous paragraph. With WebXAdmin, select Configure Port from the main menu, click on S1, choose the desired settings, and click Submit. With the console terminal, use one or more of the following commands:

```
SET PORT S1 SPEED baudrate
SET PORT S1 PARITY parity_type
SET PORT S1 FLOW flowctrl
SET PORT S1 CHARACTER charsize
```

Note that the serial port always operates at 115200bps when in console mode.

Don't forget to set the serial port settings on your printer or other device to match the settings of the EtherWind

Connecting to a Printer

Follow these steps to connect the print server to your printer:

1. Attach the EtherWind to the desktop mounting base.
2. Connect the parallel cable to the print server and the printer.
3. Plug the power cord into a wall outlet or power strip, and into the print server.

Verifying Successful Installation

When the print server is powered on, the EtherWind will go through the following startup sequence:

- It runs through a set of power-up diagnostics for a few seconds. If the EtherWind is operating properly, the green LED will blink momentarily and

then go out. If the green light blinks continuously in a regular pattern, there is a problem. Try unplugging the power and then plugging it in again. If the problem persists, contact TROY.

- ▶ When a successful connection is made to the EtherWind from another 802.11b wireless device like an access point or PC, the yellow light will stay lit. The green light will blink whenever there is printing activity. Since you have not made a connection yet, both of these LEDs should be off.

Verifying the Connection to the Printer

Before attempting to print, it is very important to verify the connection between the EtherWind and the printer. If this connection is not good, you will not be able to print!

To verify this connection, make sure that both the EtherWind and the printer are powered on and ready. Make sure that the cable is connected securely from the EtherWind to the printer. Then print a test page by pushing the test switch and letting go immediately.

If the test page does not print, first make sure all the connections are secure, and make sure the printer is operating correctly and is not out of ink, toner, paper, etc. Then power the EtherWind off and then on again, and try printing the self-test page again.

If you cannot print a test page, refer to the Troubleshooting section of this manual.

Configuring the EtherWind

There are three basic steps required to configure the EtherWind:

1. *Configuring the EtherWind 802.11b settings.* To operate on an 802.11b network, you must set the wireless mode (ad hoc or infrastructure), SSID, channel, data rate and WEP encryption.
2. *Configuring the IP address settings.* You will need to set the IP address, subnet mask, and router address if you are using TCP/IP, NetBIOS IP, IPP, or PrintraNet, or if you want to use the WebXAdmin web-based management utility.
3. *Configuring the EtherWind for operation with the network operating systems.* The final step is to configure the EtherWind so that you can print to it using one

or more network operating systems (for example, Windows NT/2000, NetWare, AppleTalk, etc.).

These steps are described in the following chapters. Note that in most cases, the EtherWind and the TROY WP-Admin software will automatically determine the 802.11b settings and the IP address settings.

2

Configuring the EtherWind 802.11b and IP Settings

You can configure the EtherWind 802.11b settings and the IP address settings from a Windows or Macintosh PC that has 802.11b capabilities by using the TROY WPAdmin utility.

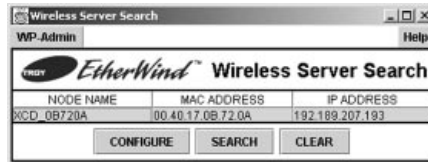
Important Note:

If you are using WEP (Wired Equivalent Privacy) encryption on your wireless network, you will need to temporarily disable WEP on your PC and switch it to Ad-Hoc mode (Refer to your 802.11b wireless PC Card documentation for instructions on how to do this). If you don't have a PC on the wireless network that can go into Ad-Hoc mode, you will need to temporarily disable WEP on the Access Point (Refer to your 802.11b wireless Access Point documentation for instructions on how to do this). When you are done configuring the wireless print server, you can re-enable WEP on your wireless network.

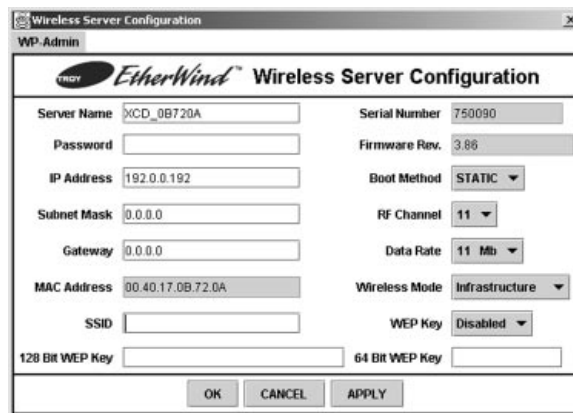
The configuration procedure is as follows:

1. Insert the EtherWind Wireless Configuration CD-ROM into your PC or Macintosh.
2. Click on **EtherWind Wireless Utilities** from the menu to install the utilities.
3. If you don't have the Java Runtime installed on your system, you will be prompted to install it, click **Yes**. Otherwise, move on to the next step.
4. At this point the WP-Admin utility will be installed and the Wireless Server Search screen will start. The list is sorted by Ethernet address and server name.

You will see a screen that looks like this:



5. Click on **Search** and select the EtherWind from the list to and click **Configure**.
6. You will be prompted for a password, this is the configuration password (default password is **ACCESS**). The Wireless Server Configuration screen will appear:



7. The EtherWind you selected in the will configure itself to the same wireless settings of the wireless network being used through the configuration utility, so you should **NOT** need to change the Wireless Mode, RF Channel, SSID, and Data Rate settings unless you want to change the EtherWind to a different wireless network, or if you need to enable WEP. If you are using DHCP on your network, the EtherWind will have acquired valid IP Address settings at this point, and no further configuration should be required for the IP Boot Method, IP Address, Subnet Mask, and Gateway fields. From this screen, you can configure the IP Address settings and the Print Server name. A description of each settings is listed below. Once these are all set, click **OK** or **Apply**.

Your Print Server should be configured correctly at this point. If you are using a Windows System, go on to the Microsoft Network Configuration section of this manual. If you are using a Macintosh System, go on to the AppleTalk Network Configuration section of this manual.

GLOSSARY OF TERMS

Server Name

This is the name of the wireless print server. The default is XCD_XXXXXX (where XXXXXX are the last six digits of the Ethernet address). You can choose any name for this setting.

Password

This is the EtherWind Wireless Print Server configuration password. The default is ACCESS, you can change it by entering a new one in this field.

IP Address, Subnet Mask, Gateway (or Router)

If you are using DHCP on your network, the EtherWind will have acquired valid IP Address settings at this point, and no further configuration should be required. A valid IP address needs to be configured in order for use with Windows and the NetBIOS port monitor. Consult with your network administrator if you are not sure what to use here to use.

Wireless Mode

This is the wireless mode you select for your print server. Ad-Hoc (sometimes referred to as Peer-to-Peer, Computer-to-Computer, 802.11 Ad-Hoc, IBSS compliant Ad-Hoc) modes are used when your wireless enabled PC is printing straight to the printer. Infrastructure mode is used when you have an Access point or base station as the "hub" of your wireless network. Pseudo Ad-Hoc is only used for testing and some older 802.11b implementations of Ad-Hoc.

RF Channel

The RF Channel is the wireless channel the print server uses to communicate. The EtherWind will be able to automatically configure itself in most cases, but you might need to manually set it to the same RF channel as the 802.11b wireless network. This value must match for all nodes on a network to communicate with each other.

SSID

This is the Service Set Identifier (Sometimes referred to as Network Name). This value must match for all nodes on a network to communicate with each other.

Data Rate

This is the throughput speed in Mbps of the wireless Ethernet connection (1, 2,

5.5, or 11). In most cases with an 802.11b wireless network, it should be set to 11 Mbps. The Data Rate will automatically negotiate at the highest possible rate.

IP Method

This is the method the wireless print server uses to obtain an IP address. This can be set to Auto, DHCP, BOOTP, RARP, or Static. Auto will try DHCP, BOOTP and RARP, and then set to Static if it doesn't get one automatically.

WEP Key

This is the setting to enable 64 bit (also compatible with 40 bit) or 128 bit Wired Equivalent Privacy.

128 Bit / 64 Bit WEP Key

This is the 64 or 128 bit WEP key that must match other nodes' encryption keys in order to communicate: 10 characters for 64 bit, or 26 characters for 128 bit. The EtherWind uses a Hexadecimal value for WEP. All 802.11b devices have a way of translating their WEP or Security values to 10 (for 40-bit or 64-bit WEP) or 26 (for 128-bit WEP) digit HEX values. Ask the manufacturer of your wireless product how this is done for your PC and/or Access Point.

3

Management Methods

TROY offers a variety of ways to configure and monitor the EtherWind. These methods are:

WP-Admin Utility

- ▶ This utility is used for initial configuration of the print server and allows you to set the wireless settings as well as the basic network settings including TCP/IP.
- ▶ See the previous section (Configuring the Wireless Print Server) for detailed use instructions
- ▶ Can be downloaded from our web site (<http://www.troyxcd.com>)
- ▶ After initial installation, this utility can be run from the START menu under START>Programs>TROY Group>EtherWind>WP-Admin
- ▶ Default password is ACCESS

XAdmin32

- ▶ This utility is used for advanced configuration of the print server and allows you to configure for Netware, TCP/IP, AppleTalk settings and more.
- ▶ A 32-bit graphical utility
- ▶ Compatible with Windows PC's running TCP/IP or IPX/SPX Protocols
- ▶ Included on CD-ROM
- ▶ Can be downloaded from our web site (<http://www.troyxcd.com>)
- ▶ After initial installation, this utility can be run from the START menu under START>Programs>TROY Group>EtherWind>XAdmin32
- ▶ Default password is ACCESS

WebXAdmin

- ▶ Allows the user to configure the EtherWind with a standard web browser like Netscape Navigator or Microsoft Internet Explorer.
- ▶ No additional software is needed on the system.

- ▶ Can be used on any system that supports web browser capabilities.
- ▶ Simply type the IP address into your web browser address bar to connect
- ▶ Default password is **ACCESS**

*Both the EtherWind and the PC must be configured with an IP address and your browser must be configured to work across a LAN in order to use WebXAdmin.

EtherWind Console

- ▶ A command-line oriented console
- ▶ Contains features not available through WP-Admin, Xadmin32 or WebXAdmin
- ▶ Default password is **ACCESS**
- ▶ Can be accessed via:
 - TELNET
 - DEC NCP
 - DEC NCL
 - ULTRIX ccr
 - TROY XCD XConfig NetWare Utility
 - Serial port
 - WebXAdmin

Note:

In all cases, when you are connected, hit RETURN or ENTER to get the "#" prompt, enter password **ACCESS** (it will not echo) and type anything in response to the "Enter Username>" prompt. When you get the "Local>" prompt, you are ready to enter commands.

4 Microsoft Windows Network Configuration

The NetBIOS IP or NetBEUI protocols are recommended for setup on a Microsoft network. The EtherWind also supports the SMB protocol, so it automatically appears in the Windows Network Neighborhood and can be managed using standard operating system utilities.

Note: The workstation will automatically use NetBIOS IP if TCP/IP is enabled on it. It will use NetBEUI only if TCP/IP is not available.

Setting the IP Address (not required if using NetBEUI)

If you plan to use the NetBIOS IP protocol, you must first configure an IP address into your print server. If you are using the NetBEUI protocol, you do not need to have an IP address.

Configuring the Print Server

1. Determine the domain that the print server resides on (the domain name is sometimes referred to as the "Workgroup Name").
2. Run the XAdmin32 utility and select the print server to be configured.
3. Select the **NetBIOS** tab, and enter the domain name.

Note: By default, Microsoft networks use the domain name **WORKGROUP**, so if no specific domain name has been defined for this network the name **WORKGROUP** can be used.

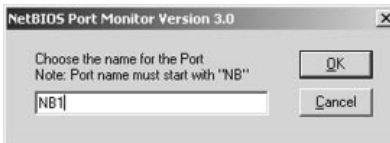
Installing the Port Monitor

TROY provides a port monitor that installs directly on a Windows computer. The port monitor acts like a local printer port, and therefore operates transparently with all Windows software.

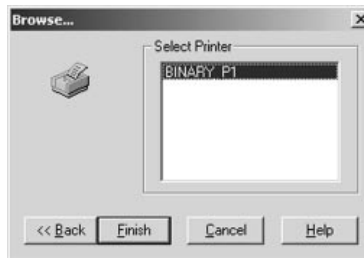
Note: Although it is possible to install the print server as a network printer on Windows systems, this procedure is not recommended because these operating systems do not adequately support queuing print jobs from multiple host computers to a diskless print server. The queues may back up and therefore stop.

Follow the instructions on the screen to complete the installation. After the EtherWind is configured, you will need to set up the network port to associate with the printer driver. Follow these steps to configure the Port Monitor:

1. Enter a port name, which must begin with "NB" (for example NBTROY) or accept the default NB1. Click OK.



2. Select **Browse** when asked for the Remote Print Server. Then choose the desired workgroup (default for the EtherWind is **WORKGROUP**) and click **Next**.
3. Choose the EtherWind from the list of available devices. The default is XCD_XXXXXX, where "XXXXXX" are the last six digits of the Ethernet address (for example, XCD_0B720A).
4. Choose the desired printer (service) from the list and click **Finish**. The default service is BINARY_P1.



5. The Path should appear in the edit field.



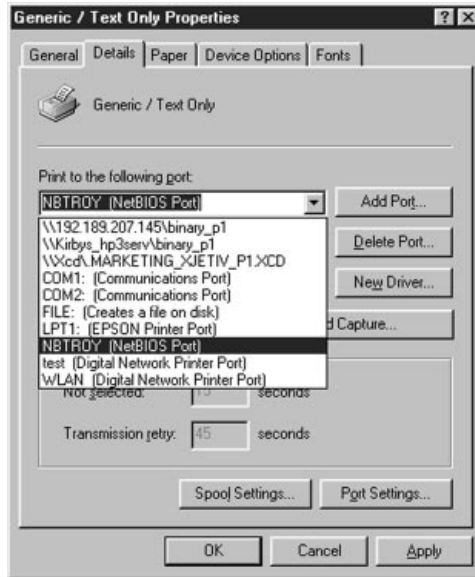
6. Click OK.
7. Click Finish to restart the computer.

Printer Setup for Windows 95/98/ME

1. Install the printer driver for the printer you wish to print to.
2. Click the Start button, select Settings, and then Printers.
3. Right-Click on the printer you wish to associate with the network port, and select Properties.



4. Go to the **Details** tab. In the **Print to the following Port:** drop-down menu, choose the NetBIOS port you used in step 1 under Installing the Port.



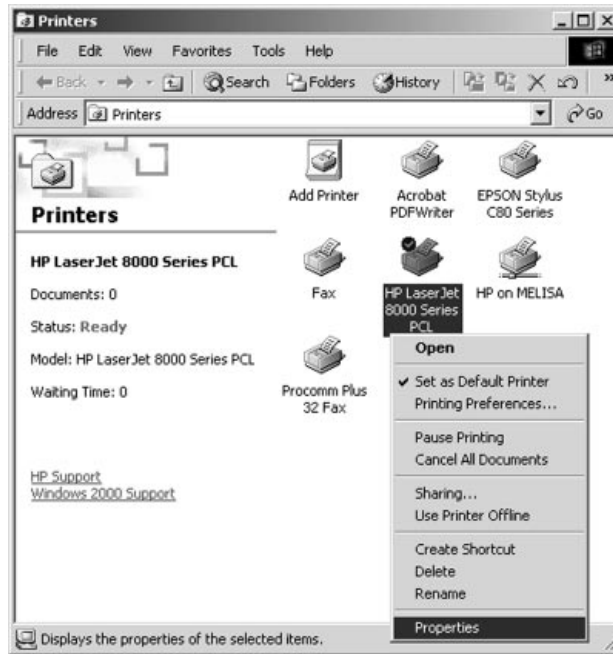
5. Click **OK** or **Apply**.

You are now ready to print. If you would like to test, you can go the **General** tab and click **Print Test Page** and you should get a Windows test page on the printer.

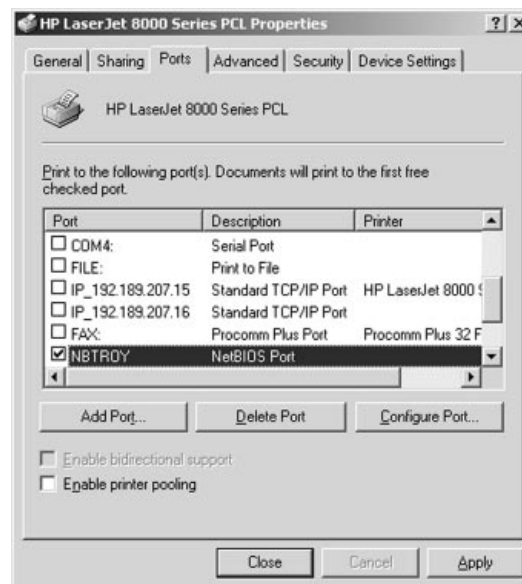
Printer Setup for Windows NT 4.x/2000/XP

1. Install the printer driver for the printer you wish to print to.
2. Click the **Start** button, select **Settings**, and then **Printers**.

- Right-Click on the printer you wish to associate with the network port, and select **Properties**.



- Go to the **Ports** tab. Under the **Print to the following port(s)** menu, choose the NetBIOS port you used in step 1 under *Installing the Port*.



5. Click **OK** or **Apply**.

You are now ready to print. If you would like to test, you can go the **General** tab and click **Print Test Page** and you should get a Windows test page on the printer.

Adding a Second NetBIOS Port

If you are adding a second NetBIOS printer port, do not re-run the installation program. Instead, follow the appropriate procedure below.

Windows 95/98/ME

1. Click the **Start** button and select **Settings** then **Printers**.
2. Right-click on the printer you want to add the port to and select **Properties**.
3. Go to the **Details** tab, and click **Add Port**.
4. Select **Other**, highlight **NetBIOS Port**, and click **Next**.
5. Follow steps 5 & 6 above, in the *Installing Port Monitor* section, and click **Apply**.

Windows NT/2000/XP

1. In the printers list, select the printer you want to add the port to, and click **File**, then **Properties**.
2. Go to the **Ports** tab, and click **Add Port**.
3. Select **NetBIOS port**, and click **Next**.
4. Follow steps 5 & 6 above, in the *Installing Port Monitor* section, and click **Apply**.

Additional Windows Configuration Methods

EtherWind print servers are also compatible with the Standard TCP/IP Port in Windows 2000/XP and with the LPR Port on Windows NT port options, which are built into the operating system, and with the Internet Printing Protocol.

5 AppleTalk Network Configuration

The EtherWind runs over wireless Ethernet (also known as Ethertalk). This capability allows Macintosh computers to print jobs to a printer simultaneously with jobs from Windows, NetWare, and other computers.

The print server will appear as a shareable printer node on an Appletalk Phase 2 network. The print server broadcasts information to Macintoshes on the network and automatically appears in the Chooser on each Macintosh. Application programs can print without any modification or special software on the Macintosh.

Configuring the Macintosh

1. Identify the printer to which the print server is connected, and install the printer driver.
2. Verify that **Airport** is enabled from the Network Control Panel or AppleTalk Control Panel if you are using an Airport enabled Macintosh. If you are using a Macintosh connected to an Airport base station (or other Wireless Access Point) via the wired Ethernet, you will want to be sure **Ethernet** is selected.

Configuring the EtherWind

Once the EtherWind has been installed and turned on, it will broadcast its service name. (The default is XCD_XXXXXX_P1_AT, where "XXXXXX" are the last six digits of the Ethernet address.)

Setting Up Printing

1. At a Macintosh workstation, from the Apple menu, open the Chooser.
2. If the Chooser window displays an AppleTalk zone list, select the necessary zone.

3. Click on the icon for the printer driver you are going to use. If you have a Postscript printer, you can use the LaserWriter driver.
4. Select the print server name (it will appear as the DEVICE ID for the model printer being used followed by an underscore symbol and the last six digits of the Ethernet address by default, for example: XCD_0B720A_P1).
5. Close the Chooser. You can now print to the printer using any standard Macintosh application program.

6

NetWare Network Configuration

Configuring the Print Server and Print Queue with XAdmin32 (Queue Server Mode)

This section covers installation using the Novell client.

Note:

TROY recommends you use the Novell 32-bit client on your Windows workstation instead of the Microsoft NetWare client, because it allows direct configuration of print queues without the need for a Novell utility like NWAdmin or PCONSOLE.

The EtherWind automatically makes itself known on a NetWare network. The default NetWare Print Server name is XCD_XXXXXX_P1, where "XXXXXX" is the last six digits of the Ethernet address (the Ethernet address is on a label that is affixed to the EtherWind). Note that the NetWare Print Server name is used for either NDS or bindery mode configuration.

If you are configuring the first port with XAdmin32, the NDS Printer Name for this port is automatically assigned as "XCD_XXXXXX_P1 Printer". If you are using an alternate configuration method like NWAdmin, you may assign any unique name for the printer.

The Print Server and Printer names are used extensively during the configuration process, so be sure to remember them. Note that these names are actually the names of the print server's NetWare services. If desired, you can change the default names using XAdmin32 or WebAdmin.

Follow these steps to configure the queue server:

1. Make sure you are logged in as **ADMIN** or equivalent (NetWare 4.xx and above) or **SUPERVISOR** (NetWare 2.xx and 3.xx).

2. Click **Start**, select **Programs**, select the XAdmin32 folder, and then select XAdmin32.
3. Click on the **IPX/SPX** icon under **Filters** to set the operating mode to IPX/SPX (TCP/IP mode will not allow you to configure NetWare print queues directly). The EtherWind should appear in the list of available printers. If it does not, try selecting **Devices** from the menu bar and then **Search Active Devices**.
4. Double click the printer you want to configure, enter the configuration password (**ACCESS** is the default), and click **OK**.
5. A series of index card tabs will be displayed. Click on the **NetWare P1** tab.
6. If it is not already selected, select **Queue Server** as the operating mode.
7. Click on the inverted triangle button and select the NDS tree.
8. Click the **Change...** button to select the NDS context where the queue will reside. (If you are using the Microsoft client, you must type in the name of the context.)

The box labeled "Print Server" contains the name of the NetWare Print Server. If you are configuring any other port, this box contains the name of the NDS Printer. If desired, you can change these names.

You may now create a print queue. Follow these steps:

1. Click on the **Change NDS Queues...** button to configure an NDS print queue or click the **Change Bindery Queues...** to configure a bindery mode queue.
2. Two windows will appear: **Available Print Queues** and **Serviced Print Queues**. Go to the **Available Print Queues** window.
3. If you are configuring an NDS queue, click on the context where the print queue will reside.
4. If you are configuring a bindery queue, click on the volume where the queue will reside (a volume name will have a file server icon next to it).

5. Click on **New Queue**. Enter any unique name for the **Queue** name.
 - ▶ If you are configuring a bindery queue, click **OK** and proceed to step 8.
 - ▶ If you are configuring an NDS queue, click **Browse**, select the file server volume where you want the queue to reside (a volume name will have a file server icon next to it), and click **OK**.
6. The queue name will now appear in the **Available Print Queues** under the selected volume (for bindery mode) or in the selected context (for NDS mode). Click on the desired queue and click **Add**.

The name will now appear in the **Serviced Print Queues** window.

7. Click **Close** and then **OK**. You can now use the print queue from your NetWare workstation.

If you want to configure additional queues and ports, you must use the Novell NWAdmin utility (this program is usually found in the Public directory on the NetWare file server). Follow these steps:

1. Start the NWAdmin utility and make sure you are in the right context. (If not, select **NDS Browser** from the **Tools** menu and then browse for the desired context.)
2. Select the container where you want the print queue to reside.
3. Select **Print Services Quick Setup** from the **Tools** menu.
4. Browse for the NetWare Print Server by clicking on the button next to the **Print Server Name** window.
5. Enter the name of the NDS Printer for the desired port in the **Name** box (for example, XCD_04ECBA_P2).
6. The **Type** box should be left at the default Parallel setting.
7. Select the desired banner type.
8. Enter any desired name for the print queue.
9. If necessary, browse for the volume.
10. Click **Create** to create the print queue. You are now ready to use the queue from a NetWare workstation.

7

UNIX Network Configuration

The EtherWind print server appears to the network as a UNIX host computer with a unique IP address running the line printer daemon (lpd) protocol. As a result, any host computer that supports the Berkeley remote-LPR command can spool jobs to the print server without the need for any special software on the host computer.

Important Note:

Before configuring a UNIX print queue, the EtherWind must have a valid IP address.

Berkeley UNIX Host Configuration

Berkeley UNIX host computers include Linux, Digital Equipment Corporation Digital UNIX, OSF/1, and ULTRIX; Compaq Tru64 UNIX; SunOS (not Solaris), SCO UNIX; and many others. Sun Solaris, HP/UX, IBM AIX users should skip to the appropriate sections later in this manual.

Important Note:

Do not use the Linux X-Windows graphical user interface printer configuration utility, because it does not work with TROY XCD print servers. Instead, Linux users should follow the configuration steps listed in this section.

Important Note:

SCO UNIX users should use the `rlpconf` command to create a printer and automatically configure the `/etc/printcap` file (you will still need to edit the `/etc/hosts` file). Enter the print server's service name (`XCD_xxxxx_P1`) as the name of the printer (refer to the print server self-test for the exact name of this service), and enter the name of the print server that you assigned in the `/etc/hosts` file as the remote host name; note that because this name must be unique for each printer, we recommend using the `XCD_xxxxx_P1` service instead of the normal `BINARY_P1` service.

1. Edit the `/etc/hosts` file: (or equivalent local host table). For example:

```
192.189.207.33          xcdprinter
```

1. Edit the printcap file: An example of a typical entry in the printcap file is:

```
LaserPrinter:\
:lp=:\
:rm=XCD:\
:rp=BINARY_P1:\
:sd=/usr/spool/lpd/LaserPrinter:
```

"LaserPrinter" is the queuename.

"XCD" matches the name in the hosts file.

"BINARY_P1" is the print server's service name. (NOTE: Use TEXT_P1 instead of BINARY_P1 for text files.)

"sd" is the spool directory.

2. Create the spool directory: The lpd spool directory is usually located in the /usr/spool directory. To create a new spool directory, use the mkdir command; for example:

```
mkdir /usr/spool/lpd/LaserPrinter
```

3. Print using the standard lpr command:

```
lpr -PLaserJet filename
```

4. For AT&T based UNIX systems, such as SCO, use the standard lp command:

```
lp -dLaserJet filename
```

Sun Solaris Configuration

To use a TROY XCD print server with Sun Solaris, first use the Host Manager in the Admintool utility to add the print server IP address and name to the /etc/hosts file.

1. Click on **None - Use /etc files** on host
2. Click on **Apply**
3. Click on **Edit** and then **Add Host**
4. Enter the print server name as the **Host Name** (this name is anything you want, but should not have an "_" character in it).
5. Enter the IP address and Ethernet address of the print server (the Ethernet address has the format aa:bb:cc:dd:ee:ff)
6. Click **Add** and then close the Host Manager windows

Then use the **Printer Manager** in the **Admintool** utility under **Open Windows** as follows:

- ▶ Select **Edit**
- ▶ Select **Add**
- ▶ Select **Add Access to Remote Printer**
- ▶ At the **PrinterName** prompt, type any desired name for the print queue
- ▶ At the **Printer Server** prompt, type:

name!*servicename*

(for example, **LaserJet!BINARY_P1**), where:

- *name* matches the print server name as entered in the hosts table.
- *servicename* is the print service name. For binary graphics files use the service **BINARY_P1**; for text files use the service **TEXT_P1**.

- ▶ Make sure that the **Print Server OS** is set to **BSD** (this is the default setting).
- ▶ Select **Add**
- ▶ To print, use the standard **lp** command; for example:

lp -dLaserJet filename

Notes:

- ▶ We recommend using the **/etc/hosts** file for the printer name rather than **NIS** or other name services.
- ▶ Due to a bug in the Sun **lpd** implementation on **Solaris 2.4** and earlier releases, may cause problems printing very long print jobs. The workaround is to configure the **EtherWind** as an **HP JetDirect** card using the **HP JetAdmin** for **UNIX** software.
- ▶ **Solaris** print queues can also be configured from the **UNIX** shell using the **lpadmin** command.

HP/UX Configuration

To configure a print server using **HP/UX 10.x**, use the **sam** program and execute the following steps:

1. When you get a list of options, select **Printers and Plotters**.
2. Select **LP Spooler**.
3. Select **Printers and Plotters**.
4. Select **Actions** and then **Add Remote Printer/Plotter**.
5. Enter any name as the **Printer Name** (this will be the name of the print queue).
6. Enter the IP address of the print server as the **Remote System Name**.
7. Enter the desired print server service name (**BINARY_P1** for binary files or **TEXT_P1** for text files) as the **Remote Printer Name**.
8. Check the box next to **Remote Printer is on BSD System**.

9. You may accept the default values for the remaining items.
10. Click **OK** to configure the printer.
11. You should now be able to print using the `lp -d` command with the printer name.

Notes:

- ▶ The configuration for HP Distributed Print Services and for earlier versions of HP/UX is slightly different.
- ▶ The print server can also be configured as a JetDirect card using HP/UX. To do this, you will need the HP UNIX Host Printing Software (part of HP's JetAdmin for UNIX).

IBM AIX Configuration

To configure a print server on IBM AIX 4.x, use the SMIT program as follows:

1. Enter **smit** and select **Devices**
2. Select **Printer/plotter**
3. Select **Manage remote printer subsystem**
4. Select **Client services**
5. Select **Remote printer queues**
6. Select **Add a remote queue**
7. Enter the following remote queue settings:
 - **Name of queue to add** (user selectable)
 - **Activate the queue** (Yes)
 - **Destination host** (EtherWind IP address; or if you have configured the `/etc/hosts` file, use the name of the print server that you specified in that file)
 - **Name of queue on remote printer** (BINARY_P1 for binary files or TEXT_P1 for text files)
 - **Name of device to add** (user selectable; for example `lp0`)
8. You should now be able to print using the normal `lp -d` command.

Notes:

- ▶ The configuration for earlier versions of AIX is slightly different. Refer to the Administrator's Manual on the CD-ROM for details.
- ▶ The print server can also be configured as a JetDirect card using AIX. To do this, refer to your AIX documentation.

Configuration on Other Systems

The EtherWind can be used with any computer system that supports either the `lpr/lpd` protocol or the HP JetDirect card (the EtherWind parallel port is port 9100 while the serial port is port 9101). Refer to your system's documentation for information on configuring `lpr/lpd` or JetDirect print queues.

8

DEC LAT Network Configuration

Note:

Only TROY EtherWind-N models include DEC LAT support.

The EtherWind wireless print server acts as a node on an Ethernet network that offers printing services to other devices. The print server comes preconfigured to run on a LAT network and does not require any additional setup.

Each print server has a default node name of XCD_XXXXXX (where "XXXXXX" are the last six digits of the Ethernet address of the unit). The port name is P1 for the EIO, MIO, or first parallel port; S1 for the first serial port, P2 for the second parallel port, and S2 for the second serial port.

VMS LAT Host Configuration

Use the VMS editor to create a text file with the necessary configuration commands to create a LAT application port and then a VMS print queue. For example:

```
$MCR LATCP
CREATE PORT LTAxx:/APPLICATION
SET PORT LTAxx:/NODE=nodename/PORT=port
SHOW PORT LTAxx:
EXIT
$SET TERM LTAxx:/PASSTHRU/PASSALL/-
TAB/NOBROADCAST/PERM
$SET DEVICE/SPOOL LTAxx:
$INIT/QUEUE/START/ON=LTAxx:/-
PROC=LATSYM queuename
```

Note:

LTAxx is the available LAT port to be used
nodename is the node name of the print server
port is the port, e.g. P1, S1, P2, S2 & LN

queuename is any unique name for the print queue.

Execute the command file. At the VMS "\$" prompt type:

```
@filename
```

where filename is the name of the text file created in step 1.

Note: The *@filename* command can be included in the system startup file so that the procedure is executed automatically when the system is booted.

Use the VMS PRINT command with the name of the queue and the file you wish to print as shown below:

```
PRINT/QUEUE=queuename filename
```

Note:

queuename is the name of the print queue created in step1.

filename is the name of the file to be printed.

For graphics or PostScript jobs, the form MUST be defined for NOTRUNCATE and NOWRAP to prevent printer errors.

```
DEFINE/FORM DEFAULT/NOTRUNCATE/NOWRAP
```

9 Banyan VINES Network Configuration

Note:

Only TROY EtherWind-N models include Banyan VINES support.

EtherWind wireless print servers support the Banyan VINES IP protocol to allow printers to be shared on a Banyan VINES network. Users on client PC's send their jobs to any VINES file server running the Banyan PCPrint software, which in turn spools jobs to the print server. Printing is transparent to user applications, and the print server can be managed using standard VINES utilities such as MANAGE, MUSER, MSERVICE and Operator Console.

File Server User Configuration

1. From any VINES workstation log in as supervisor and run the MANAGE program.
2. Select **Users**, and press **ENTER**.
3. At the **Manage Users** screen, select **Add a User**.
4. Type in a StreetTalk name for the print server, (entering a password is optional). Press **F10** when finished.
5. From the **Add User Profile** screen select a blank user profile.
6. Enter **NO** in response to the message "Do you want to force the user to change passwords on the next login?". Press **ENTER**
7. Press **ESCAPE** twice to return to the main menu.

File Server Queue Configuration

1. Run the **MANAGE** utility, and from the main menu select **1-Services**.
2. From the **Manage Services** menu, select **Add a server-based service** and press **ENTER**.
3. From the **Add a Service** screen type the desired StreetTalk name for the print queue and press **ENTER**, followed by a description and press **ENTER**.

4. Select the desired File server and press **ENTER**.
5. Select the disk where the print service will reside.
6. Press **F10** in response to the message "The service is running but not yet available to users."
7. Type in the maximum number of jobs and maximum size of job for the queue at the **Configure Queue** screen. Or press **F10** for unlimited number and size.
8. If desired choose a default paper format at the **Configure Paper Formats** screen, otherwise press **F10** to select the default settings.
9. If desired enter the authorized user names at the **Access Lists** screen, or press **F10** for the defaults.
10. At the **Add a Destination** screen, select **PCPrint** and press **ENTER**.
11. At the **Destination Attributes** screen, enter the StreetTalk name of the print server. Press **F10**.
12. At the **Output Strings** screen, press **F10** to accept the output string values.
13. At the **Enable Strings** screen, press **F10** to select the defaults.
14. Select **NO** in response to the message "Would you like to add another destination at this time?"
15. At the **Print Queue Status** screen, change both values to **Yes** to enable the print queue to accept and print jobs. Press **F10**.
16. Press **ESCAPE** multiple times to exit the Manage utility.

Print Server Configuration

1. Install the XAdmin software from the CD-ROM provided with the print server.

Note: Use XAdmin, not XAdmin32, when configuring a VINES-only network. You can use XAdmin32 on a VINES network only if the PC is running TCP/IP and both the PC and print server have valid IP addresses.

2. Double-click on the XAdmin icon to start the program under Windows.
3. The print server will show up as "XCD_XXXXXX_P1" where "XXXXXX" is the last six digits of the Ethernet address.
4. Click on the **Configure** button.
5. Click on the **Banyan** tab.
6. If necessary change the hop count (default hop count is 2).
7. Enter the StreetTalk name of the print server, this must exactly match the StreetTalk name of the user that was created using the Manage Users utility.
8. Click on the **Services** tab.
9. Select the desired service to be configured, (default is **BINARY_P1**).
10. Enter the StreetTalk name of the queue created using the Manage Services utility.
11. Click on **OK**, and then **OK** again to save the configuration.
12. Click **OK** and **OK** again to exit XAdmin

10 PrintraNet Internet Printing Configuration

TROY's PrintraNet product is a software driver for Windows that allows a PC user at one location to send a print job to a printer connected to an EtherWind wireless print server at a remote location across the Internet in a simple and transparent manner.

For example, a user on a PC in New York could print a document directly from his Microsoft Excel application program to a printer in Chicago. The PC may be attached to a Local Area Network, or it may be connected via a dial-up PPP link to an Internet Service Provider. Because of the low cost of accessing the Internet, the PrintraNet software can save the user a significant amount of money in toll charges, particularly when international communications is involved.

A new PrintraNet feature allows a user at a remote site to send a text E-mail message directly to a printer connected to a TROY print server at a remote site. The E-mail will be automatically printed on the printer without the need to run an E-mail program at the remote site.

There are two parts to the PrintraNet configuration, the configuration of the local Windows PC and the configuration of the remote EtherWind print server.

Installing the Software on a Windows PC at the Local Site

You may configure the local Windows PC to communicate over a LAN using the MAPI or WINSOCK protocol, or to communicate over a dial-up PPP connection to an Internet Service Provider.

To install the PrintraNet software on a Windows PC, execute the following steps:

1. Make sure that the PC is running an E-mail program (for example, Microsoft Outlook) that is capable of sending E-mail messages using either MAPI or WINSOCK. MAPI (Messaging Applications Program Interface) is used by most popular Windows E-mail packages, while WINSOCK is used by

TCP/IP-based mail packages and dial-up Internet Service Providers. If you do not know which method you are using, consult your system manager.

2. Make sure that your E-mail server is capable of sending messages across the Internet. Alternatively, if you are communicating directly from the PC via a modem to an Internet Service Provider, make sure that you have an Internet mail account on the ISP, and that the PC is configured to send E-mail using this account.
3. Start the PrintraNet installation program from the CD ROM and follow the step-by-step instructions. You will need to know the following:
 - The mail transport protocol: MAPI or WINSOCK
 - The port name you wish to assign to the PrintraNet port (this port is used to access the remote TROY print server): The name must start with "PNET" and end with a number (for example, PNET3"). Note that each remote EtherWind print server must have a unique port name associated with it.
 - E-Mail Address: Enter any unique legal Internet E-mail address for the remote EtherWind print server (for example, *emailprinter@xyz.com*). Note: Internet E-mail addresses cannot have spaces in them.
 - Service Name: Enter the service name on the remote EtherWind print server that you wish to use for printing. This is normally XCD_XXXXXX_P1 for the first parallel port, XCD_XXXXXX_S1 for the first serial port, XCD_XXXXXX_P2 for the second parallel port, or XCD_XXXXXX_S2 for the second serial port., where "XXXXXX" is the last six digits of the Ethernet address (the exact service names can be found by running the print server self-test). If you do not know the service name, you may leave this field blank and the default binary service will be used.
 - Your E-Mail Address (WINSOCK users only): enter your E-mail address (for example, *shari@abc.com*).
 - SMTP E-Mail Server (SMTP users only): Enter the IP address of your SMTP E-mail server (consult your network administrator if you do not know this address).
 - Desired Notification: You may optionally have the remote EtherWind print server notify you when the job is complete or when the job fails or both when the job is complete and if it fails. Select the desired option and then enter the E-mail address where you want the notification sent (generally you would want the notification sent to your own E-mail address).
4. You must now create a printer on your Windows system using the standard Windows printer setup procedure. To do this, go the **Start** button, select **Settings** and then **Printers**. Select **Add Printer** to begin the printer installation and follow the instructions on the screen.

5. Select **Local Printer** or **My Computer** (*not Network Printer*) when you are asked how the printer is connected to your computer.
6. You will also need to know the following
 - The manufacturer and model of the printer at the remote site (for example, Hewlett-Packard LaserJet 5). In some cases, you will need to provide a disk with the appropriate printer driver.
 - The name of the PrintraNet port that you defined for the remote EtherWind print server in step 3 (PNET1 by default).
7. With PrintraNet 2.0, you can also:
 - Click on the Address Book button to configure other remote destinations. This capability lets you send print jobs to more than one destination without having to create a separate printer for each destination.
 - Select the partial E-mail printing option to break up the print job into several small E-mail messages. This allows PrintraNet to work with mail servers that restrict the size of incoming E-mail messages.
8. Select **NO** when asked if you want to print a test page, unless you have already configured the remote EtherWind print server to receive PrintraNet print jobs.

You have now finished installing the PrintraNet software. If you have only one E-mail printer, go to Step 2, *Configuring the Remote EtherWind Print Server*.

Adding a Second PrintraNet Destination

You should not re-run the install program to add a new E-Mail printer port. Instead, press the Start button, select Settings, and open the Printers window. Click on the icon of a PrintraNet printer, select **File** from the menu bar, and then choose **Properties**. Click on the **Details** tab (or **Ports** tab) and push the **Add Port** button.

In the **Add Port** dialog, select the **Other** radio button and then "PrintraNet Port". Click on **OK** and it will give you the Port Name dialog (like in the install program). Any unique name can be given here as long as it starts with "PNET" and another port does not already exist with the same name. Then enter the port settings as described in step 3 of the *Installing the Software on a Windows PC at the Local Site* section.

Configuring the Remote TROY Print Server

The next step is to configure the EtherWind print server at the remote site. The remote print server can be configured with TROY's XAdmin32 Windows configuration utility, or with the EtherWind WebXAdmin browser-based facility.

Before configuring the print server to receive PrintraNet print jobs, check the following:

1. Make sure that the E-mail server at the remote site (the receiving end) is configured to handle the TCP/IP POP3, and SMTP protocols (SMTP is only required if the notification feature is enabled).
2. Configure the POP3 server on the E-mail server at the remote site with a mail account and password for the remote printer (generally, the mail account name will be the first part of the name that you assigned in step 3 of the previous section; for example, if you assigned the name *emailprinter@xyz.com*, the account name would be *emailprinter*). The procedure for configuring a POP3 server varies depending on the operating system of the E-mail server, so consult your operating system documentation for details.
3. Make sure that the EtherWind print server is installed and running with TCP/IP enabled and has a valid IP address assigned to it.

Because access to the E-mail server on most networks is usually restricted, you may need to have your network administrator check the configuration and add the mail account.

Two graphical user configuration programs are included on the EtherWind Wireless Configuration CD-ROM. XAdmin runs on Windows 3.11 or, Windows 95/98, while XAdmin32 runs on Windows 95/98 and Windows NT. To use XAdmin, you must be running either NetWare or Banyan VINES client software, and the PC must be on the same network as the EtherWind remote print server. To use Xadmin32, you must be running either NetWare or TCP/IP.

Note:

The default password for all of these utilities is ACCESS.

WebXAdmin allows the print server to be managed by any standard web browser using the TCP/IP protocol. In order to use WebXAdmin, IP address must be assigned to the print server and to the PC used for configuration.

The steps required to configure the print server to receive print jobs from a Windows PC running the PrintraNet software are as follows:

1. Select the name of the desired EtherWind print server from the list by double clicking on it (XAdmin32) or entering its IP address (WebXAdmin).
2. Click on the Internet tab or button.
3. Enter the IP address of the POP3 server (consult your network administrator if you do not know this address).
4. Enter the mailbox name for the remote EtherWind print server. Usually this will be the first part of the E-mail address that you entered in step 3 of the *Installing the Software on the Windows PC at the Local Site* section (for example, if the E-mail address of the remote print server is emailprinter@xyz, then the mailbox name would be emailprinter).
5. Enter the password for the mailbox, if any.
6. The print server is configured by default to poll the POP3 server every 30 seconds. You may change this value, if desired.
7. If you have enabled notification, enter the IP address of your SMTP server (consult your network administrator if you do not know this address).
8. Press the **OK** button., and exit XAdmin32. You have now configured the print server to receive print jobs.

Printing to the Remote TROY Print Server

To print to the remote EtherWind print server from the local Windows PC, you simply select the printer that you created in Step 1 and print to it the normal manner. For example, to print the remote printer named Email Printer, you would select Print from the menu bar, choose the printer named Email Printer, and then click **OK**.

At this point, the Port Settings dialog box will appear (you may disable this by unchecking the **Show this dialog for each Print Job** box). You may then use the Address Book capability or change other parameters. Click **OK** when you are ready to print, and the job will then be sent over the Internet to the remote EtherWind print server.

Troubleshooting

The first step in troubleshooting is to make sure that you have a valid E-mail connection on both the sending PC and the receiving print server. Try sending an E-mail message from the PC to a user at the remote site who can receive mail via the POP3 server. If this does not work, there may be an E-mail configuration problem on the PC, on the local E-mail server, or on the remote POP3 server. Double check to make sure that the E-mail parameters that you configured on the PC and on the remote print server match those that are configured on the E-mail servers.

If you get an SMTP error when using a WINSOCK connection, you may need to configure the hosts file on your Windows system. To do this create a file named HOSTS in the \WINDOWS\SYSTEM directory (or edit this file if it already exists) and add an entry for your mail server similar to the following using the DOS editor (substitute the actual IP address and name of your SMTP mail server):

```
192.189.207.222          mail.troy.com
```

If you can print small files OK but are having trouble printing large files, the problem may be in the E-mail system. Some E-Mail systems have difficulties printing files that are larger than about 400KB in length. To verify this, try sending the large file as an attachment to an E-mail message. If the file does not reach its destination intact, then the problem is with the E-Mail system. The problem can be fixed by using the PrintraNet Partial E-mail Printing option.

11

Troubleshooting and Maintenance

Troubleshooting Frequently Asked Questions

- Q. How do I use security, my 802.11b PC card uses a password as opposed to a HEX value on the WEP Key of the EtherWind?
- A. The password used on your 802.11b device will translate into a HEX value. If you are using Lucent, the password can be directly into a HEX value. With the Apple Airport, you can enter a \$ and then the HEX value when entering the password.
- Q. If I just have an 802.11b wireless enabled PC, how do I print straight to the EtherWind wireless print server?
- A. You will want to make sure that both the PC and the EtherWind in Ad-Hoc mode (sometimes referred to as Peer-to-Peer or Computer-to-Computer Mode). On the EtherWind, you can do this by running WP-Admin, selecting the print server to configure, and changing the **MODE** setting to **Ad-Hoc** on the **Wireless** Tab.
- Q. If I am using a wireless Access Point, how can I also print to the EtherWind wireless print server?
- A. You will want both the print server and the PC to be in Infrastructure Mode (sometimes referred to as Network Mode, Access Point Mode, or Base Station Mode). On the EtherWind, you can do this by running WP-Admin, selecting the print server to configure, and changing the **Mode** setting to **Infrastructure** on the **Wireless** Tab.
- Q. What if I have both the PC and the EtherWind wireless print server set to the same mode but I can't seem to get a wireless signal?
- A. You will want to be sure that the SSID (Service Set Identifier, sometimes

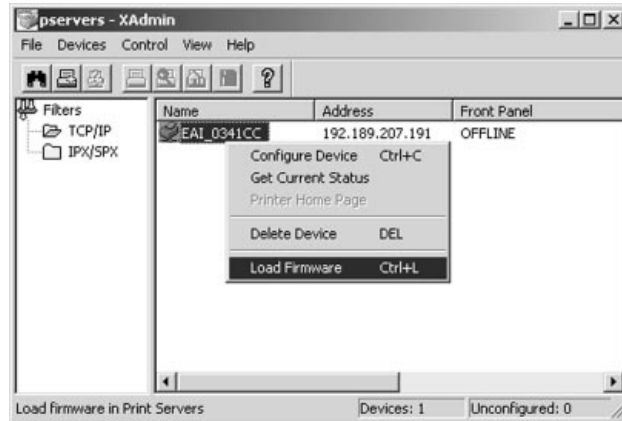
referred to as Network Name) matches on all nodes of your wireless network. On the EtherWind, you can do this by running WP-Admin, selecting the print server to configure, and changing the SSID value to match that of the network's SSID you want the print server to be on in the **Wireless** Tab.

- Q.** What if I am getting a wireless signal, but am not able to ping the print server or print?
- A.** If you are using TCP/IP, you will want to be sure that the PC and the EtherWind wireless print server are on the same IP segment or can reach each other with a PING command from the host. The IP address you assign to the print server must be on the same logical network as your host computers (e.g., if your host has an IP address of 192.189.207.3, the EtherWind print server should have an IP of 192.189.207.x, where x is an integer between 1 and 254), or you must properly configure your router to work with the EtherWind wireless print server. This can be changed on the EtherWind device by running WP-Admin, selecting the print server to be configured, and changing the TCP/IP settings from the wireless tab. Once you are able to reach the print server via TCP/IP, you can follow the steps for setting up the NetBIOS printer port. If you are using another protocol, refer to the manual or online documentation for that protocol and make sure you have followed the steps closely for setting up the printer.
- Q.** Why can't I get a test page when I push the test button on the EtherWind wireless print server?
- A.** The test page will work on most printers, but not on some inkjet printers. The test page will work on PCL, Postscript and some others like HP inkjets. Remember, just because you can't print a test page doesn't mean it's not going to print. Set up the printer as you normally would and try printing from an application. If it still does not work, look in the printer documentation and ask the printer manufacturer if it is a network-able printer, or contact TROY Technical Support.

Loading the Firmware

1. Run the Xadmin32 utility from the **Start** menu, it should be found under **START>Programs>TROY Group>EtherWind>XAdmin32**

2. Right-Click on the print server to be upgraded in the list, and select Load Firmware.



3. If you are using TCP/IP to upgrade, select **TFTP PUT** from this host. If you are upgrading using IPX/SPX on a NetWare network to upgrade, select **Netware GET** from a server (If you are using Netware to upgrade, you need to put the .bin firmware file in the LOGIN directory of the Netware server). Click **OK**.



4. If you selected **TFTP PUT** from this host in step 3, enter the configuration password (default is **ACCESS**) and click **Browse** to find the .bin firmware file you downloaded. Click **Load**. The firmware on your EtherWind will be upgraded to the new version.



If you selected **Netware GET** from a server in step 3, enter the configuration password (default is **ACCESS**). Enter the name of the Netware server where you saved the .bin file as the **Host Name**. Enter the name of the firmware file for **File**. Click **OK**. The firmware on your EtherWind will be upgraded to the new version.



Uninstalling the EtherWind Wireless Software

On Macintosh Systems, simply delete the directory that you installed the software on. Follow the instructions to uninstall the EtherWind utilities on Windows systems:

1. Click the **Start** Menu, go to **Settings**, and select **Control Panel**.
2. Double-Click **Add/Remove Programs**.
3. Select **EtherWind 802.11b Wireless Print Server** from the list and click **Change/Remove**.
4. Select **Remove** and follow the on-screen instructions.

The Software should now be removed from the system.

12 Where to Get Help

TROY offers several customer support options to assist you in the event you experience difficulties with your EtherWind, including telephone support, repair services, extended warranty, and advance replacement.

Worldwide Web Support

The TROY worldwide web site provides a quick and easy way to answer many common technical questions. It includes a wide variety of technical support tips, as well as copies of product manuals, product literature, and firmware load images.

The web site is located at <http://www.troyxcd.com>.

Contacting TROY

Your first point of contact for technical support is the Distributor or Dealer from whom you bought your EtherWind. They are familiar with your needs, and will generally be able to provide you with the fastest and most comprehensive support.

If your Distributor or Dealer is unable to answer your questions or is for some reason not available, then contact TROY directly at:

United States: +1 (949) 399-0820 (E-mail: support@troyxcd.com)
Europe: +49-(0)-800-3002210 (E-mail: support@troygroup.de)

Before contacting Technical support, please check the *Troubleshooting* chapter of this manual or the TROY site to isolate any problems and be sure to write down any error messages. Also, make sure that you have the serial number of the product (located on the product label on the card).

Returning Products

If you need to return a TROY product for any reason (failures, incorrect shipments, etc.), first contact TROY at +1 (949) 399-0820 (Americas and Asia) or

+49-(0)-800-3002210 (Europe and Africa) and request a Return Authorization Number from the TROY Technical Support Group. Make sure that you put this number on the outside of the shipping container you use to return the product and (if out-of-warranty) on your purchase order. You will also be asked for the serial number of the defective print server. Ship the unit freight prepaid back to TROY at the address provided by the Technical Support Group (adequate insurance is recommended).

If the unit is not in warranty, you will be billed for the standard repair charges. If you do not have a valid TROY account number, you may be asked for payment in advance (Mastercard, Visa, American Express, check, or money order).

TROY EtherWind products are warranted to be free of defects in materials and workmanship for a period of five years. This period begins upon the date of shipment if the Hardware is installed by the Purchaser, or upon installation if the Hardware is installed by TROY. During the warranty period, TROY will repair or replace the unit at no charge provided it is returned to TROY freight prepaid as described in the "Returning Products" section of this chapter. To ensure prompt service, please fill out the enclosed warranty card.

The warranty on repaired products or replacement products is 30 days or the last day of the warranty of the original defective product, whichever is longer.

This warranty does not apply if the Product has been damaged by accident, misuse, natural catastrophe, modification, improper service, or conditions resulting from causes external to the Product. The warranty shall be void if the TROY serial numbers have been removed.

DISCLAIMER OF WARRANTIES. THE ABOVE WARRANTIES ARE THE EXCLUSIVE WARRANTIES, AND NO OTHER WARRANTY, EXPRESSED OR IMPLIED, SHALL APPLY. TROY SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

PURCHASER'S SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF THIS WARRANTY, REGARDLESS OF THE FORM OF ACTION, WHETHER CONTRACT, TORT, OR OTHERWISE, SHALL BE TROY'S OBLIGATION TO REPAIR OR REPLACE AS SET FORTH ABOVE.

13

Notices

FCC Compliance Statement For United States Users

This equipment has been tested and found to comply within the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ▶ Reorient or relocate the receiving antenna.
- ▶ Increase the separation between the equipment and receiver,
- ▶ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ▶ Consult the dealer or an experienced radio/TV technician for help.

WARNING

The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification of this device and may cause interference levels which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

For European Users

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. TROY Group cannot be responsible for any failure to satisfy the protection requirements resulting from a nonrecommended modification of the product.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22/European Standard EN55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communications devices.

For Canadian Users

This Class B apparatus complies with Canadian ICES-003.

Cet appareil numérique de la class B est conforme à la norme NMB-003 du Canada.

DECLARATION of CONFORMITY

According to 47CFR, Part 2 and 15 for Class B Personal Computers and Peripherals; and/or CPU Boards and Power Supplies used with Class B Personal Computers:

We: TROY GROUP, INC.
Located at: 1692 Browning
Irvine, CA 92606 USA

Declare under sole responsibility that the product identified herein, complies with 47CFR Part 2 and 15 of the FCC rules as a Class B digital device. Each product marketed, is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47CFR §2.909. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Trade Name: TROY
Type of Product: 802.11b Print Server
Model: EtherWind

REGULATORY INFORMATION

European Union (EU)

TROY hereby declares that the 802.11b wireless technology built into the EtherWind print server is in compliance with the essential requirements and other relevant provisions of European Directive 1999/5/EC. The internal function is a radio device using the 2.4 GHz frequency band (2.400GHz – 2.4835GHz). It is intended for wireless communication with other 802.11b enabled devices. The internal 802.11b technology complies with all applicable regulations FOR INDOOR USE in the following countries: Austria, Belgium, Denmark, Finland, Greece, Germany, Iceland, Ireland, Luxembourg, Norway, Portugal, Sweden,

The use of 802.11b wireless technology in other countries than those listed above may be restricted: before using 802.11b products, please confirm with the frequency management authority in the country where you plan to use it. OUTDOOR USE REQUIRES A LICENSE IN MANY COUNTRIES AND IS FORBIDDEN IN ITALY. In some situations or environments, the use of 802.11b wireless technology might be restricted by the proprietor of the building or responsible representatives of the organization, for example onboard airplanes, in hospitals or in any other environment where the risk of interference with other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies to the use in a specific organization or environment, you are encouraged to ask for authorization to use 802.11b wireless technology prior to switching it on. Consult your physician or the manufacturer of personal medical devices (pacemakers, hearing aids, etc.) regarding any restrictions on the use of 802.11b wireless technology.

United States of America and Canada

Tested to Comply With FCC Standards FOR HOME OR OFFICE USE. See FCC 47CFR, Part 15.19(b)(2).

This device complies with part 15 of the FCC rules and with RSS-210 / RSS-139 of the Industry Canada.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note that any changes or modifications to this equipment not expressly approved by the manufacturer may void the FCC authorization to operate this equipment.

Canada (IC notice)

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment that is installed outdoors is subject to licensing.

Pour empêcher un brouillage radioélectrique au service faisant l'objet d'une licence, cet appareil doit être utilisé à l'intérieur et loin des fenêtres afin de fournir un écran de blindage maximal. Au cas où une installation en plein air, le matériel doit faire l'objet d'une licence.