
# DX-E401

## 4-Port Cable/DSL Router

Manual

Published March 2004

# Contents

# Introduction

The Dynex DX-E401 is a 4-port Cable/DSL Router. The Dynex DX-E401 enables users to quickly and easily share a high speed Internet connection. The Dynex DX-E401 also incorporates many advanced features, traditionally found in more expensive routers.

After completing the steps outlined in the *Quick Installation Guide* (included in your package) you will have the ability to share a single Internet connection as well as sharing information and resources such as files and printers.

The DX-E401 is compatible with most popular operating systems, including Macintosh, Linux and Windows, and can be integrated into an existing network. This Manual is designed to help you connect the Dynex DX-E401 to a high speed Internet connection and 4 Ethernet PC connections.

This manual provides a quick introduction to Broadband Router Technology, Firewalls, and Local Area Networking. Please take a moment to read through this manual and get acquainted these various technologies.

# Features and Benefits

- **Broadband Modem and IP Sharing**
  Connects multiple computers to a Broadband (Cable or DSL) modem to share the Internet connection.
- **Ethernet Switch**
  Allows you to quickly and easily share an Internet connection with multiple computers and devices.
- **VPN supported**
  Supports multiple and concurrent IPSec and PPTP pass-through sessions, so multiple users behind the DX-E401 can access corporate networks through various VPN clients more securely.
- **Advanced Firewall & Parental Control Features**
  The Web-Based user interface displays a number of advanced network management features including:
- **Content Filtering**
  Easily applied content filtering based on Mac Address, IP Address, URL and/or Domain Name.

- **Filter Scheduling**
  These filters can also be scheduled to be active on certain days or for a duration of hours or minutes.
- **Network Address Translation**
  NAT allows you to share a single IP Address and protects you from outside intruders gaining access to your private network.
- **DHCP Server Supported**
  All of the networked computers can retrieve TCP/IP settings automatically from the DX-E401.
- **Web-Based Management**
  The DX-E401 is configurable through any network computer's web browser using Netscape or Internet Explorer.
- **Access Control Supported**
  Allows you to assign different access rights for different users.
- **Virtual Server Supported**
  Enables you to expose WWW, FTP and other services on your LAN to be accessible to Internet users.
- **Special Application Supported**
  Special applications requiring multiple connections, like Internet gaming, video conferencing, Internet telephony and so on. The DX-E401 can sense the application type and open a multi-port tunnel for it.
- **DMZ Host Supported**
  Allows a networked computer to be fully exposed to the Internet. This function is used when the Special Application feature is insufficient to allow an application to function correctly.

# Technology Introduction

**Introduction to Broadband Router Technology**
A router is a device that forwards data packets from a source to a destination. Routers forward data packets using IP addresses and not a MAC address. A router will forward data from the Internet to a particular computer on your LAN. The information that makes up the Internet gets moved around using routers. When you click on a link on a web page, you send a request to a server to show you the next page. The information that is sent and received from your computer is moved from your computer to the server using routers. A router also determines the best route that your information should follow to ensure that the information is delivered properly.

A router controls the amount of data that is sent through your network by eliminating information that should not be there. This provides security for the computers connected to your router, because computers from the outside cannot access or send information directly to any computer on your network. The router determines which computer the information should be forwarded to and sends it. If the information is not intended for any computer on your network, the data is discarded. This keeps any unwanted or harmful information from accessing or damaging your network.

**Introduction to Firewalls**
A firewall is a device that sits between your computer and the Internet that prevents unauthorized access to or from your network. A firewall can be a computer using firewall software or a special piece of hardware built specifically to act as a firewall. In most circumstances, a firewall is used to prevent unauthorized Internet users from accessing private networks or corporate LAN's and Intranets.

A firewall watches all of the information moving to and from your network and analyzes each piece of data. Each piece of data is checked against a set of criteria that the administrator configures. If any data does not meet the criteria, that data is blocked and discarded. If the data meets the criteria, the data is passed through. This method is called packet filtering.

A firewall can also run specific security functions based on the type of application or type of port that is being used. For example, a firewall can be configured to work with an FTP or Telnet server. Or a firewall can be configured to work with specific UDP or TCP ports to allow certain applications or games to work properly over the Internet.

**Introduction to Local Area Networking**

Local Area Networking (LAN) is the term used when connecting several computers together over a small area such as a building or group of buildings. LAN's can be connected over large areas. A collection of LAN's connected over a large area is called a Wide Area Network (WAN).

A LAN consists of multiple computers connected to each other. There are many types of media that can connect computers together. The most common media is Cat-5 cable (UTP or STP twisted pair wire.) On the other hand, wireless networks do not use wires; instead they communicate over radio waves. Each computer must have a Network Interface Card (NIC), which communicates the data between computers. A NIC is usually a 10Mbps network card, or 10/100Mbps network card, or a wireless network card.

Most networks use hardware devices such as hubs or switches that each cable can be connected to in order to continue the connection between computers. A hub simply takes any data arriving through each port and forwards the data to all other ports. A switch is more sophisticated, in that a switch can determine the destination port for a specific piece of data. A switch minimizes network traffic overhead and speeds up the communication over a network.

Networks take some time in order to plan and implement correctly. There are many ways to configure your network. You may want to take some time to determine the best network set-up for your needs.

# Package Contents


## Contents of Package:

- **Dynex DX-E401**
  4-Port Cable/DSL Router
- 5V/2.0A DC Power Adapter
- Ethernet Cable
- Quick Installation Guide
- Manual on CD

*Note: Using a power supply with a different voltage rating than the one included with the DX-E401 will cause damage and void the warranty for this product.*

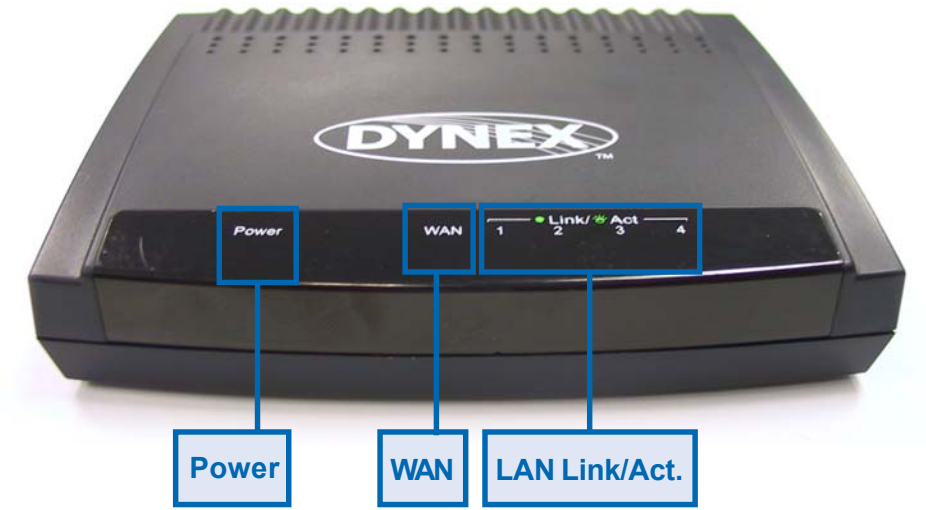
If any of the above items are missing, please contact your reseller.

## System Requirements for Configuration:

- Ethernet-Based Cable or DSL Modem
- Computers with Windows, Macintosh, or Linux-based operating systems with an installed Ethernet adapter
- Internet Explorer Version 6.0 or Netscape Navigator Version 6.0 and Above

# Hardware Description

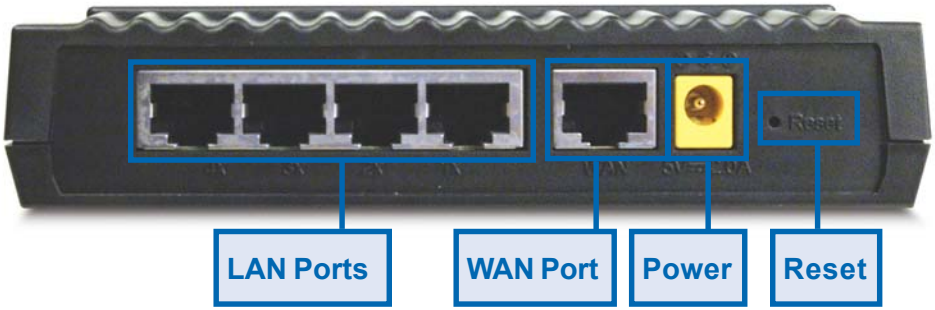
## Front Panel:




| | |
|---|---|
| **Power** | WAN status indicator will light Green when there is good physical WAN connection. |
| **WAN** | Power indicator will light Green. |
| **LAN Link/Act.** | Link status indicators light Green. The LED flickers when the corresponding port is sending or receiving data. |

## Hardware Description *(continued)*

### Rear Panel:




| | |
|---|---|
| **Reset** | Used to restore the DX-E401 back to factory default settings. |
| **LAN Ports 1-4*** | LAN port sockets (Cat-5 Ethernet RJ-45 cable). The LED glows steadily when a port is connected to a hub, switch or network-adapter-equipped computer in your local area network (LAN.) |
| **WAN*** | WAN port socket (Cat-5 Ethernet RJ-45 cable). This is where you will connect your Cable or DSL modem. |
| **Power** | Connect one end of your included power adapter to the power port and the other end into your power outlet. |

**All ports (both LAN & WAN) are Auto-MDIX. All ports auto-sense cable types to accommodate Straight-through or Cross-over cable.*

# Reset

To reset the system settings to factory defaults, please follow these steps:

① Leave the device powered on, do not disconnect the power

② Press the reset button and hold (use a paper-clip)

③ Keep the button pressed about 10 seconds

④ Release the button

The DX-E401 will then automatically reboot itself.

# Getting Started

**Installation Location**
The DX-E401 can be positioned at any convenient place in your office or house. No special wiring or cooling requirements are needed. However, you should comply with the following guidelines:

- Place the DX-E401 on a flat horizontal plane.
- Keep away from any heating devices.
- Do not place in a dusty or wet environment.

The recommended operational specifications of the DX-E401 are:

| | |
|---|---|
| Temperature | 32° F ~ 131° F |
| Humidity | 5 % ~ 90 % |

In addition, remember to turn off the power, remove the power cord from the outlet, and keep your hands dry when you install the hardware.

### Network Settings

To use the DX-E401correctly, you have to properly configure the network settings of your computers. The default *IP address* of the DX-E401 is **192.168.0.1**, and the default *subnet mask* is **255.255.255.0**. These addresses can be changed as needed, but the default values are used in this manual. If the TCP/IP environment of your computer has not yet been configured, you can refer to ***Configuring Your PCs to Connect to the DX-E401*** to configure it.

For example:

① Configure your computer *IP* as 192.168.0.3, *subnet mask* as 255.255.255.0 and *gateway* as 192.168.0.1.

*Or more conveniently*

② Configure your computers to obtain TCP/IP settings automatically from the DHCP server feature of the DX-E401.

Since the IP address of the DX-E401 is 192.168.0.1, the IP address of your computer must be 192.168.0.X (where "X" is a number between 2 and 254.) Each computer on your network must have a different IP address within that range. The default gateway must be 192.168.0.1 (the IP address of the DX-E401).

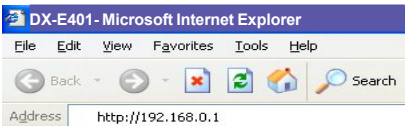
# Configuring the DX-E401

The DX-E401 provides an embedded Web-based management utility making it operating system independent. You can configure your DX-E401 through the Netscape Communicator or Internet Explorer browser in MS Windows, Macintosh, Linux or UNIX based platforms. All that is needed is a web browser such as Internet Explorer or Netscape Navigator version 4 and higher with Java Script enabled.

### Start-up and Log in

Activate your web browser and type in the IP address of the DX-E401 into the *Location* (for Netscape) or *Address* (for IE) field and press "Enter." The default IP address of the DX-E401 is **192.168.0.1**

For example: **http://192.168.0.1**

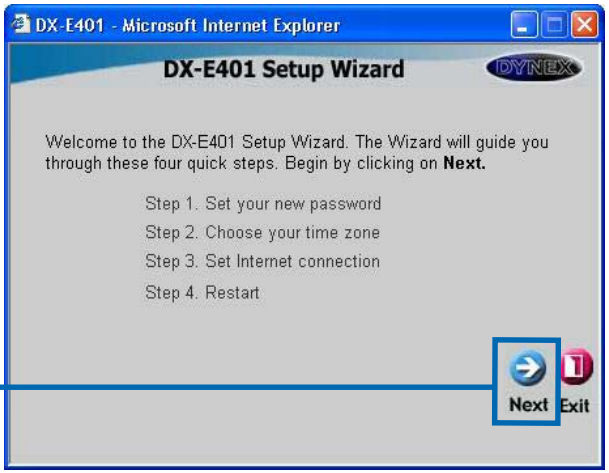


After the connection is established, the logon screen will pop up. To log in as an administrator, enter the username of "**admin**" and the password (there is no default password, leave it blank). Click the **OK** button. If the password is correct, the web-management interface will appear.

# Using the Configuration Wizard

The Setup Wizard screen will appear. Follow the Wizard step by step to quickly configure the DX-E401.

Click **Next**.

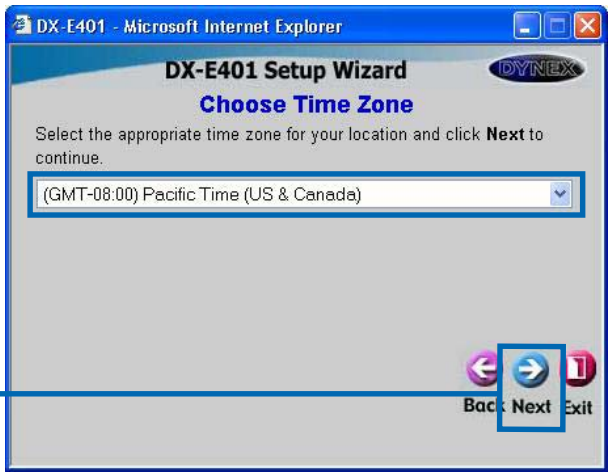



It is recommended that you change the admin password for security purposes. Enter in your new password. Enter it in a second time for verification.

Click **Next**.

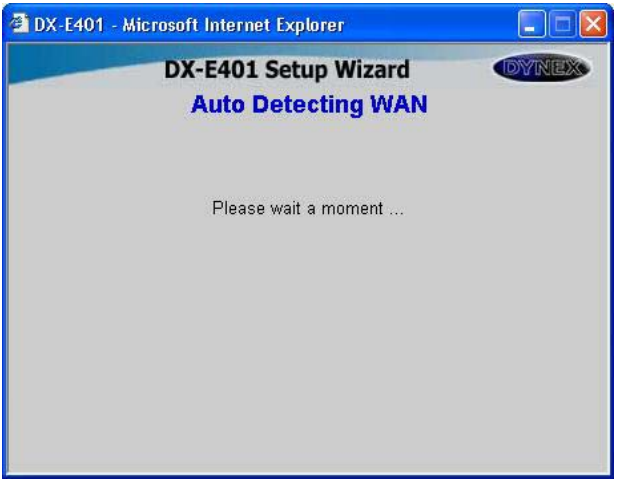
## Using the Configuration Wizard *(continued)*

Click on the drop down box arrow and select the appropriate time zone for your location.

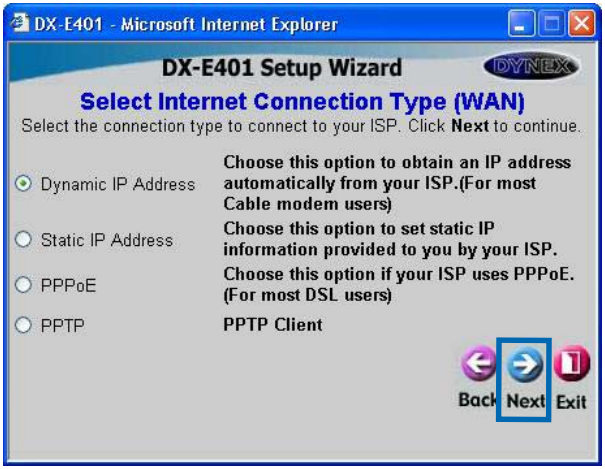



Click **Next**.

Please wait a moment as the DX-E401 auto detects your WAN. If the DX-E401 does not detect your WAN, the following WAN selection screen will appear.



There will be three options to select from. Please select the appropriate option that is used by your ISP.




**Dynamic IP Address**: (ex: Cable users) Select this option to obtain an IP address automatically from your ISP. Please see Dynamic IP Address section.

**Static IP Address**: Select this option to manually input the IP address that your ISP assigned to you. Please see Static IP Address section.

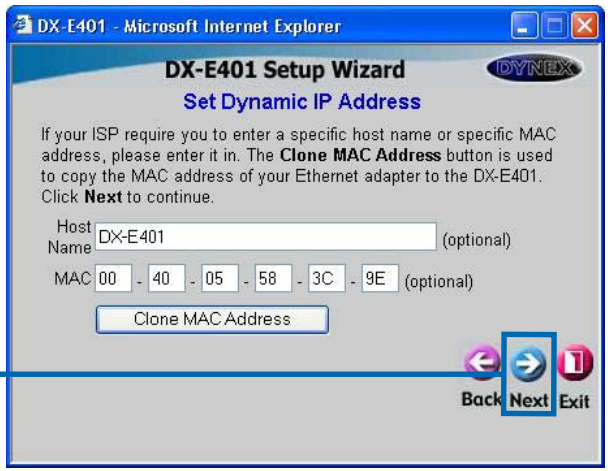
**PPP over Ethernet (PPPoE)**: (ex: DSL users) Select this option if your ISP requires the use of PPPoE to connect to their services. Please see PPPoE section.

Once you have made the appropriate selection, click **Next**.

**Dynamic IP Address**

If you selected **Dynamic IP Address**, you will see the following page.

If your ISP requires you to enter a specific host name or specific MAC address, please enter it in. The CLONE MAC Address button is used to copy the MAC address of your Ethernet adapter to the DX-E401 WAN interface.




Click **Next**.

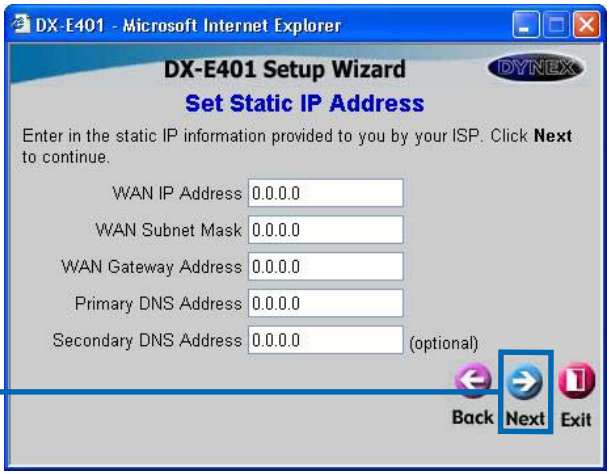
## Using the Configuration Wizard *(continued)*

**Static IP Address**

If you selected **Static IP Address**, you will see the following page.

Enter in the IP address information provided to you by your ISP. You will need to enter in WAN IP Address, WAN Subnet Mask, WAN Gateway, and Primary DNS.

Click **Next**.




**PPPoE**

If you select PPP over Ethernet (PPPoE), you will see the following page.

Enter in the username and password provided to you by your ISP.

Enter in the Service Name if your ISP uses a Service Name for the PPPoE connection.

Click **Next**.


***NOTE:*** *Please be sure to remove any existing PPPoE client software installed on your computers.*

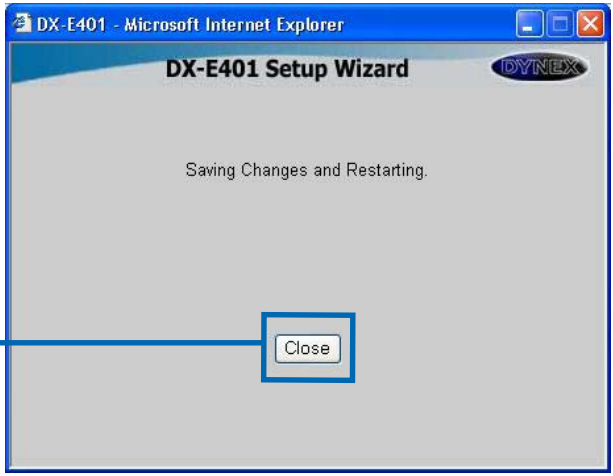
## Using the Configuration Wizard *(continued)*

At this point, the Setup Wizard has completed. Click **Restart** to save the settings and reboot the DX-E401.


Click **Restart**.

The DX-E401 will save the changes and reboot.

Click **Close** to close out the Setup Wizard screen.

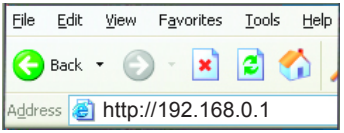



Click **Close**.

Your setup of the DX-E401 is now complete. You should be able to access the Internet.

# Using the Configuration Menu

Whenever you want to configure your network or the DX-E401, you can access the Configuration Menu by opening the web-browser and typing in the IP Address of the DX-E401. The DX-E401 default IP Address is shown at right:



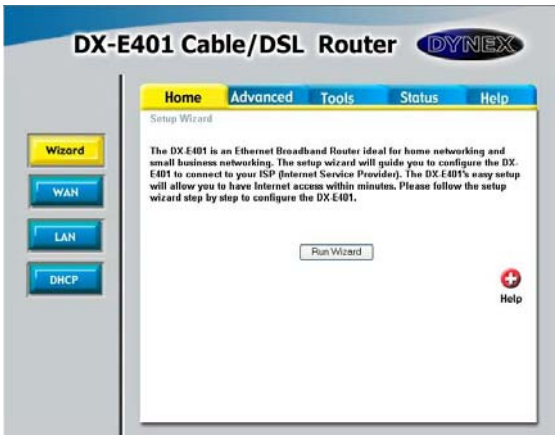

- Open the web browser
- Type in the **IP Address** of the Router (http://192.168.0.1)


*Note: if you have changed the default IP Address assigned to the DX-E401, make sure to enter the correct IP Address.*

- Type **admin** in the **User Name** field
- Leave the **Password** blank
- Click **OK**

## Home > Wizard

The Home>Wizard screen will appear. Please refer to the *Quick Installation Guide* for more information regarding the Setup Wizard.




These buttons appear on most of the configuration screens in this section. Please click on the appropriate button at the bottom of each screen after you have made a configuration change.


Clicking **Apply** will save changes made to the page

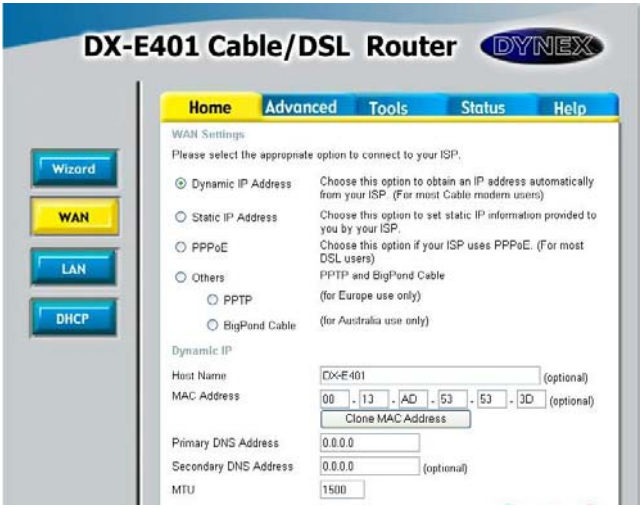

Clicking **Cancel** will clear changes made to the page


Clicking **Help** will bring up helpful information regarding the page


Clicking **Restart** will restart the router. (Necessary for some changes.)

# Using the Configuration Menu *(continued)*

## Home > WAN > Dynamic IP Address




**Dynamic IP Address**

Choose Dynamic IP Address to obtain IP Address information automatically from your ISP. Select this option if your ISP does not give you any IP numbers to use. This option is commonly used for Cable modem services.

**Host Name**

The Host Name is optional but may be required by some ISPs. The default host name is the device name of the Router and may be changed.

**MAC Address**

The default MAC Address is set to the WAN's physical interface MAC address on the Broadband Router. It is not recommended that you change the default MAC address unless required by your ISP.

**Clone MAC Address**

The default MAC address is set to the WAN's physical interface MAC address on the Broadband Router. You can use the "Clone MAC Address" button to copy the MAC address of the Ethernet Card installed by your ISP and replace the WAN MAC address with the MAC address of the router. It is not recommended that you change the default MAC address unless required by your ISP.

**Primary/ Secondary DNS Address**

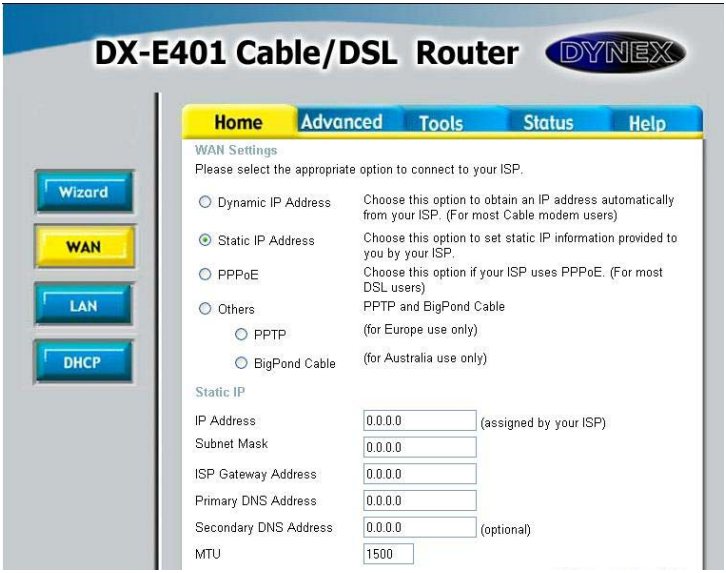
Enter a DNS Address if you do not wish to use the one provided by your ISP.

**MTU**

Enter an MTU value only if required by your ISP. Otherwise, leave it a the default setting.

# Using the Configuration Menu *(continued)*

## Home > WAN > Static IP Address




**Static IP Address** Choose Static IP Address if all WAN IP information is provided to you by your ISP. You will need to enter in the IP address, subnet mask, gateway address, and DNS address(es) provided to you by your ISP. Each IP address entered in the fields must be in the appropriate IP form, which are four octets separated by a dot (x.x.x.x). The Router will not accept the IP address if it is not in this format.

**IP Address** Input the public IP Address provided by your ISP

**Subnet Mask** Input your Subnet mask. (All devices in the network must have the same subnet mask.)

**ISP Gateway Address** Input the public IP address of the ISP to which you are connecting

**Primary DNS Address** Input the primary DNS (Domain Name Server) IP address provided by your ISP

**Secondary DNS Address** This is optional

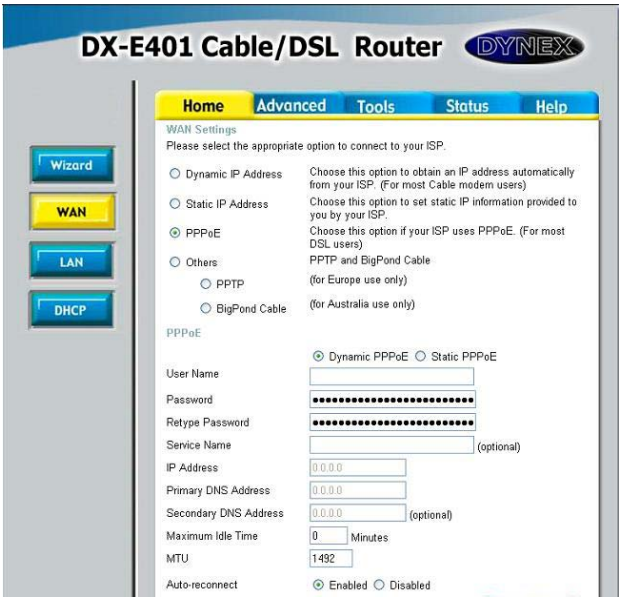
**MTU** Enter an MTU value only if required by your ISP. Otherwise, leave it at the default setting.

# Using the Configuration Menu *(continued)*

## Home > WAN > PPPoE

*Please be sure to remove any existing PPPoE client software installed on your computers.*

*Choose PPPoE (Point to Point Protocol over Ethernet) if your ISP uses a PPPoE connection. Your ISP will provide you with a username and password. This option is typically used for DSL services. Select Dynamic PPPoE to obtain an IP address automatically for your PPPoE connection. Select Static PPPoE to use a static IP address for your PPPoE connection.*




**PPPoE** Choose this option if your ISP uses PPPoE. (Most DSL users will select this option.)

**Dynamic PPPoE-** receive an IP Address automatically from your ISP.

**Static PPPoE-**you have an assigned (static) IP Address.

**User Name** Your PPPoE username provided by your ISP.

**Retype Password** Re-enter the PPPoE password

**Service Name** Enter the Service Name provided by your ISP (optional).

**IP Address** This option is only available for Static PPPoE. Enter the static IP Address for the PPPoE connection.

**Primary DNS Address** Primary DNS IP address provided by our ISP

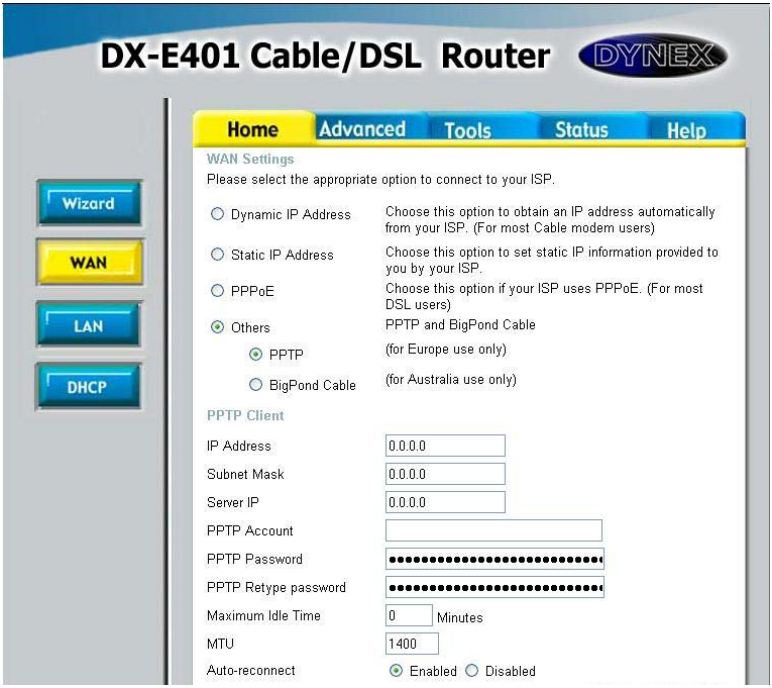
**Secondary DNS Address** This option is only available for Static PPPoE. Enter the static IP Address for the PPPoE connection.

**MTU** Maximum Transmission Unit-1492 is the default setting-you may need to change the MTU for optimal performance with your specific ISP.

**Auto-reconnect** If enabled, the DX-E401 will automatically connect to your ISP after your system is restarted or if the PPPoE connection is dropped.

# Using the Configuration Menu *(continued)*

## Home > WAN > Others > PPTP




Point-to-Point Tunneling Protocol (PPTP) is a WAN connection used in Europe.

**My IP Address** Enter the IP Address.

**My Subnet Mask** Enter the Subnet Mask.

**Server IP Address** Enter the Server IP Address.

**PPTP Account** Enter the PPTP account name.

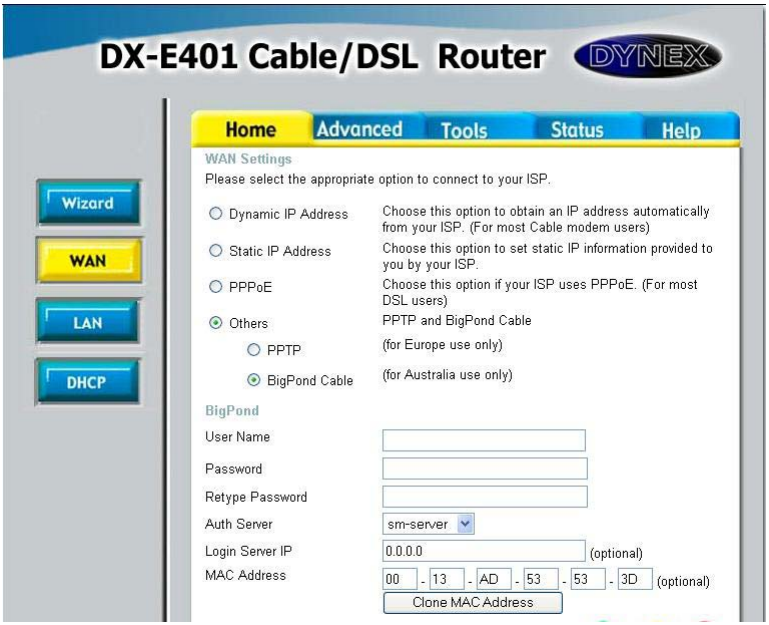
**PPTP Password** Enter the PPTP password.

**Connection ID** (Optional) Enter the connection ID if required by your ISP.

**Maximum Idle Time** Enter a maximum idle time during which Internet connection is maintained during inactivity. To disable this feature, enable *Auto-reconnect*.

# Using the Configuration Menu *(continued)*

## Home > WAN > Others > BigPond Cable




Dynamic IP Address for BigPond is a WAN connection used in Australia.

**User Name** Enter in the username for the BigPond account.

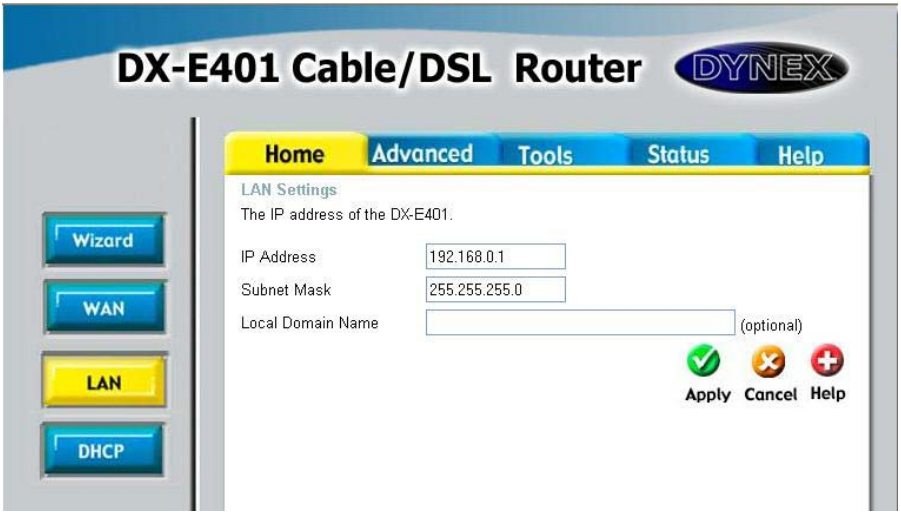
**Password** Enter the password for the BigPond account.

**Login Server IP** (Optional) enter the Login Server name if required.

**Renew IP forever** If enabled, the device will automatically connect to your ISP after your unit is restarted or when the connection is dropped.

# Using the Configuration Menu *(continued)*

## Home > LAN




LAN is short for Local Area Network. This is considered your internal network. These are the IP settings of the LAN interface for the DX-E401. These settings may be referred to as Private settings. You may change the LAN IP address if needed. The LAN IP address is private to your internal network and cannot be seen on the Internet.

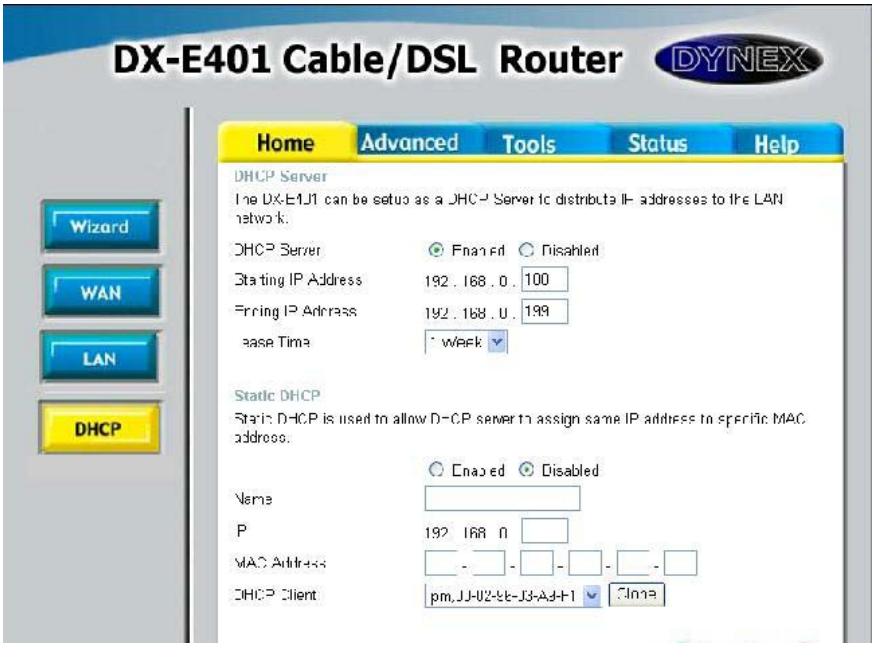
**IP Address** — The IP address of the LAN interface. The default IP address is: **192.168.0.1**

**Subnet Mask** — The subnet mask of the LAN interface. The default subnet mask is **255.255.255.0**

**Local Domain Name** — This field is optional. Enter in the local domain name.

# Using the Configuration Menu *(continued)*

## Home > DHCP




**DHCP** stands for *Dynamic Host Control Protocol*. The DX-E401 has a built-in DHCP server. The DHCP Server will automatically assign an IP address to the computers on the LAN/private network. Be sure to set your computers to be DHCP clients by setting their TCP/IP settings to "Obtain an IP Address Automatically." When you turn your computers on, they will automatically load the proper TCP/IP settings provided by the DX-E401. The DHCP Server will automatically allocate an unused IP address from the IP address pool to the requesting computer. You must specify the starting and ending address of the IP address pool.

**DHCP Server** — Select **Enabled** or **Disabled.** The **default** setting is **Enabled.**

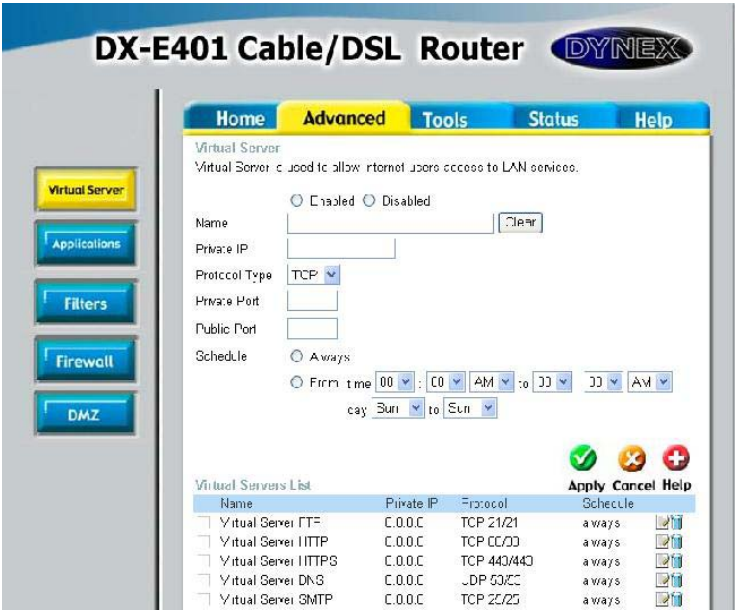
**Starting IP Address** — The starting IP address for the DHCP server's IP assignment.

**Ending IP Address** — The ending IP address for the DHCP server's IP assignment.

**Lease Time** — The length of time for the IP lease. Enter the Lease time. The default setting is one hour.

# Using the Configuration Menu *(continued)*

## Advanced > Virtual Server




The DX-E401can be configured as a virtual server so that remote users accessing Web or FTP services via the public IP address can be automatically redirected to local servers in the LAN (Local Area Network).

The DX-E401 firewall feature filters out unrecognized packets to protect your LAN network so all computers networked with the DX-E401 are invisible to the outside world. If you wish, you can make some of the LAN computers accessible from the Internet by enabling *Virtual Server.* Depending on the requested service, the DX-E401 redirects the external service request to the appropriate server within the LAN network.

The DX-E401 is also capable of port-redirection meaning incoming traffic to a particular port may be redirected to a different port on the server computer.

Each virtual service that is created will be listed at the bottom of the screen in the Virtual Servers List. There are pre-defined virtual services already in the table. You may use them by enabling them and assigning the server IP to use that particular virtual service.

# Using the Configuration Menu *(continued)*

## Advanced > Virtual Server *continued*

**Virtual Server** — Select **Enabled** or **Disabled**

**Name** — Enter the name referencing the virtual service

**Private IP** — The server computer in the LAN (Local Area Network) that will be providing the virtual services.

**Protocol Type** — The protocol used for the virtual service

**Private Port** — The port number of the service used by the Private IP computer

**Public Port** — The port number on the WAN (Wide Area Network) side that will be used to access the virtual service.

**Schedule** — The schedule of time when the virtual service will be enabled. The schedule may be set to **Always**, which will allow the particular service to always be enabled. If it is set to **Time**, select the time frame for the service to be enabled. If the system time is outside of the scheduled time, the service will be disabled.

**Example #1:** If you have a Web server that you wanted Internet users to access at all times, you would need to enable it. Web (HTTP) server is on LAN (Local Area Network) computer 192.168.0.25. HTTP uses port 80, TCP.
Name: Web Server
Private IP: 192.168.0.25
Protocol Type: TCP
Private Port: 80
Public Port: 80
Schedule: always

# Using the Configuration Menu *(continued)*

## Advanced > Virtual Server *continued*

Virtual Servers List

| | Name | Private IP | Protocol | Schedule | |
|---|---|---|---|---|---|
| ☒ | Virtual Server HTTP | 192.168.0.25 | TCP 80/80 | always | |

Click on this icon to edit the virtual service

Click on this icon to delete the virtual service

**Example #2:**
If you have an FTP server that you wanted Internet users to access by WAN port 2100 and only during the weekends, you would need to enable it as such. FTP server is on LAN computer 192.168.0.30. FTP uses port 21, TCP.

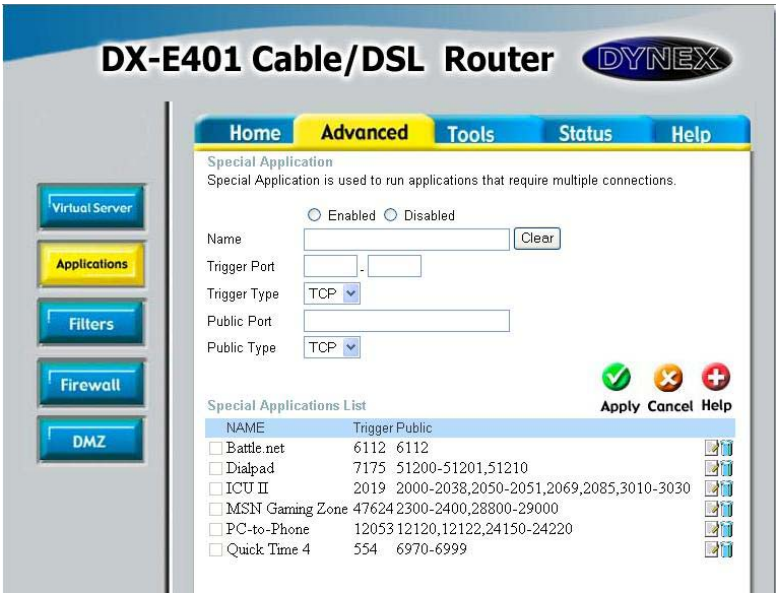
Name: FTP Server
Private IP: 192.168.0.30
Protocol Type: TCP
Private Port: 21
Public Port: 2100

Schedule: From: 01:00AM to 01:00AM, Sat to Sun

All Internet users who want to access this FTP Server must connect to it from port 2100. This is an example of port redirection and can be useful in cases where there are many of the same servers on the LAN network.

# Using the Configuration Menu *(continued)*

## Advanced > Applications




Some applications require multiple connections, such as Internet gaming, video conferencing, Internet telephony and others. These applications have difficulties working through NAT (Network Address Translation). Special Applications makes some of these applications work with the DX-E401. If you need to run applications that require multiple connections, specify the port normally associated with an application in the "Trigger Port" field, select the protocol type as TCP or UDP, then enter the public ports associated with the trigger port to open them for inbound traffic.

The DX-E401 provides some predefined applications in the table on the bottom of the web page. Select the application you want to use and enable it.

***Note!*** *Only one PC can use each Special Application tunnel.*

**Name** This is the name referencing the special application.

**Trigger Port** This is the port used to trigger the application. It can be either a single port or a range of ports.

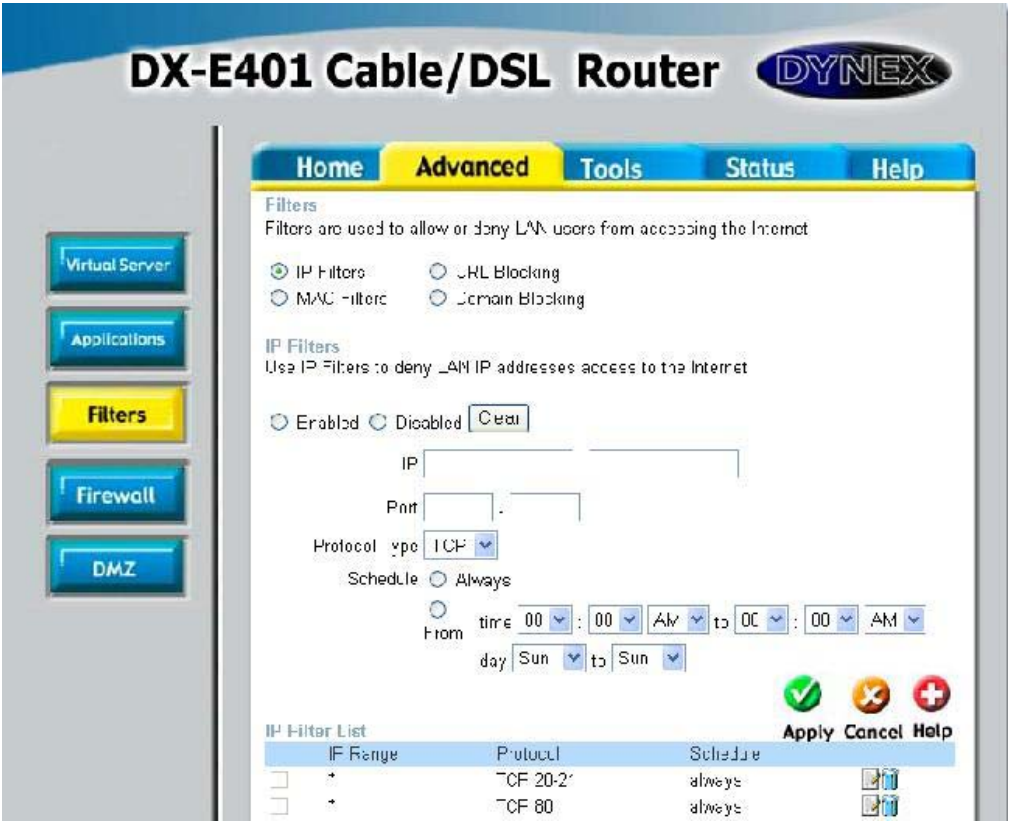
**Trigger Type** This is the protocol used to trigger the special application.

**Public Port** This is the port number on the WAN side that will be used to access the application. You may define a single port or a range of ports. You can use a comma to add multiple ports or port ranges.

**Public Type** This is the protocol used for the special application.

# Using the Configuration Menu *(continued)*

## Advanced > Filters > IP Filters




Filters are used to deny or allow LAN (Local Area Network) computers from accessing the Internet. The DX-E401 can be setup to deny internal computers by their IP or MAC addresses. The DX-E401 can also block users from accessing restricted web sites.

**IP Filters** — Use IP Filters to deny LAN IP addresses from accessing the Internet. You can deny specific port numbers or all ports for the specific IP address.

**IP** — The IP address of the LAN computer that will be denied access to the Internet.

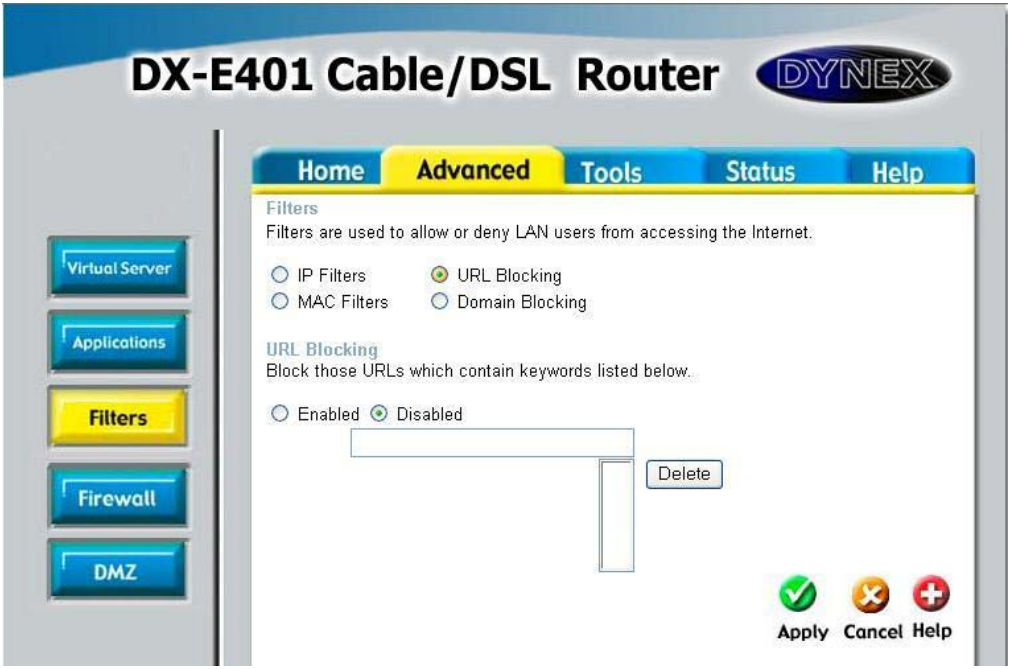
**Port** — The single port or port range that will be denied access to the Internet.

**Protocol Type** — Select the protocol type

**Schedule** — This is the schedule of time when the IP Filter will be enabled.

# Using the Configuration Menu *(continued)*

## Advanced > Filters > URL Blocking




URL Blocking is used to deny LAN computers from accessing specific web sites by the URL. A URL is a specially formatted text string that defines a location on the Internet. If any part of the URL contains the blocked word, the site will not be accessible and the web page will not display. To use this feature, enter the text string to be blocked and click **Apply.** The text to be blocked will appear in the list. To delete the text, just highlight it and click **Delete**.

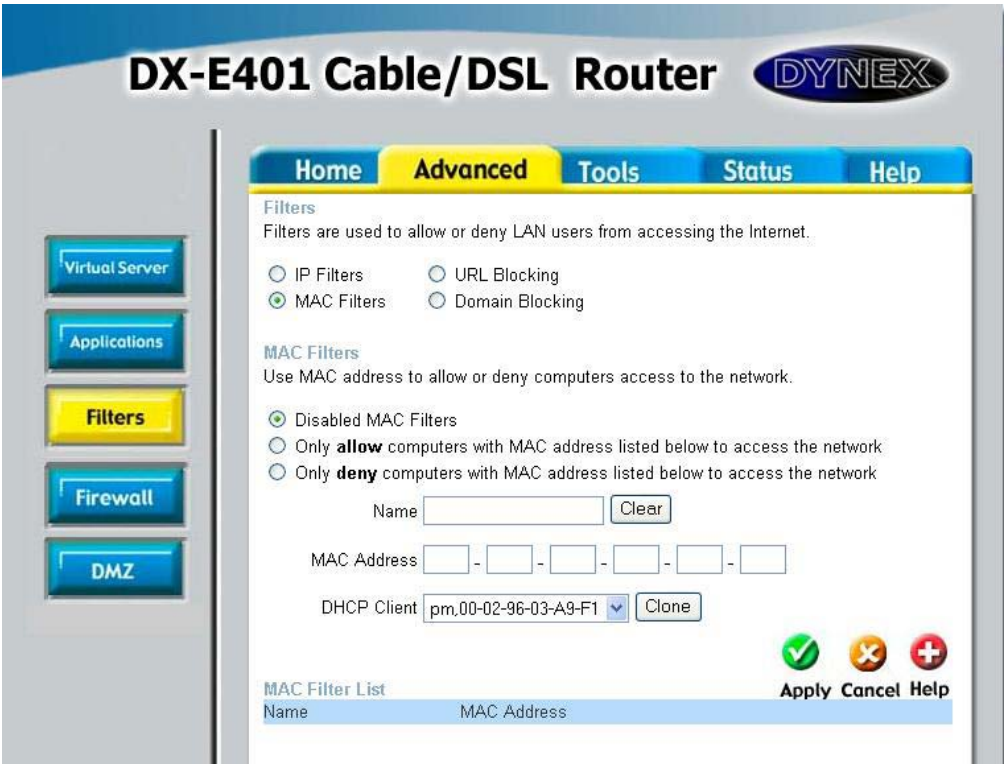
**Filters** — Select the filter you wish to use; in this case, **URL Blocking** was chosen.

**URL Blocking** — Select **Enabled** or **Disabled**.

**Keywords** — Block URLs which contain keywords listed below. Enter the keywords in this space.

# Using the Configuration Menu *(continued)*

## Advanced > Filters > MAC Filters




Use MAC (Media Access Control) Filters to allow or deny LAN (Local Area Network) computers by their MAC addresses from accessing the Network. You can either manually add a MAC address or select the MAC address from the list of clients that are currently connected to the Broadband Router.

**Filters** — Select the filter you wish to use; in this case, **MAC filters** was chosen.

**MAC Filters** — Choose **Disable** MAC filters; **allow** MAC addresses listed below; or **deny** MAC addresses listed below.

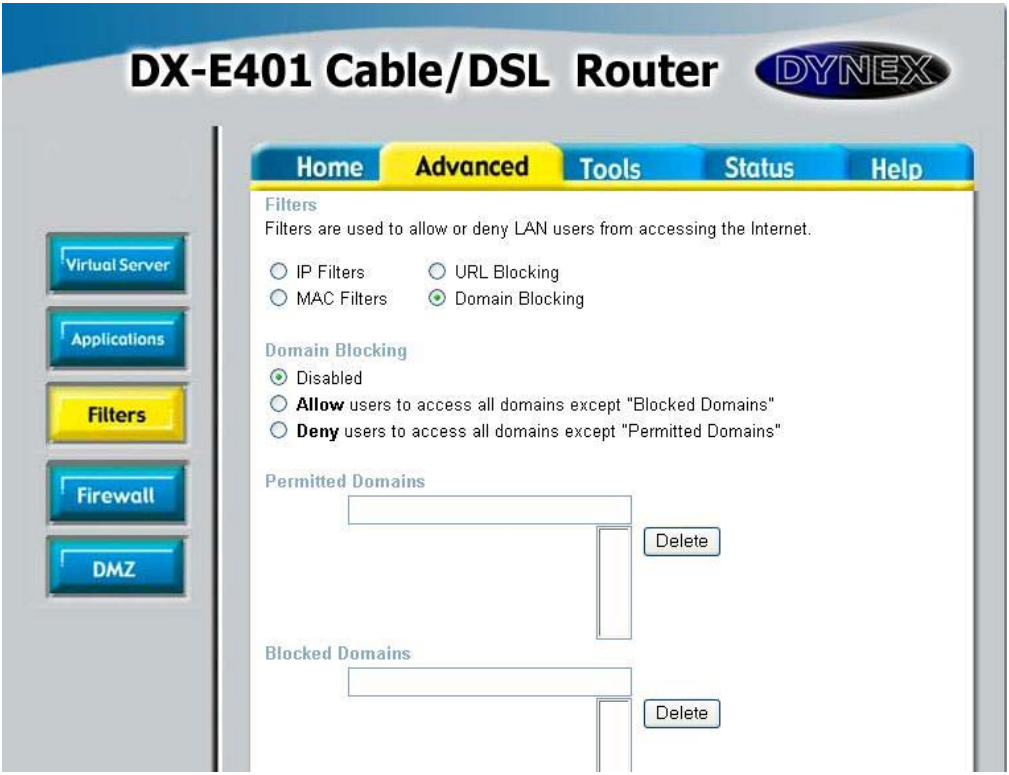
**Name** — Enter the name here.

**MAC Address** — Enter the MAC Address.

**DHCP Client** — Select a DHCP client from the pull-down list; click **Clone** to copy that MAC Address.

# Using the Configuration Menu *(continued)*

## Advanced > Filters > Domain Blocking




Domain Blocking is used to allow or deny LAN (Local Area Network) computers from accessing specific domains on the Internet. Domain blocking will deny all requests to a specific domain such as http and ftp. It can also allow computers to access specific sites and deny all other sites.

**Filters** — Select the filter you wish to use; in this case, **Domain Blocking** was chosen.

**Domain Blocking**

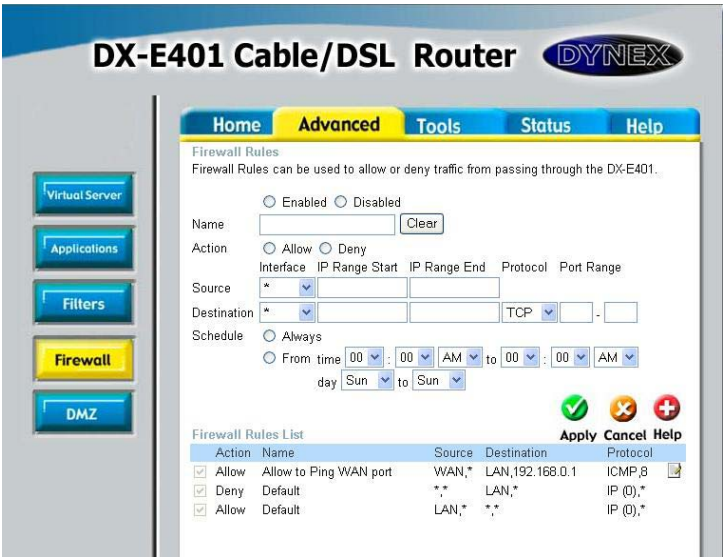
- **Disabled-** Select **Disabled** to disable **Domain Blocking**
- **Allow-** Allows users to access all domains except **Blocked Domains**
- **Deny-** Denies users access to all domains except **Permitted Domains**

**Permitted Domains** — Enter the **Permitted Domains** in this field

**Blocked Domains** — Enter the **Blocked Domains** in this field

# Using the Configuration Menu (continued)

## Advanced > Firewall




**Firewall Rules** is an advanced feature used to deny or allow traffic from passing through the DX-E401. It works in the same way as IP Filters with additional settings. You can create more detailed access rules for the DX-E401. When virtual services are created and enabled, it will also display in Firewall Rules. Firewall Rules contain all network firewall rules pertaining to IP (Internet Protocol).

In the Firewall Rules List at the bottom of the screen, the priorities of the rules are from top (highest priority) to bottom (lowest priority.)

**Note:**
**The DX-E401 MAC Address filtering rules have precedence over the Firewall Rules.**

**Firewall Rules** — **Enable** or **disable** the Firewall.

**Name** — Enter the name.

**Action** — **Allow** or **Deny**.

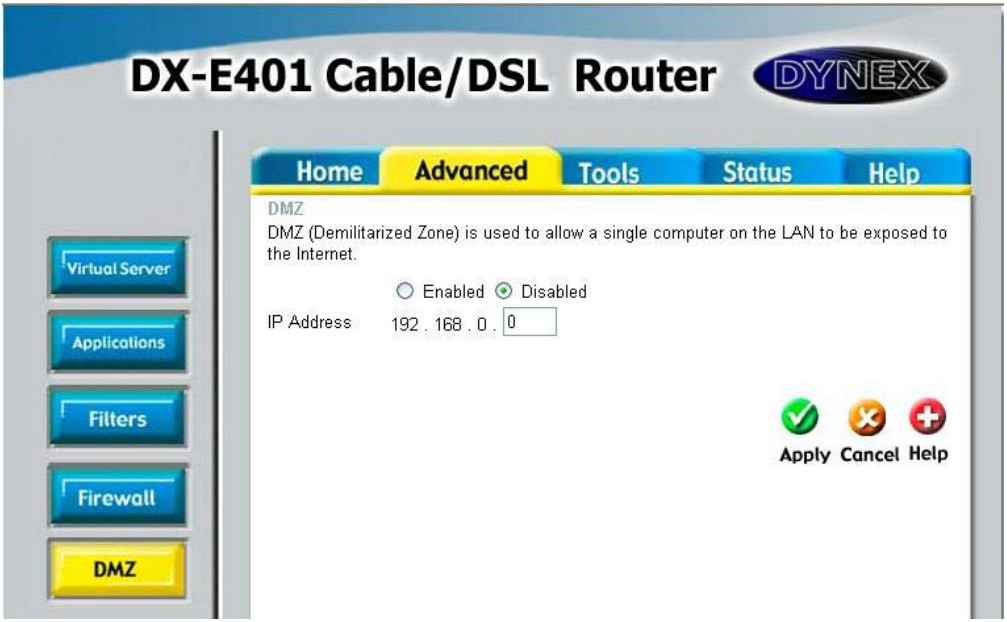
**Source** — Enter the **IP Address range**.

**Destination** — Enter the **IP Address range**; the **Protocol**; and the **Port Range**.

**Schedule** — Select **Always** or enter the **Time Range**.

# Using the Configuration Menu *(continued)*

## Advanced > DMZ



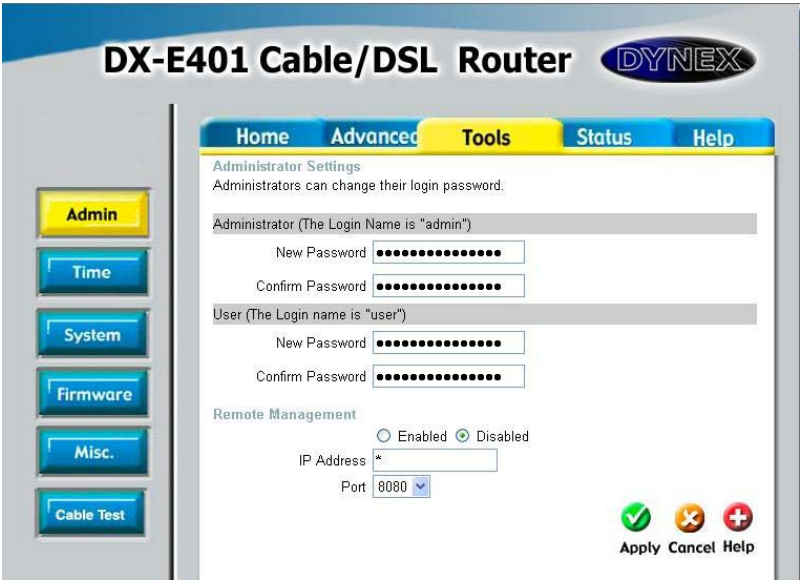

If you have a client PC that cannot run Internet applications properly from behind the DX-E401, then you can set the client up for unrestricted Internet access. It allows a computer to be exposed to the Internet. This feature is useful for gaming purposes. Enter the IP address of the internal computer that will be the DMZ host. Adding a client to the DMZ (Demilitarized Zone) may expose your local network to a variety of security risks, so only use this option as a last resort.

**DMZ** — **Enable** or **Disable** the DMZ. The DMZ (Demilitarized Zone) allows a single computer to be exposed to the internet. By **default** the DMZ is **disabled**.

**IP Address** — Enter the **IP Address** of the computer to be in the **DMZ**.

# Using the Configuration Menu (continued)

## Tools> Admin




At this page, the DX-E401 administrator can change the system password. There are two accounts that can access the Cable/DSL Router's Web-Management interface. They are admin and user. Admin has read/write access while user has read-only access. User can only view the settings but cannot make any changes.

**Administrator** **admin** is the **Administrator login name**

**Password** Enter the password and enter again to confirm

**User** **user** is the **User login name**

**Password** Enter the password and enter again to confirm

**Remote Management** Remote management allows the DX-E401 to be configured from the Internet by a web browser. A username and password is still required to access the Web-Management interface. In general, only a member of your network can browse the built-in web pages to perform **Administrator** tasks. This feature enables you to perform Administrator tasks from the remote (Internet) host.

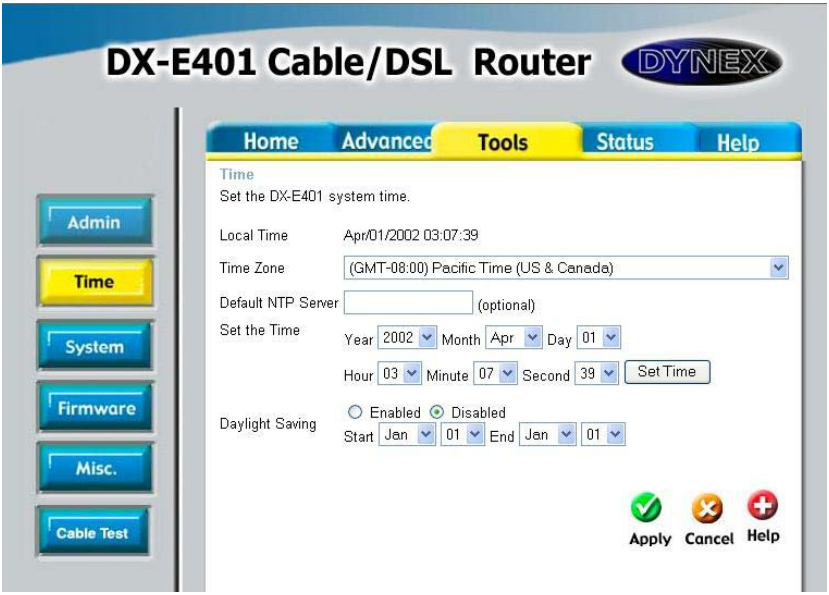
**IP Address** The Internet IP address of the computer that has access to the Cable/DSL Router. If you input an asterisk (*) into this field, then any computer will be able to access the Router. Putting an asterisk (*) into this field would present a security risk and is not recommended.

**Port** The port number used to access the Cable/DSL Router.

**Example** http://x.x.x.x:8080 where x.x.x.x is the WAN IP address of the Cable/DSL Router and 8080 is the port used for the Web-Mangement interface.

# Using the Configuration Menu (continued)

## Tools > Time




The system time is the time used by the DX-E401 for scheduling services. You can manually set the time or connect to a NTP (Network Time Protocol) server. If an NTP server is set, you will only need to set the time zone. If you manually set the time, you may also set Daylight Saving dates and the system time will automatically adjust on those dates.

**Time Zone** — Select the Time Zone from the pull-down menu.

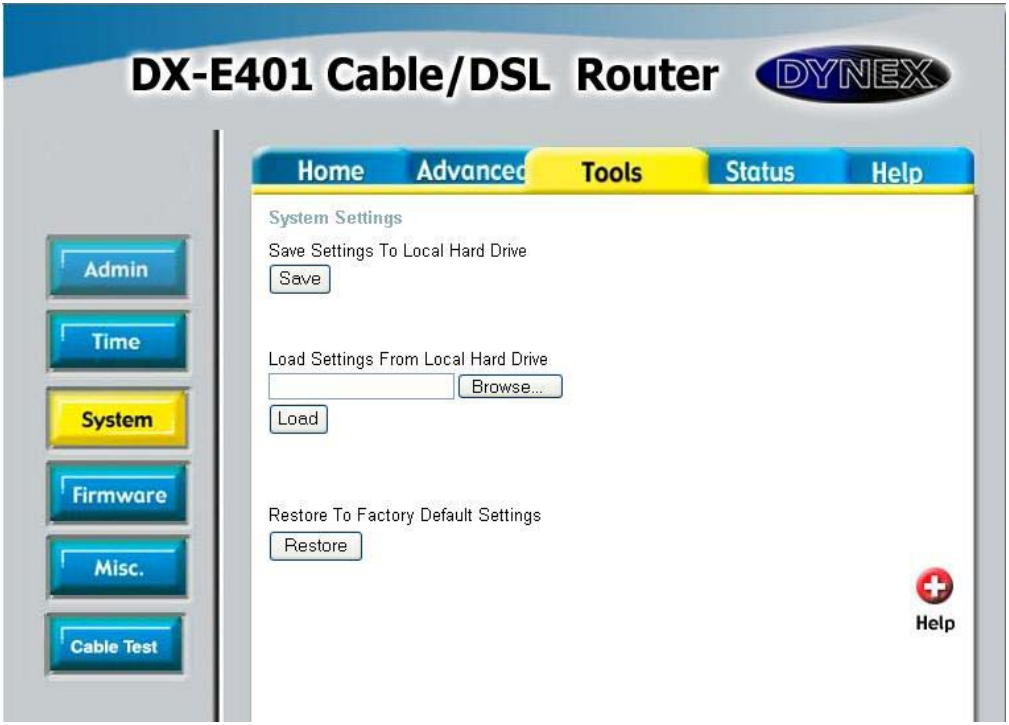
**Default NTP Server** — NTP is short for *Network Time Protocol.* NTP synchronizes computer clock times in a network of computers. This field is optional.

**Set the Time** — To manually input the time, enter the values in these fields for the Year, Month, Day, Hour, Minute, and Second. Click **Set Time**.

**Daylight Saving** — To select Daylight Saving time manually, select **enabled** or **disabled,** and enter a start date and an end date for daylight saving time.

# Using the Configuration Menu (continued)

## Tools > System




The current system settings can be saved as a file onto the local hard drive. The saved file or any other saved setting file can be loaded back on the Cable/DSL Router. To reload a system settings file, click on **Browse** to browse the local hard drive and locate the system file to be used. You may also reset the Cable/DSL back to factory settings by clicking on **Restore.**

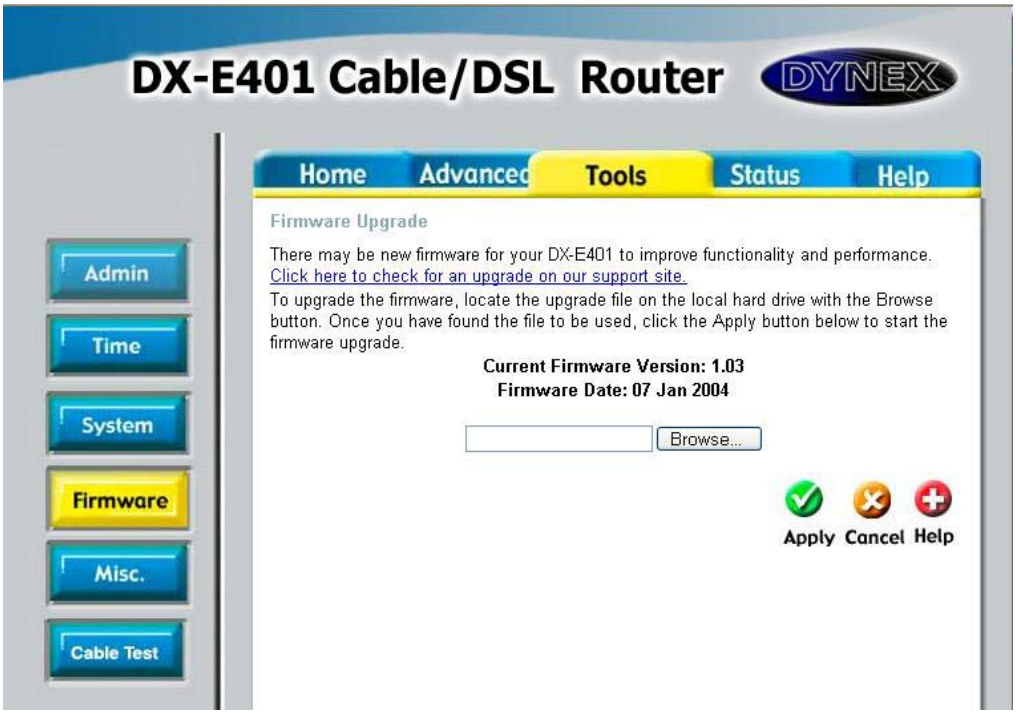
**Save Settings to Local Hard Drive** Click **Save** to save the current settings to the local Hard Drive.

**Load Settings from Local Hard Drive** Click **Browse** to find the settings, then click **Load**.

**Restore to Factory Default Settings** Click **Restore** to restore the factory default settings.

# Using the Configuration Menu (continued)

## Tools > Firmware



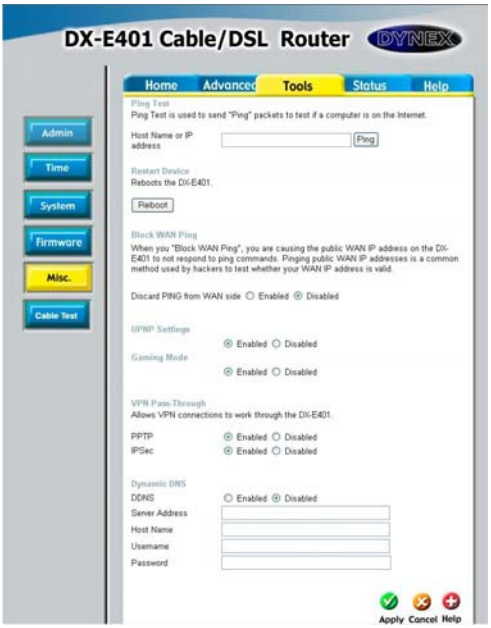

You can upgrade the firmware of the Router here. Make sure the firmware you want to use is on the local hard drive of the computer. Click on **Browse** to browse the local hard drive and locate the firmware to be used for the update. Please check the Dynex website for firmware updates at http://www.dynexproducts.com. You can download firmware upgrades to your hard drive from the Dynex website.

**Firmware Upgrade** Click on the link in this screen to find out if there is an updated firmware; if so, download the new firmware to your hard drive.

**Browse** After you have downloaded the new firmware, click **Browse** in this window to locate the firmware update on your hard drive. Click **Apply** to complete the firmware upgrade.

# Using the Configuration Menu (continued)

## Tools > Misc




**Ping Test**

The Ping Test is used to send Ping packets to test if a computer is on the Internet. Enter the IP Address that you wish to Ping, and click **Ping**

**Restart Device**

Click **Reboot** to restart the DX-E401.

**Block WAN Ping**

If you choose to block WAN Ping, the WAN IP Address of the DX-E401. will not respond to pings. Blocking the Ping may provide some extra security from hackers.

*Discard Ping from WAN side-*

Click **Enabled** to block the WAN ping

**UPNP**

To use the *Universal Plug and Play* feature click on **Enabled**. UPNP provides compatibility with networking equipment, software and peripherals of the over 400 vendors that cooperate in the Plug and Play forum.

**Gaming Mode**

Gaming mode allows a form of pass-through for certain Internet Games. If you are using Xbox, Playstation2 or a PC, make sure you are using the latest firmware and Gaming Mode is enabled. To utilize Gaming Mode, click **Enabled.** If you are not using a Gaming application, it is recommended that you **Disable** Gaming Mode.

**VPN Pass Through**

The DX-E401 supports VPN (Virtual Private Network) pass-through for both PPTP (Point-to-Point Tunneling Protocol) and IPSec (IP Security). Once VPN pass-through is enabled, there is no need to open up virtual services. Multiple VPN connections can be made through the DX-E401. This is useful when you have many VPN clients on the LAN network.

**PPTP-** select **Enabled** or **Disabled**

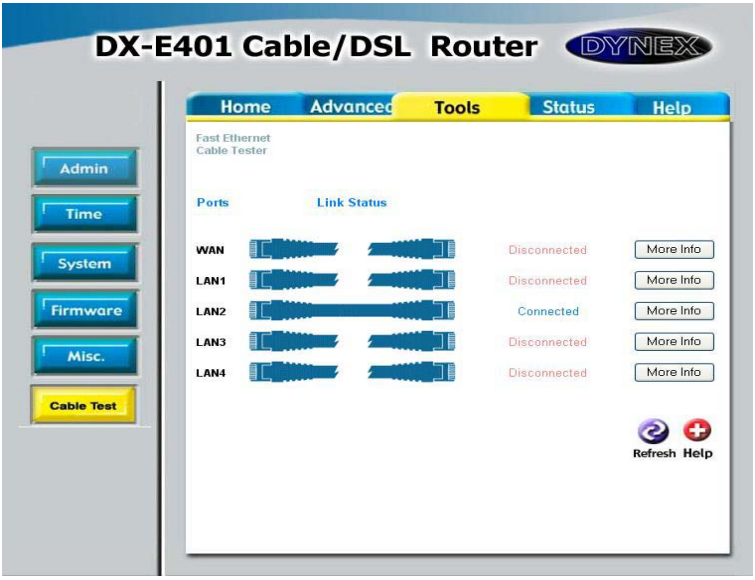
**IPSec-** select **Enabled** or **Disabled**

**Dynamic DNS**

Dynamic Domain Name System is a method of keeping a domain name linked to a changing IP Address. This is a useful feature since many computers do not use a static IP address.

# Using the Configuration Menu (continued)

## Tools > Cable Test




Cable Test is an advanced feature that integrates a LAN cable tester on every Ethernet port on the router. Through the graphical user interface (GUI), Cable Test can be used to remotely diagnose and report cable faults such as opens, shorts, swaps, and impedance mismatch. The Cable Test feature significantly reduces service calls and returns by allowing users to easily troubleshoot their cable connections.

**Ports** — The Ethernet port names associated to the physical ports.

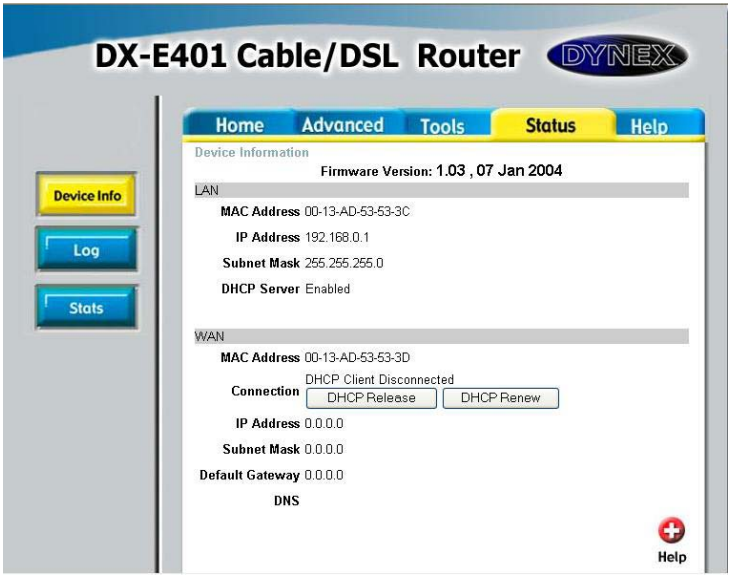
**Link Status** — The current link status of the Ethernet cable connected to the respective Ethernet port.

**More Info** — Click on **More Info** for detailed information about the cable link status.

**Refresh** — Click on **Refresh** to run the Cable Test. Allow the router a few seconds to complete the test.

# Using the Configuration Menu (continued)

## Status > Device Info




This page displays the current information for the DX-E401. It will display the LAN, WAN and MAC address information.

If your WAN connection is set up for a **Dynamic IP address** then a **Release** button and a **Renew** button will be displayed. Use *Release* to disconnect from your ISP and use *Renew* to connect to your ISP.

If your WAN connection is set up for **PPPoE**, a Connect button and a **Disconnect** button will be displayed. Use *Disconnect* to drop the PPPoE connection and use *Connect* to establish the PPPoE connection.

This window will show the DX-E401's working status:

**LAN**

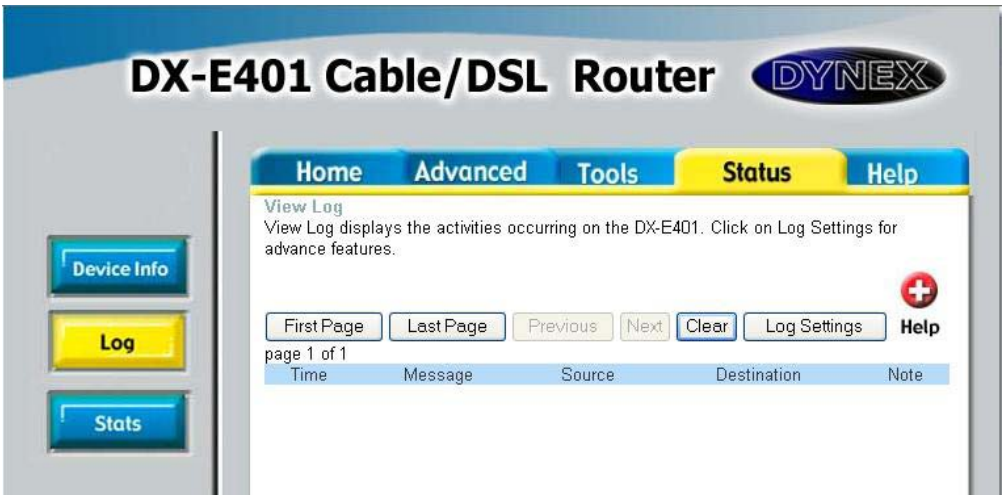
IP Address: LAN/Private IP Address of the DX-E401
Subnet Mask: LAN/Private Subnet Mask of the DX-401

**WAN**

IP Address: WAN/Public IP Address
Subnet Mask: WAN/Public Subnet Mask
Gateway: WAN/Public Gateway IP Address
Domain Name Server: WAN/Public DNS IP Address
WAN Status: WAN Connection Status

# Using the Configuration Menu (continued)

## Status > Log



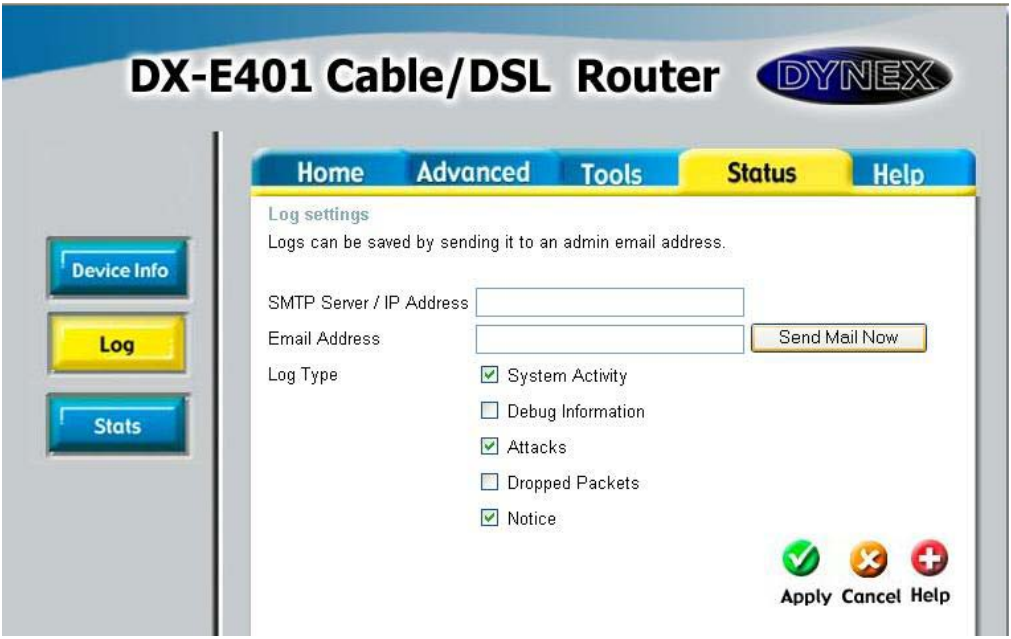

The Cable/DSL Router keeps a running log of events and activities occurring on the Router. If the device is rebooted, the logs are automatically cleared. You may save the log files under Log Settings.

### View Log

**First Page -** The first page of the log
**Last Page -** The last page of the log
**Previous -** Moves back one log page
**Next -** Moves forward one log page
**Clear -** Clears the logs completely
**Log Settings -** Brings up the page to configure the log

# Using the Configuration Menu (continued)

## Status > Log > Log Settings




Not only does the Cable/DSL Router display the logs of activities and events, it can be setup to send these logs to another location. The logs can be sent via email to an email account.

**SMTP Server / IP Address** — The address of the SMTP server that will be used to send the logs.

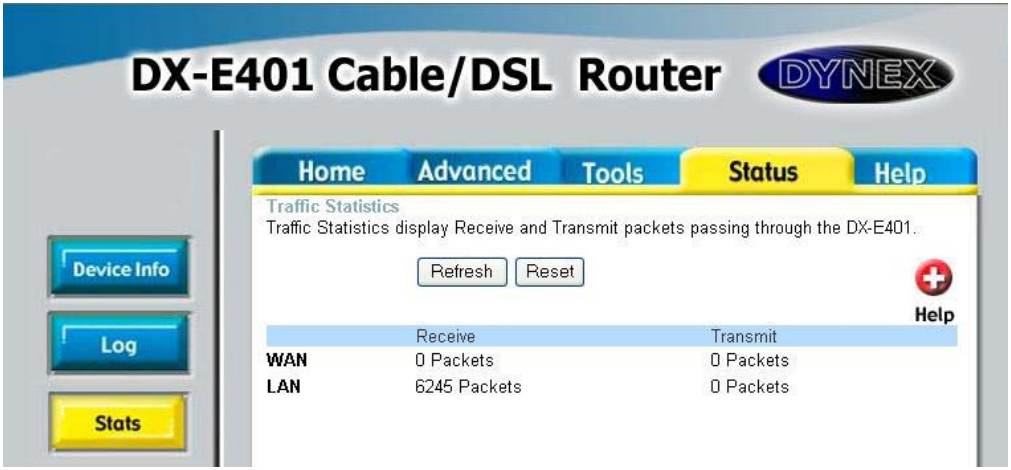
**Email Address** — Enter in the email address of the recipient who will receive the email log.

**Send Mail Now** — Click to send mail immediately.

**Log Type** — Select the types of activity to log. By default, all values are selected.

# Using the Configuration Menu (continued)

## Status > Stats




The screen above displays theTraffic Statistics. Here you can view the amount of packets that pass through the DX-E401 on both the WAN and the LAN ports. The traffic counter will reset if the device is rebooted.

**Refresh** This will update the page.

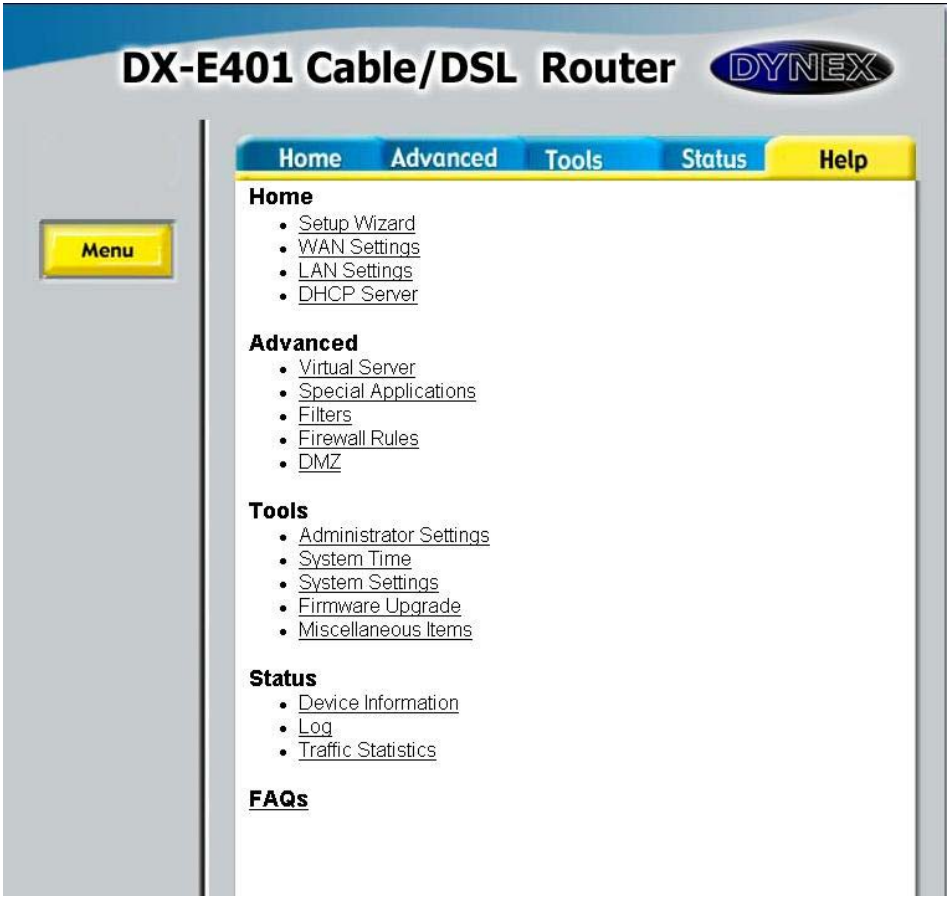
**Reset** This will reset the packet counter to zero.

**WAN** Displays Received / Transmitted packets from the WAN port.

**LAN** Displays Received / Transmitted packets from the LAN port.

# Using the Configuration Menu

## Help




This screen displays the complete **Help** menu. For help at anytime, click the **Help** tab in the Configuration menu.

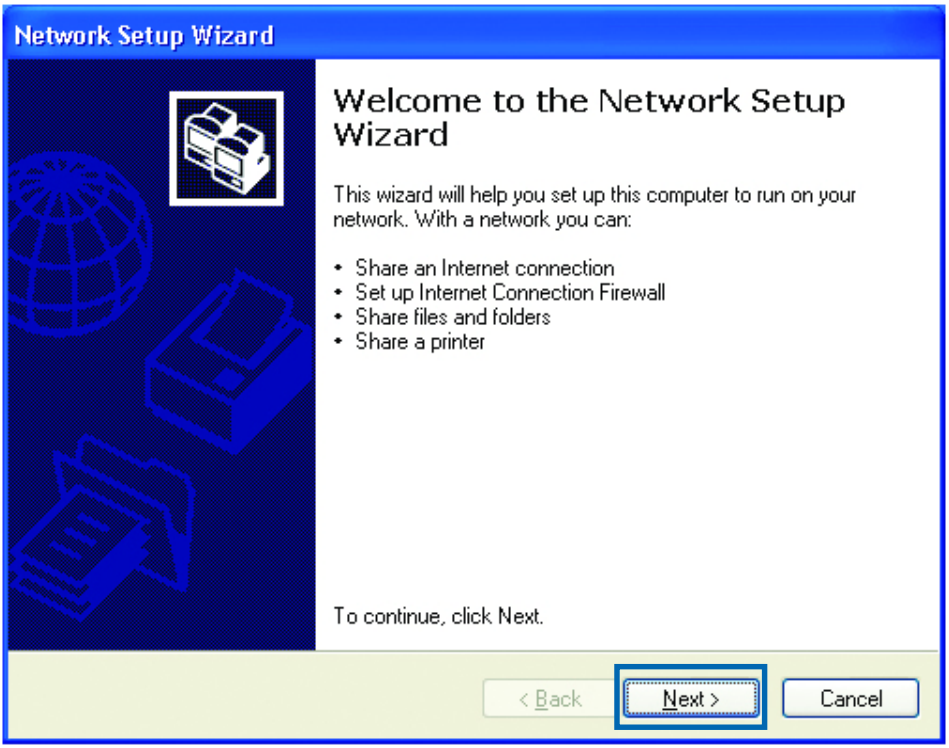
# Networking Basics

## Using the Network Setup Wizard in Windows XP

In this section you will learn how to establish a network at home or work, using **Microsoft Windows XP.**

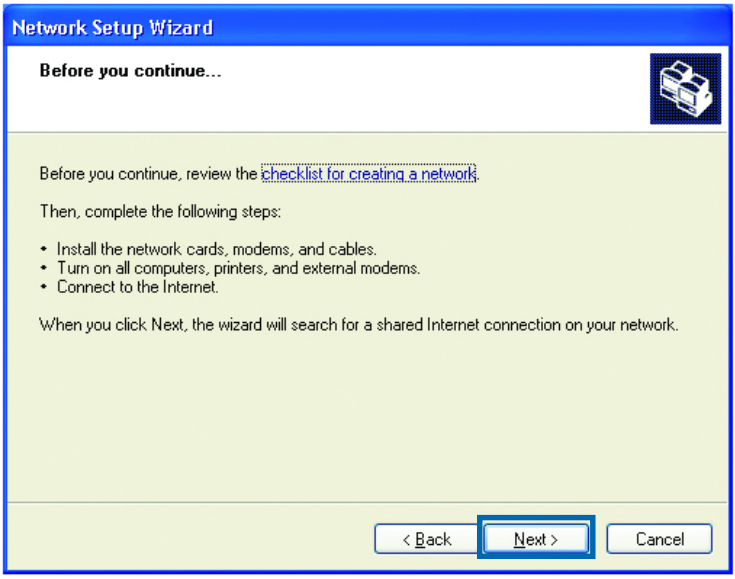
*Note: Please refer to websites such as http://www.homenethelp.com and http://www.microsoft.com/windows2000 for information about networking computers using Windows 2000, Me or 98.*

Go to **Start>Control Panel>Network Connections**
Select **Set up a home or small office network**



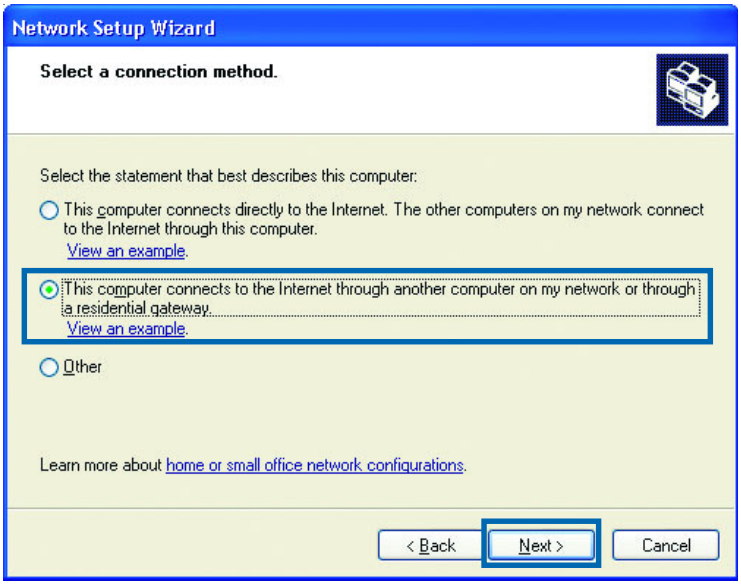

When this screen appears, **Click Next.**

Please follow all the instructions in this window:



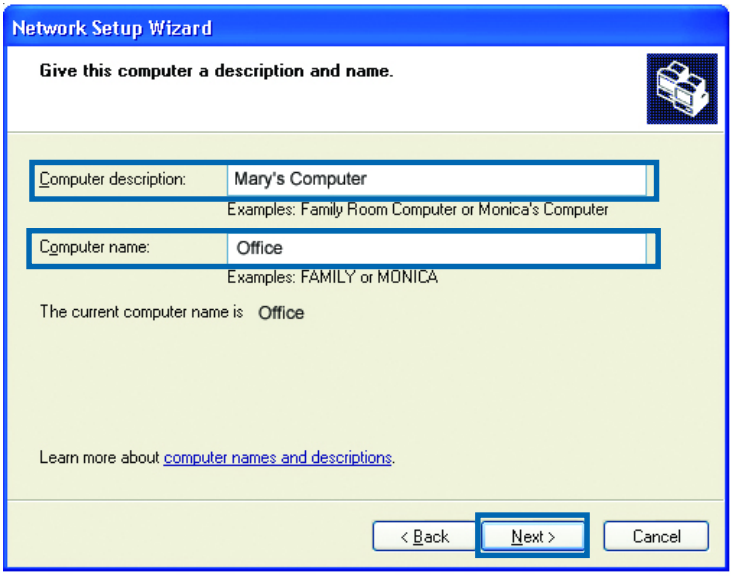

Click **Next**

In the following window, select the best description of your computer. If your computer connects to the internet through a gateway/router, select the second option as shown.



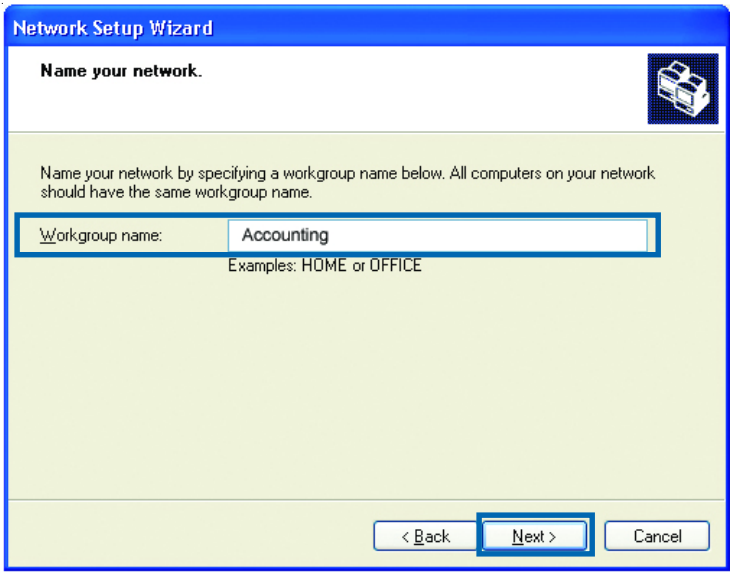

Click **Next**

Enter a **Computer description** and a **Computer name** (optional.)



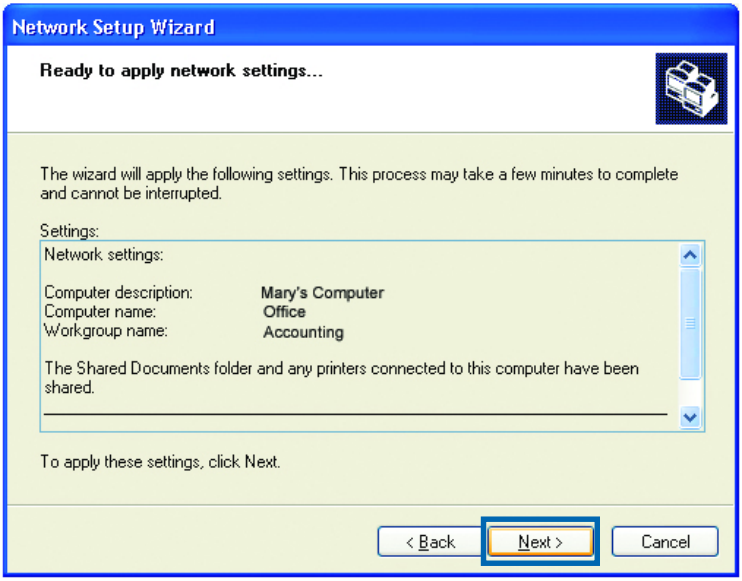

Click **Next**

Enter a **Workgroup** name. All computers on your network should have the same **Workgroup name.**



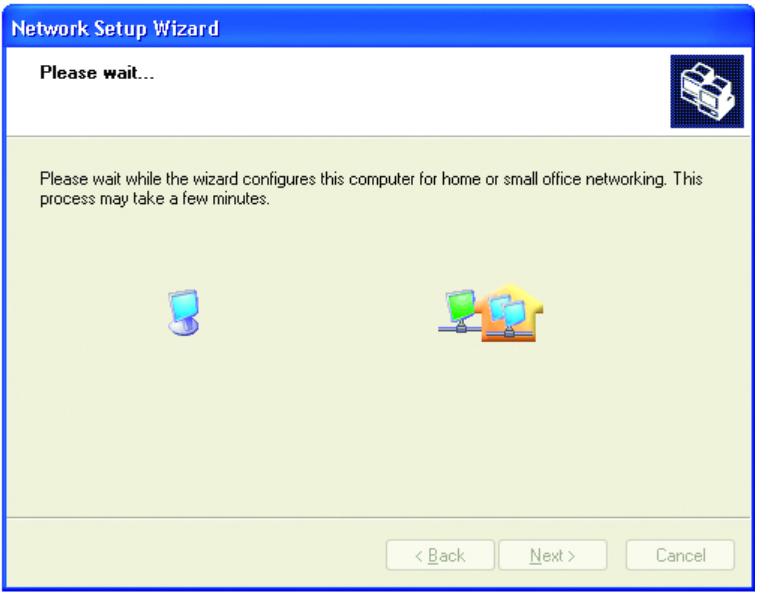

Click **Next**

Please wait while the **Network Setup Wizard** applies the changes.

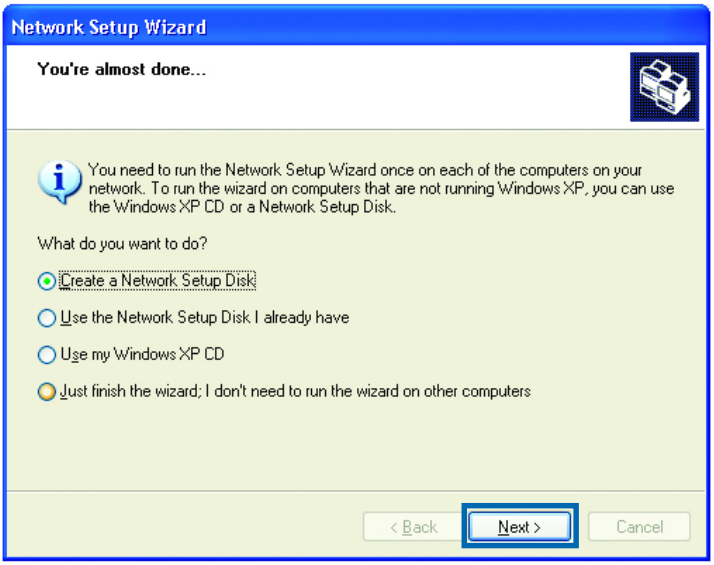



When the changes are complete, click **Next**.

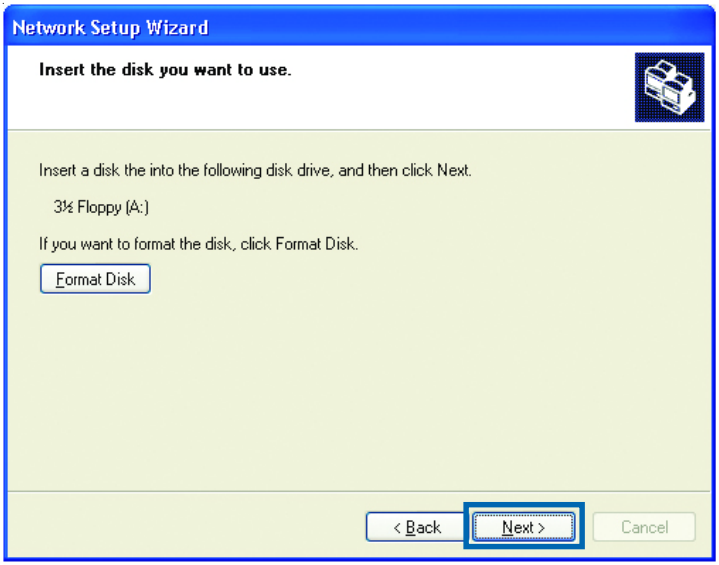
Please wait while the **Network Setup Wizard** configures the computer. This may take a few minutes.



In the window below, select the option that fits your needs. In this example, **Create a Network Setup Disk** has been selected. You will run this disk on each of the computers on your network. Click **Next**.



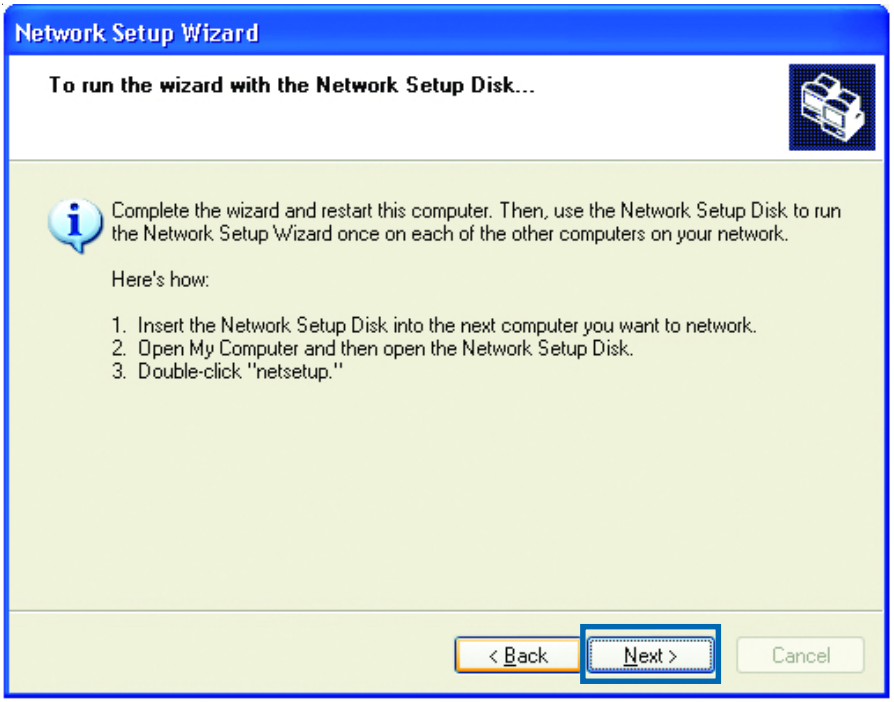

Insert a disk into the Floppy Disk Drive, in this case drive **A.**



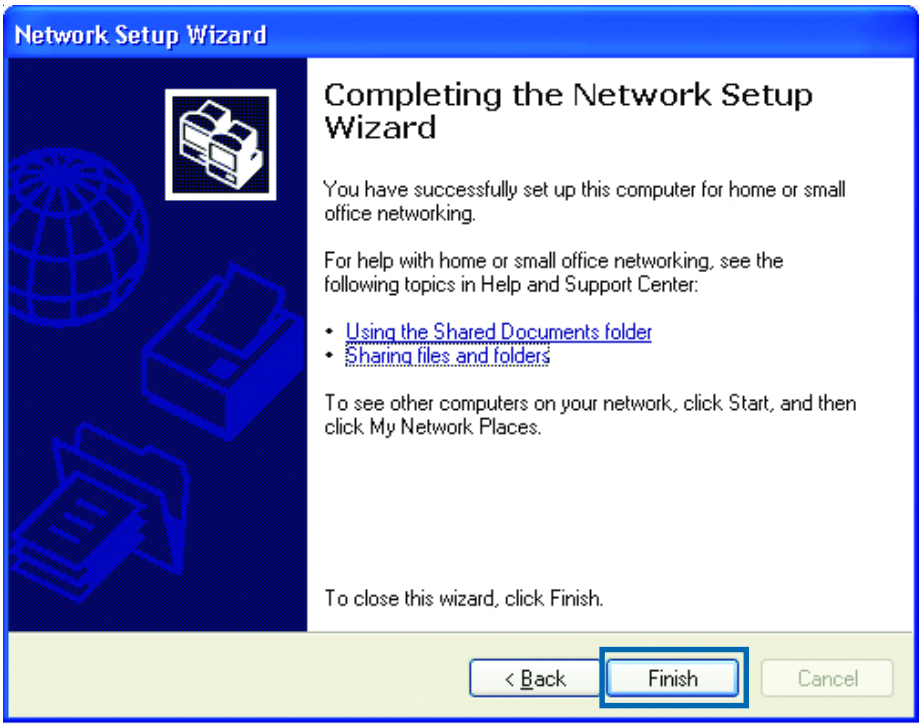

Click **Next**.

Please wait while the **Network Setup Wizard** copies the files.

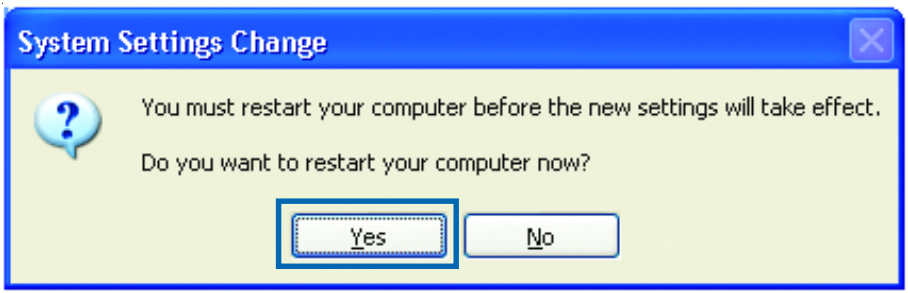

Please read the information under **Here's how** in the screen below. After you complete the **Network Setup Wizard** you will use the **Network Setup Disk** to run the **Network Setup Wizard** once on each of the computers on your network. To continue click **Next.**



Please read the information on this screen, then click **Finish** to complete the **Network Setup Wizard**.




The new settings will take effect when you restart the computer. Click **Yes** to restart the computer.




You have completed configuring this computer. Next, you will need to run the **Network Setup Disk** on all the other computers on your network. After running the **Network Setup Disk** on all your computers, your new wireless network will be ready to use.

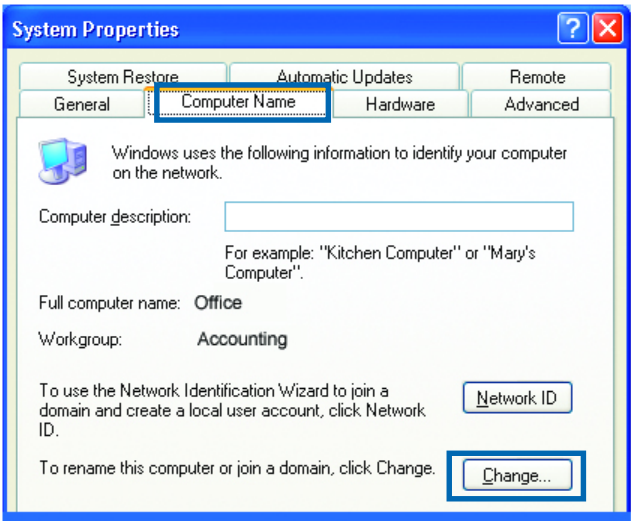
## Networking Basics *(continued)*

### *Naming your Computer*

To name your computer, please follow these directions:In **Windows XP**:

- Click **Start** (in the lower left corner of the screen)
- **Right-click** on **My Computer**
- Select **Properties** and click


- Select the **Computer Name Tab** in the System Properties window.

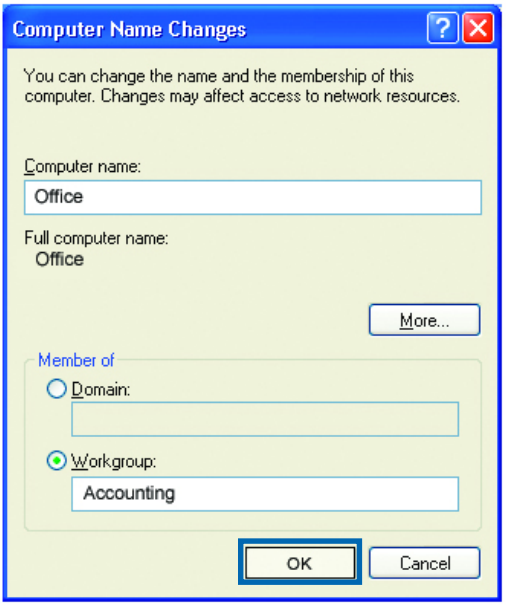



- You may enter a **Computer Description** if you wish; this field is optional.

- To rename the computer and join a domain, Click **Change**.

## *Naming your Computer*

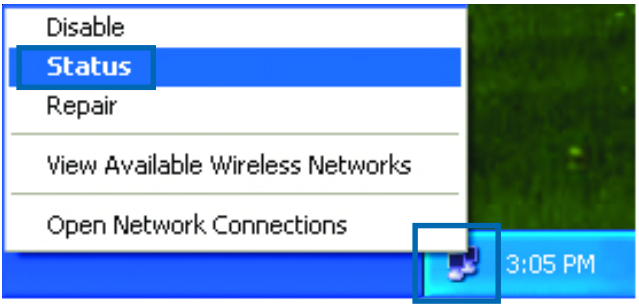
- In this window, enter the **Computer name**
- Select **Workgroup** and enter the name of the **Workgroup**
- All computers on your network must have the same **Workgroup** name.
- Click **OK**




## *Checking the IP Address in Windows XP*

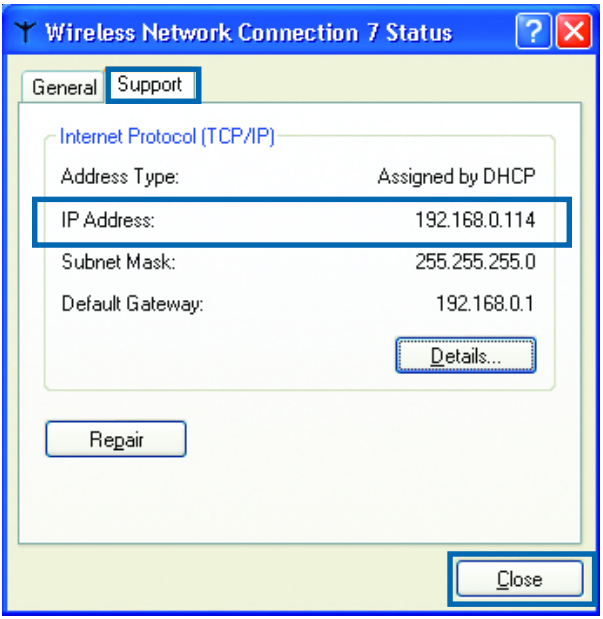
The wireless adapter-equipped computers in your network must be in the same IP Address range (see Getting Started in this manual for a definition of IP Address Range.) To check on the IP Address of the adapter, please do the following:

- Right-click on the ***Local Area Connection icon*** in the task bar
- Click on **Status**



## *Checking the IP Address in Windows XP*

This window will appear.



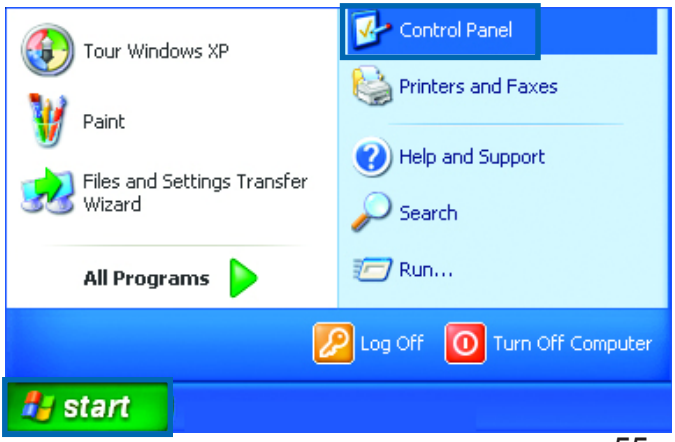

- Click the **Support tab**
- Click **Close**

## *Assigning a Static IP Address in Windows XP/2000*

*Note: Residential Gateways/Broadband Routers will automatically assign IP Addresses to the computers on the network, using DHCP (Dynamic Host Configuration Protocol) technology. If you are using a DHCP-capable Gateway/Router you will not need to assign Static IP Addresses.*

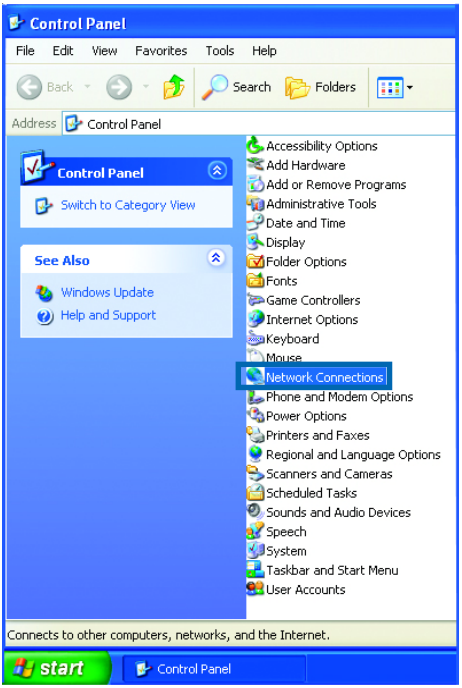
If you are not using a DHCP capable Gateway/Router, or you need to assign a Static IP Address, please follow these instructions:

- Go to **Start**
- Double-click on **Control Panel**



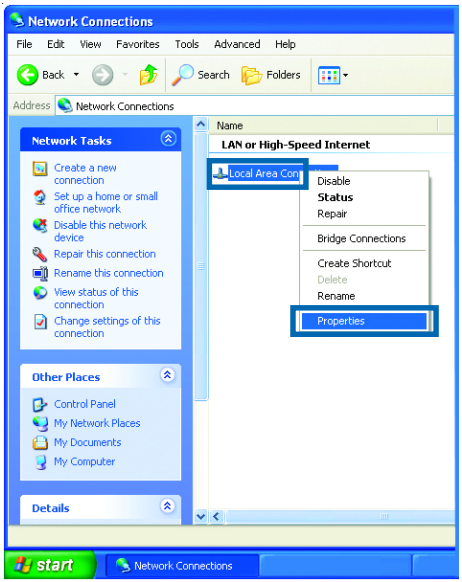
## *Assigning a Static IP Address in Windows XP/2000*

- Double-click on **Network Connections**



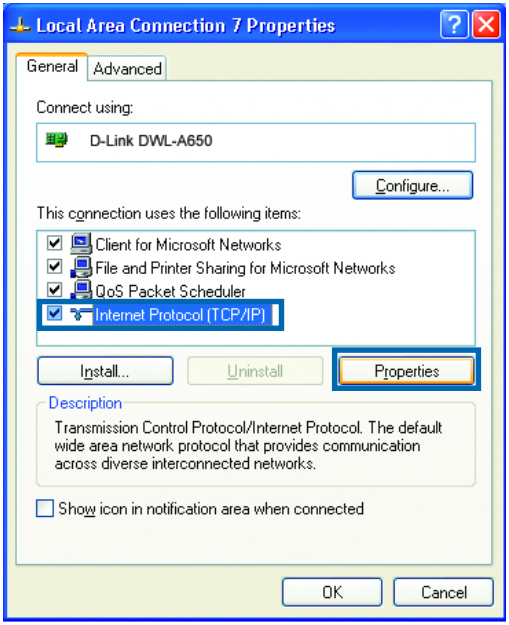

- Right-click on **Local Area Connections**

- Double-click on **Properties**

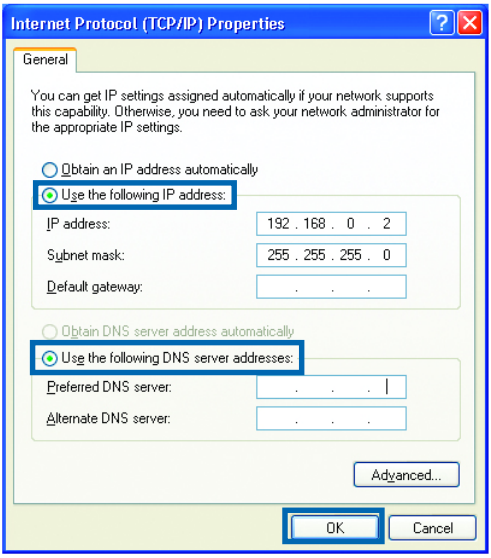


## *Assigning a Static IP Address in Windows XP/2000*

- Click on **Internet Protocol (TCP/IP)**
- Click **Properties**




- Input your **IP address and subnet mask.** (The IP Addresses on your network must be within the same range. For example, if one computer has an IP Address of 192.168.0.2, the other computers should have IP Addresses that are sequential, like 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.)




- Input your **DNS server addresses. (Note: If you are entering a DNS server, you must enter the IP Address of the Default Gateway.)**

*The DNS server information will be supplied by your ISP (Internet Service Provider.)*

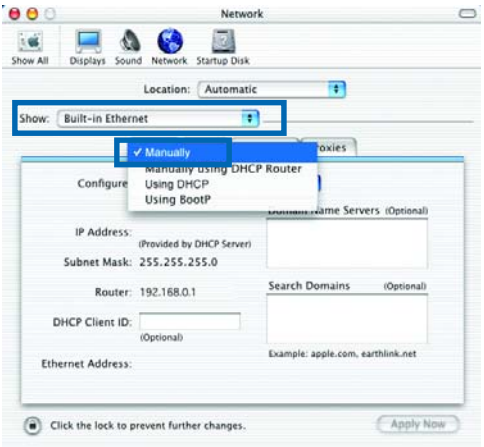
- Click **OK**

## *Assigning a Static IP Address with Macintosh OSX*

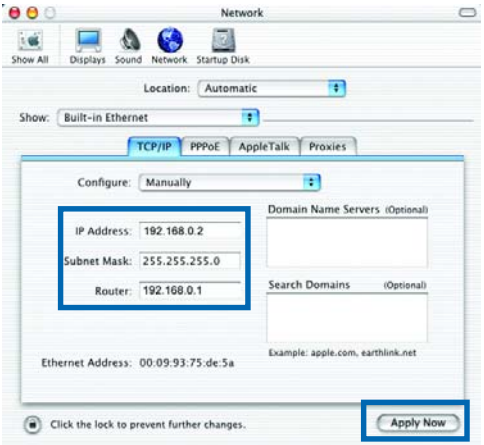
- Go to the **Apple Menu** and select **System Preferences**


- Click on **Network**

- Select **Built-in Ethernet** in the **Show** pull-down menu
- Select **Manually** in the **Configure** pull-down menu



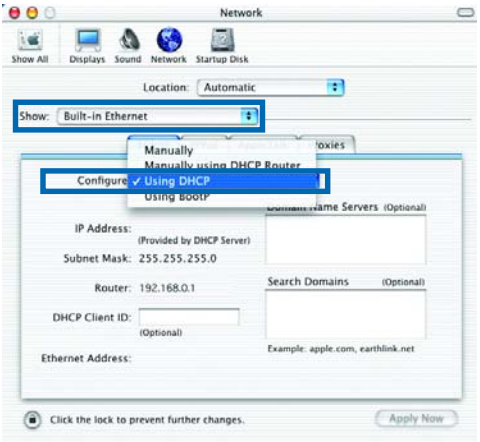

- Input the **Static IP Address**, the **Subnet Mask** and the **Router IP Address** in the appropriate fields



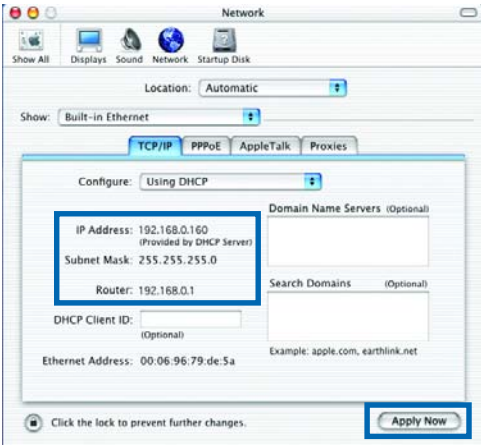

- Click **Apply Now**

## *Selecting a Dynamic IP Address with Macintosh OSX*


- Go to the **Apple Menu** and select **System Preferences**
- Click on **Network**



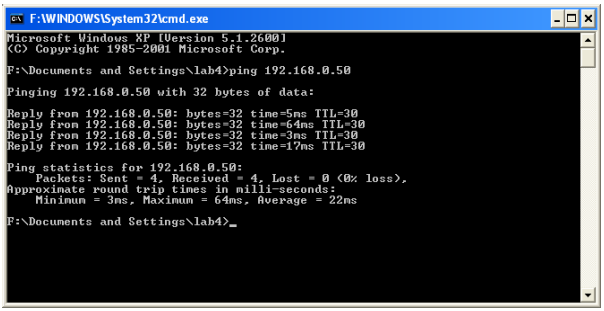

- Select **Built-in Ethernet** in the **Show** pull-down menu
- Select **Using DHCP** in the **Configure** pull-down menu




- Click **Apply Now**
- The **IP Address, Subnet mask**, and the **Router's IP Address** will appear in a few seconds

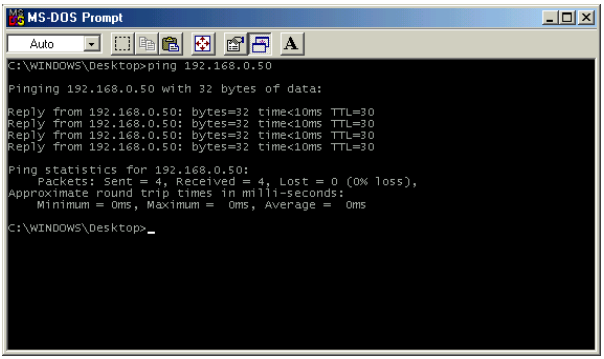
## *Checking the Wireless Connection by Pinging in Windows XP and 2000*

- Go to **Start** > **Run** > type **cmd**. A window similar to this one will appear. Type **ping xxx.xxx.xxx.xxx**, where **xxx** is the **IP Address** of the Wireless Router or Access Point. A good wireless connection will show four replies from the Wireless Router or Acess Point, as shown.




## *Checking the Wireless Connection by Pinging in Windows Me and 98*

- Go to **Start** > **Run** > type **command**. A window similar to this will appear. Type **ping xxx.xxx.xxx.xxx** where **xxx** is the **IP Address** of the Wireless Router or Access Point. A good wireless connection will show four replies from the wireless router or access point, as shown.

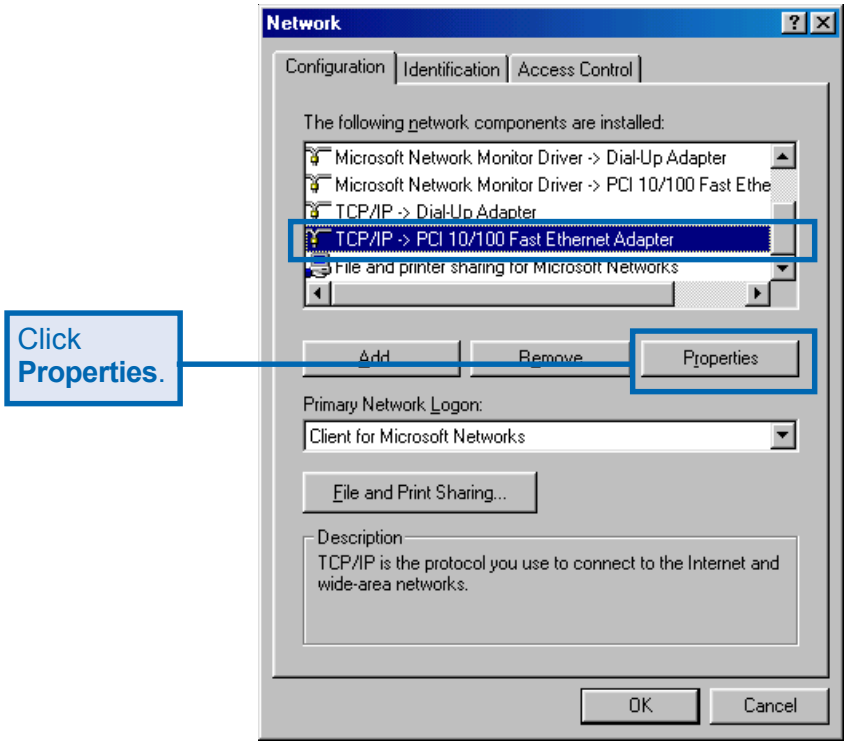


# Troubleshooting

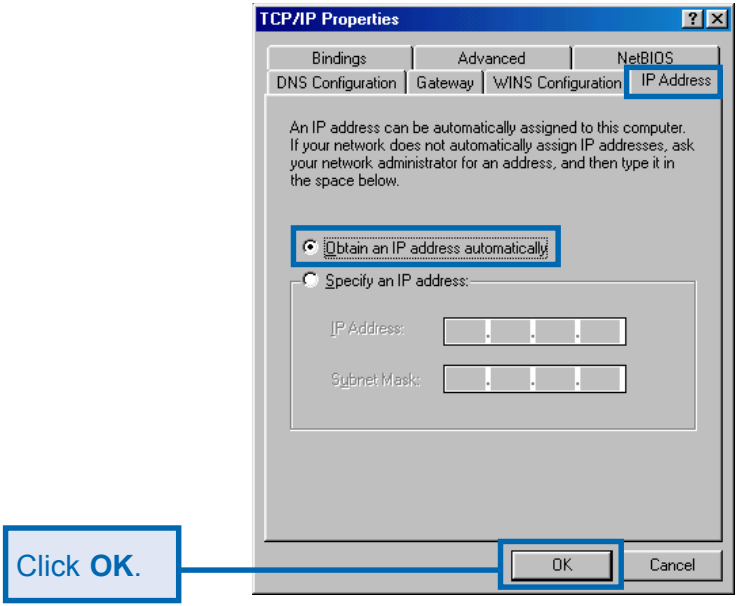
This Chapter provides solutions to problems that can occur during the installation and operation of the DX-E401 Cable/DSL Router. We cover various aspects of the network setup, including the network adapters. Please read the following if you are having problems.

If you **do not** wish to set the static IP address on your PC, you will need to configure your PC to request an IP address from the gateway.

- Click the **Start** button, select **Settings**, and select **Control Panel**.
- Double-click the **Network** icon.
- In the configuration tab, select the **TCP/IP protocol line** that has been associated with your network card/adapter. If there is no TCP/IP line listed, you will need to install TCP/IP now.



Choose the **IP ADDRESS** tab. Select **Obtain an IP automatically**.




After clicking **OK**, windows might ask you to restart the PC. Click **Yes**.

## Confirm Your PC's IP Configuration

There are two tools which are great for finding out a computer's IP configuration: MAC address and default gateway.

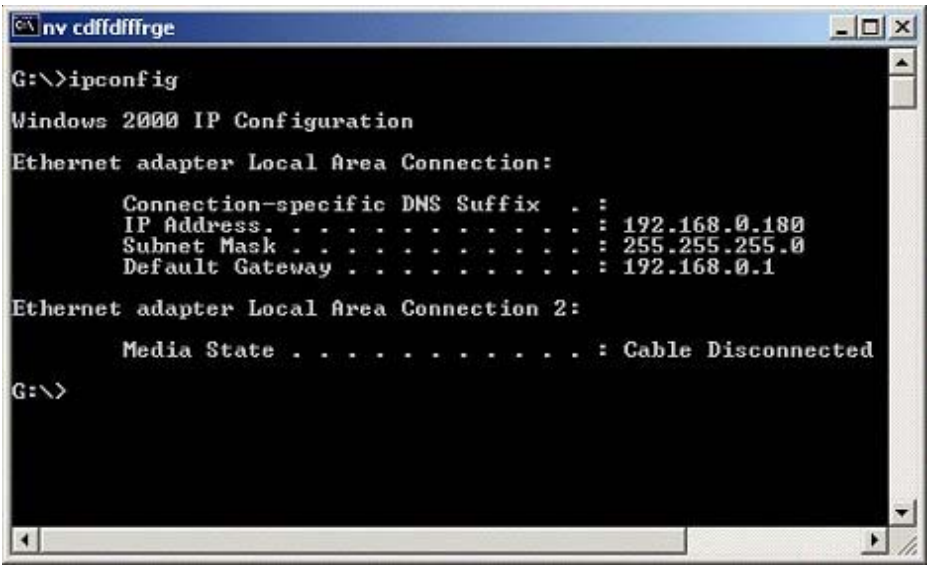
**WINIPCFG (for Windows 95/98)**

Inside the windows 95/98 Start button, select Run and type winipcfg. In the example below this computer has an IP address of 192.168.0.100 and the default gateway is 192.168.0.1. The default gateway should be the network device IP address. The MAC address in windows 95/98 is called the Adapter Address.

**NOTE:** You can also type **winipcfg** in the DOS command prompt.


**IPCONFIG (for Windows 2000/NT/XP)**

At the command prompt type **IPCONFIG** and press **Enter**. Your PC IP information will be displayed as shown below.

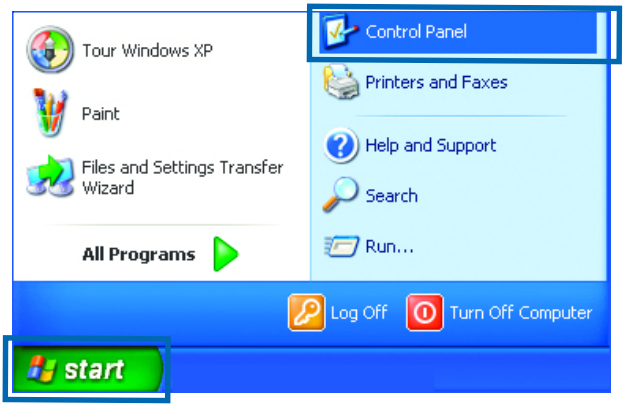


## Confirm Your PC's IP Configuration

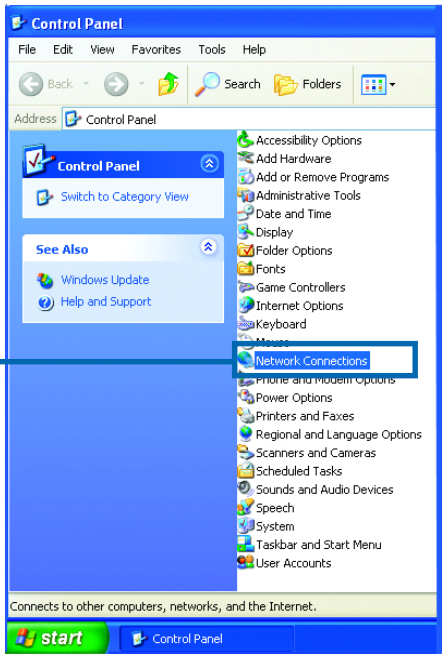
**Note:** Residential Gateways/Broadband Routers will automatically assign IP Addresses to the computers on the network, using DHCP (Dynamic Host Configuration Protocol) technology. If you are using a DHCP-capable Gateway/Router you will not need to assign Static IP Addresses.

If you are not using a DHCP capable Gateway/Router, or you need to assign a Static IP Address, please follow these instructions:

Go to **Start**. Double-click on **Control Panel**.

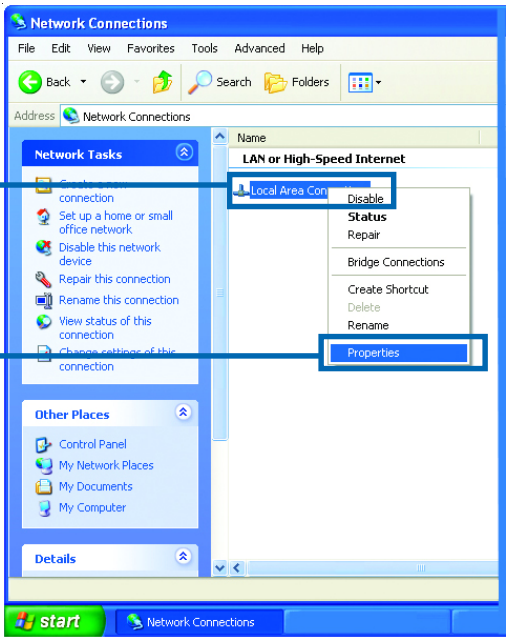



Double-click on **Network Connections**.



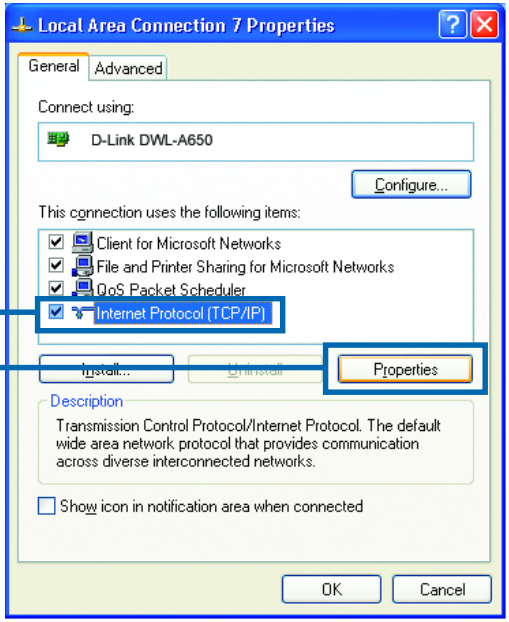
Right-click on **Local Area Connections**.

Double-click on **Properties**.



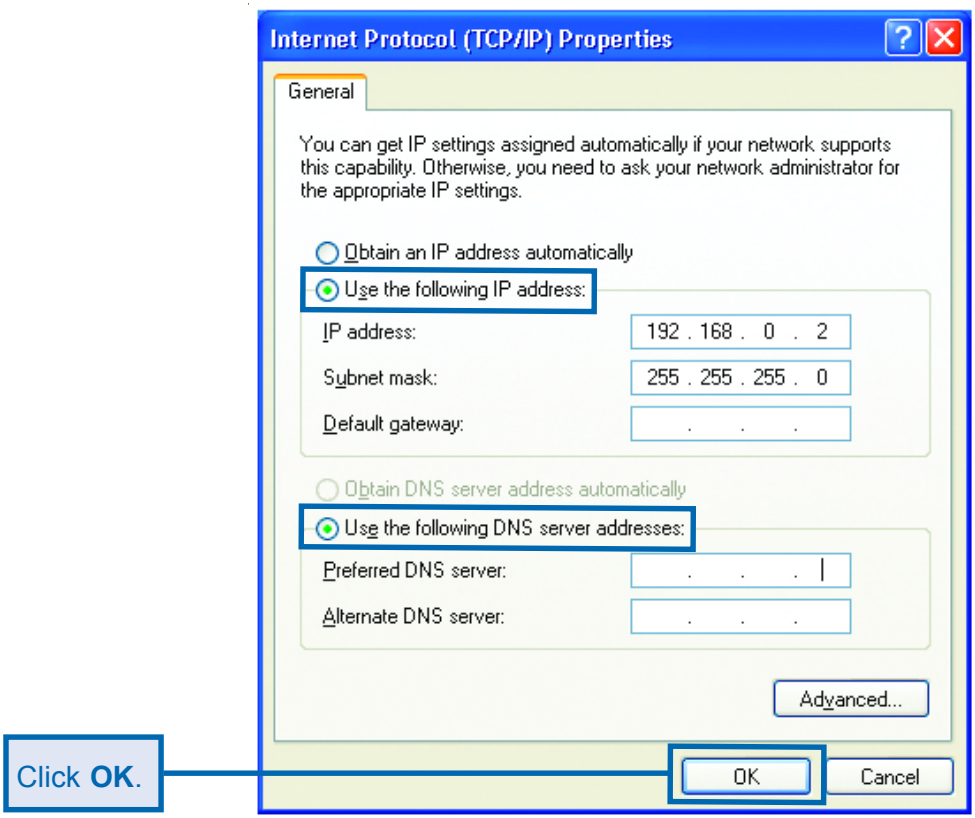

Highlight **Internet Protocol (TCP/IP)**.

Click **Properties**.



Select **Use the following IP address** in the Internet Protocol (TCP/IP) Properties window. Input your IP address and subnet mask. (The IP Addresses on your network must be within the same range. For example, if one computer has an IP Address of 192.168.0.2, the other computers should have IP Addresses that are sequential, like 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.) Input your DNS server addresses.

The DNS server information will be provided by your ISP (Internet Service Provider).




You have completed the assignment of a Static IP Address. (You do not need to assign a Static IP Address if you have a DHCP-capable Gateway/Router.)

# Technical Specifications

**Standards**

- IEEE 802.3 10Base-T Ethernet
- IEEE 802.3u 100Base-TX Fast Ethernet
- IEEE 802.3 Auto Negotiation

**VPN Pass Through/ Multi-Sessions**

- PPTP
- L2TP
- IPSec

**Device Management**

- Web-Based- Internet Explorer v6 or later; Netscape Navigator v6 or later; or other Java-enabled browsers

**Media Access Control**

- CMSA/CA with ACK

**LEDs**

- Power
- WAN
- LAN (10/100)

**Operating Temperature**

- 32ºF to 131ºF (0ºC to 55ºC)

**Humidity**

- 95% maximum (non-condensing)

**Safety and Emissions**

- FCC
- UL

## Technical Specifications *(continued)*

### Physical Dimensions

- L = 5.51 inches (140mm)
- W = 4.37 inches (111mm)
- H = 1.10inches (28mm)

### Power Input

- External Power Supply
- DC 5V, 2.0A

### Weight

- 10.8 oz. (0.3kg)

### Warranty

- 1 Year

# Technical Support

You can find  software updates and user documentation on the Dynex website.

Dynex provides free technical support for customers within the United States for the duration of the warranty period on this product.

U.S. customers can contact Dynex technical support through our web site, or by phone.

## Tech Support for customers within the United States:

***Dynex Technical Support over the Telephone:***
(800) 305-2204
24 hours a day, seven days a week.

***Dynex Technical Support over the Internet:***
http://www.dynexproducts.com

*When contacting technical support, please provide the following information:*

- *Serial number of the unit*
- *Model number or product name*
- *Software type and version number*

# Warranty and Registration
## (USA only)

Subject to the terms and conditions set forth herein, Dynex provides this Limited warranty for its product only to the person or entity that originally purchased the product from:

- Dynex or its authorized reseller or distributor and
- Products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, addresses with an APO or FPO.

***Limited Warranty:*** Dynex warrants that the hardware portion of the Dynex products described below will be free from material defects in workmanship and materials from the date of original retail purchase of the product, for the period set forth below applicable to the product type ("Warranty Period"), except as otherwise stated herein.

1-Year Limited Warranty for the Product(s) is defined as follows:

- Hardware (excluding power supplies and fans) One (1) Year
- Power Supplies and Fans One (1) Year
- Spare parts and spare kits Ninety (90) days

Dynex's sole obligation shall be to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund at Dynex's sole discretion. The replacement Hardware need not be new or have an identical make, model or part. Dynex may in its sole discretion replace the defective Hardware (or any part thereof) with any reconditioned product that Dynex reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement Hardware will be warranted for the remainder of the original Warranty Period from the date of original retail purchase. If a material defect is incapable of correction, or if Dynex determines in its sole discretion that it is not practical to repair or replace the defective Hardware, the price paid by the original purchaser for the defective Hardware will be refunded by Dynex upon return to Dynex of the defective Hardware. All Hardware (or part thereof) that is replaced by Dynex, or for which the purchase price is refunded, shall become the property of Dynex upon replacement or refund.

***Limited Software Warranty:*** Dynex warrants that the software portion of the product ("Software") will substantially conform to Dynex's then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days ("Warranty Period"), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. Dynex further warrants that, during the Warranty Period, the magnetic media on which Dynex delivers the Software will be free of physical defects. Dynex's sole obligation shall be to replace the non-conforming Software (or defective media) with software that substantially conforms to Dynex's functional specifications for the Software or to refund at Dynex's sole discretion. Except as otherwise agreed by Dynex in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by Dynex for the Software. Software will be warranted for the remainder of the original Warranty Period from the date or original retail purchase. If a material non-conformance is incapable of correction, or if Dynex determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by Dynex; provided that the non-conforming Software (and all copies thereof) is first returned to Dynex. The license granted respecting any Software for which a refund is given automatically terminates.

***Non-Applicability of Warranty:*** The Limited Warranty provided hereunder for hardware and software of Dynex's products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which Dynex, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold "As-Is" without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

***Submitting A Claim***: The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to Dynex as outlined below:

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow Dynex to confirm the same.
- The original product owner must obtain a Return Material Authorization ("RMA") number from the Authorized Dynex Service Office and, if requested, provide written proof of purchase of the product (such as a copy of the dated purchase invoice for the product) before the warranty service is provided.
- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. Dynex will only replace the defective portion of the Product and will not ship back any accessories.
- The customer is responsible for all in-bound shipping charges to Dynex. No Cash on Delivery ("COD") is allowed. Products sent COD will either be rejected by Dynex or become the property of Dynex. Products shall be fully insured by the customer and shipped to **Dynex Products Return Center, 901 East Northfield Drive, Brownsburg, IN 46112**. Dynex will not be held responsible for any packages that are lost in transit to Dynex. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by Dynex, with shipping charges prepaid. Expedited shipping is available if shipping charges are prepaid by the customer and upon request.

Dynex may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay Dynex's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by Dynex not to be defective or non-conforming.

***What Is Not Covered:*** This limited warranty provided by Dynex does not cover: Products, if in Dynex's judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than Dynex; Products that have been purchased from inventory clearance or liquidation sales or other sales in which Dynex, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. Repair by anyone other than Dynex or an Authorized Dynex Service Office will void this Warranty.

***Disclaimer of Other Warranties:*** EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO NINETY (90) DAYS. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

***Limitation of Liability:*** TO THE MAXIMUM EXTENT PERMITTED BY LAW, DYNEX IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, LOSS OF REVENUE OR PROFIT, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, FAILURE OF OTHER EQUIPMENT OR COMPUTER PROGRAMS TO WHICH DYNEX'S PRODUCT IS CONNECTED WITH, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO DYNEX FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF DYNEX HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NON-CONFORMING PRODUCT. THE MAXIMUM LIABILITY OF DYNEX UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY

***Governing Law***: This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This limited warranty provides specific legal rights and the product owner may also have other rights which vary from state to state.

**Trademarks:** Dynex is a registered trademark of Dynex. Other trademarks or registered trademarks are the property of their respective manufacturers or owners.



**CE Mark Warning:** This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

**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 communication. 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.