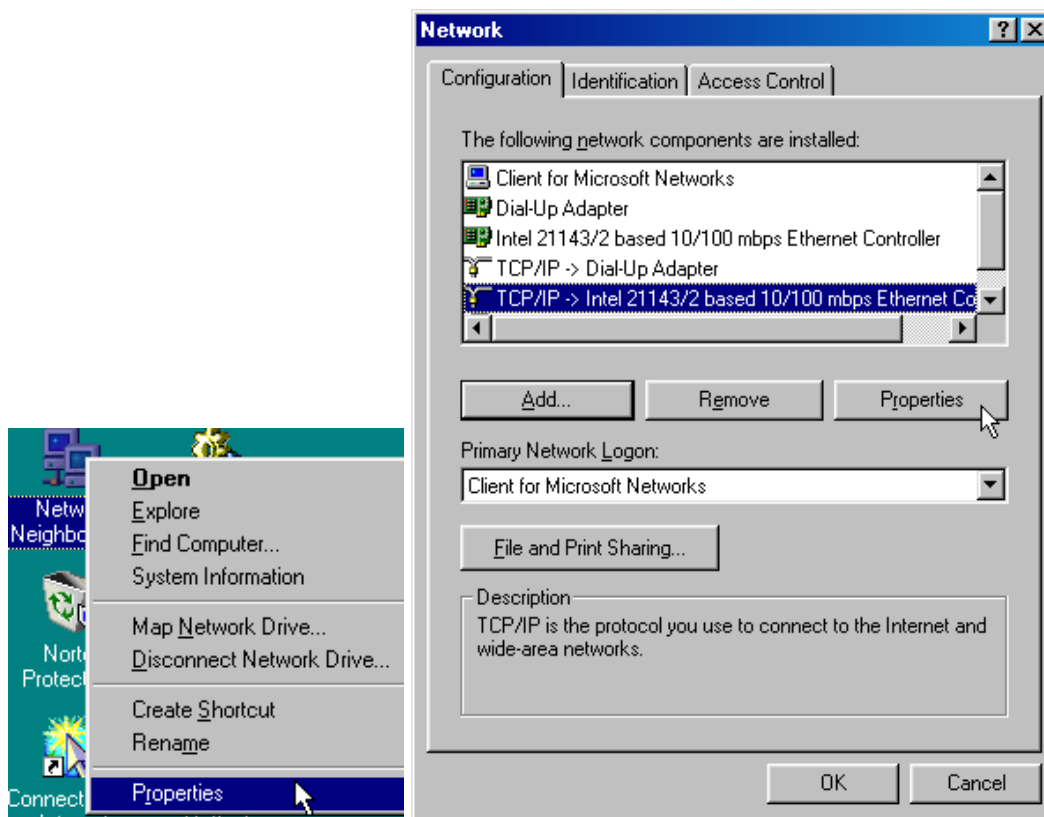


## How to Setup a Linksys Cable / DSL Router

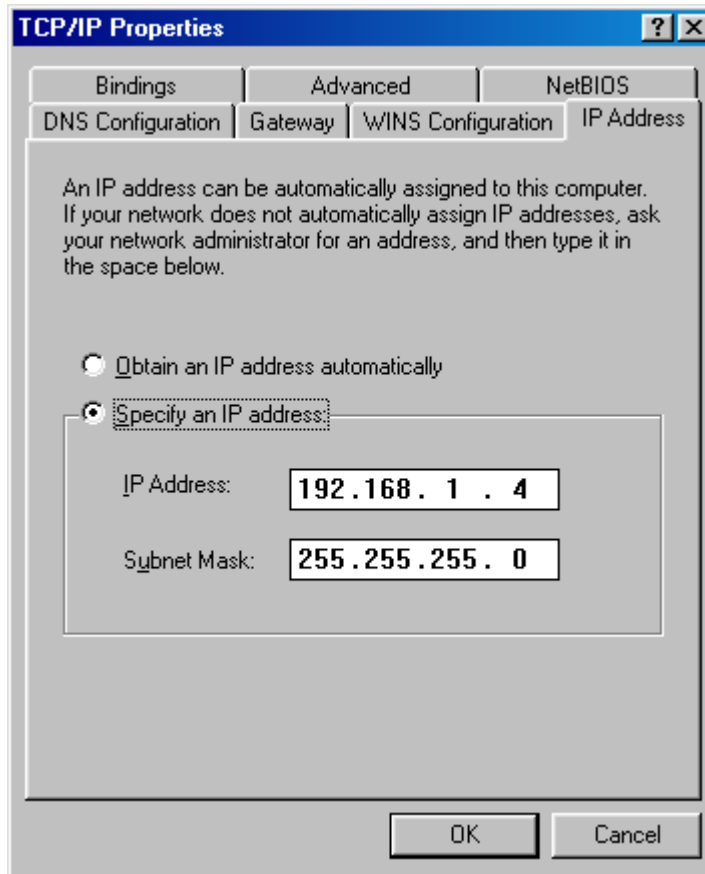
When using a browser (such as IE 5.0 or greater) to configure the Linksys Cable / DSL Router, one must 1<sup>st</sup> temporarily configure a workstation so that the workstation will be on the same TCP/IP subnet as the Linksys Cable / DSL Router that has a default IP address of 192.168.1.1.

**NOTE:** If a workstation is already configured to access the internet and the Internet Service Provider (ISP) requires and has provisioned the internet account for the MAC address of the network interface card (NIC) in the workstation, you should plan on cloning the MAC address of the NIC onto the Linksys Cable / DSL Router.

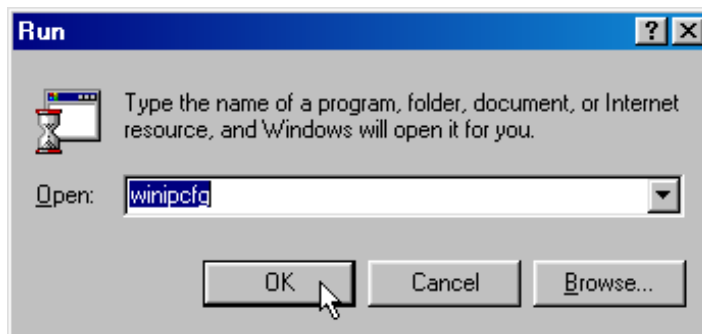


1. On the workstation to be temporarily re-configured to setup the router, right click on Network Neighborhood, then click on Properties to bring up the Network dialog box. Click on **TCP/IP -> (your network adapter)**, then click on the Properties button.

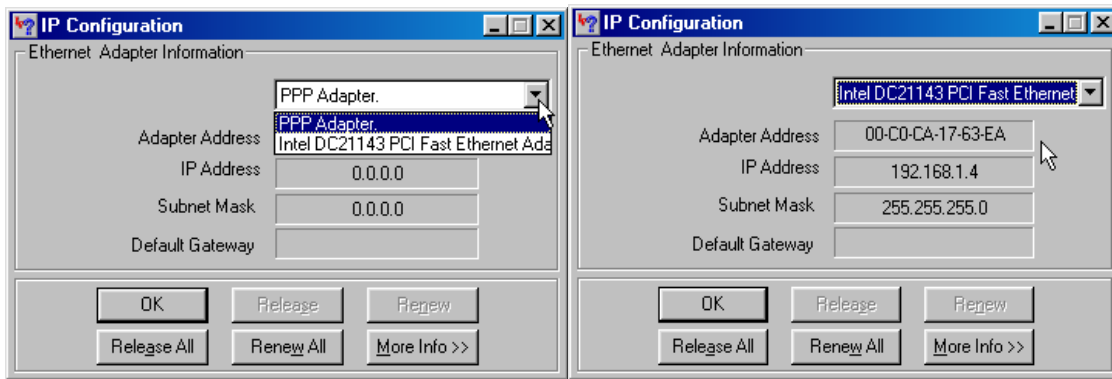
NOTE: These instructions assume the workstation operating system is Windows 98.



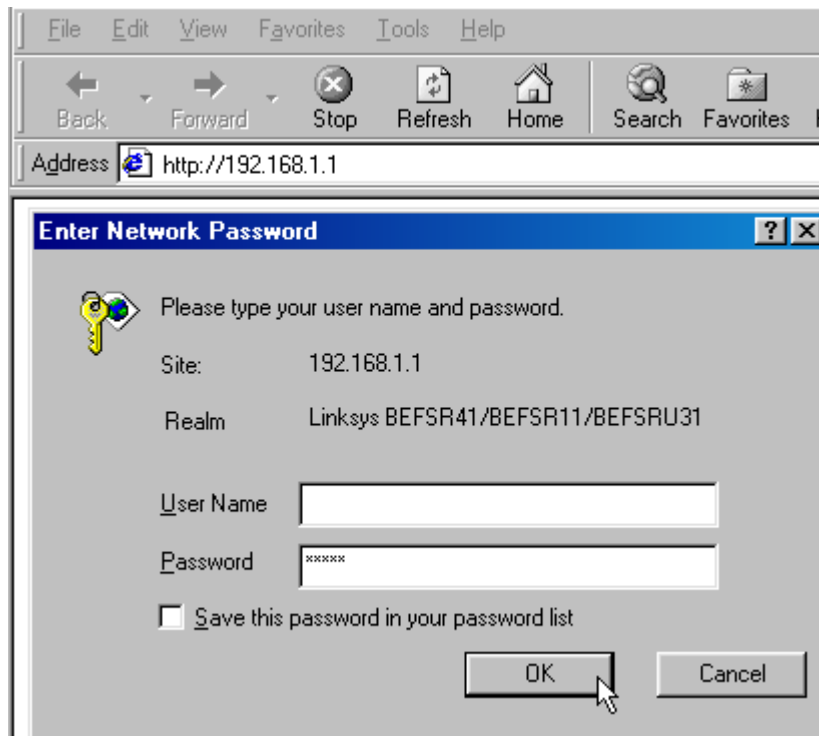
2. Select an unused IP address in the same subnet as the default IP address of the Linksys router (i.e. 192.168.1.4) Temporarily specify **IP address** and **Subnet Mask** as above. **NOTE:** Changing the TCP/IP configuration will require a re-boot of the workstation.



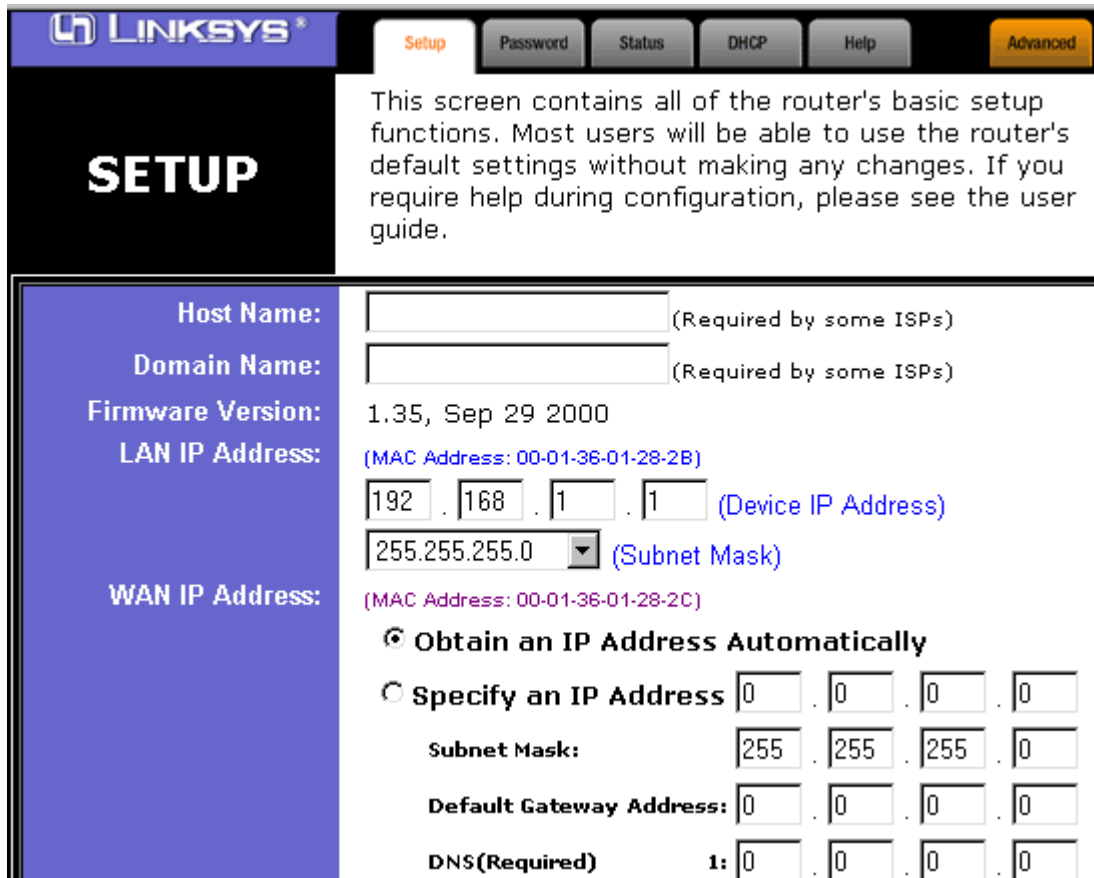
3. Click on Start / Run and enter **winipcfg** as the **Open** command then click on **OK**.



4. Within the **IP Configuration** dialog box, click on the down arrow then select your network card... (i.e. Intel DC21143 PCI Fast Ethernet Adapter). Record the 12 digit hexadecimal **Adapter Address** which is the **MAC Address** of the network card in the workstation. This **MAC Address** is the address that will be cloned onto the router to become the **WAN MAC Address** of the router. Connect a 10/100 switched port on the router to the your LAN. Plug in the router power module, but do NOT connect the WAN port on the router to the existing cable modem / DSL internet connection.



5. Launch the workstation browser and enter the URL Address as <http://192.168.1.1> then click on **Go**. The Linksys router will cause the **Enter Network Password** dialog box to be displayed. For the initial default configuration of the router, leave **User Name** blank and enter **admin** for the **Password** then click on **OK** to gain access to the setup screen following.



LINKSYS®

Setup Password Status DHCP Help Advanced

# SETUP

This screen contains all of the router's basic setup functions. Most users will be able to use the router's default settings without making any changes. If you require help during configuration, please see the user guide.

Host Name:  (Required by some ISPs)

Domain Name:  (Required by some ISPs)

Firmware Version: 1.35, Sep 29 2000

LAN IP Address:  .  .  .  (Device IP Address)

(Subnet Mask)

WAN IP Address: (MAC Address: 00-01-36-01-28-2C)

Obtain an IP Address Automatically

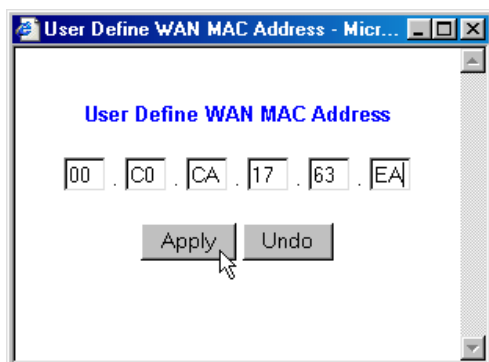
Specify an IP Address  .  .  .

Subnet Mask:  .  .  .

Default Gateway Address:  .  .  .

DNS(Required) 1:  .  .  .

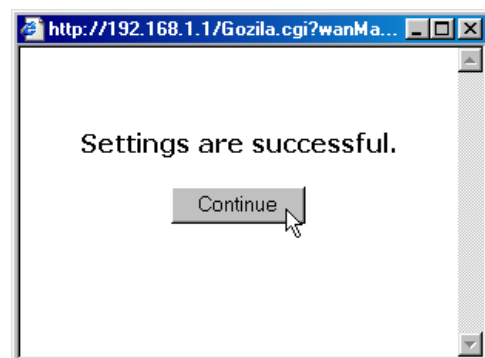
6. Enter router setup parameters as appropriate... (i.e. If the router will be used with a Microsoft WinNT Small Business Server whose IP address is **10.0.0.2**, change the router Device IP Address from **192.168.1.1** to an un-used IP Address such as **10.0.0.4**). Click on the MAC Address that is currently defined to be the WAN IP Address. For example... **(MAC Address: 00-01-36-01-28-2C)** above and the **User Define WAN MAC Address** dialog box will be displayed as below...



User Define WAN MAC Address

.  .  .  .  .

Apply Undo



http://192.168.1.1/Gozilla.cgi?wanMa...

Settings are successful.

Continue

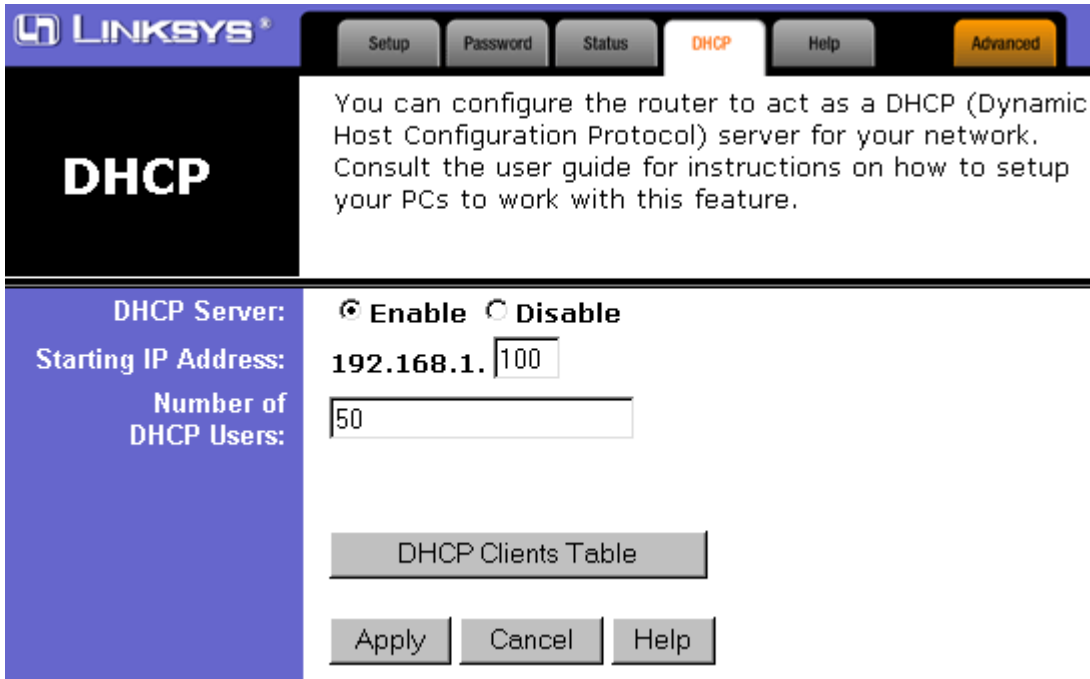
7. Enter value for the **WAN MAC Address** as recorded in step 4 above then click **Apply**. This clones the MAC address of the NIC to the WAN MAC Address.

<b>Firmware Version:</b>	1.35, Sep 29 2000
<b>LAN IP Address:</b>	(MAC Address: 00-01-36-01-28-2B) 192 . 168 . 1 . 1 (Device IP Address) 255.255.255.0 (Subnet Mask)
<b>WAN IP Address:</b>	(MAC Address: 00-C0-CA-17-63-EA) <input checked="" type="radio"/> <b>Obtain an IP Address Automatically</b> <input type="radio"/> <b>Specify an IP Address</b> <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> <b>Subnet Mask:</b> <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="0"/> <b>Default Gateway Address:</b> <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> <b>DNS(Required)</b> 1: <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> 2: <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> 3: <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/>
<b>PPPoE:</b>	<input type="radio"/> <b>Enable</b> <input checked="" type="radio"/> <b>Disable</b> <b>User Name:</b> <input type="text"/> <b>Password:</b> <input type="text"/> <input type="checkbox"/> <b>Connect on Demand: Max Idle Time</b> <input type="text" value="0"/> <b>Min.</b> <input type="checkbox"/> <b>Keep Alive</b>

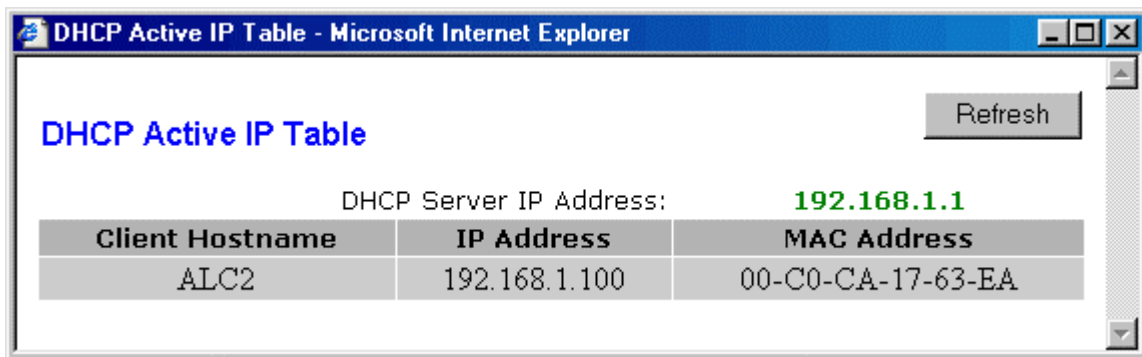
8. The Linksys router is intended for installation between a DSL, ADSL, or cable modem and the local LAN. If the LAN onto which you are installing the Linksys router does not have a DHCP server, you must enable the DHCP server in the Linksys router for the local LAN.

9. If the server on the LAN already has a DHCP server configured and enabled, it is recommended that you continue to use the existing DHCP server and do not enable the DHCP server in the Linksys router for the local LAN.

10. If you are installing the Linksys router between a DSL or ADSL modem, check to confirm if PPPoE communication (Point to Point Protocol over Ethernet) is required for connectivity with the ISP which is usually the case. If PPPoE is required, you must enable PPPoE on the above setup / configuration screen. One must also enter a User Name and Password for the PPPoE connection. Note: For Win9x clients to support PPPoE, one must install PPPoE client software such as Ethernet 300 onto the Win9x client workstation. WinNT has PPPoE support built in; therefore, one must simply add PPPoE protocol support to a WinNT client.



11. Click on the **DHCP** tab and note that the router provides for a single DHCP pool. Configure the DHCP pool parameters by entering the **Starting IP Address** and the maximum **Number of DHCP Users**. Use caution when choosing values to enter here to ensure the resulting DHCP pool of addresses does not include any static IP addresses in use on the local LAN. Additionally the maximum **Number of DHCP Users** possible for the Linksys router is 253. It is recommended that one does not configure the DHCP server to allocate an excessive number of IP address to the DHCP pool so that some IP addresses in the subnet range remain available for static assignment to devices such as print servers, etc. Click on **Apply** after entering the appropriate values.



12. Click on the DHCP Clients Table to display currently active IP leases. NOTE: This function did not work in early firmware versions.

**LINKSYS** Setup Password **Status** DHCP Help Advanced

**STATUS**

This screen displays the router's current status and settings. This information is read-only.

<b>Host Name:</b>	
<b>Firmware Version:</b>	<b>1.35, Sep 29 2000</b>
<b>PPPoE:</b>	<b>Disable</b>
<b>LAN:</b>	(MAC Address: 00-01-36-01-28-2B)
IP Address:	192.168.1.1
Subnet Mask:	255.255.255.0
DHCP server:	Enabled
<b>WAN:</b>	(MAC Address: 00-C0-CA-17-63-EA)
IP Address:	0.0.0.0
Subnet Mask:	255.255.255.0
Default Gateway:	0.0.0.0

13. Click on the **Status** tab to view the current router configuration.

**PPPoE:** **Disable**

**LAN:** (MAC Address: 00-01-36-01-28-2B)

IP Address:	192.168.1.1
Subnet Mask:	255.255.255.0
DHCP server:	Enabled

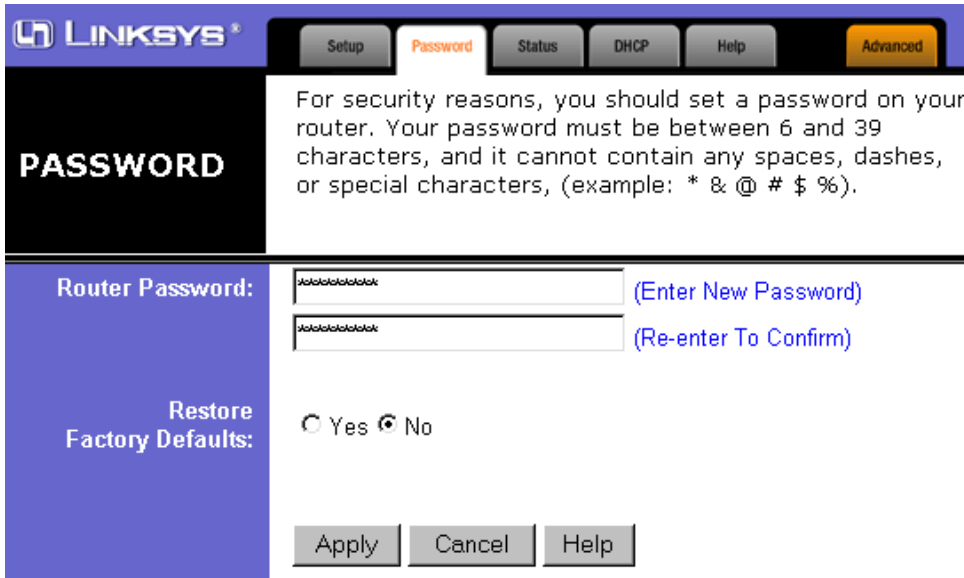
**WAN:** (MAC Address: 00-C0-CA-17-63-EA)

IP Address:	0.0.0.0
Subnet Mask:	255.255.255.0
Default Gateway:	0.0.0.0
DNS:	0.0.0.0
	0.0.0.0

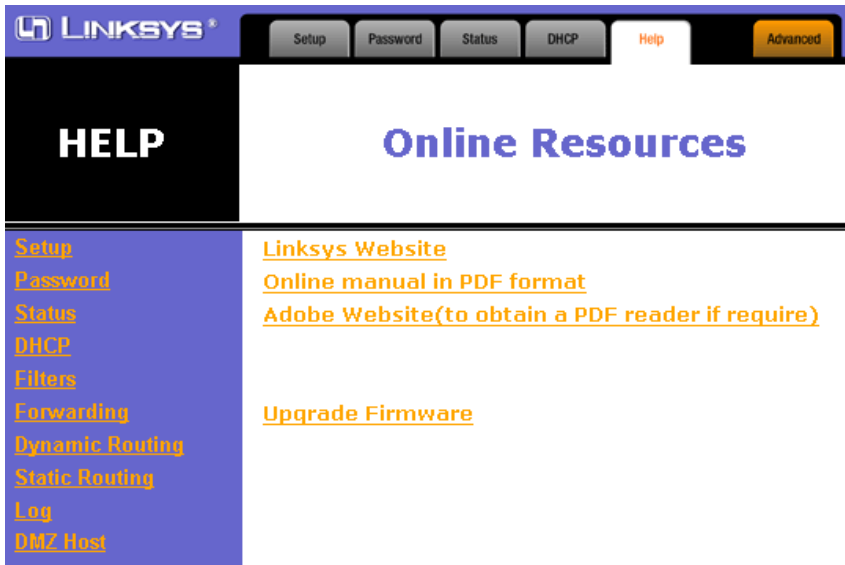
DHCP Release DHCP Renew

DHCP Clients Table Help

14. Scroll down on the status screen to see the entire contents of the screen.

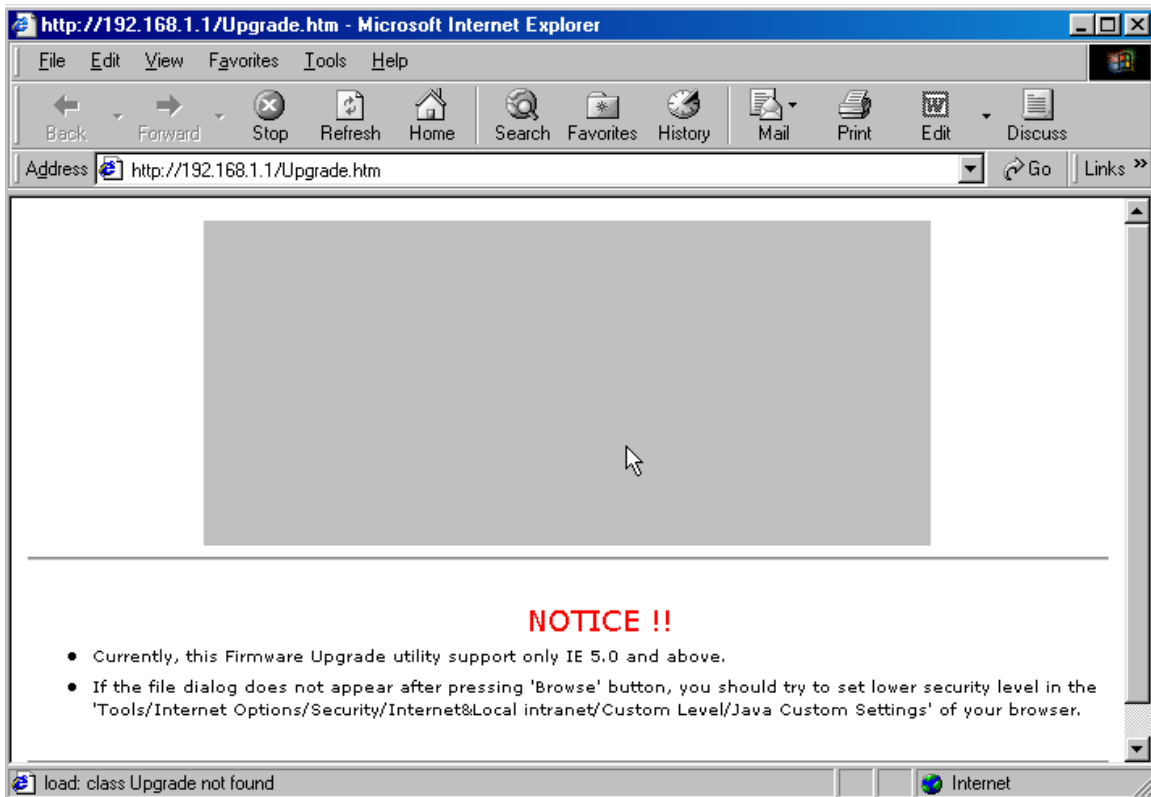


15. Click the Password tab. Enter the case sensitive router administration password. After the router is configured, connect the router WAN port to the LAN port on the existing cable modem via a standard RJ45 patch cord. Reconfigure the setup workstation to use DHCP.



16. Click on the **Help** tab to access various help topics. Once the router installation is complete and you have set the **Admin** password under the **Password** tab, this screen is also where one may initiate the router firmware upgrade process; however, one may browse to <http://www.linksys.com/support/> and select **Firmware Upgrade** under **Service and Support** to download the latest router firmware. After download one may use TFTP to transfer the firmware update into the router.

**CAUTION:** Firmware upgrade will not enhance the quality or speed of the internet connection and may disrupt current connection stability and will reset the current router configuration settings. Record current router settings before updating the firmware.



## EtherFast Cable/DSL Router with USB and 3-Port 10/100 Switch

Driver Date : 12/29/2000

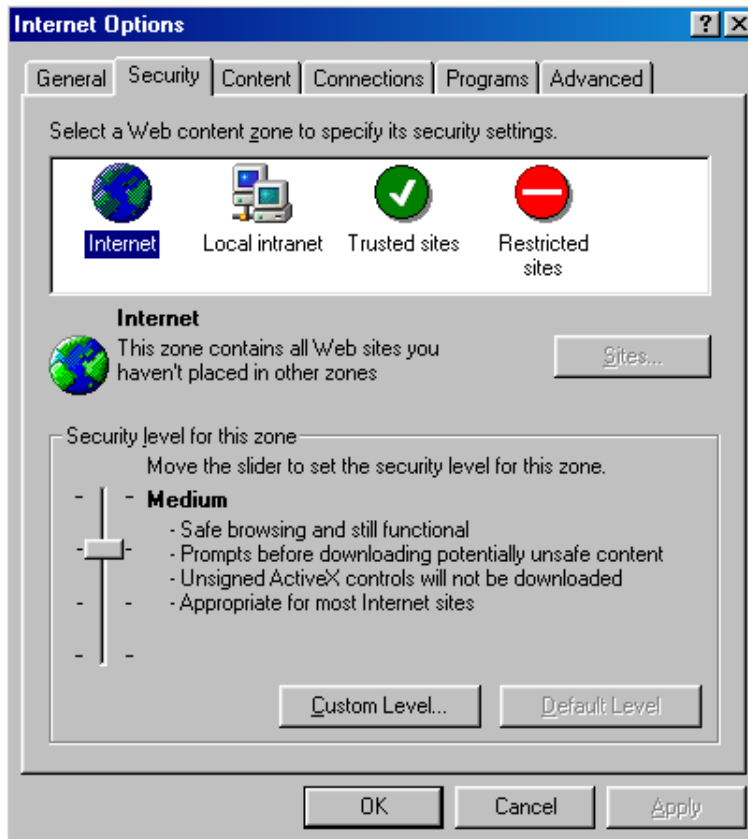
Drive File Size : 688KB

Click [here](#) to download the latest released firmware ( version 1.37 ) for the BEFSRU31 router. After extracting the files, please read the README.DOC file for upgrade instructions.

**Please note that firmware is upgraded for the resolution of any problems you may be encountering with the router and not for additional features. Installing newer firmware on a presently-functioning router may result in router malfunction. Please be aware of this when downloading firmware.**

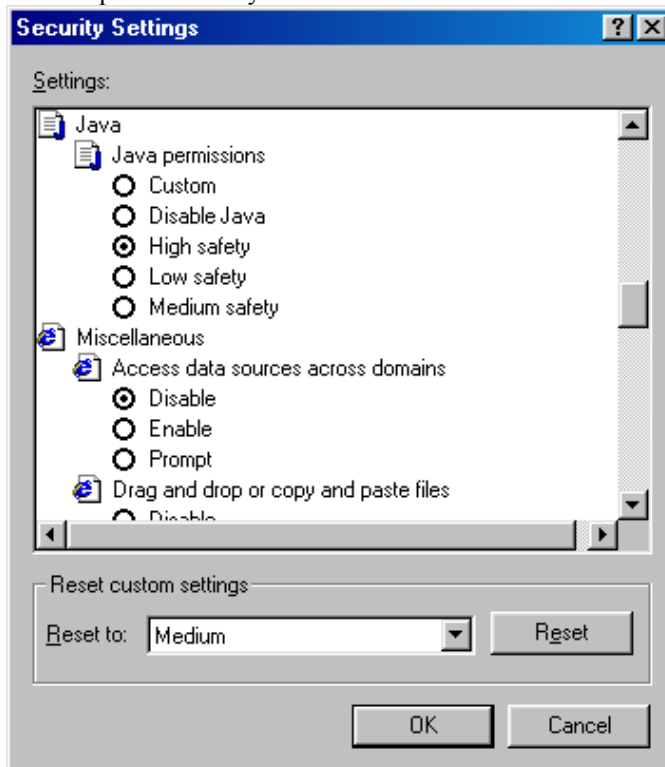
Firmware upgrades will erase all settings previously selected in your EtherFast Cable/DSL Router's configuration. Before upgrading your firmware, make sure to record your settings.

**IPSec Passthru now supported**




15. If the firmware update file dialog does not appear, after pressing “Browse” button, you should try to set a lower security level in the...

“Tools/InternetOptions/Security/Internet&Local intranet/CustomLevel/JavaCustom” settings.



**Enter Network Password** [?] [X]

 Please type your user name and password.

Site: 192.168.1.1

Realm: Linksys BEFSR41/BEFSR11/BEFSRU31

User Name:

Password:

Save this password in your password list

# FILTERS

Filters enable you to prevent certain PCs on your network from accessing your Internet connection. **In order to use this feature, DHCP must be disabled on the router.**

Filtered Private IP Range:

(0 to 254)

- 1: 192.168.1.  ~
- 2: 192.168.1.  ~
- 3: 192.168.1.  ~
- 4: 192.168.1.  ~
- 5: 192.168.1.  ~

Filtered Private Port Range:

(0 to 65535)

- 1:  ~
- 2:  ~
- 3:  ~
- 4:  ~
- 5:  ~

- Block WAN Request:  Enable  Disable
- IPSec Pass Through:  Enable  Disable
- PPTP Pass Through:  Enable  Disable
- Remote Management:  Enable  Disable
- Remote Upgrade:  Enable  Disable

# FORWARDING

Port forwarding can be used to set up public services on your network. When users from the Internet make certain requests on your network.

## Service Port Range

0	~	0
0	~	0
0	~	0
0	~	0
0	~	0
0	~	0
0	~	0
0	~	0
0	~	0
0	~	0

## IP Address

192.168.1.	0
192.168.1.	0
192.168.1.	0
192.168.1.	0
192.168.1.	0
192.168.1.	0
192.168.1.	0
192.168.1.	0
192.168.1.	0
192.168.1.	0

### Well-known Ports (Commonly Used Ports)

- 7 (Echo)
- 21 (FTP)
- 23 (TELNET)
- 25 (SMTP)
- 53 (DNS)
- 79 (finger)
- 80 (HTTP)
- 110 (POP3)
- 119 (NNTP)
- 161 (SNMP)
- 162 (SNMP Trap)

Apply

Cancel

Help

## DYNAMIC ROUTING

The dynamic routing setup allows your network to dynamically adjust to layout changes (the router will continue to function properly if you choose not to enable this feature).

Working Mode:  Gateway  Router

Dynamic Routing:

TX: Disabled ▾

RX: Disabled ▾

Show Routing Table

Apply

Cancel

Help

**LINKSYS**®

Filters Forwarding Dynamic Routing **Static Routing** Log DMZ Host Setup

## STATIC ROUTING

This feature sets a fixed path for data to follow on the network. The router will continue to function properly if you choose not to enable this feature.

Static Routing:

1 — (Select Route entry)

Delete this entry

Destination LAN IP: 0 . 0 . 0 . 0

Subnet Mask: 0 . 0 . 0 . 0

Default Gateway: 0 . 0 . 0 . 0

Hop Count (Metric, max. is 15): 0

interface: LAN

Show Routing Table

Apply Cancel Help

Routing Table - Microsoft Internet Explorer

Refresh

**Routing Table Entry List**

Destination LAN IP	Subnet Mask	Default Gateway	Hop Count	Interface
0.0.0.0	0.0.0.0	24.165.120.1	1	WAN
24.165.120.0	255.255.252.0	0.0.0.0	1	WAN
192.168.1.0	255.255.255.0	0.0.0.0	1	LAN

**LINKSYS®** Filters Forwarding Dynamic Routing Static Routing **Log** DMZ Host Setup

## Log

There are some log settings and lists in this page.

Access Log:  Enable  Disable

Send Log to: 192.168.1.255

Incoming Access Log Outgoing Access Log

Apply Cancel Help

**LINKSYS®** Filters Forwarding Dynamic Routing Static Routing Log **DMZ Host** Setup

## DMZ HOST

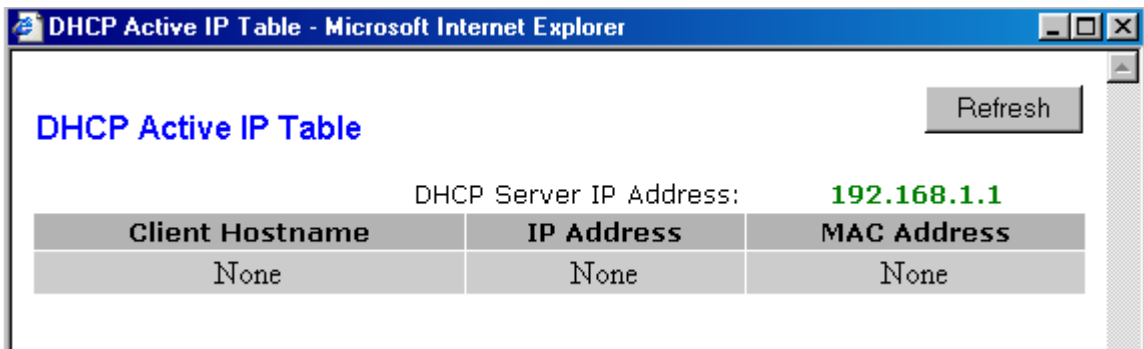
This feature sets a local user to be exposed to the Internet. Any user on the Internet can access in/out data from the DMZ host. Enable the feature as you wish to use special-purpose service.

DMZ Host IP Address: 192.168.1.0

Apply Cancel Help

## PROBLEMS and LIMITATIONS

- A. Router provides for a single DHCP pool; however, in cases where multiple subnets exist on the local LAN requiring multiple DHCP pools, presumably one could use the DHCP server on the local server to provide the additional DHCP pools
- B. Router support only one VPN connection at a time.
- C. When one clicks on the DHCP Clients Table to display currently active IP leases, this function does not work even though the DHCP server in the router is functioning properly.



## To Contact Linksys By Phone or Fax

Normal business hours are 7-5 Pacific Standard Time, Monday through Friday.

Phone	(949) 261-1288
Fax	(949) 261-8868
Technical Support	(800) 326-7114
Sales	1-800-546-5797 (LINKSYS)