

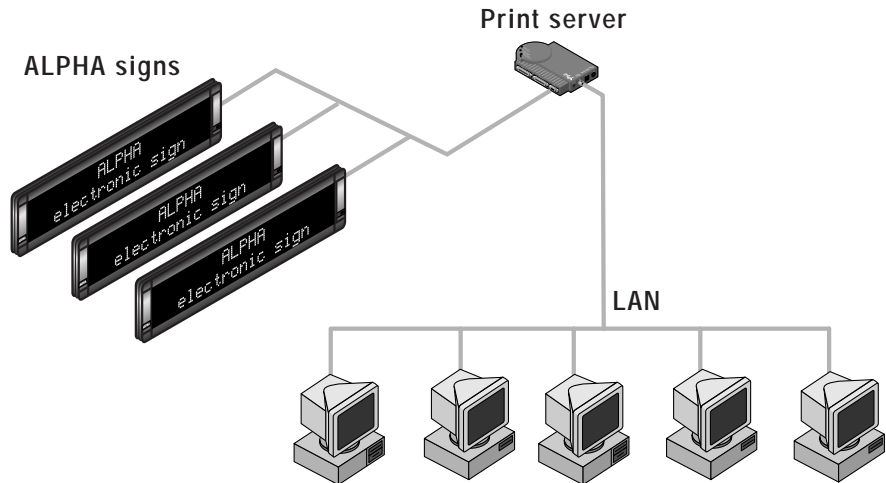
# Networking ALPHA signs on LANs using print servers

## Contents

What is a "print server"?. . . . .	2
Why use a print server to network signs? . . . . .	2
Why use the NetportExpress PRO? . . . . .	3
AlphaNET <i>plus</i> for Windows software setup . . . . .	4
Smart Alec software setup . . . . .	15
Frequently Asked Questions . . . . .	18

*This document explains how to network ALPHA signs over a Local Area Network (LAN) using the NetportExpress PRO print server with either AlphaNET plus for Windows or with Smart Alec software.*

- *Up to **three** print servers can be used with AlphaNET plus for Windows software.*
- *There is **no limit** on the number of print servers that can be used with Smart Alec software.*



# ADAPTIVE

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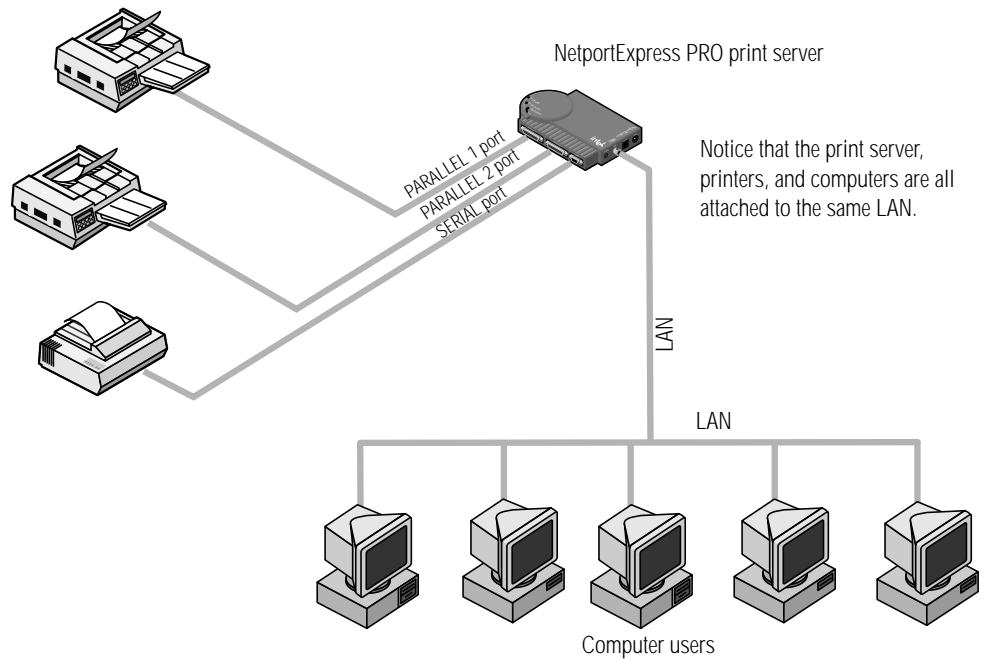
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What is a "print server"?

## What is a "print server"?

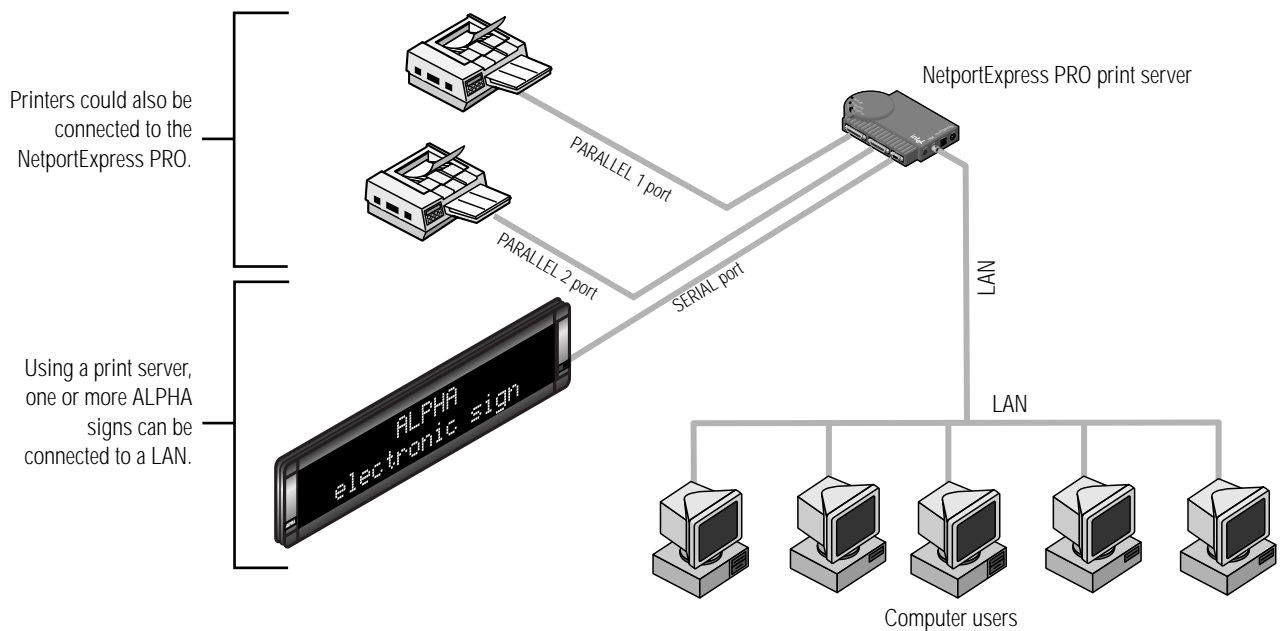
A print server is an electronic device that is normally used to allow computer users on a LAN to share printers on that same LAN:



## Why use a print server to network signs?

A print server is an economical way to add ALPHA signs to an existing LAN. Instead of running RS485 wire to create a sign network, ALPHA signs can be attached to an existing LAN using one or more print servers.

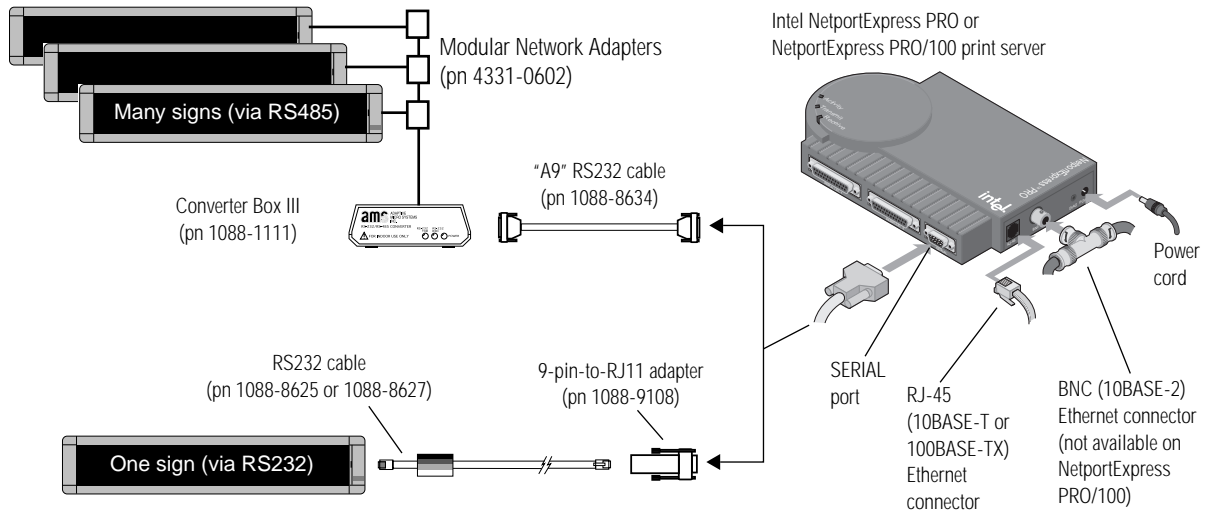
**NOTE:** A maximum of three print servers (using LPT1, LPT2, and LPT3) can be used with **AlphaNET plus for Windows** software.



## Why use the NetportExpress PRO?

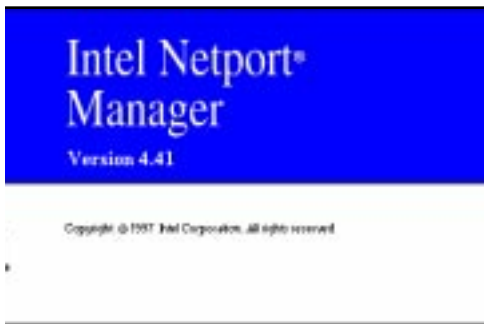
### Ease of connection

Standard cabling and connectors from Adaptive Micro Systems can be used with the NetportExpress PRO:

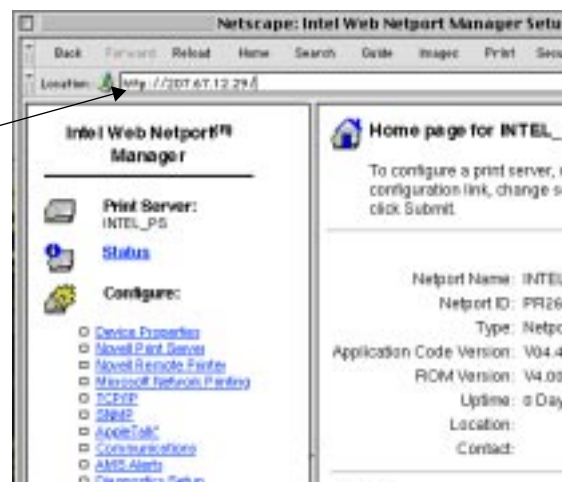


### Multi-protocol support and centralized management

NetportExpress PRO print servers can be used on networks running IPX/SPX, NetBEUI, and TCP/IP, and they can be set up and managed over a network using Netport Manager software or with a WWW browser like Netscape Explorer:



A NetportExpress PRO can be configured with either the Netport Manager software (left) or via a WWW browser (right).



This is the IP address of a NetportExpress PRO print server. The Netport Manager software must be used to set this address. (See "Configure NetportExpress PRO" on page 6.)

### Technical support

Technical information as well as the latest software is available from Intel's Internet site (<http://www.intel.com>).

## AlphaNET *plus* for Windows software setup

### NOTE

A maximum of *three* print servers can be used with **AlphaNET *plus* for Windows** software.

Also, in order to use print servers with **AlphaNET *plus* for Windows** software, Windows NT can not be used.

This involves five main tasks:

- Connecting NetportExpress PRO print servers to your LAN,
- Setting up your PC to “see” NetportExpress PRO print servers,
- Configuring NetportExpress PRO print servers using the Netport Manager software or a WWW browser,
- Capturing NetportExpress PRO print servers to LPT1, LPT2, or LPT3 on your PC, and
- Setting up **AlphaNET *plus* for Windows** software to use the print server(s) on LPT1, LPT2, or LPT3. (Remember — a maximum of *three* print servers can be used with **AlphaNET *plus* for Windows** software.)

## Connect the NetportExpress PRO to your LAN

### 1. Connect the NetportExpress PRO version as shown:

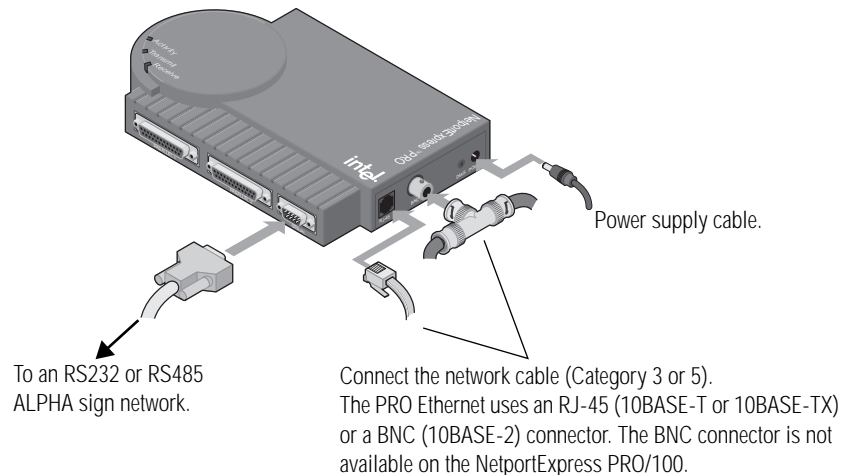
### NOTE

There are several versions of the NetportExpress print server.

These instructions are for the:

- NetportExpress PRO or NetportExpress PRO/100,
- 3-port,
- Ethernet version

The NetportExpress PRO/100 can be connected to an Ethernet operating at either 10 Mbps or 100 Mbps. The PRO/100 will automatically sense the Ethernet speed.

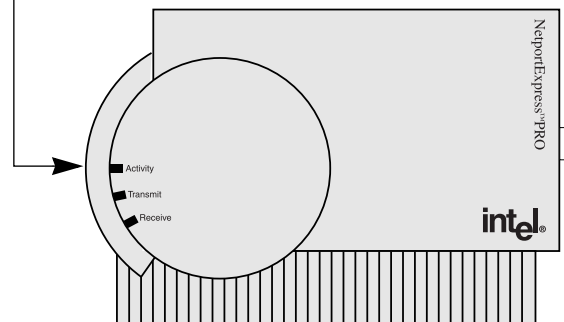


### 2. When the Activity light is green, the NetportExpress PRO is ready:

Activity light: —

SOLID GREEN = NetportExpress PRO is ready.

FLASHING RED = consult the troubleshooting section of the manual that came with the NetportExpress PRO.



## Set up your computer to 'see' the NetportExpress PRO

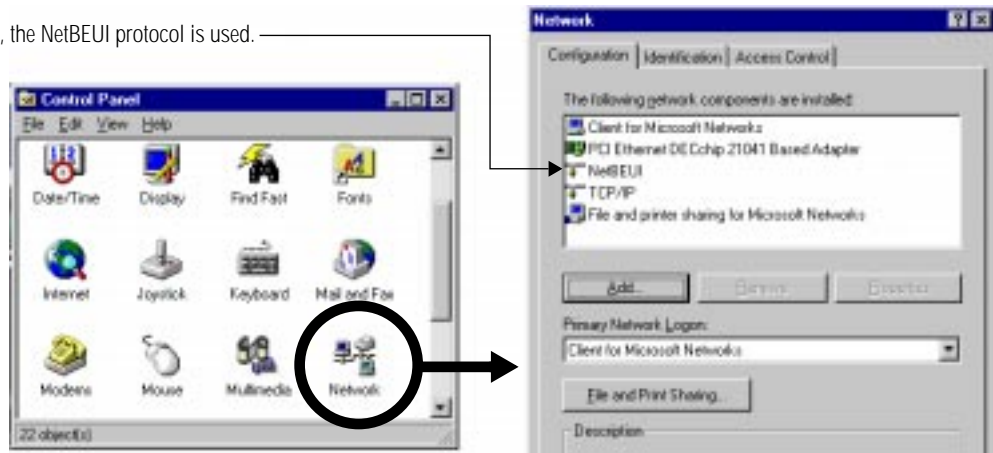
**3.** In order to set up the NetportExpress PRO, your computer must be running one of these two network protocols:

- Novell IPX
- Microsoft NetBEUI

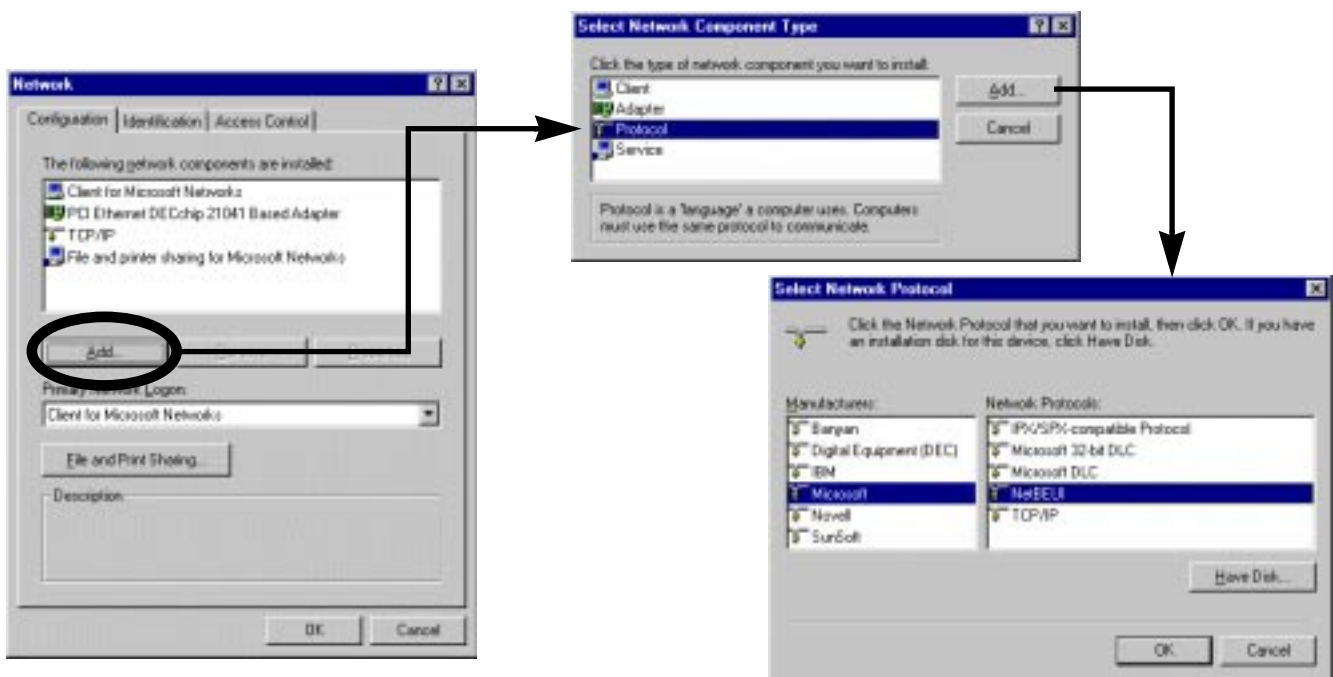
**NOTE:** Though the NetportExpress PRO supports TCP/IP protocol, this protocol can not be used when you *first* set up the print server because the print server has no IP address. You must give the print server an IP address (see step 5).

From *Start*, select *Settings > Control Panel > Network* to make sure that one of the above two protocols is installed:

In this example, the NetBEUI protocol is used.



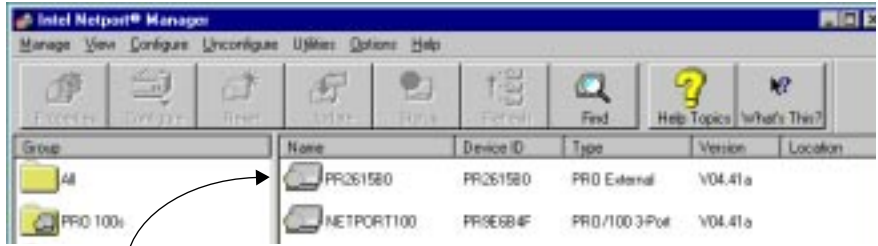
If neither of these protocols — IPX or NetBEUI — appears in the *Network* window, ask your network administrator which one to install. To add a protocol (*NetBEUI*, for example), begin by selecting *Add*:



## Configure NetportExpress PRO

### 4. Run the Netport Manager program:

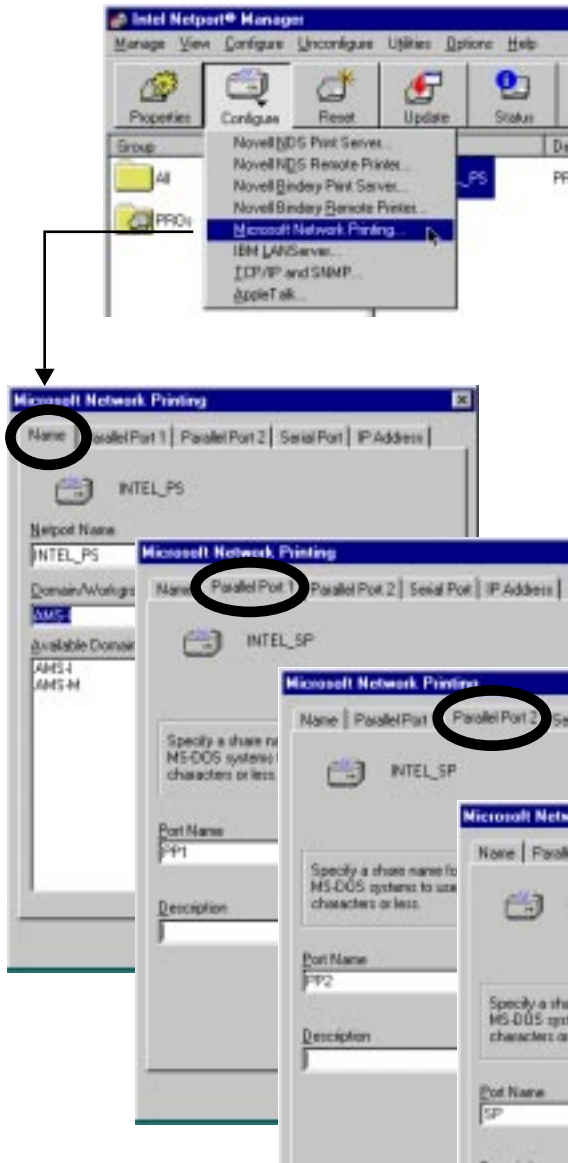
**NOTE**  
Version 4.41 of Netport Manager is shown throughout this document.



This is the print server we'll set up.

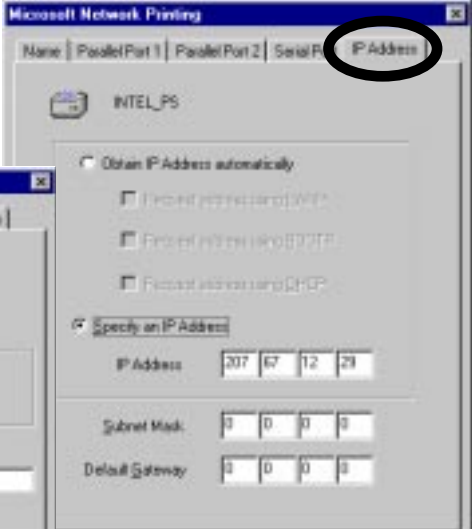
NetportExpress print servers should be listed here. (However, other manufacturer's print servers will not appear in this list.)  
The print server's name — *PR2615B0* in this example — is a **Device ID** which is listed on the back of the print server itself.

### 5. Highlight the print server by clicking on it and select *Configure > Microsoft Network Printing*. Then set up the following:



Microsoft Network settings		
Window tab	Item	
Name	<i>Netport Name</i>	Give the print server a meaningful name.
	<i>Domain/Workgroup</i>	Select a domain from the list of Available Domains.
Parallel Port 1	<i>Port Name</i>	Give the port a name like <i>PP1</i> .
Parallel Port 2	<i>Port Name</i>	Give the port a name like <i>PP2</i> .
Serial Port	<i>Port Name</i>	Give the port a name like <i>SP</i> .
IP Address	Typically, select <i>Specify an IP Address</i> instead of <i>Obtain IP Address automatically</i> . Ask your network administrator which method to use. If you select <i>Specify an IP Address</i> , also ask your network administrator for an IP address.	

Write the *Netport Name* and the *IP Address* for the print server on front of the unit itself.

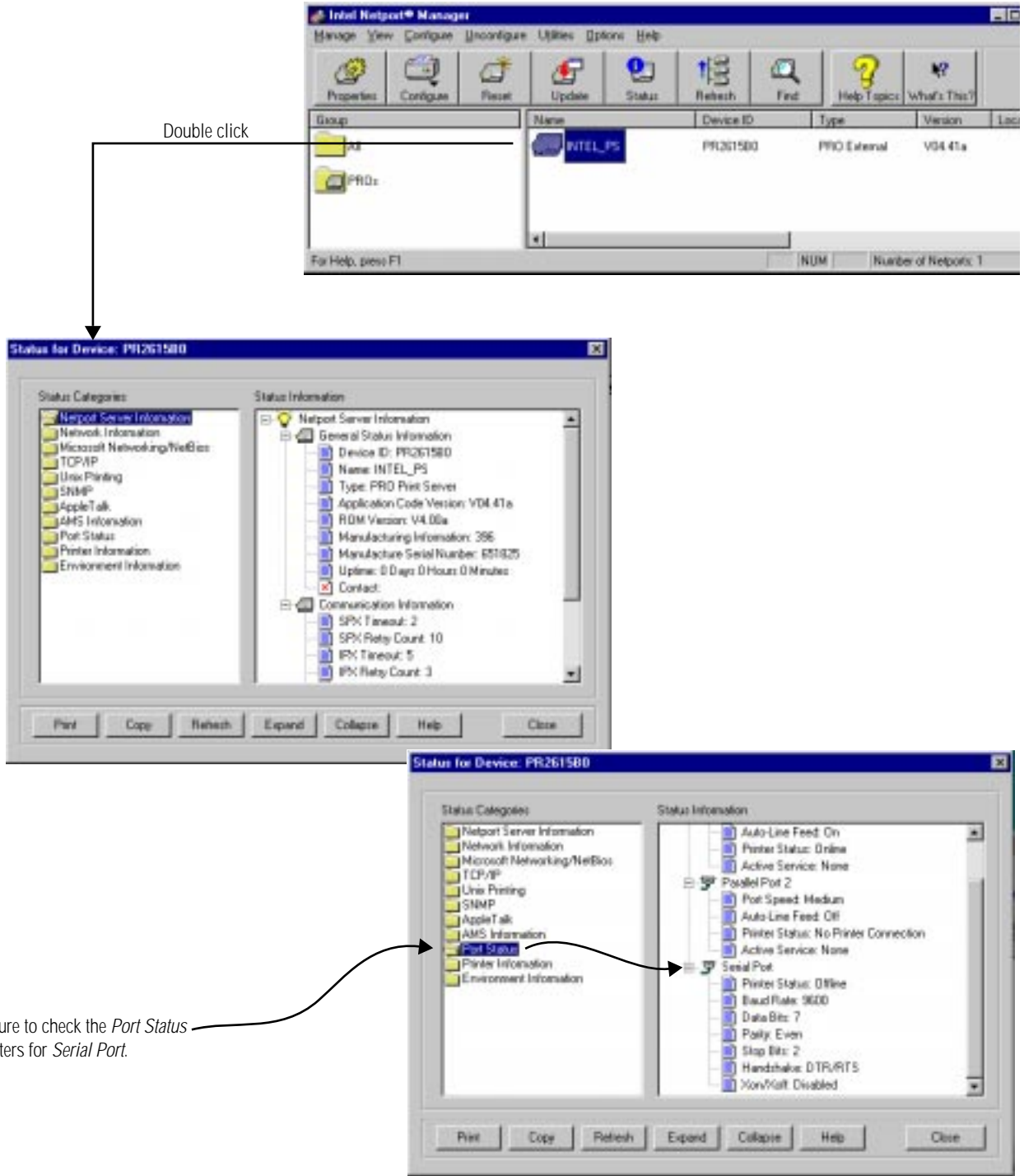


**6.** Next, select *Configure > Device Properties* (or right click on the print server name):

The screenshots illustrate the steps to configure the device properties for the Intel Netport Express PRO print server. The first screenshot shows the Intel Netport Manager interface with the 'Configure' menu open and 'Device Properties' selected. The second screenshot shows the 'Hardware Properties' dialog box with the 'Password' tab selected. The third screenshot shows the 'Hardware Properties' dialog box with the 'Serial Port' tab selected, showing settings for Baud Rate (9600), Parity (Even), Hardware Handshake (DTR/RTS), Data bits (7), Stop bits (2), and Use XON/XOFF (disabled). The fourth screenshot shows the 'Hardware Properties' dialog box with the 'Diagnostics' tab selected, showing a checkbox for 'Print diagnostics page on startup' and a 'Print page...' button.

Device Properties settings		
Window tab	Item	
Password	It is strongly suggested that you set a password to prevent someone from tampering with the NetportExpress PRO settings.	
Serial Port	Baud Rate	9600
	Parity	Even
	Hardware Handshake	DTR/DTS
	Data bits	7
	Stop bits	2
Diagnostics	Use XON/XOFF	Disabled
	Print diagnostics page on startup	Disabled

### 7. Verify your settings by double clicking on the print server's name:



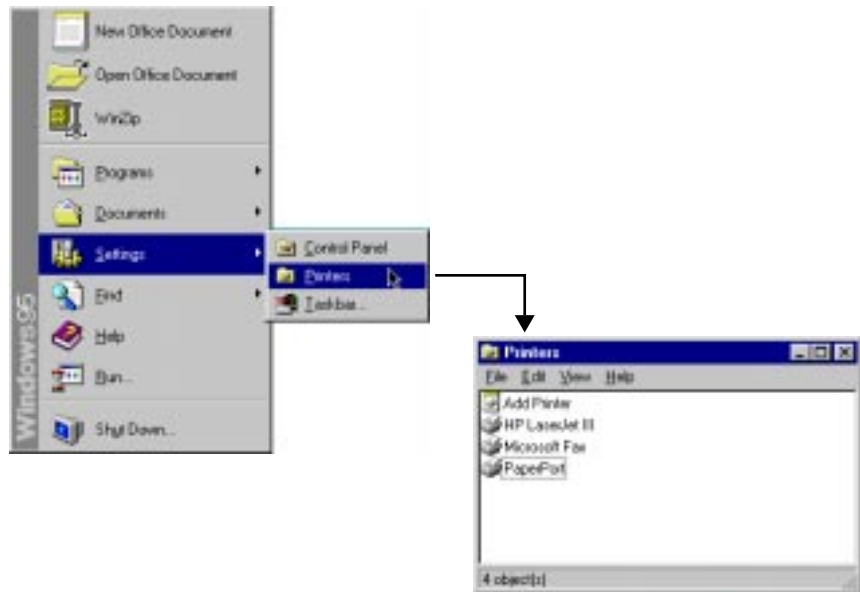
Make sure to check the *Port Status* parameters for *Serial Port*.

### 8. Close Netport Manager.

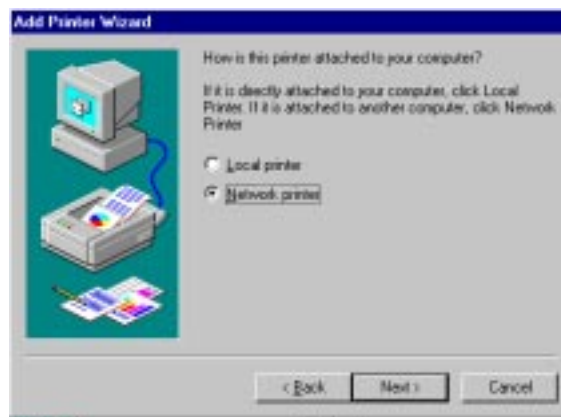


## Capture the print server on your computer

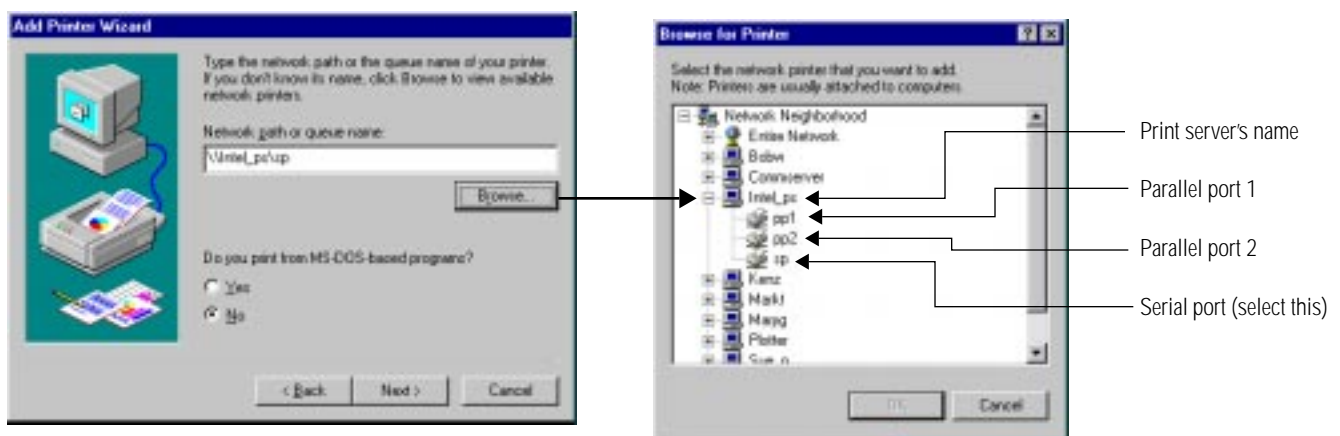
9. On your computer, select *Start > Settings > Printers*:



10. Double click on *Add Printer*. Then select *Network printer*.



11. Select the network path to the print server's serial port using *Browse*:



**12.** Next, you must pick a “generic” plain text printer driver:



Select No.

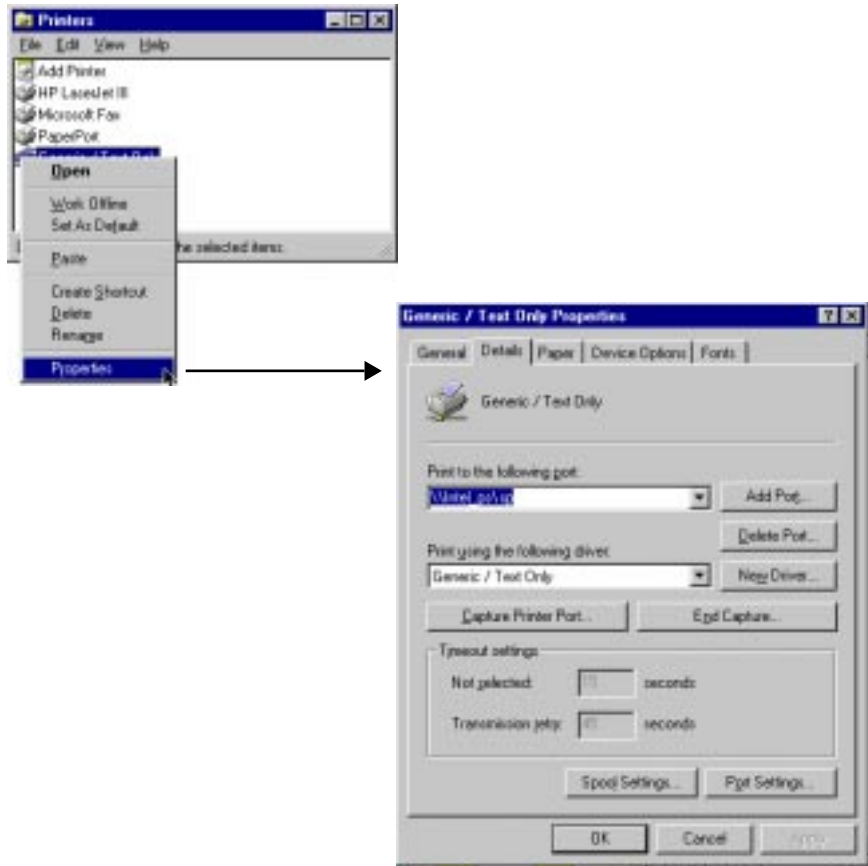
**13.** When prompted to print a *test page*, select *No* and then click on *Finish*:



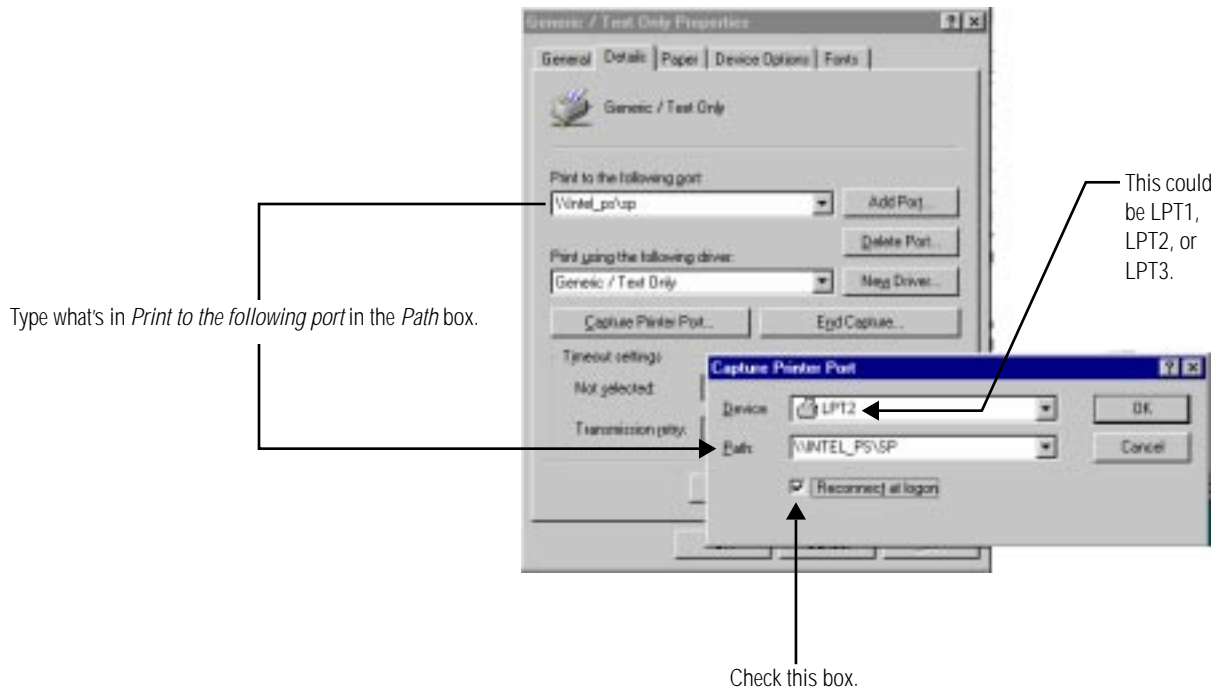
The printer icon should look like this — with a “wire” underneath it.



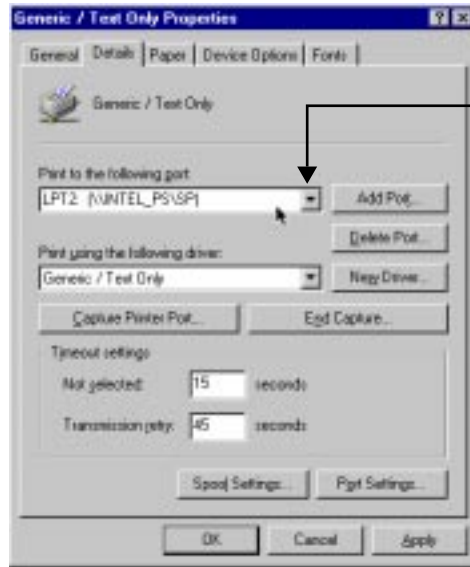
**14.** Next, right click on *Generic/Text Only*. Select *Properties > Details*:



**15.** Select *Capture Printer Port*. For *Device*, select *LPT2* and either select or type the path to the print server:

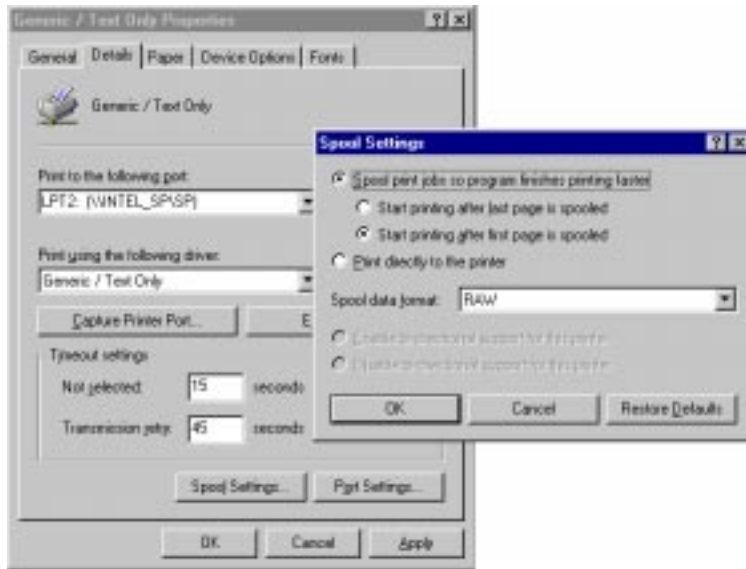


**16.** Set *Print to the following port* to the print server you just captured on LPT2:



Click here to see a list of printer ports.

**17.** Next, select *Spool Settings* and make sure the *Spool data format* is *RAW*:

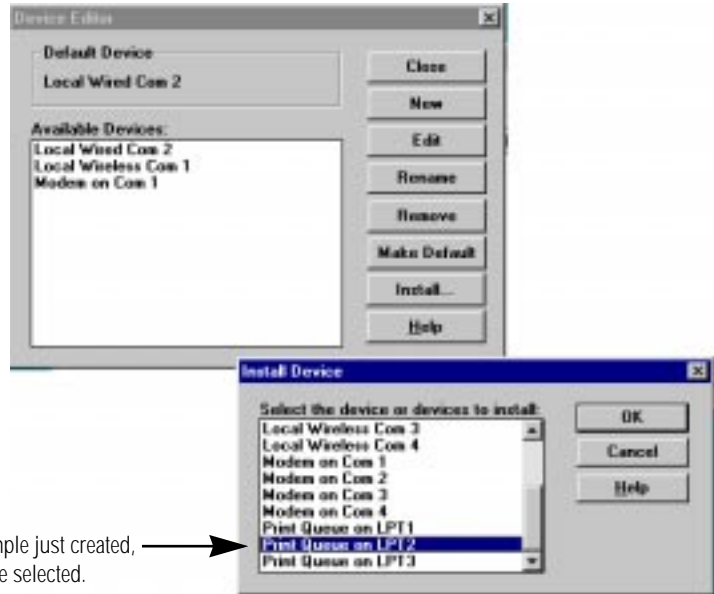


**18.** Select *OK* to all the windows.

## Set up the AlphaNET *plus* for Windows software

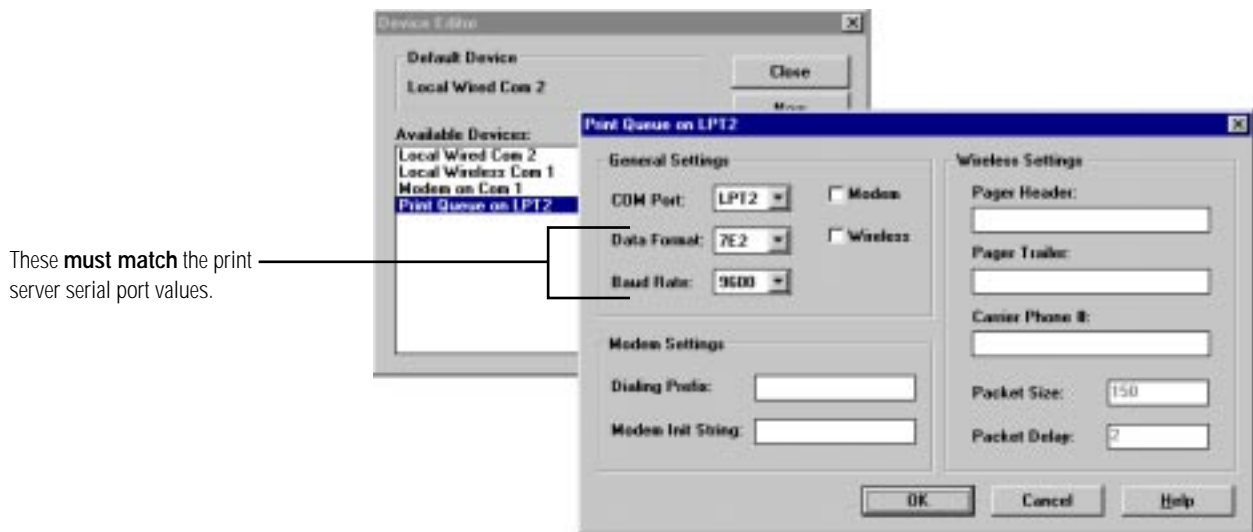
**19.** At this point a print server has been created and captured on LPT2. A print server *device* must now be set up in the **AlphaNET *plus* for Windows** software.

In the *Site Manager*, select *Edit > Device > Install*:



For the example just created, this would be selected.

**20.** Select *OK*. Then double click on *Print Queue on LPT2* and check the settings:



These **must match** the print server serial port values.

**21.** After setting up a device for the print server, create a site for the signs that will be connected to the print server.

For example, below is a site named *Sales* in which two signs are attached:

The top screenshot shows the 'Site Editor' window with the following details:

- Site Name: Sales
- Compatibility: E295
- Use as an Editor transit site:
- Connect Device: Print Queue on LPT2
- Queue Name: (empty)
- Cap Code: (empty)
- Enable smart checking:

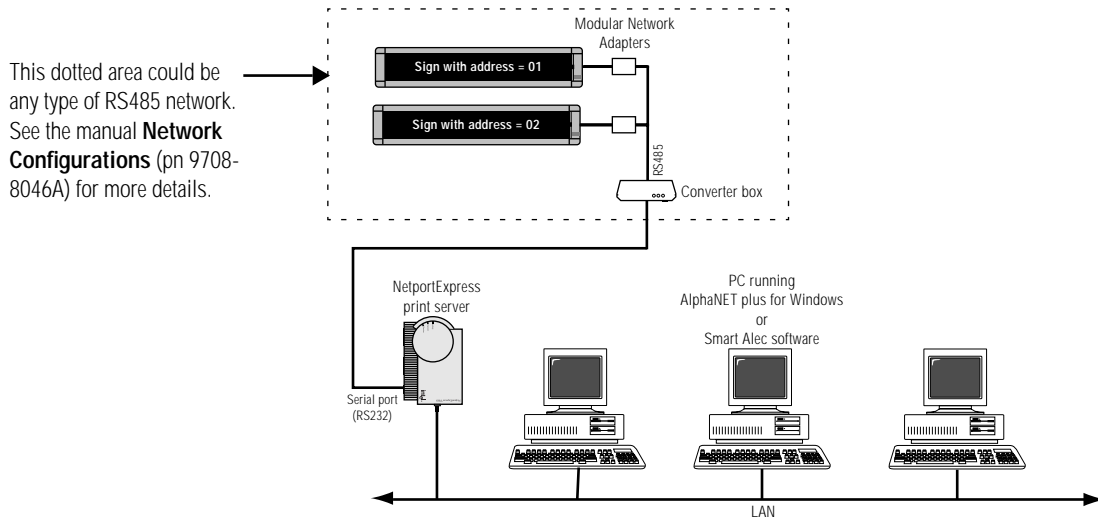
The bottom screenshot shows the 'Sign Editor' window with the following details:

- Address List: 01,02
- Counter File: None
- Tone on Receipt:  None,  Single Beep,  Three Beeps,  Custom Tone
- Duration: 2
- Repeat: 0

Annotations:

- An arrow points from the text 'The Print Queue on LPT2 device is the print server we just set up.' to the 'Connect Device' dropdown menu.
- An arrow points from the text 'These are the addresses of the two signs attached to the print server.' to the 'Address List' text box.
- An arrow points from the text 'The sign network would look like this' to a diagram below.

**ALPHA sign network example**



## Smart Alec software setup

### NOTE

Any number of print servers can be used with **Smart Alec** software.

This involves four main tasks:

- Connecting NetportExpress PRO print servers to your LAN,
- Setting up your PC to “see” the NetportExpress PRO,
- Configuring the NetportExpress PRO using the Netport Manager software or a WWW browser,
- Setting up Smart Alec software to use the print server(s).

### Connect the NetportExpress PRO to your LAN

Follow the steps shown in “Connect the NetportExpress PRO to your LAN” on page 4.

### Set up your computer to ‘see’ the NetportExpress PRO

Follow the steps shown in “Set up your computer to ‘see’ the NetportExpress PRO” on page 5.

### Configure the NetportExpress PRO

Follow the steps shown in “Configure NetportExpress PRO” on page 6.

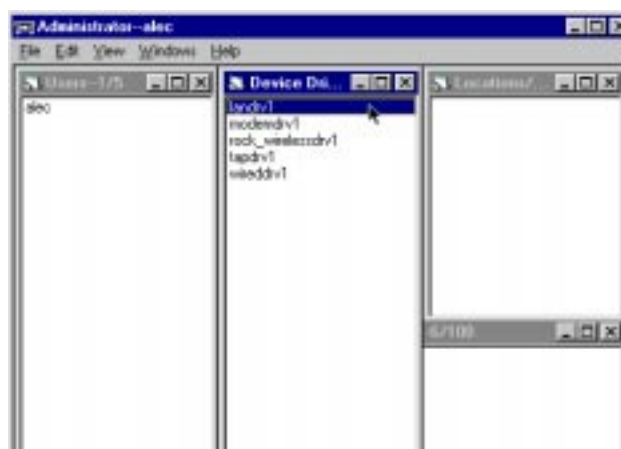
### Set up the Smart Alec software

You have to set up the LAN device driver for a print server and then create a *Location* which uses that LAN device driver:

### NOTE

The following steps apply to Smart Alec version 1.7 software.

1. **S**tart the Smart Alec Server. Make sure that the following are running:
  - Smart Alec Server,
  - LAN – Device Driver,
  - Administrator,
  - Alpha SA Protocol Converter
2. **S**et up the LAN device driver using the *Administrator*:



**NOTE**

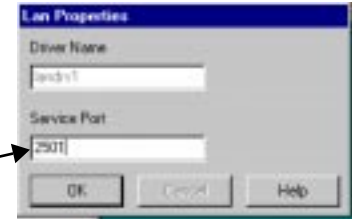
Other print servers can be used besides the NetportExpress PRO.

The most common or default *Service Port* number should be entered here.

You can use another print server by specifying its *Service Port* number when you create a LAN *Location*.

3. In the *Device Drivers* window, double click on the LAN device driver (*landrv1*). Then use the table below to type in a *Service Port* number for the print server:

Service Port numbers for various print servers			
Print server model	Manufacturer	Port type	Port number
XConnect II Lite	XCD	Serial	9101
NetportExpress PRO	Intel	Serial	2501



4. Next, test the LAN device driver for the print server by creating a test *Location*. From the *Administrator*, select *New > Location > Alpha SA > LAN*:



5. When the following window appears, enter the information shown:

Name of the new *Location*

Address(es) of the sign(s) networked to the print server (This address list could represent the network shown in "ALPHA sign network example" on page 14.)

IP address of the print server (To set an IP address, see "Configure NetportExpress PRO" on page 6.)



If you want to use a different print server model than the one chosen in step 3, select *Advanced > Properties*.

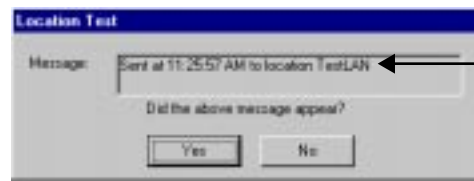


Enter the *Service Port* number of the print server you wish to use for this *Location*. In this case, the number for the XConnect II Lite — 9101 — is used (see step 3).



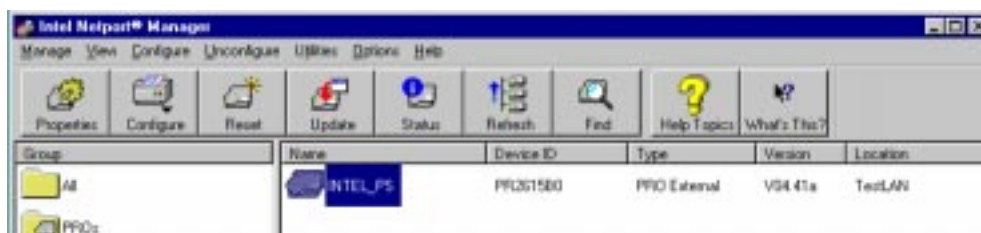
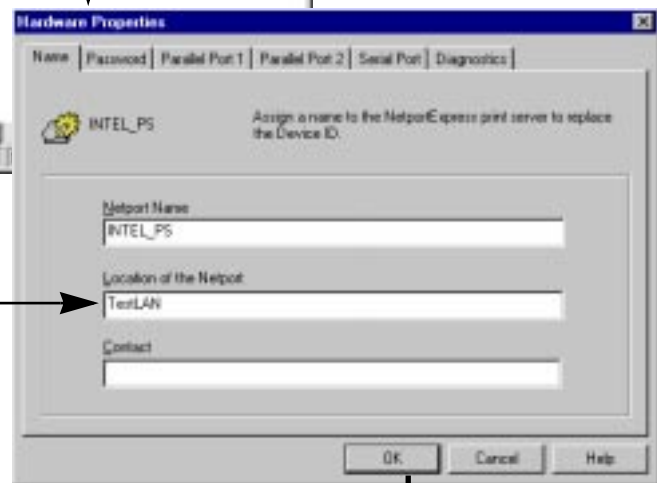


- Then click on *Send Test Message* to check if the sign(s) attached to the print server can receive messages:



The message in this box should appear on the sign(s) attached to the print server.

- If the test message appears on the sign(s) attached to the print server, then select *Yes* and setup is complete. Otherwise, select *No* and follow the troubleshooting directions.
- (Optional) If you plan to use a lot of NetportExpress print servers, you can use the name of the *Location* to help you keep track of your print servers. Use the Netport Manager software to enter a Smart Alec *Location* in a print server's description:



## Frequently Asked Questions

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### General

**Q.** Do I have to use NetportExpress print servers with ALPHA signs?

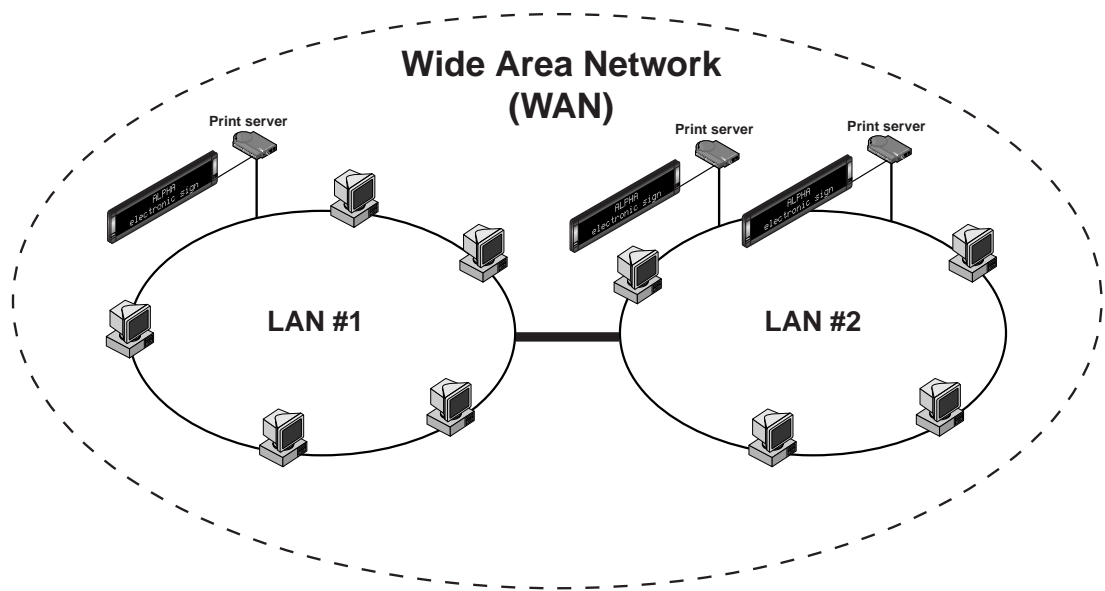
**A.** No, other print servers can be made to work. However, because of the reasons outlined in the previous section titled “Why use the NetportExpress PRO?” on page 3, Adaptive Micro Systems will only support the Intel NetportExpress at this time.

**Q.** What does it mean when the Activity light on the NetportExpress print server flashes red?

**A.** The number of times the Activity light flashes red is a code that can be used to diagnose the unit’s problem. See the troubleshooting section in the **Intel NetportExpress Print Server** document from Intel.

**Q.** Can ALPHA signs be networked on a Wide Area Networks (WAN)?

**A.** Yes. Consult your network administrator.



**Q.** Can ALPHA signs be connected to a “fast” Ethernet LAN with a NetportExpress?

**A.** Yes. The NetportExpress PRO/100 can be used on either a 100 Mbps (100BASE-TX) or a conventional 10 Mbps (10BASE-T) Ethernet.

**Q.** Should my LAN’s network administrator be involved in setting up a NetportExpress print server?

**A.** Yes! If you plan to assign an IP address to a NetportExpress, your network administrator must be involved.

**Q.** Can I connect an ALPHA sign to any of the three ports on the NetportExpress?

**A.** No, only use the 9-pin port marked SERIAL. The other two ports — PARALLEL 1 and PARALLEL 2 — are Centronics type printer ports. However, you could connect a Centronics-compatible printer to each of the parallel ports.

### AlphaNET *plus* for Windows software

**Q.** On AlphaNET *plus* for Windows, will print servers work with Windows 3.1 and Windows NT?

**A.** No. In order to use print servers with AlphaNET *plus* for Windows software, you must use Windows 95 because it has the ability to “capture” a printer.

**Q.** Why can't I use more than three print servers with AlphaNET *plus* for Windows?

**A.** Because a print server must be “captured” using Windows 95 on LPT1, LPT2, or LPT3. (See “Capture the print server on your computer” on page 9.)

### Smart Alec software

**Q.** On Smart Alec, will print servers work with Windows 3.1, Windows 95, and Windows NT?

**A.** Print servers will work when Smart Alec is run on Windows 95 or Windows NT. Smart Alec software will not even run on Windows 3.1.

**Q.** Do print servers have to be “captured” with Smart Alec software?

**A.** No, an unlimited number of print servers can be used. However, each print server must have a unique IP address assigned to it. (See “Smart Alec software setup” on page 15.)

