ARESCOM

Broadband Internet & Remote Access Solutions

NetDSL 1700 Series Router

Get Started User's Guide

Version 5.2

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1. BEFORE YOU BEGIN

Table of Content

Welcome to the Arescom Family...

The ARESCOM ADSL NetDSL™ 1700 Series Wireless LAN router is an integrated device that not only allows multiple workstations to share a high-speed DSL connection but also enjoy seamless connectivity in your home or office environment. In addition to fast Internet access and advanced routing technologies, the NetDSL 1700 router incorporates extensive management tools that facilitate network access and simply router configuration.

This purpose of this guide is to help you ease through the installation process by providing simple step-by-step instructions in setting up your NetDSL.

Package Includes

- An Arescom NetDSL ADSL 1700 router
- An AC-to-DC power adapter and cord set
- RJ-45 to RJ-45 straight-through Ethernet cable (7ft)
- RJ-11 to RJ-11 ADSL telephone cable (7ft)
- Get Started User's Guide
- CD-ROM (contains Arescom Installation software and Software User's Guide)

Diagram of the NetDSL

Front Panel Interface

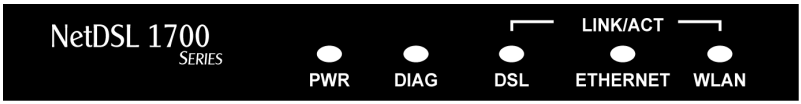


Figure 1. Front Panel Interface

PWR (Power)

A PWR LED is ON when power is supplied to the NetDSL unit.

DIAG (Diagnostic)

The DIAG LED indicates the NetDSL router has been successfully booted up and the software is functional. When NetDSL is powered on, the orange DIAG LED flashes while the router is booting up. After 10 to 15 seconds, the DIAG LED stops flashing and remains off.

DSL

The DSL LED displays the DSL connection between the NetDSL and the remote DSL network. The green DSL LED flashes slowly when the DSL line is trying to connect. The LED remains solid if the DSL line is trained and ready between the PC and the router. A solid green LED indicates data activity between your PC and the router.

ETHERNET

The ETHERNET LED displays the Ethernet connection between the NetDSL and the Ethernet network. The green ETHERNET LED flashes slowly when the Ethernet line is being trained. The LED remains solid if the Ethernet line between the PC and the router successfully connects. A flashing LED indicates data activity between your PC and the router. If the data traffic is heavy, the frequency of the flashing green LED becomes higher and will appear solid.

WLAN

The WLAN LED displays the connection between the NetDSL and the wireless LAN network. The green WLAN LED flashes slowly when the wireless LAN is trying to connect. The LED remains solid if the wireless LAN between the PC and the router successfully connects. A flashing LED indicates data activity between your PC and the router. If the data traffic is heavy, the frequency of the flashing green LED becomes higher and will appear solid.

Back Panel Interface

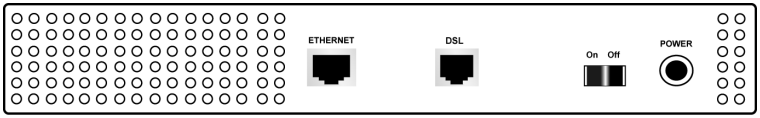


Figure 2. Back Panel Interface

POWER

The power interface connects to the power adapter.

On/Off

Select the On/Off switch to turn the NetDSL on or off.

ETHERNET

The Ethernet interface connects the NetDSL to a 10BaseT network.

DSL

The ADSL interface connects the NetDSL to an ADSL line.

Minimum System Requirements

- ADSL line
- 10BaseT Ethernet interface or Wireless LAN interface
- CD-ROM drive

NetDSL gives you the option of configuring the router using the Arescom NetDSL Manager. The system requirements are listed below:

Using the NetDSL Manager:

- Ethernet card or WLAN PC card
- PC* with at least a 486 microprocessor (Pentium® recommended)
- At least 4 MB of space available on the hard disk drive
- Microsoft® Windows® 95OSR2/98/2000/Me/NT Operating Systems

* You may configure the NetDSL from any PC attached to the Local Area Network (LAN) with the requirements listed above.

Internet Service

Many Internet Service Providers (ISPs) offer different types of Internet access accounts. Typically, you will have the option to choose either a Single User or a Multiple User account. NetDSL routers are compatible with both types of accounts. With a Single User account, which is the same as terminal adapter or digital modem account, the Network Address Translation (NAT) option should be selected during the configuration of your NetDSL router. If you ordered a Multiple User account from your ISP, they will assign a specific IP Address for your router and a range of IP Addresses for your network. You will need this information when you configure the NetDSL router. If you order a Multiple User account, then the NAT option should not be selected.

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 ADSL interface. If you are unfamiliar with any of the terms listed, please see Section A: UNDERSTANDING CONFIGURATION PARAMETERS.

Utilizing the Ethernet Interface

The following information should be obtained from your ISP or company server:

- IP Address
- Subnet Mask
- Gateway IP Address

Utilizing the ADSL Interface

The following information related to your ADSL connection should be obtained from your ISP or a company server:

- VPI
- VCI
- PPP User name & Password (Only if encapsulation mode is PPP)
- DNS Address
- ADSL Line mode
- Encapsulation type

2. HARDWARE INSTALLATION

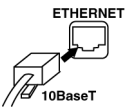
CAUTION!!! Turn off all electronic devices, including your personal computer, before you begin to connect and disconnect cables.

Setup Instructions

- Choose a location for the NetDSL close to a power outlet and nearby telephone outlet. Preferably, select a convenient location that does not experience too much foot traffic and is away from sunlight.
- Choose a level surface for the NetDSL – such as a desktop, shelf, or table.
- Place the NetDSL on the predetermined surface, so you can see the back panel.

Connect to the Ethernet

10BaseT Interface Connection



Step 1. Locate your Ethernet cable (included).

Step 2. Attach the Ethernet cable to the Ethernet interface of your NetDSL.

Step 3. Plug in the loose end of the Ethernet cable to your Ethernet network.

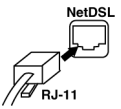
Option 1. Attach the included Ethernet cable to the Ethernet port on a PC.

Option 2. Attach the included Ethernet cable to the uplink port on a hub. If the uplink port is unavailable, then you can use a crossover Ethernet cable (Not included) and attach it to the non-uplink ports on a hub.

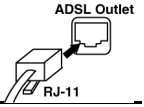
Step 4. The LAN Link LED on the front panel should be lit green to indicate a valid Ethernet connection. If the LAN Link LED is not lit, then repeat steps 1 through 3.

NOTE: *See Section B "ETHERNET CABLE PINOUT" for further information about the differences between a straight-through and a crossover Ethernet cable.*

Connect to the ADSL Line

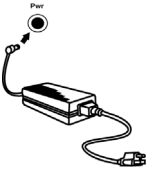


Step 1. Plug one of the connector ends of the ADSL phone cable (included) in the DSL interface of the NetDSL.



Step 2. Connect the other connector end of the ADSL phone cable to the telephone outlet on the wall.

Connect to the Power Adapter



Step 1. Plug the power adapter in the power interface of the NetDSL.

Step 2. Connect one end of the power cord to the power adapter, and insert the other end of the power cord to the power outlet on the wall.

Step 3. Switch your NetDSL to ON.

3. SOFTWARE INSTALLATION & CONFIGURATION

To gain high-speed and shared access to another Local Area Network (LAN) or the Wide Area Network (WAN), your LAN needs to be configured for the NetDSL router. You must install a network protocol on each workstation on your LAN so they can communicate with the NetDSL router. The NetDSL router requires the TCP/IP network protocol. The TCP/IP Properties window in Windows® 95OSR2/98/2000/Me/NT connects the workstation's Ethernet information to the network's protocol data. Make sure that each PC on your LAN has TCP/IP available. To ensure smooth setup, you should install the TCP/IP network protocol on the network PCs **before** you install the NetDSL.

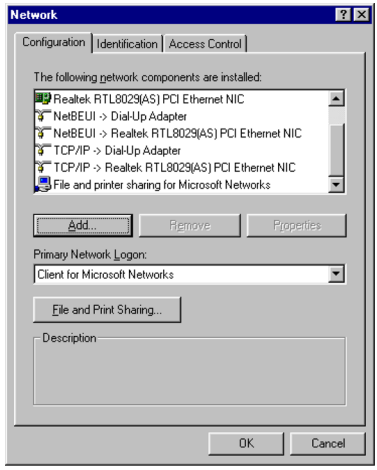
NOTE: *To ensure that your NetDSL will assign an IP address to your PCs, if you set them to obtain IP addresses automatically, we have already configured your NetDSL prior to shipping.*
The NetDSL is configured with a ***default IP address of 192.168.1.1*** *and* ***subnet mask of 255.255.255.0.*** *NetDSL's* ***DHCP server is enabled*** *with IP pool addresses starting from 192.168.1.2.*

Detecting TCP/IP in Windows® 95OSR2/98/Me

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

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

Step 3. Click the ***Configuration*** tab.



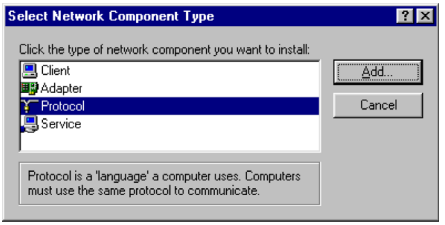
A. If you see *TCP/IP* listed under *Network Components*, you already have TCP/IP on your Windows 95OSR2/98/Me. Proceed to the section titled "Configuring TCP/IP in Windows® 95OSR2/98/Me".

B. If you do not see *TCP/IP* listed under *Network Components*, you do not have TCP/IP on your Windows 95OSR2/98/Me. Proceed to "Installing TCP/IP in Windows® 95OSR2/98/Me" in the next section.

Installing TCP/IP in Windows® 95OSR2/98/Me

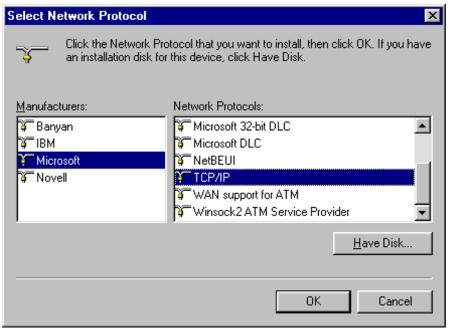
Step 1. From the ***Configuration*** tab, click ***Add***.

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 Network Components, you have not installed TCP/IP. Repeat steps 1 - 4.

B. If you see *TCP/IP* listed under *Network Components*, you already have TCP/IP on your Windows 95OSR2/98/Me. Proceed to the section titled "Configuring TCP/IP in Windows® 95OSR2/98/Me".

Configuring TCP/IP in Windows® 95OSR2/98/Me

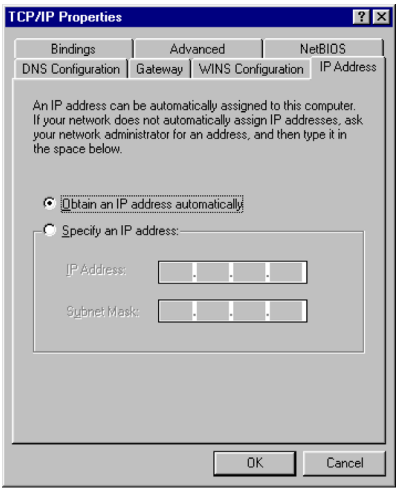
Step 1. From the ***Configuration*** tab, select ***TCP/IP -> XXXX Ethernet Adapters*** ("XXXX" is the maker of your Ethernet card) listed under *Network Components* and click ***Properties***.

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.**

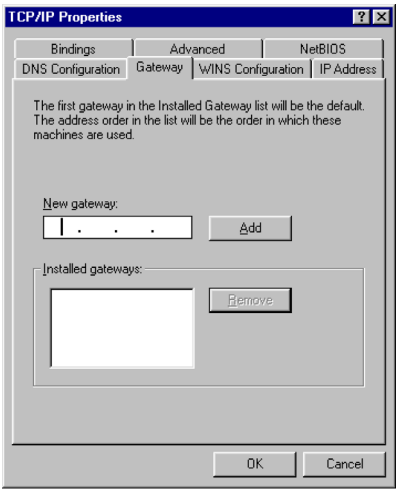
Step 2. Select the ***Gateway*** tab.

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

Step 4. Click ***OK*** to exit ***TCP/IP Properties*** window.

Step 5. Click ***OK*** to exit the ***Network*** window.

Step 6. If prompted to restart Windows 95OSR2/98/Me, click ***Yes***. If you are not prompted to restart Windows 95OSR2/98/Me, do so manually. Proceed to the next section titled "CONFIGURING YOUR ROUTER."



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

To enable static IP addressing:

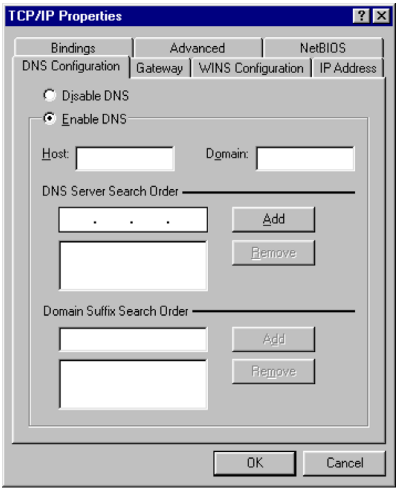
Step 1. Click the radio button next to ***Specify an IP Address***.

Step 2. Enter 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 NetDSL) from your ISP and click ***Add***.

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

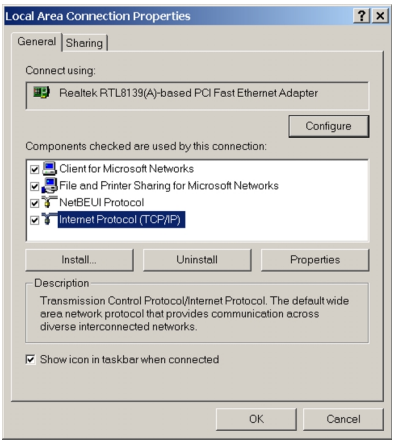


Step 6. Click ***OK*** to exit ***TCP/IP Properties*** window.

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

Step 8. If prompted to restart Windows 95OSR2/98/Me, click ***Yes***. If you are not prompted to restart Windows 95OSR2/98/Me, please do so manually. Proceed to the next section titled "CONFIGURING YOUR ROUTER."

Detecting TCP/IP in Windows® 2000



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

Step 2. Double-click ***Network and Dial-up Connections***.

Step 3. Double-click ***Local Area Connection***. In the ***Local Area Connection Status*** window, click on the ***Properties*** button.

Step 4. In the ***Local Area Connection Properties*** window:

A. If you see the *Internet Protocol (TCP/IP)* listed, you already have TCP/IP on your Windows 2000. Proceed to the section titled "Configuring TCP/IP in Windows® 2000".

B. If you do not see *Internet Protocol (TCP/IP)*, you do not have TCP/IP on your Windows 2000. Proceed to the next section, "Installing TCP/IP in Windows® 2000."

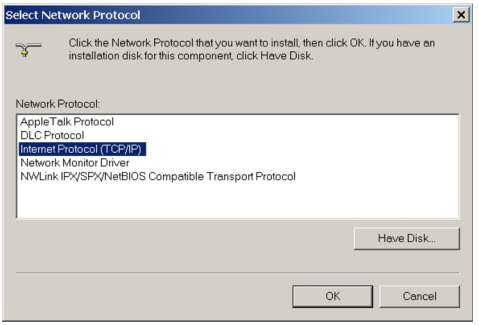
Installing TCP/IP in Windows® 2000

Step 1. From the ***General*** tab click ***Install***.

Step 2. In the ***Select Network Component Type*** window, select ***Protocol*** and click ***Add***.

Step 3. Choose ***Internet Protocol (TCP/IP)*** from the Network Protocol list box, then click ***OK***.

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



A. If you do not see *TCP/IP* listed under Network Components, you have not installed TCP/IP. Repeat steps 1 - 4.

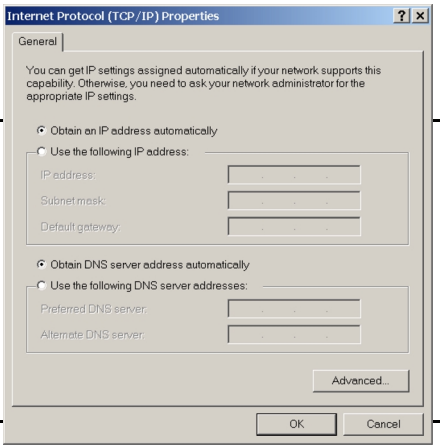
B. If you see TCP/IP listed under Network Components, you already have TCP/IP on your Windows 2000. Proceed to the section titled "Configuring TCP/IP in Windows® 2000".

Configuring TCP/IP in Windows® 2000

Step 1. From the ***General*** tab in the Local Area Connection Properties window, select ***Internet Protocol (TCP/IP)*** listed under Network Components 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* ***Use the following DNS server addresses*** *option, then you need to enter the* ***Preferred*** *and* ***Alternate DNS server IP addresses****.*

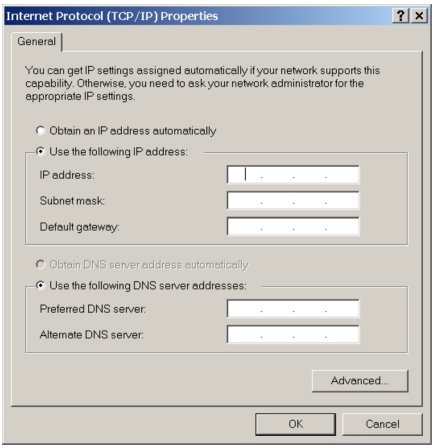
Step 2. Click ***OK*** to exit the Internet Protocol (TCP/IP) Properties window. Proceed to the next section titled "CONFIGURING YOUR ROUTER."

To enable static IP addressing:

Step 1. Click ***Use the following IP Address*** and then 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. Proceed to the next section titled "CONFIGURING YOUR ROUTER."



Detecting TCP/IP in Windows® NT

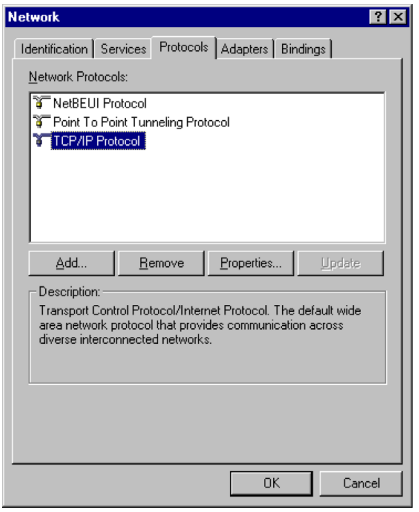
Step 1. Click on ***Start*** -> ***Settings*** -> ***Control Panel***.

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

Step 3. Click the ***Protocols*** tab.

A. If you see TCP/IP listed under Network Protocols, you already have TCP/IP on your Windows NT. Proceed to the section titled "Configuring TCP/IP in Windows® NT".

B. If you do not see TCP/IP listed under Network Protocols, you do not have TCP/IP on your Windows NT. Proceed to the next section, "Installing TCP/IP in Windows® NT."



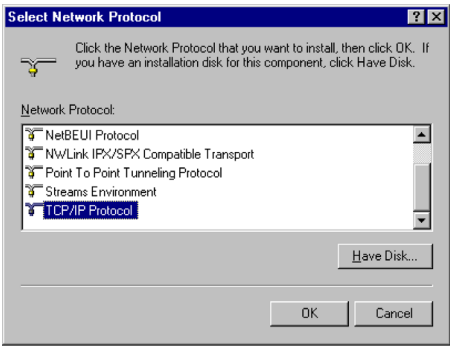
Installing TCP/IP in Windows® NT

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

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

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

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



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

B. If you see TCP/IP listed under Network Protocols, then you have successfully installed TCP/IP. Proceed to the section titled "Configuring TCP/IP in Windows® NT".

Configuring TCP/IP in Windows® NT

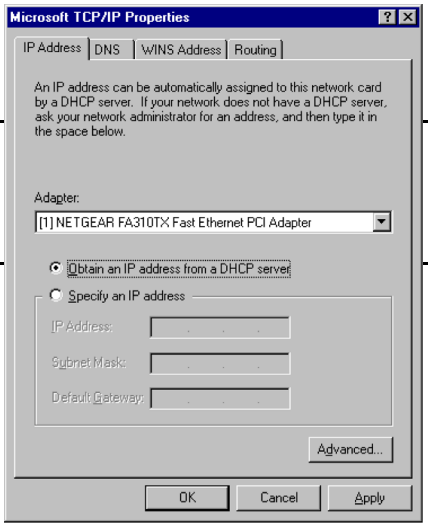
Step 1. From the ***Protocols*** tab, select ***TCP/IP Protocol*** listed under Network Protocol and click ***Properties***.

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.**

Step 2. Click ***OK*** to exit Network Properties window. Proceed to the next section titled "CONFIGURING YOUR ROUTER."

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

To enable static 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, and ***DNS Service Search Order*** (for your LAN).

Step 3. Click ***OK*** to exit Network Properties window. Proceed to the next section titled "CONFIGURING YOUR ROUTER."

4. CONFIGURING YOUR ROUTER

The NetDSL Manager gives you access to the configuration and administrative controls for the NetDSL router. Install the NetDSL Manager software on PCs that you want to give access to these controls.

There are many ways to configure your router. However, for the purpose of this Get Started manual, we are going to guide you through the process of configuring your router for the first time by using the Windows-based NetDSL Manger, so that you can easily access the Internet through NetDSL.

If you have difficulties configuring your router, consult the TROUBLESHOOTING section of this guide, or the help menu in the NetDSL Manager, or refer to the FAQs located on ARESCOM's website (http://www.arescom.com).

NOTE: *To connect to the Internet after configuration, simply type in a web address in your browser and hit enter.*

IMPORTANT: You must install the TCP/IP network protocol on the PCs **before** you install the NetDSL Manager. For more information on installing and configuring TCP/IP, refer to the instructions in the section titled "SOFTWARE INSTALLATION & CONFIGURATION".

Load NetDSL Installation Software

Step 1. Start Windows 95OSR2/98/2000/Me/NT.

Step 2. Insert ***ARESCOM CD*** into your CD-ROM drive.

Step 3. Click ***Start*** -> ***Run*** -> ***Browse***.

Step 4. In the ***Look in:*** box, select your CD-ROM drive.

Step 5. Select the ***ARESCOM*** folder -> ***NetDSL Manager*** folder.

Step 6. Double-click the ***Setup.exe*** computer icon.

From this point on, the wireless LAN Configuration utility begins to install.

Multiple Router Selection Window

When you run the NetDSL Manager program, the ***Multiple Router Selection*** window will appear. The NetDSL Manager program will first search for one or more ARESCOM routers attached to the same network as your PC. You will see the **Detection** window telling you that it is searching. This procedure may take a few seconds. When it has finished searching, it will list all the detected Arescom NetDSL routers, both configured and unconfigured. From this list you can select the specific router that you wish to configure or re-configure.

NOTE: *If the NetDSL Manager is unable to detect any router or if it gives you an error message, consult the on-line help menu for more detailed instructions.*

Select the NetDSL router that you wish to manage and click ***Enter*** to open the NetDSL Manager, which is where you can configure your router, check your router's status, or use some router maintenance tools. If you do not want to use the NetDSL Manager at this time, click ***Exit***. You may configure your router at any time, however, inter-networking is not possible with an unconfigured router.

Basic Internet Access Configuration

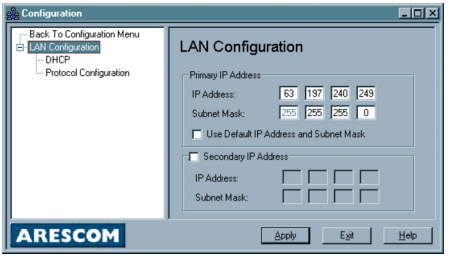
The NetDSL manager is a flexible tool that can accommodate many networking configurations. For the purpose of this Get Started User's Guide, we will provide a simple, step-by-step guide for creating a basic Internet access configuration for your router. You will need to enter information that you received from your ISP, phone company, or network administrator – refer to the "Information You Will Need" section for configuration parameters.

Step 1. Launch your ***NetDSL Manager*** software.

Step 2. From the ***Multiple Router Selection*** window, select the router that you wish to configure and click ***Enter***.

Step 3. From the **NetDSL Manager** window, click the ***Configuration*** icon.

Step 4. Configure the LAN Interface:



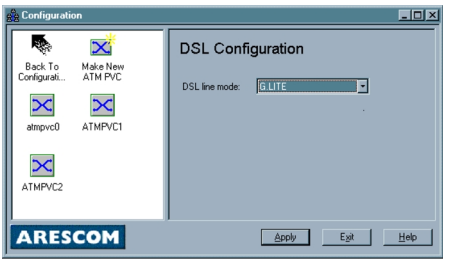
A. Double-click the ***LAN Configuration*** icon.

B. Enter the ***Primary LAN IP Address*** supplied by your Internet Service Provider (The default LAN IP address for the NetDSL is 192.168.1.1).

C. Enter the ***Subnet Mask*** supplied by your Internet Service Provider (The default LAN Subnet Mask is 255.255.255.0).

ADSL Configuration

Step 1. Make a ADSL Connection Profile:



A. From the ***Configuration*** menu, double-click the ***DSL Configuration*** icon.

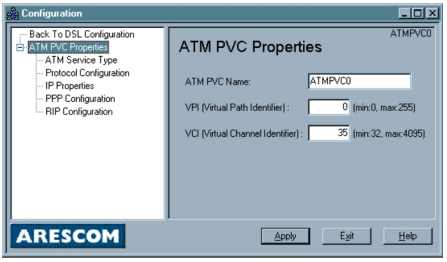
B. You have the option to choose ***ANSI T1.413***, ***G.LITE***, ***G.DMT***, or ***Multi Mode*** as your DSL line mode.

NOTE: *The DSL line mode refers to the entire NetDSL unit and not each individual ATM PVC profile. Once you have made your choice, all subsequent ATM PVC profiles created will be using the same line mode.*

C. Double-click the ***Make New ATM PVC*** icon.

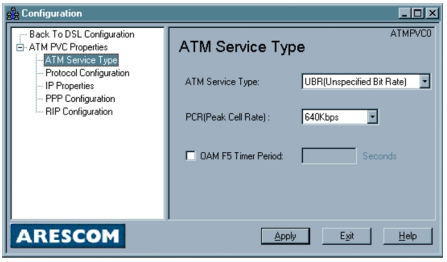
D. Assign a name to the ATM interface. Click ***OK***.

E. In the **ATM PVC Properties** window, enter the ***VPI*** (Virtual Path Identifier) and ***VCI*** (Virtual Channel Identifier) value given by your ISP.

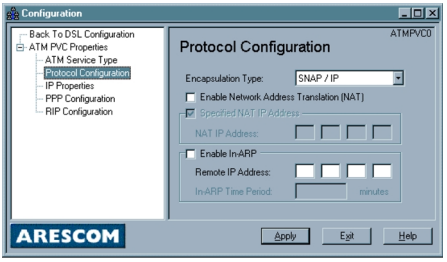


F. Select the ***ATM Service Type*** feature from the list located in the left panel.

G. In the **ATM Service Type** window, select either ***UBR*** *(Unspecified Bit Rate)* or ***CBR*** *(Constant Bit Rate)* as the desired ***ATM Service Type***. Also enter a desired ***PCR*** (Peak Cell Rate) specified by your ISP.

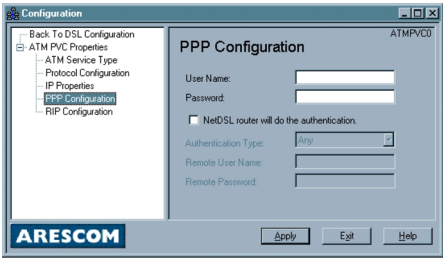


H. Select the ***Protocol Configuration*** feature from the list located in the left panel.



I. In the **Protocol Configuration** window, you can select the following three ***Encapsulation Types: SNAP/IP***, ***PPP over ATM***, ***PPP over Ethernet***, *or* ***SNAP/Bridge***.

Option 1. If you select either ***PPP over ATM*** or ***PPP over Ethernet*** as your encapsulation type, then you can check the ***Enable Network Address Translation (NAT)*** checkbox if you are using a single user account. You can then select



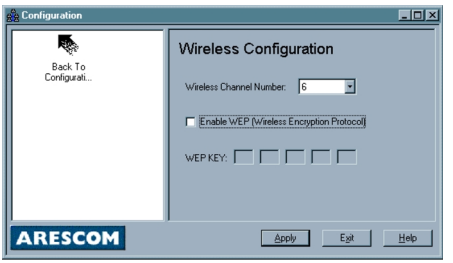
the ***Specified NAT IP Address*** checkbox and enter the IP address based on your ISP's setup. Also, you **MUST** select the ***PPP Configuration*** feature from the list located in the left panel, and enter the ***User Name*** and ***Password***.

Option 2. If you select ***SNAP/IP*** as your encapsulation type, then you can check the ***Enable Network Address Translation (NAT)*** checkbox if you are using a single user account. You can then select the ***Specified NAT IP Address*** checkbox and enter the IP address based on your ISP setup.

Option 3. If you select ***SNAP/Bridge*** as your encapsulation type, then you can check the ***Enable Network Address Translation (NAT)*** checkbox if you are using a single user account. You can then select the ***Specified NAT IP Address*** checkbox and enter the IP address based on your ISP setup.

Wireless Configuration

Step 1. From the Configuration menu, double-click the ***Wireless Configuration*** icon.



A. Select a desired wireless channel number (Default value is set at 6).

B. Check the ***Enable WEP (Wireless Encryption Protocol)*** option to ensure data transfer security.

C. Enter a set of desired ***WEP KEY*** numbers.

NOTE: *This WEP KEY must be the same for all other wireless LAN devices on the same LAN to access the router.*

D. Click ***Apply,*** and review the summary of you basic configuration.

E. Click ***Finish*** to save the parameters to NetDSL.

Congratulations! You are ready to begin using your NetDSL router for shared Internet access. Enjoy!

5. TROUBLESHOOTING

If you can not find the answers to your problems here, consult the help menu in the NetDSL Manager or refer to the FAQs located on ARESCOM's website (http://www.arescom.com).

Cannot Detect the Router

1. Verify that your router is connected to your Ethernet LAN.
   - If you are connecting your NetDSL router to an Ethernet network hub, use a straight-through Ethernet cable, and make sure you are connecting to the uplink port of the hub.
   - If you are connecting your NetDSL to an Ethernet network PC, then use a straight-through Ethernet cable.

NOTE: *See Section B "ETHERNET CABLE PINOUT" for further information about the differences between a straight-through and a crossover Ethernet cable.*

   You can also confirm that there is a physical connection to your LAN by checking the LED located on the front panel of the NetDSL router. When the LAN Link LED is green, there is a valid LAN connection. If the LAN Link LED is not green, please re-check the physical hardware connection between the router and your LAN. Then restart the NetDSL Manager to see if it can detect the router.

2. Your PC is configured as "**Obtain an IP Address Automatically**" in TCP/IP Properties in Windows 95OSR2/98/2000/NT/Me, and the NetDSL router is set to "**Enable DHCP**."

   Since you cannot detect the NetDSL router, you must configure the PC to "Specify an IP Address" first. If your ISP has given you IP Addresses for your LAN for a Multiple User LAN Access account, then configure your PC with the information provided. If you have a Single User account from your ISP, you can still configure your PC to "**Specify an IP Address**." In TCP/IP Properties for Windows 95OSR2/98/2000/Me/NT set your IP Address to a value between 192.168.1.2 and 192.168.1.254, the Subnet Mask to 255.255.255.0, and the Gateway as 192.168.1.1. When prompted, restart your computer otherwise do so manually. Re-start NetDSL Manager to see if it can detect the router.

3. Your PC is configured to dynamically receive the IP address from the router's DHCP server, and the NetDSL Manager still cannot detect the router.

You may need to manually force the PC to request an IP Address from the router. In Windows Explorer for Windows 95OSR2/98/2000/Me, open the Winipcfg.exe from the Windows directory. This application shows the IP Addresses for your Ethernet Adapter. Click ***Release*** and then click ***Renew***. You should receive a valid IP Address, such as 192.168.1.2. For Windows NT, use the DOS Command Prompt, type ***ipconfig/release*** and press the ***Enter*** key, and then type ***ipconfig/renew*** and press the ***Enter*** key. You should receive a valid IP Address, such as 192.168.1.2. Re-start the NetDSL Manager to see if it can detect the router.

Router and PC Are Not in the Same Subnet

Your router and PC must be in the same subnet, otherwise, you are unable to access the NetDSL Manager and configure your router. Verify that you have entered the correct information provided by your Internet Service Provider (ISP) for your router's and PC's IP Address and Subnet Mask. For more specific information about your account, consult your ISP.

Cannot Upgrade the Firmware

1. You may have inadvertently tried to download the wrong file to your router. The NetDSL router can only use upgrades created by ARESCOM, Inc. The upgrades are available by downloading the file from ARESCOM's web site (*www.arescom.com*). The correct file format is (*.bin). The serial number of the NetDSL unit is needed when you are obtaining the firmware from ARESCOM's website. The serial number is located on the bottom label of your NetDSL device.
2. There may have been an illegal operation on your router. Please re-boot your router by disconnecting the power adapter and reconnecting it after 30 seconds.You may have to do this more than once.

A. UNDERSTANDING CONFIGURATION PARAMETERS

When you order Internet service, your Internet provider will give you a great amount of information. A list of the information presented to you by the remote network you will be dialing (ISP, company server, POP account) is provided to you in the section titled "Information You Will Need." Definitions of common configuration terms are available below. Please note that terminology used by various remote networks may vary.

Explaining IP Addresses

LAN IP Address

In the most basic terms, the Primary LAN IP address is the logical location of the NetDSL router on the local Ethernet network. If there is another subnet in the Ethernet network you would like NetDSL to be able to access, you can specify a Secondary LAN IP Address.

DNS Server IP Address

The IP address of the primary DNS (Domain Name System) server should be assigned by the ISP. Specifying a secondary DNS server IP address is optional.

NAT IP Address

Network Address Translation (NAT) IP Address is a Public IP Address. It can be a single, fixed Public IP address, or an ISP assigned Public IP address. NAT is used to translate Private IP addresses to a Public IP address. Many Private IP addresses can be translated through the single Public NAT IP address. The router keeps track of all the translation traffic so that information arriving at the single NAT IP Address can seamlessly be forwarded to the appropriate Private IP address.

DHCP IP Address Assignment

Dynamic Host Control Protocol (DHCP) IP Address Assignment is a method the router uses to dynamically assign LAN IP addresses within its local network. The router has a subnet (range) of available LAN IP addresses with which to assign to other network devices on its local network. It "leases" these LAN IP addresses for a user-defined amount of time. After the lease time expires, the LAN IP address is made available for assigning to other network devices.

The subnet of LAN IP addresses that the router assigns are based on a single DHCP IP Address. All traffic going to and from the subnet of Private IP addresses goes through the DHCP IP Address. The DHCP IP Address can be a single, fixed Public IP address, an ISP-assigned WAN IP address, or a LAN IP address.

For situations where a LAN IP address is assigned as the DHCP IP Address, a WAN IP address will have to be assigned to the NAT IP Address, and NAT has to be enabled so that the DHCP IP Address can be translated into a WAN IP address.

Unnumbered WAN IP Address

Some network devices do not use WAN IP addresses when negotiating a connection. This is known as unnumbered IP. When running unnumbered IP, no WAN IP addresses are used, but the LAN IP addresses are used instead.

Terminology for Configuration Parameters

Domain Name System (DNS) IP Address

The DNS IP Address is the IP Address for your Domain Name Server. This IP Address or Internet Protocol Address identifies the domain name's server to the network and the Internet.

IP Packet Filtering

Establishing IP packet filters allows you to monitor and selectively filter packets that enter or leave the NetDSL. You can use filtering to protect your network from unauthorized access, and restrict certain web traffic from leaving your LAN. This is done by examining each packet that enters the NetDSL to see if the following characteristics match the criteria for the filter (true), or whether they do not match (false):

IP address: identifies each device on a TCP/IP network and the Internet.

Subnet mask: a series of bits designed to 'mask' certain portions of an IP address.

TCP/IP port: used to distinguish between requests for different services, such as telnet, ftp, or the web.

Protocol type: a set of rules governing the information flow within a communications infrastructure.

For either true/false condition, the following packet dispositions can be set:

Pass: automatically pass through the router.

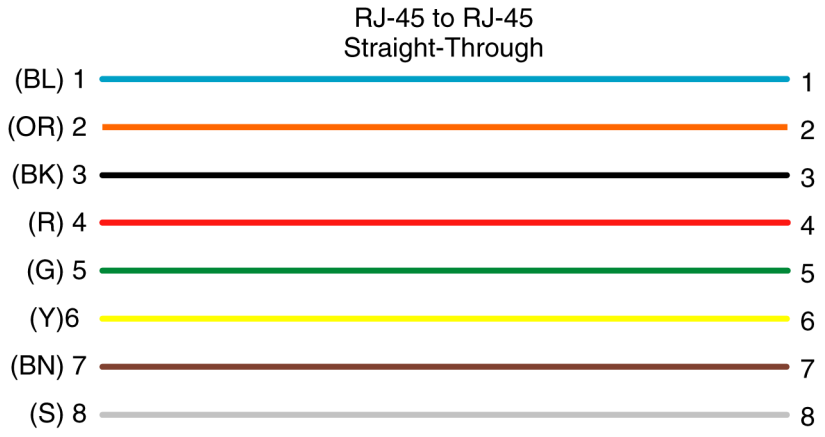
Restrict: pass only if there is an available connection.

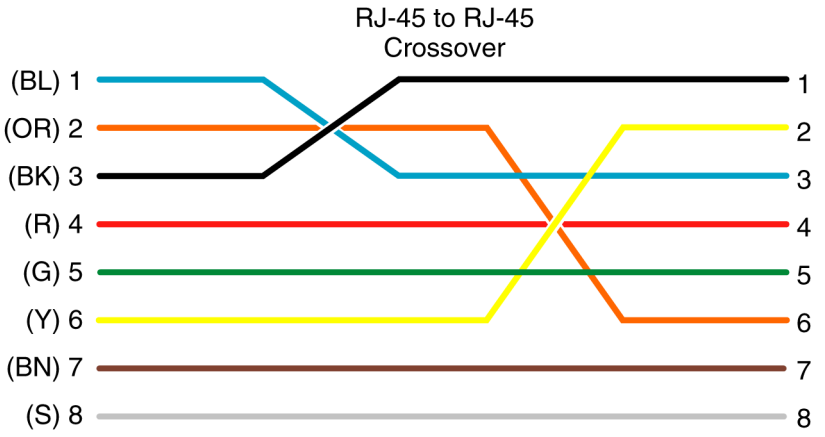
Discard: packet is blocked and discarded .

Pass to next filter: packet goes to the next filter in sequence.

The IP Packet Filtering allows for up to 32 sequential filters, and each filter can be set to examine source packets, destination packets, or both.

B. ETHERNET CABLE PINOUT





C. WARRANTY INFORMATION

Conditions of ARESCOM's Full 1 Year Warranty:

ARESCOM, INC. warrants to the original end user (purchaser) that this product is free from any defects in materials or workmanship for a period of one (1) year from the date of purchase. During the warranty period, and upon proof of purchase, should the product have indications of failure due to faulty workmanship and/or materials, ARESCOM will repair or replace the defective products or components without charge for either parts or labor, and to whatever extent it shall deem necessary to restore the product or components to proper operating condition. Any replacement will consist of a new or re-manufactured functionally equivalent product of equal value, and will be solely at the discretion of ARESCOM, INC. This warranty shall not apply if the product if modified, misused, tampered with, damaged by an act of God, or subjected to abnormal working conditions.

Conditions of ARESCOM's Limited 3-Year Warranty:

ARESCOM, INC. warrants to the original end user (purchaser) this product for a period of up to three (3) years from the date of purchase. During the warranty period, and upon proof of purchase, ARESCOM shall, at its discretion, repair or replace the defective products or components. A service charge shall be applied to either parts and/or labor. Any replacement will consist of a new or re-manufactured functionally equivalent product of equal value, and will be solely at the discretion of ARESCOM, INC. This warranty shall not apply if the product if modified, misused, tampered with, damaged by an act of God, or subjected to abnormal working conditions.

Limitations and Exclusions of this Warranty:

Repair or replacement, as provided under this warranty, is the exclusive remedy of the purchaser. This warranty is in lieu of all other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular use or purpose.

Limitations of Liability:

ARESCOM, INC. shall in no event be held liable for indirect or consequential damages of any kind of character to the purchaser.

Technical Support:

To obtain the services of this warranty, contact ARESCOM's Customer Service Department; refer to the separate Warranty Card for your Return Material Authorization number (RMA). Products must be returned postage prepaid. ARESCOM recommends that the unit be insured when shipped. Any returned products without proof of purchase or those with an out-dated warranty will be repaired or replaced (at the discretion of ARESCOM) and the customer will be billed for parts and labor. Repaired or replaced products will be shipped by ARESCOM to the corresponding return address, postage paid (USA and territories only). If the customer desires some other return destination beyond the U.S. borders, the customer shall bear the cost of the return shipment. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

D. FCC INFORMATION

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.

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 ARESCOM, 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.