USER'S GUIDE

WARNING!!!

Please carefully follow this User's Guide to complete the USB driver installation.

1110/1111 ADSL Bridge

User's Guide

December 2002

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Safety Warnings

Always observe standard safety precautions during installation, operation and maintenance of this product. Only qualified and authorized service personnel should carry out adjustment, maintenance or repairs to this instrument. Either the operator or the user should perform no adjustment, maintenance or repairs.

The interfaces on the Telindus 1110/1111 ADSL BRIDGE should only be connected to circuit types as listed below:

Interface	Connector	Circuit
Line Interface	RJ-11	TNV-1
LAN Interface	RJ-45	SELV
USB Interface	Type-A USB Connector	SELV

Carefully read the safety instructions in the "Hardware Installation" section.

Your Feedback

Your satisfaction about this purchase is an extremely important priority to all of us at Telindus. Accordingly, all electronic, functional and cosmetic aspects of this new unit have been carefully and thoroughly tested and inspected. If any fault is found with this unit or should you have any other quality-related comment concerning this delivery, please submit the Quality Comment Form on our web page http://www.telindus.com/accessproducts.

Conformity Statements

http://www.telindus.com/products/conformity/ -> Products -> Choose a product -> Download certificates

Hereby, TELINDUS declares that this Telindus 1110/1111 ADSL BRIDGE is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Bij deze, verklaart TELINDUS dat deze Telindus 1110/1111 ADSL BRIDGE in overeenstemming is met de essentiële vereisten en andere relevante bepalingen van Richtlijn 1999/5/EC.

Par la présente, TELINDUS déclare que ce Telindus 1110/1111 ADSL BRIDGE est en conformité avec les exigences essentielles et autres articles applicables de la Directive 1999/5/EC.

Hiermit, TELINDUS erklärt daß dieser Telindus 1110/1111 ADSL BRIDGE ist in Fügsamkeit mit den wesentlichen Anforderungen und anderen relevanten Bereitstellungen von Direktive 1999/5/EC.

Mediante la presente, TELINDUS declara que el Telindus 1110/1111 ADSL BRIDGE cumple con los requisitos esenciales y las demás prescripciones relevantes de la Directiva 1999/5/CE.

A TELINDUS declara que o Telindus 1110/1111 ADSL BRIDGE cumpre os principais requisitos e outras disposições da Directiva 1999/5/EC.

Col presente, TELINDUS dichiara che questo Telindus 1110/1111 ADSL BRIDGE è in acquiescenza coi requisiti essenziali e stipulazioni attinenti ed altre di Direttivo 1999/5/EC.

Με το παρόν, η TELINDUS δηλώνει ότι αυτό το TELINDUS 1110/1111 ADSL BRIDGE είναι συμμορφούμενο με τις βασικές απαιτήσεις και με τις υπόλοιπες σχετικές διατάξεις της οδηγίας 1999/5/EC.

Safety Instructions

IMPORTANT SAFETY INSTRUCTIONS

Unplug the unit from the wall power outlet before installing, adjusting or servicing.

ACHTUNG! WICHTIGE SICHERHEITSINSTRUKTIONEN

Vor sämtlichen Arbeiten am Gerät (Installation, Einstellungen, Reparaturen etc.) sollten Sie den Netzstecker aus der Steckdose ziehen.

SAFETY WARNING

To avoid damage to the equipment, please observe all procedures described in this chapter.

SICHERHEITSBESTIMMUNGEN

Um eine Beschädigung des Gerätes zu verhindern, beachten Sie bitte unbedingt die Sicherheitsbestimmungen, die in diesem Abschnitt beschrieben werden.

Ensure that the unit and its connected equipment all use the same AC power and ground, to reduce noise interference and possible safety hazards caused by differences in ground or earth potentials.

Unpacking

Rough handling during shipping causes most early failures. Before installation, check the shipping carton for signs of damage:

- If the carton box is damaged, please place a claim with the carrier company immediately.
- If the carton box is undamaged, do not dispose of it in case you need to store the unit or ship it in the future.

Selecting a Site

WARNING

Always place the unit on its feet without blocking the air vents.

Do not stack multiple units directly onto each other, as stacking can cause heat build-up that could damage the equipment.

ACHTUNG

Stellen Sie das Gerät niemals seitlich, sondern nur auf den Füßen auf und achten Sie darauf, daß die Lüftungsschlitze an der Seitenverkleidung frei bleiben.

Stapeln Sie nicht mehrere Geräte direkt übereinander, dies kann zu einem Hitzestau führen.

Table of Contents

CHAPTER 1: # PRODUCT INTRODUCTION

1.1 Overview

The Telindus 1110/1111 ADSL Bridge is the ultimate networking solution for any office or home searching for ultra-fast access to the Internet and remote networks over ADSL. Telindus 1110/1111 ADSL Bridge is a stand-alone device with true plug-and-play capability. It works with any computer using an Ethernet port or USB port.

The purpose of this manual is to help you ease through the installation process by providing simple step-by-step instructions in setting up your ADSL Bridge. Please read this guide carefully before you start installing the device.

1.2 Package Includes

- Telindus 1110/1111 ADSL Bridge
- AC to AC power adapter (x 1)
- Telindus CD-ROM (x 1) includes:
  - User's Guide in PDF format
  - USB Driver
- RJ-11 to RJ-11 ADSL phone cable (x 1)
- RJ-45 to RJ-45 straight-through Ethernet cable (x 1)
- Detachable USB cable (x 1)
- Quick Setup Guide (x 1)

1.3 Minimum System Requirements

- ADSL line
- Microsoft Windows 98 or later version
- 166 MHz Pentium or equivalent processor
- 16 MB RAM or more
- 170 MB available free hard disk space before installation
- Available 10BaseT Ethernet port or USB port on the main computer
- CD-ROM Drive

NOTE: **DO NOT** connect the USB cable to the ADSL bridge until **AFTER** you install the USB driver and are instructed to complete the connection in the software installation process.

NOTE: It is important to install the latest Windows Service Pack whenever you add components to your system because older system files may be copied back to Windows during installation. Reboot your PC after installation.

1.4 Web-based Management Interface

Through the built-in web-based GUI (Graphic User Interface), you can change Telindus 1110/1111's settings, upgrade its firmware and monitor other wireless clients on the network. To use this management system, please follow the steps below:

Step 1. Open your browser.

Step 2. Enter the ADSL Bridge's IP address (default: 192.168.1.1) in the browser *Location* field (Netscape Navigator) or *Address* field (Internet Explore).

Step 3. Press *Enter* to connect.

1.5 Information You Will Need

To configure your router, you will need to receive information from your ISP and the remote network to which you connect, such as an Internet Service Provider (ISP) or a company server. Consult the sections below for a detailed list of information on utilizing the Ethernet interface and DSL interface. If you are unfamiliar with any of the terms listed, refer to "GLOSSARY" on page 33.

1.5.1 Utilizing the Ethernet Interface

The following information should be obtained from your ISP:

- IP address
- Subnet mask
- Gateway IP address

1.5.2 Utilizing the DSL Interface

The following information related to your DSL connection which should be obtained from your ISP:

- VPI
- VCI
- PPP User name & Password (Only if encapsulation mode is in PPP)
- Encapsulation type
- DNS address

HARDWARE INSTALLATION

This chapter describes the front/back panel layout and installation procedure for the Telindus 1110/1111 ADSL bridge.

2.1   Front Panel Description

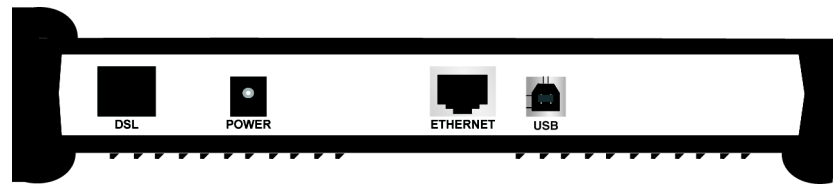**Figure 2.1   Telindus 1110 ADSL Bridge Front Panel**

Figure 2.2   Telindus 1111 ADSL Bridge Front Panel

TABLE 1:Telindus 1110/1111 ADSL Bridge LED Description

LED	COLOR	STATUS	DESCRIPTION
PWR (Power)	Green	On	Power is supplied to the ADSL bridge.
		Off	Power is not supplied to the ADSL bridge.
DIAG (Diagnostic)	Yellow	On	There may be a software malfunction or a problem with the ADSL bridge.
		Flashing	The ADSL bridge is in self-diagnostic mode.
		Off	The ADSL bridge has successfully booted up.
LAN	Green	On	Indicates a valid Ethernet link is established between the ADSL bridge and the Ethernet network.
		Flashing	Indicates data is flowing from/to this port.
		Off	No Ethernet link.
USB	Yellow	On	Indicates a valid USB link is established between the ADSL bridge and the Ethernet network.
		Flashing	Indicates data is flowing from/to this port.
		Off	No USB link.
WAN LINK	Green	On	Indicates a valid DSL connection between the remote DSL network and the ADSL bridge.
		Off	No WAN link.
WAN ACT (Activity)	Yellow	Flashing	Indicates data is flowing from/to this port.
		Off	No WAN data activity.

2.2   Back Panel Description

Figure 2.3   **Telindus 1110 ADSL Bridge Back Panel**

TABLE 2: **Telindus 1110/1111 ADSL Bridge Back Panel Interface Description**

PORT	DESCRIPTION
DSL	The **DSL** port connects the ADSL bridge to the telephone outlet with DSL service.
POWER	The **POWER** port is where you connect the AC power adapter to the ADSL bridge.
ETHERNET	The **ETHERNET** port is where you connect the ADSL bridge to a PC, hub or switch on your wired LAN network.
USB	The **USB** interface allows you to connect your ADSL Bridge to your PC using an USB detachable cable.

2.3   Before You Begin

CAUTION!!! Turn off all electronic devices, including your personal computer, before you begin to connect and disconnect cables.

2.3.1 Personal Safety

- In case of emergency, locate the closest electricity power-off switch.
- Refrain from touching any active wires or terminals.
- Remove any jewelry before working on equipment connected to electricity.
- Keep cables away from walkways.
- Dispose this product in accordance with national laws and regulations.

2.3.2 Product Handling

- Keep ventilation slots clear.
- Operate in a clean and dust-free location.
- Cables must be attached to the correct interfaces; to do otherwise may result in damaging the ADSL bridge or produce hazardous voltage.
- Do not operate or store the product in an environment that surpasses temperature or humidity specifications.

2.3.3 Location & Placement

- Choose a location for the ADSL bridge that is close to a power outlet and a nearby telephone outlet. In addition, select a convenient location that does not experience too much foot traffic and is away from sunlight.
- The optimum spot to place the ADSL bridge is on a level surface – such as a desktop, shelf, or table.
- Place the ADSL bridge on the predetermined surface, so you can see the back panel for accessible cable connection.

2.4   Setup Instructions

Before you start the setup process, make sure once again that you:
- Shut down and disconnect your DSL broadband connection properly.
- Turn off all Telindus equipment.

2.4.1   Connecting the Ethernet Cable

Step 1.   Locate your Ethernet cable (included).

Step 2.   Attach the Ethernet cable to the **ETHERNET** port of your ADSL bridge.

Step 3.   Plug in the loose end of the Ethernet cable to your Ethernet network. You have 3 options to connect to the Ethernet depending on your network environment:

> **OPTION 1.** **Connecting to a single PC:** Attach the included **straight-through** Ethernet cable to the Ethernet port on a PC.
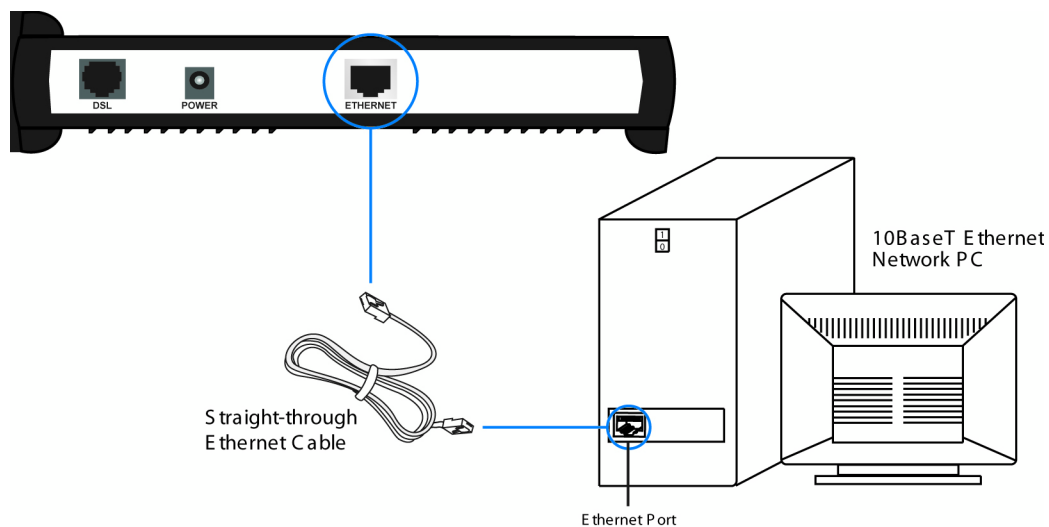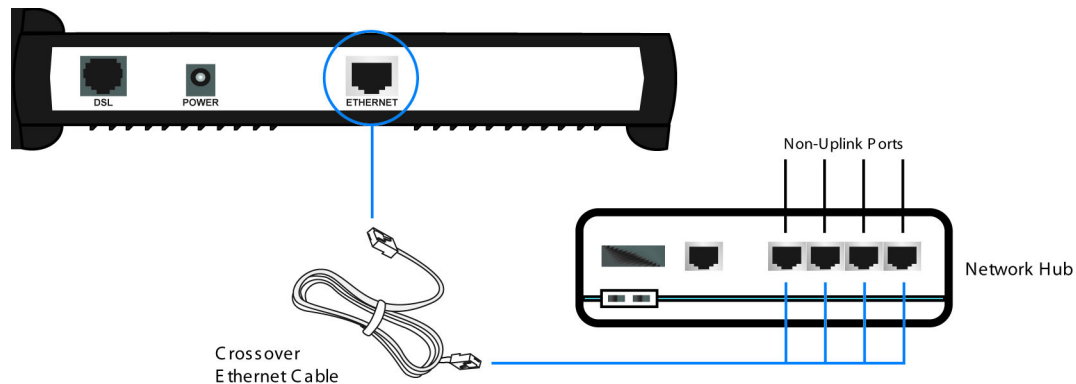

Figure 2.4   **Connecting the ADSL Bridge to PC's Ethernet Interface**

> **OPTION 2.** **Connecting to a network hub with uplink port available:** Attach the included **straight-through** Ethernet cable to the uplink port on a hub.
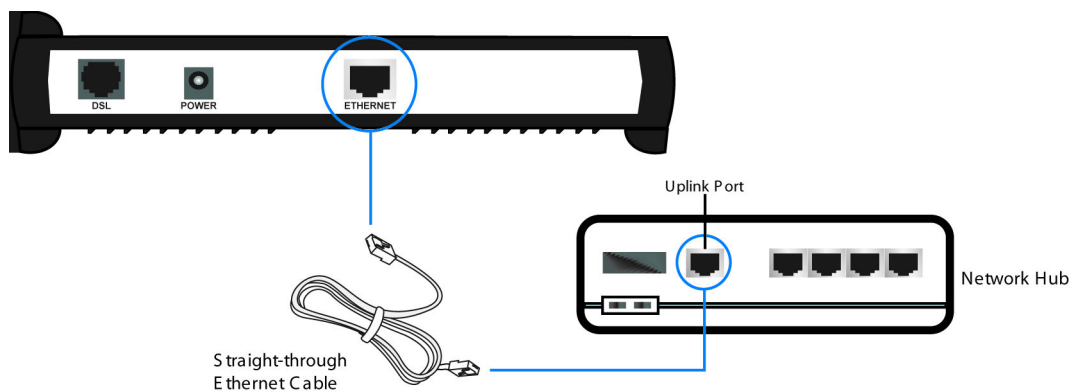
Figure 2.5   **Connecting the ADSL Bridge to the Uplink Port of a Network Hub**

OPTION 3.Connecting to a network hub with non-uplink port available: If the uplink port is unavailable, then you can use a **crossover** Ethernet cable (not included) and attach it to the non-uplink port(s) on a network hub.
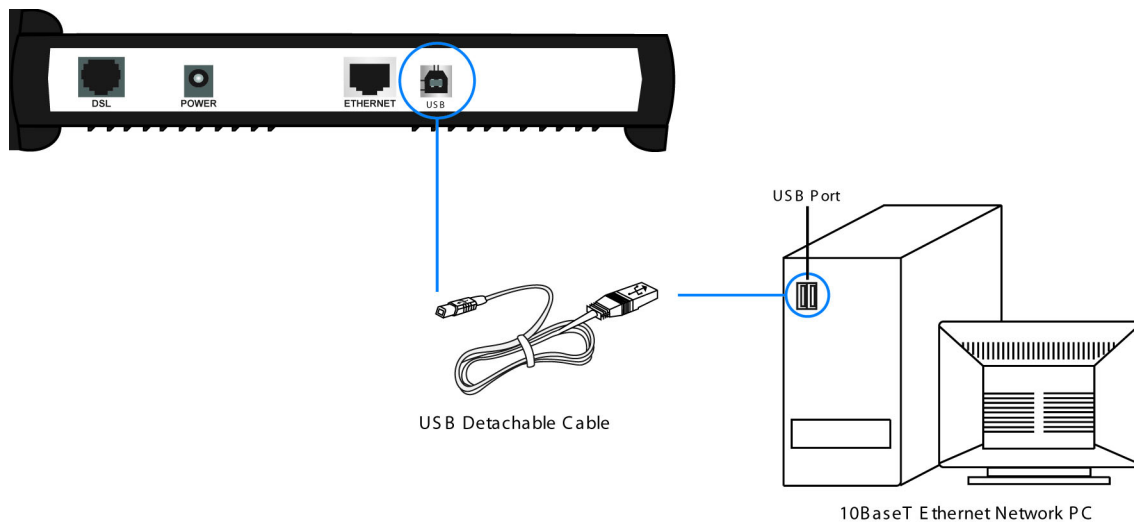

Figure 2.6   Connecting the ADSL Bridge to the Non-Uplink Ports of a Network Hub

Step 4. Once the ADSL bridge is powered on, the **LAN** LED on the front panel should be on to indicate a valid Ethernet connection. If the LED is not lit, repeat steps 1 through 3 above.

2.4.2 Connecting the USB Cable

NOTE: **DO NOT** plug the USB cable to the ADSL bridge until **AFTER** you have installed the USB driver.

Figure 2.7   Connecting the ADSL Bridge to the PC's USB Interface

Step 1. Plug the Type-B (square-shaped) end of the USB detachable cable (included) into the **USB** port of the NDS unit.

Step 2. Plug the Type-A (flat-shaped) end of the USB detachable cable into the USB port of your PC.

Step 3. The **USB** LED on the front panel should be on to indicate a valid USB connection. If the USB LED is not lit, repeat steps 1 and 2 above.

NOTE: See "USB Driver Installation" on page 9 for more information.

2.4.3 Connecting the DSL Cable
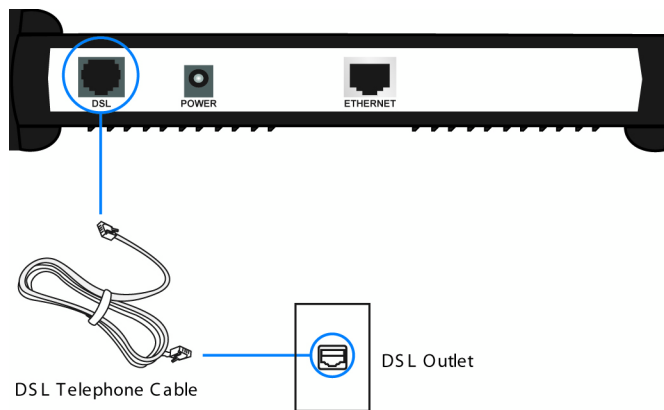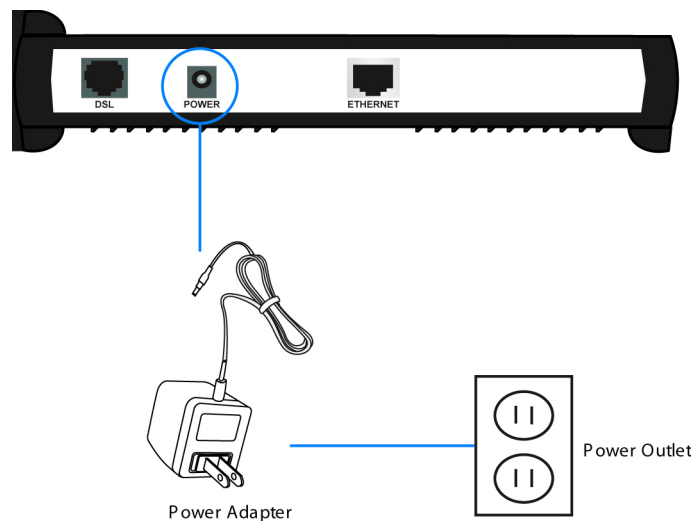

Figure 2.8   **Connecting the ADSL Bridge to the DSL Outlet**

Step 1. Plug the RJ-11 connector end of the telephone cable (included) in the **DSL** port of the ADSL bridge (RJ-11 to RJ-11).

Step 2. Connect the other end of the RJ-11 telephone cable to the DSL outlet on the wall.

Step 3. The **WAN LINK** LED on the front panel should be on to indicate a valid WAN connection. If the LED is not lit, repeat steps 1 and 2 above.

2.4.4 Connecting the Power Adapter

Figure 2.9   **Connecting the ADSL Bridge to the Power Outlet**

Step 1. Plug the power adapter in the **PWR** port of the ADSL bridge.

Step 2. Insert the other end of the power adapter to the power outlet on the wall.

Step 3. Once the ADSL bridge is powered on, the **PWR** LED on the front panel should be on to indicate a valid power connection. If the LED is not on, then disconnect the ADSL bridge from the power adapter and repeat steps 1 and 2 above.

NETWORK CONFIGURATION

3.1 USB Driver Installation

If you are connecting your Telindus 1110/1111 ADSL Bridge using its USB interface, you will need to install the USB software driver. Please follow the steps below to ensure a successful USB installation.

If you do not plan to use the USB interface, skip the sections below and move on to the next section titled "TCP/IP Installation".


NOTE: USB interface is only supported using Windows 98SE/2000/Me/XP operating systems.

The following instructions will help you complete the USB installation procedure:

NOTE: **DO NOT** plug the USB cable from the PC into the USB connector on the device until instructed to do so.

3.1.1 Installing USB Drivers on Windows 98SE/ME

Step 1. Place the included CD into the appropriate CD-ROM drive. Locate the USB Driver folder in the CD-ROM and click the *USB Setup.exe* to install the USB driver.
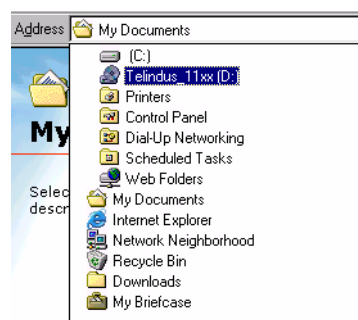
Step 2. Plug the USB cable into the PC from ADSL Bridge when you are instructed to do so.

Step 3. After plugging in the USB cable from the ADSL Bridge to the PC, it will search for the new hardware.
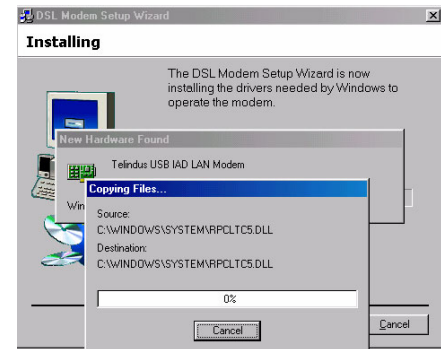
Step 4. Windows 98SE may show this message looking for a missing file. Click *Skip File* to continue.
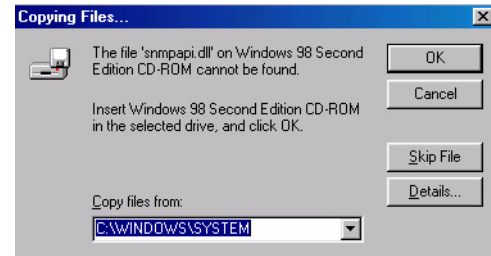
Step 5. After installing the driver, reboot your PC.
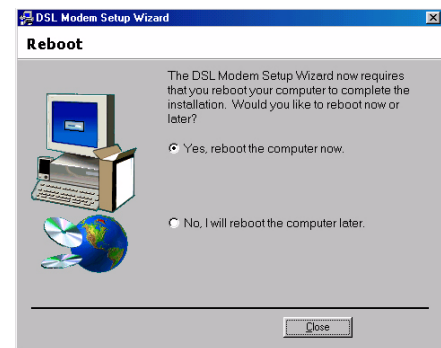
Step 6. After rebooting the PC, driver installation is complete.
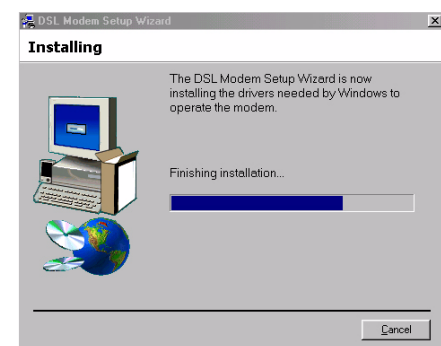
Step 7. To enter the web configuration tool, enter *192.168.1.1* on your Internet browser.
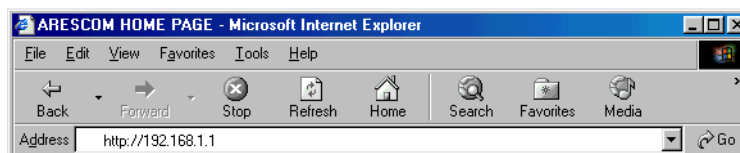
NOTE: See "SOFTWARE CONFIGURATION" on page 19 for more information on how to configure your ADSL Bridge.
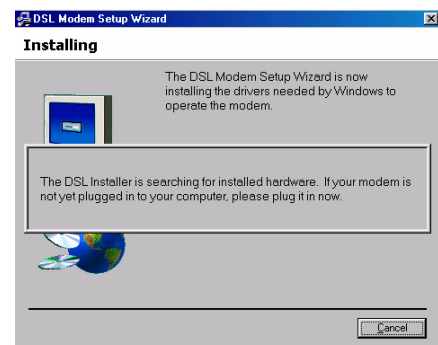
3.1.2 Installing Software Drivers on Windows 2000/XP

NOTE: **DO NOT** plug the USB cable from the PC into the USB connector on the device until instructed to do so.

Step 1. Place the included CD into the appropriate CD-ROM drive. Locate the USB Driver folder in the CD-ROM and click the *USB Setup.exe* to install the USB driver.
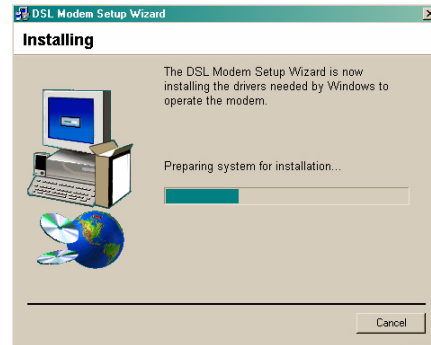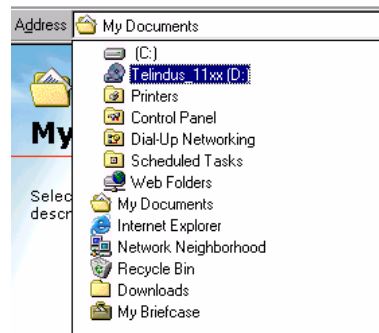

NOTE: Click *Yes* to continue installing the USB driver if you see Microsoft's message for the digital signature.

**Step 2.** Plug the USB cable into the PC from the ADSL Bridge when you are instructed to do so.

The DSL Installer is searching for installed hardware. If your modem is not yet plugged in to your computer, please plug it in now.

Step 3. The *DSL Modem Setup Wizard* will find the new hardware and finish the installation process.
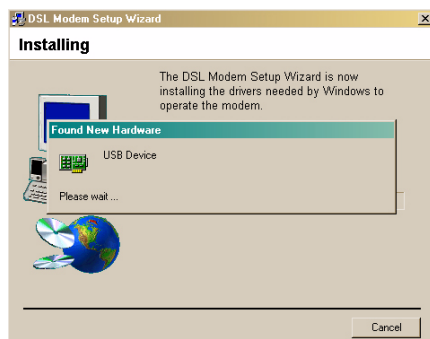
Step 4. Once the USB driver is installed successfully, the USB icon will appear on the right side of the tool bar.

Step 5. To enter the web configuration tool, enter *192.168.1.1* on your Internet browser.
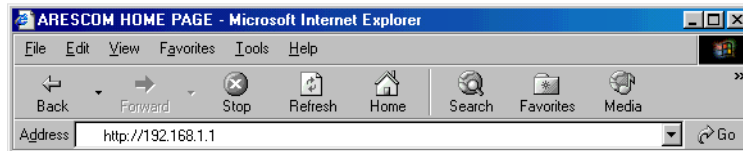
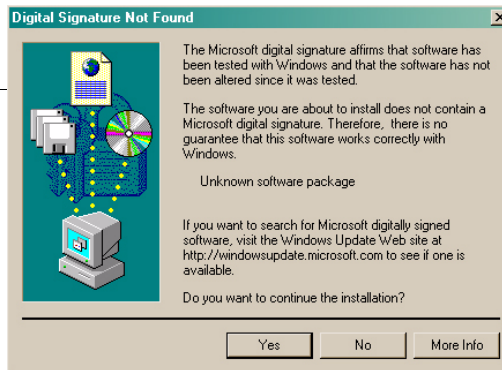NOTE: See "SOFTWARE CONFIGURATION" on page 19 for more information on how to configure your ADSL Bridge.

3.2 TCP/IP Installation

You must install a network protocol on each workstation on your LAN so they can communicate with the ADSL bridge, which requires configuring the TCP/IP network protocol. The TCP/IP Properties window in Windows 95/98SE/2000/NT/Me/XP connects the workstation's Ethernet information to the network's protocol data. Make sure that each PC on your LAN has TCP/IP protocol available.

Your TCP/IP configuration is solely based on your ISP's setup. The following information should be provided by your ISP or company server:

- IP address
- Subnet mask
- Gateway IP address

NOTE: The ADSL bridge is configured with a default IP address of *192.168.1.1* and subnet mask of *255.255.255.0*.

NOTE: For Mac OS/Unix/Linux/Solaris/other OS users, please consult user's manuals for proper static and dynamic IP addressing configuration details from their respective companies.

3.2.1 Detecting TCP/IP in Windows 95/98SE/Me

Step 1. Click *Start* -> *Settings* -> *Control Panel*.

**Step 2.** Double-click the *Network* icon.

Step 3. Click the *Configuration* tab.

    A. If you see *TCP/IP* listed under *The following network components are installed* list, you already have TCP/IP protocol installed on your Windows 95/98SE/Me. Proceed to the section titled "Configuring TCP/IP in Windows 95/98SE/Me."

    B. If you do not see *TCP/IP* listed under *The following network components are installed* list, proceed to the section titled "Installing TCP/IP in Windows 95/98SE/Me".
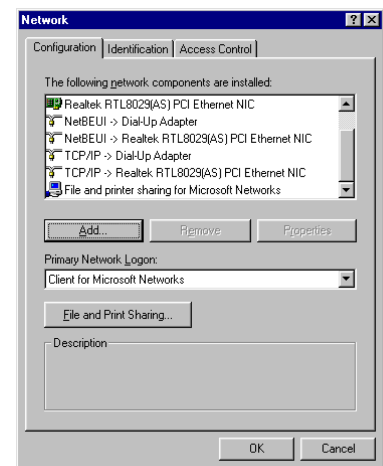
3.2.2 Installing TCP/IP in Windows 95/98SE/Me

Step 1. From the *Configuration* tab, click *Add*.

Step 2. Select *Protocol* and click *Add*.
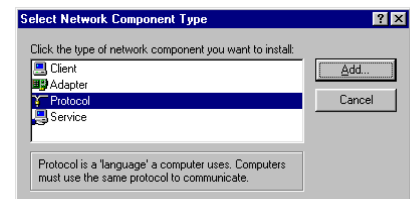
Step 3. Choose *Microsoft* -> *TCP/IP* and click *OK*.

Step 4. Check to see if *TCP/IP* is listed under *Network Components*.

    A. If you do not see *TCP/IP* listed under *The following network components are installed* list, you have not successfully installed the TCP/IP protocol. Repeat steps 1 - 4.

    B. If you see *TCP/IP* listed under *The following network components are installed* list, proceed to the section titled "Configuring TCP/IP in Windows 95/98SE/Me."
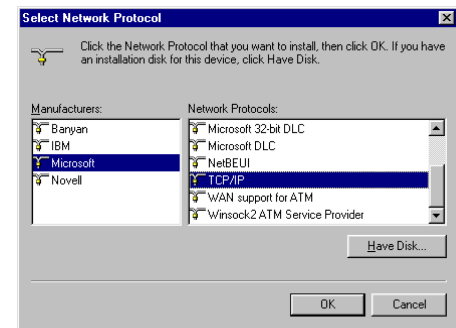
3.2.3 Configuring TCP/IP in Windows 95/98SE/Me

Step 1. From the *Configuration* tab, select *TCP/IP -> XXXX Ethernet Adapters* ("XXXX" is the maker of your Ethernet card) listed under *Network Components* and click *Properties*.

Step 2. Select the *IP Address* tab.

    You now have the option of using either dynamic or static IP addressing.

To enable dynamic IP addressing:

Step 1. Click the radio button next to *Obtain an IP Address automatically*.

OPTIONAL: Click the *DNS Configuration* tab and select *Disable DNS*. If you previously entered any parameters, clear all pre-existing settings.[1]
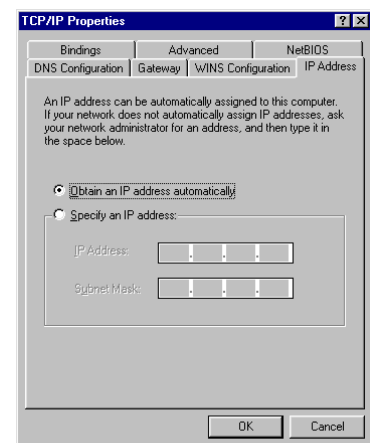
Step 2. Select the *Gateway* tab.

Step 3. Click *Remove* to clear all pre-existing settings.

Step 4. Click *OK* to exit *TCP/IP Properties* window and click *OK* to exit the *Network* window.

Step 5. If prompted to restart Windows 95/98SE/Me, click *Yes*. If you are not prompted to restart Windows 95/98SE/Me, do so manually.

To enable static IP addressing:

Step 1. Click *Specify an IP Address*.

Step 2. Type the *IP Address* and *Subnet Mask* (for your PC).

Step 3. Click the *Gateway* tab.

Step 4. Type in your *Gateway IP Address* (the IP address for the ADSL bridge) from your ISP and then click *Add*.

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1. If specifically required by your ISP, you may need to enter DNS information.

Step 5. Click the *DNS* tab. Enter the *Host* and *Domain* names, then enter the *DNS Service Search Order* (for your LAN) and click *Add*.

Step 6. Click *OK* to exit *TCP/IP Properties* window.

Step 7. Click *OK* to exit *Network*.

Step 8. If prompted to restart Windows 95/98SE/Me, click *Yes*. If you are not prompted to restart Windows 95/98SE/Me, please do so manually.
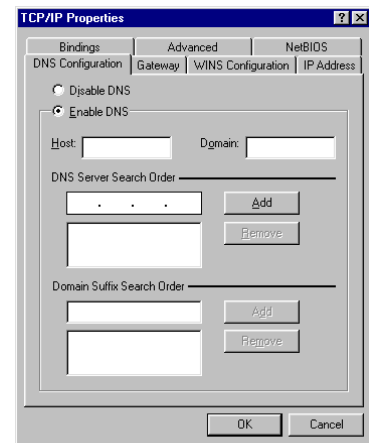
3.2.4 Detecting TCP/IP in Windows NT

Step 1. Click on *Start* -> *Settings* -> *Control Panel*.

Step 2. Double-click the *Network* icon.

Step 3. Click the *Protocols* tab.

    A. If you see *TCP/IP* listed under *Network Protocols*, proceed to the section titled "Configuring TCP/IP in Windows NT."

    B. If you do not see *TCP/IP* listed under *Network Protocols*, proceed to the section titled "Installing TCP/IP in Windows NT."
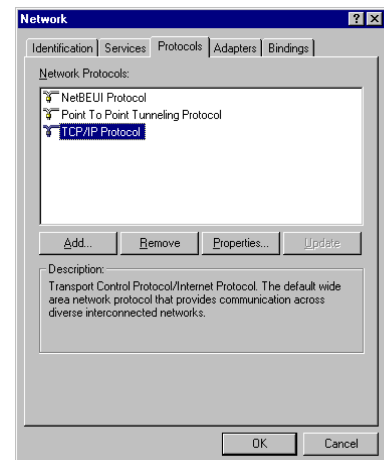
3.2.5 Installing TCP/IP in Windows NT

NOTE: Consult your Network Administrator if you do not have authorization to change your PC settings.

Step 1. From the *Protocols* tab click *Add*.

Step 2. Select *TCP/IP Protocol* and click *OK*.

Step 3. Check to verify *TCP/IP Protocol* is listed under *Network Protocols*, then click *OK*.

    A. If you do not see *TCP/IP Protocol* listed under *Network Protocols*, you have not installed TCP/IP protocol successfully. Repeat steps 1 - 3.

    B. If you see *TCP/IP Protocol* listed under *Network Protocols*, proceed to the section titled "Configuring TCP/IP in Windows NT."
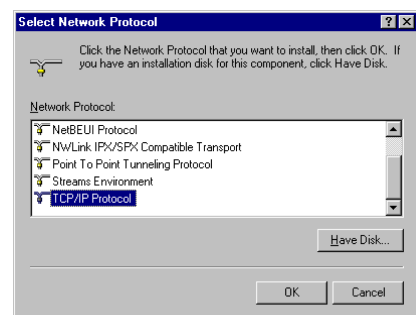
3.2.6 Configuring TCP/IP in Windows NT

**Step 1.** From the *Protocols* tab, select *TCP/IP Protocol* and click *Properties*.

Step 2. Select the *IP Address* tab.

You now have the option of using either dynamic or static IP addressing.

To enable dynamic IP addressing:

Step 1. Click the radio button next to *Obtain an IP Address from DHCP Server*.

OPTIONAL: Click the *DNS* tab and select *Disable DNS*. If you previously entered any parameters, clear all pre-existing settings.[1]

Step 2. Click *OK* to exit *Network Properties* window.

To enable static IP addressing:

Step 1. Click the radio button next to *Specify an IP Address* and enter the *IP Address* and *Subnet Mask* (for your PC).

Step 2. Click the *DNS* tab. Enter the *Host* and *Domain* names, then enter *DNS Service Search Order* (for your LAN).

Step 3. Click *OK* to exit *Network Properties* window.
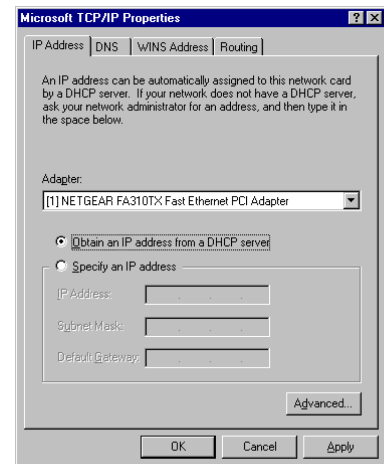
3.2.7 Configuring TCP/IP in Windows 2000

NOTE: Once you have successfully installed a network card onto your PC, Windows 2000 will automatically install *Internet Protocol (TCP/IP)* by default.

Step 1. Click on *Start* ->*Settings* -> *Control Panel* -> *Network and Dial-up Connections* -> *Local Area Connection*.

Step 2. In the *Local Area Connection Status* window, click *Properties*.

Step 3. Under the *General* tab in the *Local Area Connection Properties* window, highlight *Internet Protocol (TCP/IP)* and click *Properties*.

Step 4. From the *General* tab, select *Internet Protocol (TCP/IP)* and click *Properties*.

---
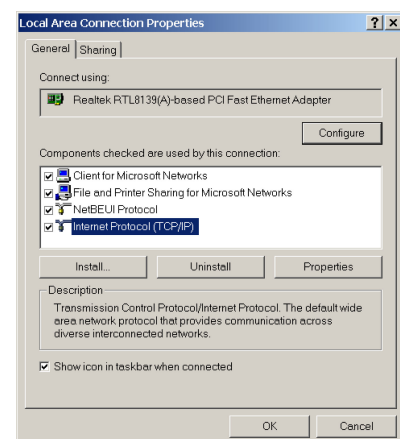
1. If specifically required by your ISP or remote server, you may need to enter DNS information.

To enable dynamic IP addressing:

Step 1. Click the radio button next to *Obtain an IP Address automatically*.

OPTIONAL: You can either click *Obtain DNS server address automatically* or *Use the following DNS server addresses* options. If you choose the latter, then you need to enter the *Preferred* and *Alternate DNS server IP addresses*.

Step 2. Click *OK* to exit the *Internet Protocol (TCP/IP) Properties* window.

To enable static IP addressing:

Step 1. Click *Use the following IP Address* and enter the *IP Address*, *Subnet Mask*, and *Default Gateway*.

Step 2. Enter the *Preferred* and *Alternate DNS server* IP addresses.

Step 3. Click *OK* to exit the *Internet Protocol (TCP/IP) Properties* window.

3.2.8 Configuring TCP/IP in Windows XP

NOTE: Once you have successfully installed a network card onto your PC, Windows XP will automatically install *Internet Protocol (TCP/IP)* by default.

Step 1. Click *Start* -> *Control Panel*.

Step 2. In the *Control Panel* window, double-click ***Network and Internet Connections***.

Step 3. Double-click ***Network Connections***.

Step 4. Double-click ***Local Area Connection***.

Step 5. Under the *Local Area Connection Status* window, click ***Properties***.

**Step 6.** Under the *General Local Area Connection Properties* window, highlight ***Internet Protocol (TCP/IP)*** and click ***Properties***.

To enable dynamic IP addressing:

Step 1. Click the radio button next to ***Obtain an IP Address automatically***.

OPTIONAL: You can either click ***Obtain DNS server address automatically*** or ***Use the following DNS server addresses*** options. If you choose the latter, then you need to enter the ***Preferred*** and ***Alternate DNS server IP addresses***.

Step 2. Click ***OK*** to exit the *Internet Protocol (TCP/IP) Properties* window.

To enable static IP addressing:

Step 1. Click ***Use the following IP Address*** and enter the ***IP Address***, ***Subnet Mask***, and ***Default Gateway***.

Step 2. Enter the ***Preferred*** and ***Alternate DNS server*** IP addresses.

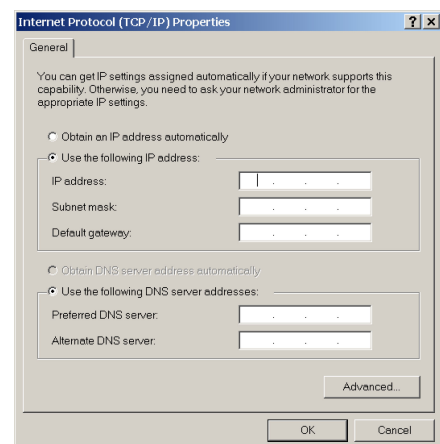**Step 3.** Click ***OK*** to exit the *Internet Protocol (TCP/IP) Properties* window.

SOFTWARE CONFIGURATION

4.1 Configuration Using Web Browser

The Telindus 1110/1111 ADSL Bridge offers a platform-independent, HTML-based GUI (graphical user interface) to simplify the setup and configuration of your ADSL Bridge using your PC's web browser. The steps below help you configure your ADSL Bridge on the LAN using the web GUI:

Follow the steps below to open your web browser:

Step 1. Launch a web browser (i.e. Internet Explorer or Netscape Navigator) from your computer.

Step 2. Enter the default URL *http://192.168.1.1* and press *Enter*.
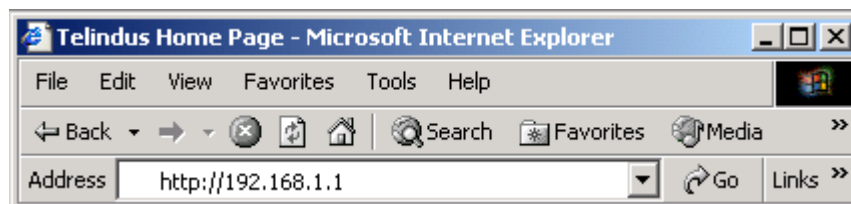
Figure 4.1   Opening an Internet Web Browser

The Web browser may take a minute or two to log on to your ADSL Bridge for first time access. (Pressing the *Enter* key or clicking the *Go* button twice may speed up the log-on process).

The Telindus 1110/1111 ADSL Bridge is composed of several web GUIs that are divided into two main sections: **Basic** and **Advanced**.

The **Basic** section allows you to configure some of the basic setup features of the ADSL Bridge. It contains the following GUI pages:

(1) SETUP
(2) PPP CONNECTION
(3) PPP PROFILES
(4) PVCs
(5) LAN
(6) STATUS
(7) DIAGNOSTIC

The **Advanced** section allows you to have greater control over the ADSL Bridge. It contains the following pages:

(1) BRIDGE FILTERING
(2) UPGRADE

4.2   Basic - SETUP

Figure 4.2   SETUP Page

The **SETUP** page allows you to set the ADSL Bridge's system username and password for security purposes.

4.2.1 System

The **System** section allows you to enter a **Router/Modem Name** and **Password** to ensure maximum administrative security for your ADSL Bridge.

User Name: Enter a desired user name here. You can enter up to 31 characters, and any combination of letters and numbers are acceptable.

Password: This feature provides maximum security for your ADSL Bridge by limiting access to users with the correct password only. You can enter up to 31 characters, and any combination of letters and numbers are acceptable.
When you type your password, the name will appear as asterisks (****).

Re-enter Password: Enter your password again to ensure you have the correct password.

4.2.2 PPP Bridge Setting

The **PPP Bridge Setting** is a new feature that allows the ADSL Bridge to negotiate a public IP address from the ISP and, through DHCP, passes the public IP address to the PC on the LAN.

PPP Bridge Mode: Allows you to enable/disable the PPP Bridge feature.

4.2.3 DNS

In the **DNS** (Domain Name Server) section:

Primary DNS:	Allows you to assign the primary DNS IP address provided by your ISP.
Secondary DNS:	Allows you to assign the secondary DNS IP address provided by your ISP.

4.2.4 SNMP

In the **SNMP Setting** section:

SNMP Mode: Allows you to enable/disable the Simple Network Management Protocol.

A. Enter a desired *User Name* and *Password*.

B. Re-enter the password to authenticate its use.

C. Click the *Reboot* button to reboot the ADSL Bridge remotely. Its function is the same as unplugging the power cable from the ADSL Bridge. Click the *Reset* button to restore the ADSL Bridge to its manufacture default conditions.

D. Click *Save* to save the parameters to your ADSL Bridge. If you do not wish to send the configuration, simply click *Cancel*.

NOTE: Once you change your ADSL Bridge password, you are prompted to enter the *User Name* onto the *Enter Network Password* pop-up window to authenticate the change.

4.3   Basic - PPP CONNECTION

Figure 4.3   PPP CONNECTION Page

The **PPP CONNECTION** page requires that you enter the PPP *User Name* and *Password* in order to establish a connection through the PPP interface. You also need to select a specific ATM PVC interface in the *Interface* drag-down box. When you are ready, click *Connect*.

4.4 Basic - PPP PROFILES

Figure 4.4 PPP PROFILES Page

If you have activated the PPP Bridge feature in the SETUP page, then the **PPP PROFILES** page further enables you to configure the PPP interface.

Profile No.: The ID number that corresponds to each PPP profile.

Connection Mode: Allows you to choose between *DialUp* and *Lease Line* connection modes depending on your Internet connection specification.

Default Interface: Allows you to select a desired ATM PVC interface.

User Name: The name of the Internet account provided by your ISP.

Password: The password you use to access your ISP account.

MAC Address: Indicates the MAC address of the PC on the LAN.
In *Lease Line* connection mode, you can reserve a PC on the LAN interface by entering its MAC address here.

Physical Interface: Displays the current, actual ATM PVC interface.

Status: Indicates the current PPP interface status (Up/Down).

Click **Submit** to save the parameters to your ADSL Bridge. If you do not wish to send the configuration, simply click **Cancel**.
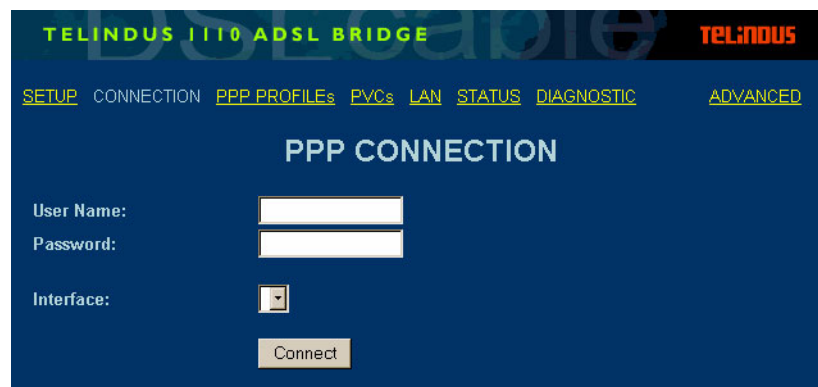
4.5 Basic - PVCs

Figure 4.5   PVCs Page

The **PVCs** page allows you to configure each ATM PVC interface on your ADSL Bridge:

PVC No.:   The ID number that corresponds to each ATM PVC interface.

Name: Allows you to enter a desired ATM PVC profile name.

Encapsulation: Allows you to choose the following encapsulation types at the ATM interface:
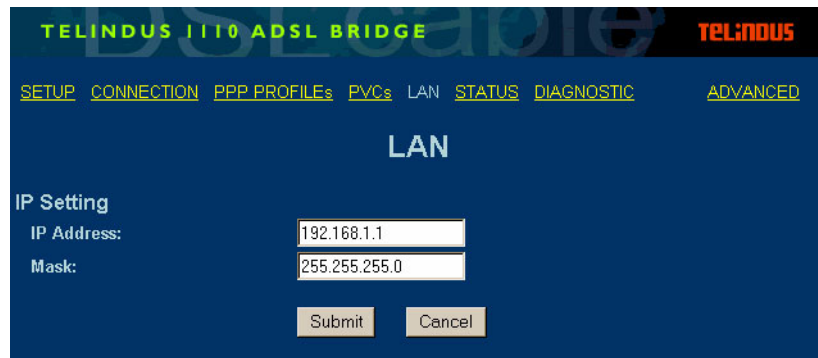
(1) Not in use.
(2) PPPoA VC MUX.
(3) PPPoA LLC.
(4) PPPoE
(5) SNAP/Bridge.

VPI: A virtual path is a semi-permanent connection between endpoints in an ATM network and may support one or more virtual channels. In Private Virtual Circuit (PVC) mode, the **Virtual Path Identifier (VPI)**, which is a header subfield, is assigned manually when the ADSL Bridge is used. Different VPI values allow the endpoints to discriminate between different virtual connections between ATM nodes. The minimum and maximum values of the VPI are 0 and 255, respectively (Default: *8*).

VCI: Each connection in an ATM network is characterized by a **Virtual Channel Identifier (VCI)**. This is a header subfield that is assigned manually when the ADSL Bridge is used. A VCI has only local significance on the link between ATM nodes. When the connection is released, the VCI value on the involved links will be released and can be reused by other connections.
The minimum and maximum values of the VCI are 32 and 4095, respectively (Default: *35*).

After entering these values, click *Submit* to send these settings to your ADSL Bridge. To discard these settings, click *Cancel*.

4.6   Basic - LAN

Figure 4.6   LAN Page

The **LAN** page allows you to configure the LAN IP settings.

4.6.1   IP Setting

The **IP Setting** section assigns the IP address of the ADSL Bridge on your LAN and defines the associated IP subnet.

IP Address: Enter an IP address for the LAN interface.

Subnet Mask: Enter the subnet mask to correspond to the LAN IP address you have entered above.

NOTE: Make sure your PC and the ADSL Bridge are in the same subnet when you assign these parameters.

4.7 Basic - STATUS

Figure 4.7   STATUS Page

The **STATUS** page collects information from various functions and operations of your ADSL Bridge and displays all the information on a single page for your convenience. Viewing the overall status of your system makes it easier for you to monitor, troubleshoot, and reboot your ADSL Bridge if necessary.

4.7.1 System

Router Name:	The device name used for identification purpose.
Firmware Version:	Current installed firmware version number.
Firmware Date:	The firmware release date.
MAC Address:	The MAC address of the PC on the LAN.

4.7.2 DSL

Connection Phase:	Displays the current DSL line connection status (Up/Down).
Line Mode:	Displays unit's current DSL line mode.
S/N Ratio:	Displays the Signal to Noise Ratio in dB.
RS/CRC:	Displays the number or count of Reed-Solomon/Cyclic Redundancy Check for the data stream.
Transmit Packets:	The total number of packets transmitted on the DSL port.
Received Packets:	The total number of packets received on the DSL port.
Transmit Bytes:	The total number of bytes transmitted on the DSL port.
Received Bytes:	The total number of bytes received on the DSL port.
Transmit Throughput:	The data transmit rate on the DSL port.
Received Throughput:	The data received rate on the DSL port.
Upstream:	Displays the DSL line upstream rate in Kbps.
Downstream:	Displays the DSL line downstream rate in Kbps.

4.7.3 Ethernet LAN

IP Address: The IP address of the unit's ETHERNET port.
Subnet Mask: The subnet mask of the unit's ETHERNET po*rt.*
Transmit Packets: The total number of packets transmitted on the ETHERNET port.
Received Packets: The total number of packets received on the ETHERNET port.
Transmit Bytes: The total number of bytes transmitted on the ETHERNET port.
Received Bytes: The total number of bytes received on the ETHERNET port.
Transmit Throughput: The data transmit rate on the ETHERNET port.
Received Throughput: The data received rate on the ETHERNET port.

4.8 Basic - DIAGNOSTIC
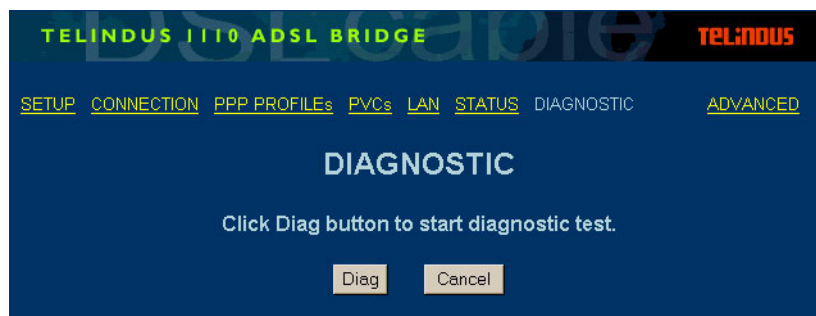
Figure 4.8   DIGNOSTIC Page

The **DIAGNOSTIC** page allows you to run a self-diagnostic feature on the ADSL Bridge to ensure that all interfaces are working within normal parameters.

When you are ready, click *Diag*.
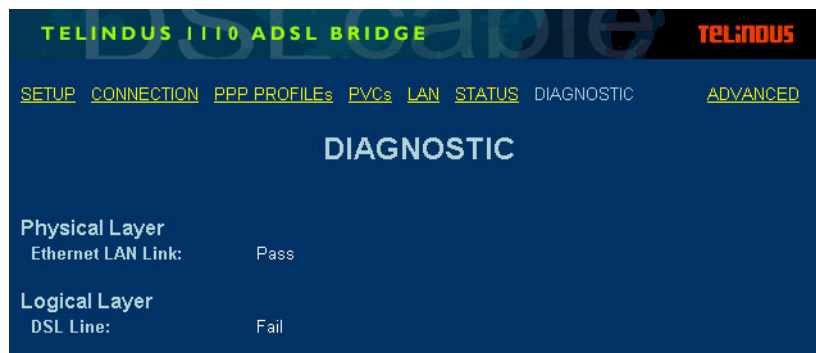
Figure 4.9   DIAGNOSTIC Page

After a few minutes, the ADSL Bridge displays a results page that illustrates the current status of the **Physical Layer - Ethernet LAN Link** and **Logical Layer - DSL Line**.

If the diagnostic result shows **Pass** for any one of them, then their corresponding parameter is functioning properly. Otherwise, a **Fail** message appears.

4.9 Advanced - BRIDGE FILTERING

Figure 4.10   BRIDGE FILTERING Page

Similar to the IP Filtering function in the previous section, **BRIDGE FILTERING** also allows you to define up to 16 sequential filters, and each filter can be set to examine, or filter, both source and destination data packets when the ADSL Bridge is in ***Bridge Enable*** mode.

4.9.1 Current Bridge Packet Filtering Table

The *Current Bridge Packet Filtering Table* displays the *Filter ID*, *Source/Destination MAC*, as well as the action taken when the filter conditions are matched or not matched. When you click ***Add***, a new Bridge packet filter is created.

4.9.2 Add Filter

In the *Add Filter* section, you can enter values for each of the following items:

Source MAC Address: The MAC address of the device sending data packages.

Destination MAC

Address: The MAC address of the device receiving data packages

The ADSL Bridge examines each entering data packet with the above parameters to determine if they match (true) or do not match (false).

For data packets that match or do not match the IP filtering conditions, you can set an ***Action If Matched*** or ***Action If Not Matched*** parameter to determine the data packet's destination:
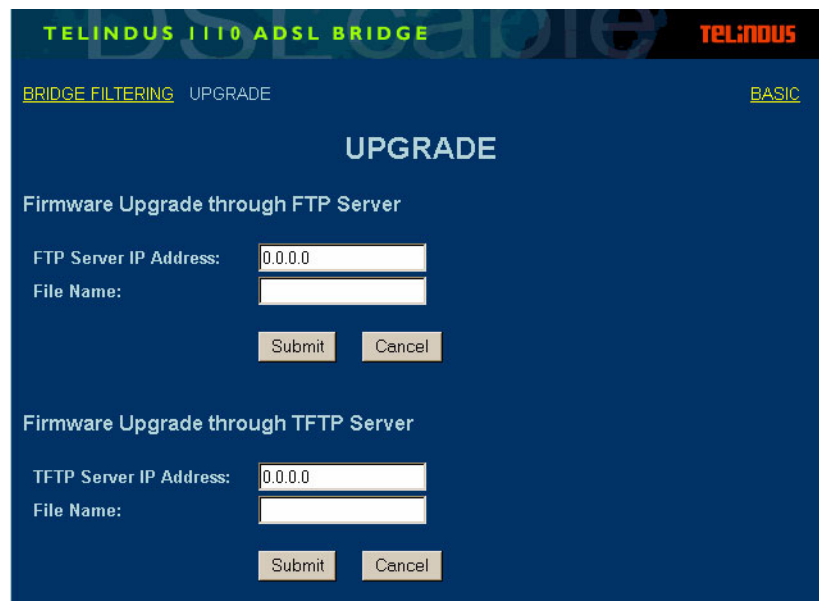
Next filter:	Packet goes to the next filter in sequence.
Pass:	Automatically pass through the ADSL Bridge.
Restrict:	Pass if only there is an available connection.
Discard:	Packet is blocked and discarded.

4.9.3 Delete Filter

Filter ID:	To delete a bridge filter from the filtering table, enter the associated ID number and click ***Delete***.

If you do not wish to send the configuration to your ADSL Bridge, simply click **Cancel**.

4.10 Advanced - UPGRADE

Figure 4.11   UPGRADE Page

The **UPGRADE** page helps you update the ADSL Bridge's firmware using FTP (File Transfer Protocol) from a FTP server or TFTP (Trivial File Transfer Protocol) from a TFTP server. You can perform the firmware upgrade by following the steps below:

4.10.1 Firmware Upgrade through FTP Server

Step 1. In the *FTP Server IP Address* field, enter the IP address of the FTP server where the new firmware file is located. The FTP server should allow anonymous login.

Step 2. In the *File Name* field, enter the file name of the new firmware that you want to load and install.

NOTE: The firmware image file has to be located in the root directory of the FTP file server.

4.10.2 Firmware Upgrade through TFTP Server

Step 1. In the *TFTP Server IP Address* field, enter the IP address of the TFTP server where the new firmware file is located. The TFTP server should allow anonymous login.

Step 2. In the *File Name* field, enter the file name of the new firmware that you want to load and install.

NOTE: The firmware image file has to be located in the root directory of the TFTP file server.

Click **Submit** to begin the firmware upgrade process. When the upgrade is complete, ADSL Bridge will reboot automatically.

TROUBLESHOOTING

This section is designed to answer some of the questions you might have while operating the ADSL Bridge. Read each heading carefully below to find the solution to your problem.

5.1 No Sync/WAN Link LED Flashing

- Make sure the phone cord from the wall is firmly plugged into the ADSL Bridge, then check to see if the ADSL Bridge has power and is turned on.
- Be sure the phone jack you are using is working properly by plugging a telephone into the phone jack and see if you can dial out.
- Make sure you have not accidentally plugged the RJ-11 telephone cable into the device's RJ-45 Ethernet port (the phone cable will fit, but it is the wrong port).
- Verify that you are NOT using a microfilter on the DSL line.
- Reboot your ADSL Bridge.
- You may review any additional documentation.

If the above mentioned suggestions still do not solve your problems, your line may have been incorrectly provisioned. Contact your ISP's Technical Support to confirm that the line has been provisioned correctly.

5.2 Cannot Detect the ADSL Bridge

- Verify that the ADSL Bridge is installed properly and is powered on.
- Verify the DSL cable is securely installed into the DSL port of the ADSL Bridge and the wall phone jack.
- Make sure your PC and ADSL bridge are on the same subnet. The default IP address of the ADSL Bridge is **192.168.1.1** with a subnet mask of **255.255.255.0**.
- Make sure your PC is using an IP address within the range of **192.168.1.2** to **192.168.1.254** and the subnet mask of **255.255.255.0**.

Make sure the Gateway of your PC points to the ADSL Bridge and should be set to **192.168.1.1** in this case.

5.3 DSL Service Seems Slow

If you are experiencing difficulties accessing a specific web site, try browsing a different web site. The site you were accessing may be experiencing technical problems.

GLOSSARY

When you order Internet service, your provider will give you a great deal of information. Definitions of common configuration terms are available below. Please note that terminology used by various remote networks may vary.

TERM	DESCRIPTION
ADSL (Asymmetric Digital Subscriber Line)	Currently the most common DSL technology available that provides asymmetrical bandwidth over a single copper wire pair (over your regular telephone line). The downstream bandwidth from the network to the subscriber is greater than the upstream bandwidth from the subscriber to the network. ADSL speeds typically run from 1.5 megabits per second to 8 megabits per second downstream and 64 kilobits per second to 640 kilobits per second upstream.
Bandwidth	The amount of data that can be transmitted by the network "information highway", used as an indication for speed of data transmission. An Ethernet link is capable of moving 10 million bits of data per second.
Bit	The term used to refer to a single unit of data in digital data communications. It takes 8 bits to make 1 byte, which is a unit of measurement for computer data.
Bps (Bits per second)	Refers to the unit of measurement used for data transmission speeds over a data communication link, e.g. ADSL runs at 6 Mbps (MegaBits per second).
Bridge	A hardware device that passes packets between multiple network segments using the same networking protocol to connect the different network segments. A DSL modem is a bridge that passes DSL from one network segment to another. Bridge operates at the hardware layer and has no routing capabilities.
Broadband	Any high-bandwidth (see also **Bandwidth**) data communication technology that runs at speeds of 200 kilobits per second or more and allows combined transmission of voice, data, and video over a single physical connection. Broadband is in contrast to narrowband such as traditional 56K analog modem. DSL, Cable, wireless, and satellite technology are all different types of broadband technology.
Byte	A unit of data equaling to 8 bits (1 Byte = 8 bits).
DHCP (Dynamic Host Configuration Protocol)	An Internet protocol that allows the DHCP server to dynamically assign IP addresses to any client workstation (any device connected to your LAN, such as a PC) for a set period of time and then sends them back so that they can be reassigned to other workstations. This feature saves the ISP and Network Managers from having to manually configure IP addresses for each PC on the LAN.

TERM	DESCRIPTION
DSL **(Digital Subscriber Line)**	A new kind of digitized data communication technology that delivers high-speed, two-way Internet access over the traditional copper wire telephone line. DSL technology allows the user to share their phone line with their DSL line, providing an "always-on" Internet connection that runs at speeds from 1 megabits per second to 52 megabits per second depending on the distance between the customer site and the CO. There are many type of DSLs called xDSL, and the most commonly available DSL line is the ADSL (See **ADSL**), which supports up to 10 megabits per second downstream. Other types of DSL include SDSL, IDSL, HDSL, VDSL, RADSL, etc. DSL technology can be accessed by connecting a DSL modem/router at the customer premise to the telephone line and computer. At the end of the line, DSL-enabling equipment at the CO or Remote Cabinet, such as a USAM or BSAM, aggregates or consolidates all the customer DSL lines and routes the data traffic onto a backbone network for distribution to the ISP or corporate networks.
DNS **(Domain Name System)**	A mechanism that translates host domain names into its numeric IP Address and vice-versa. A domain name is an easy-to-remember nick-name for numerical IP addresses required by a computer, such as jane-doe@yahoo.com.
Encapsulation	The encapsulating or enclosing data within a particular IP header. Sometimes the entire frame from one network is placed in the header used by the data link layer protocol of another network.
Ethernet	Most popular LAN (Local Area Network) technology that uses CSMA/CD (Collision Detection) and transfers data between workstations over a variety of cable types at 10Mbps, also called 10BaseT. Most Ethernet LANs use twisted pair 10BaseT cables and support both Ethernet as well as Fast Ethernet at 100Mbps (100BaseT).
Firewall	A security device (either hardware, software, or a combination of both) that selectively blocks out or filters unwanted IP traffic from a public network. Firewall allows the private LAN network to be invisible to the public network outside, preventing intrusion from unauthorized users.
Hub	A hardware device that repeats all data traffic to all CPE (Customer Premises Equipment) ports. A hub functions as the center of a LAN and all other network devices on the LAN, including PCs, printers, DSL modem or Gateways, are connected to the hub through cabling.
Internet	A massive worldwide network of computer networks interconnecting thousands of computers and networks around the world and readily accessible from any computer with a modem or router connection and the corresponding software.
IP **(Internet Protocol)**	A protocol standard for the Internet. A kind of Internet software that keeps track of all the addresses on the Internet for different nodes, forwards outgoing IP traffic, and recognizes incoming IP traffic.
IP Address	Numeric address assigned to each machine on the Internet. Consists of four sets of one, two, or three octal digits separated by periods.

TERM	DESCRIPTION
ISP **(Internet Service Provider)**	The telecommunication company that provides Internet service for the subscriber. The ISP can be a telephone company, a CLEC or ILEC, or any other company that provides Internet access to the end user such as AOL, Earthlink or MSN.
LAN **(Local Area Network)**	A collection of privately owned, interconnected computers within a confined service area.
PPPoE **(Point-to-Point Protocol over Ethernet)**	It is a protocol that allows a computer to access the Internet using a dial-up phone line and a high-speed modem/router. Relying on two widely accepted standards, Ethernet and point to point protocol (PPP), it makes high speed access easier to use for end consumers, and more seamless to integrate into the existing infrastructure for carriers and ISPs.
VCI **(Virtual Channel Identifier)**	Each connection in an ATM network is characterized by a Virtual Channel (VC). This is a header subfield that is assigned manually when the ETHERset is used. A VC has only local significance on the link between ATM nodes. When the connection is released, the VC value on the involved links will be released and can be reused by other connections.
VPI **(Virtual Path Identifier)**	A virtual path is a semi-permanent connection between endpoints in an ATM network and may support one or more virtual channels. In Private Virtual Channel (PVC) mode, the Virtual Path (VP), which is a header subfield, is assigned manually when the ETHERset is used. Different VP values allow the endpoints to discriminate between different virtual connections and ATM nodes.

REFERENCE

B.1 FCC Statement

This equipment has been tested and found to comply with 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 communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or 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.

Use only shielded cables to connect I/O devices to this equipment.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with Part 15 of the FCC rules. 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.

B.2 FCC Part 68 Requirements

This equipment complies with Part 68 of the FCC Rules. On the bottom of this equipment is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number [REN] for this equipment. If requested, this information must be given to the telephone company.

The REN is used to determine the maximum number of devices connected to your telephone line that will ring in response to an incoming call. In most but not all areas, the total REN of devices connected to a line should not exceed five [5.0]. To find out the total permitted in your area, contact your local telephone company.

If your telephone equipment cause harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you and opportunity to maintain uninterrupted telephone service.

If you experience trouble with this product, please contact Telindus, Inc. for information on obtaining service or repairs. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.