Example 3 – Remote Building (Access Point Bridge with Repeater Enabled)

1. Review Example #1 diagram (Figure 1) and locate the 195Eg marked as Example 3. This ESTeem is connected to a Remote Building network that will be bridged to the Plant network through the Access Point Router (Example #1) via the repeater. This modem should be configured for Access Point Bridge mode and the configuration for this 195Eg will be identical to Example 2 except that the IP addressing and the Repeater Peer table. You would follow all steps 1-11 in Example 2 to configure this 195Eg also but Figures 31 & 32 will show the changes.

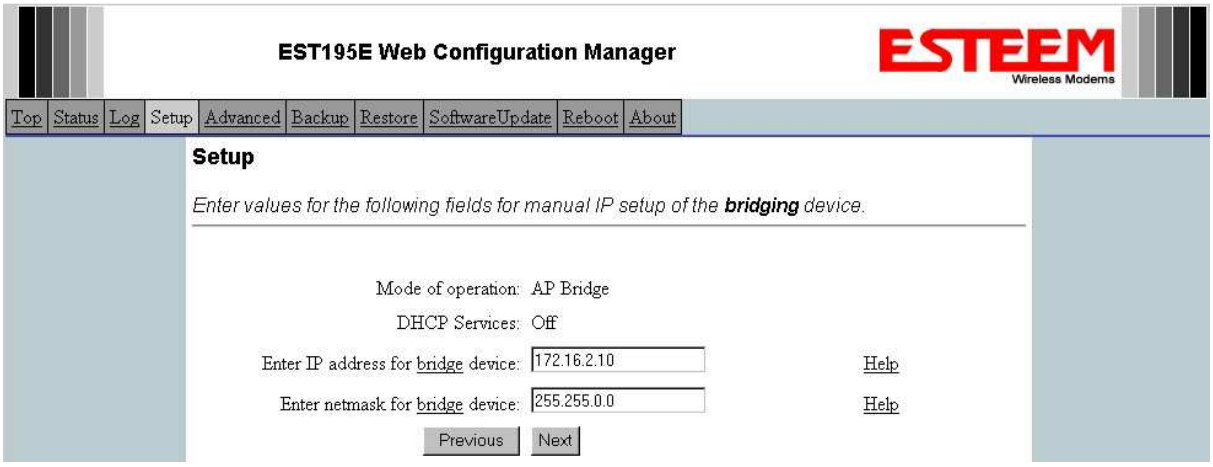

Figure 31: Example 3 Bridge IP Address

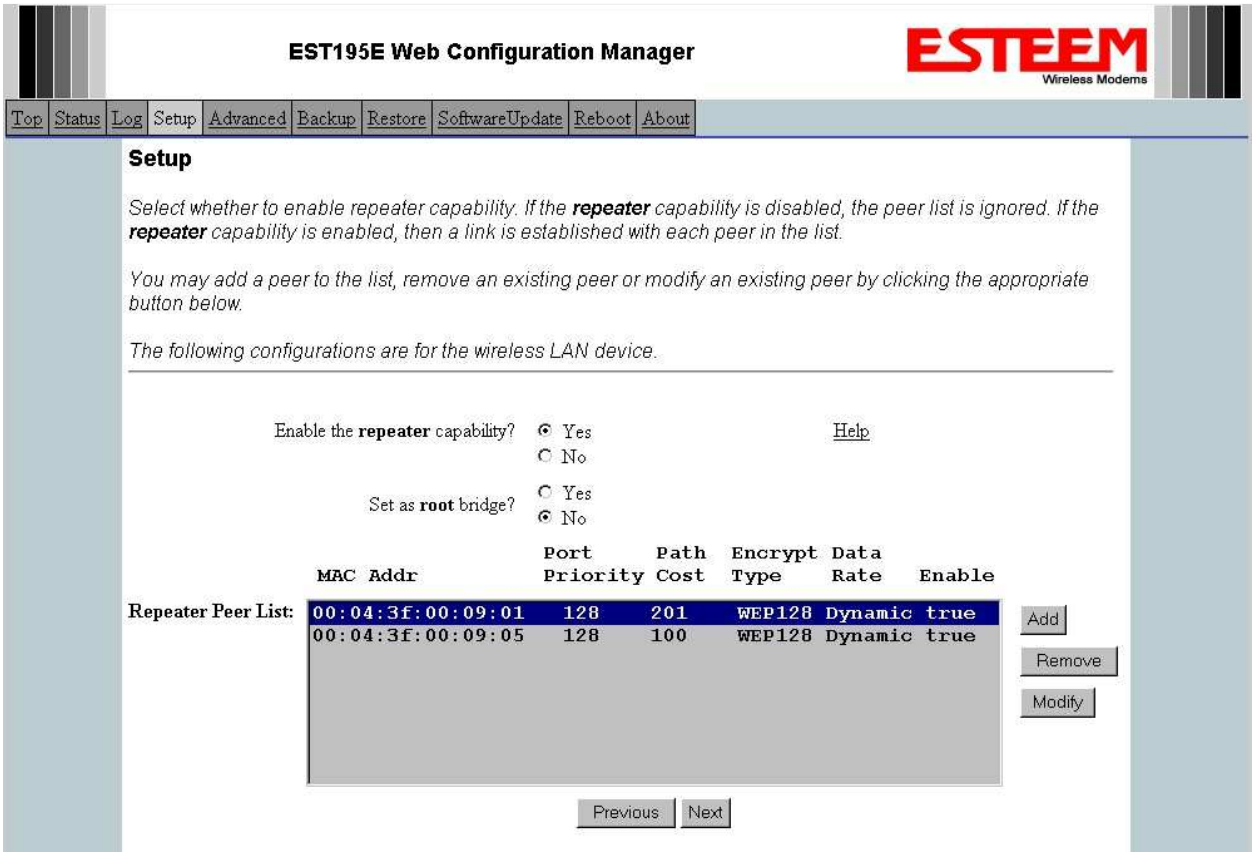

Figure 32: Example 3 Repeater Routing Table

Example 4 – Mobile Vehicle with Single Ethernet Device (EtherStation Mode)

Review the Example Diagram #1 (Figure 1) and locate the 195Eg marked as Example 4. This ESTeem is connected to a single Ethernet device in a mobile application and will be configured for EtherStation mode. In this mode the 195Eg will gain access to the wireless Ethernet canopy created by the three Access Points (Examples 1-3), but will be emulating the MAC address for the connected Ethernet device and will no longer have an IP address in the network. To reprogram the 195Eg after configuration in EtherStation mode requires the ESTeem Discovery Utility or direct connection to the RS-232 port.

1. Access the ESTeem Web page using your computer's Web Browser as per instructions in Chapter 4. Select Setup from the menu items. From the Select Mode of Operation pull down box , select EtherStation (Figure 33) and push the *Next* button below the pull down box.

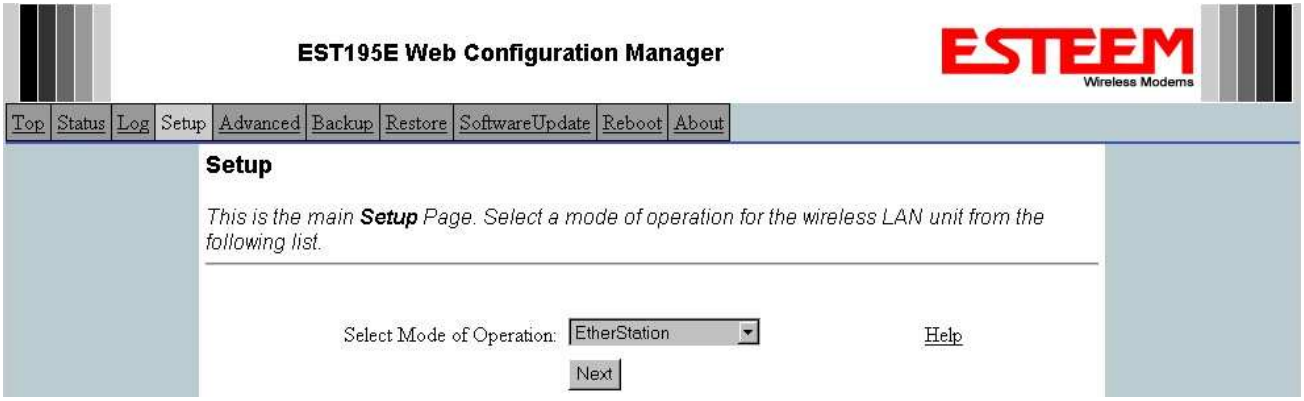

Figure 33: EtherStation Selection

2. Enter the SSID for you 802.11g network. The SSID is the unique identification for your wireless network and all 802.11g devices that share a wireless network MUST have the same SSID code. This identification code is case sensitive and must NOT contain spaces. Select the encryption level for the wireless network to match the level of the Access Point canopy. Enter the MAC address of the connected Ethernet device. Reference Figure 34.

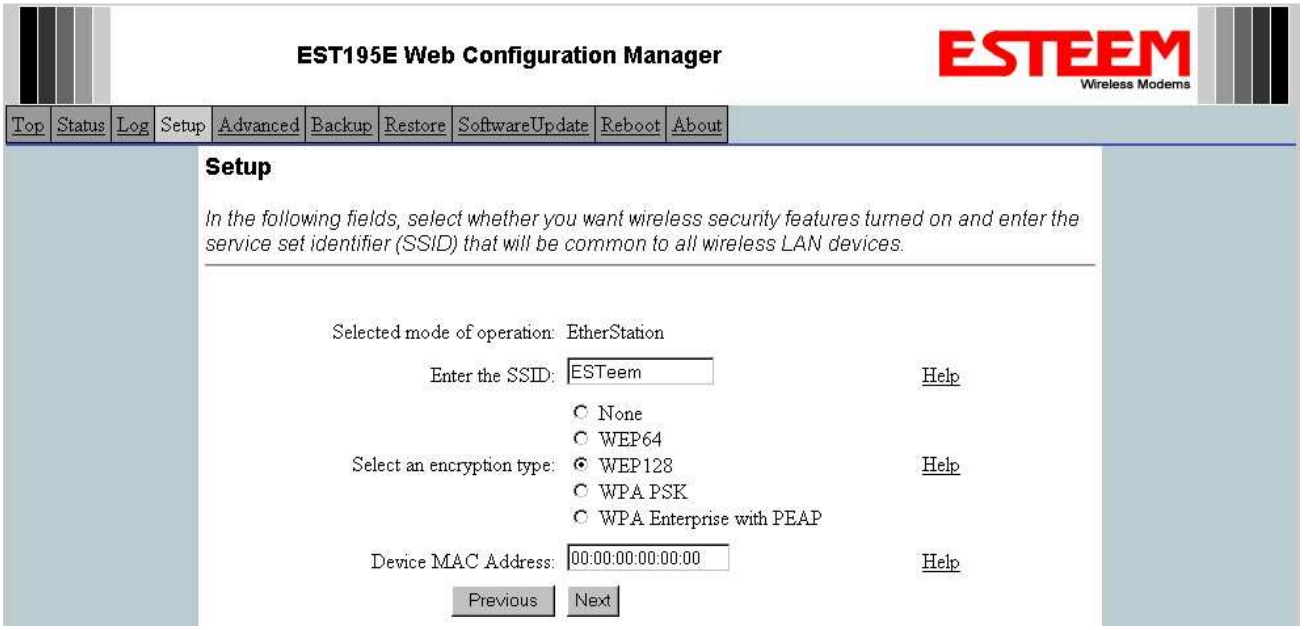

Figure 34: SSID and Device MAC Input

3. Enter the WEP key values for your application that will be used by all devices on the wireless network. Reference Figure 35.

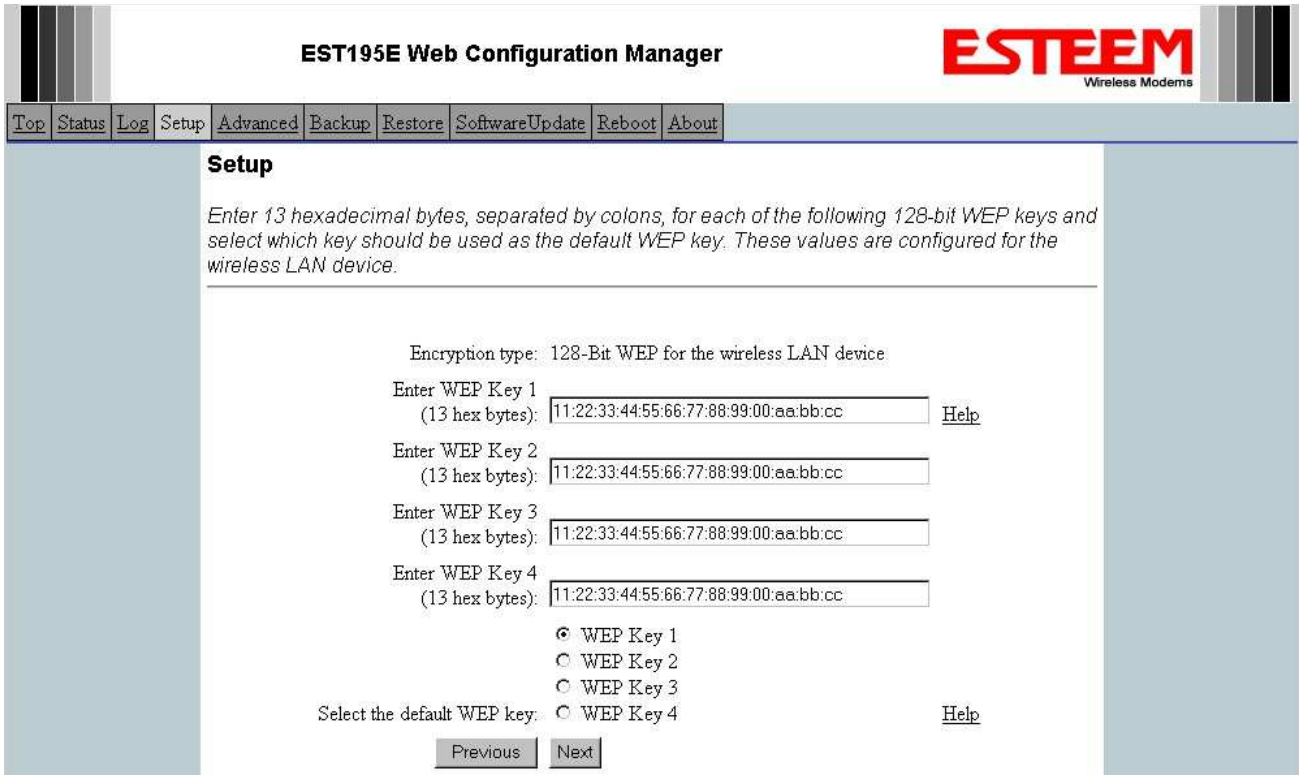

Figure 35: WEP Key Input

4. Select Commit Changes to write the programming to Flash memory and reboot the Model 195Eg. When the reboot process has completed (approximately 30 seconds) the modem will be ready to place in operation. Reference Figure 36.

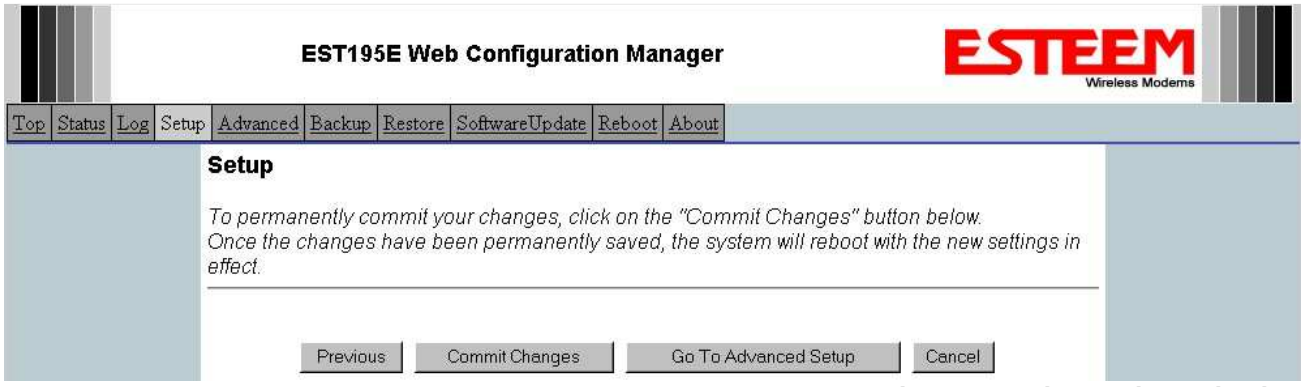

Figure 36: EtherStation Selection

Example 5 – Mobile Vehicle #1 (Station Router)

Review the Example Diagram #2 (Figure 2) and locate the 195Eg marked as Example 5. This ESTeem is connected to multiple Ethernet devices in a mobile application and will be configured Station Router mode. In this mode the 195Eg's will gain access to the wireless Ethernet canopy created by the Access Point and act as the router between the devices connected to the Ethernet port and wireless network. Each of these networks will require a unique subnet to operate. If Ethernet devices on the wired LAN network want to access Ethenet devices on the Station Router 195Eg, a network router is required on the wired LAN to resolve the IP conflict created by having the wired and wireless networks on separate subnets (Figure 37).

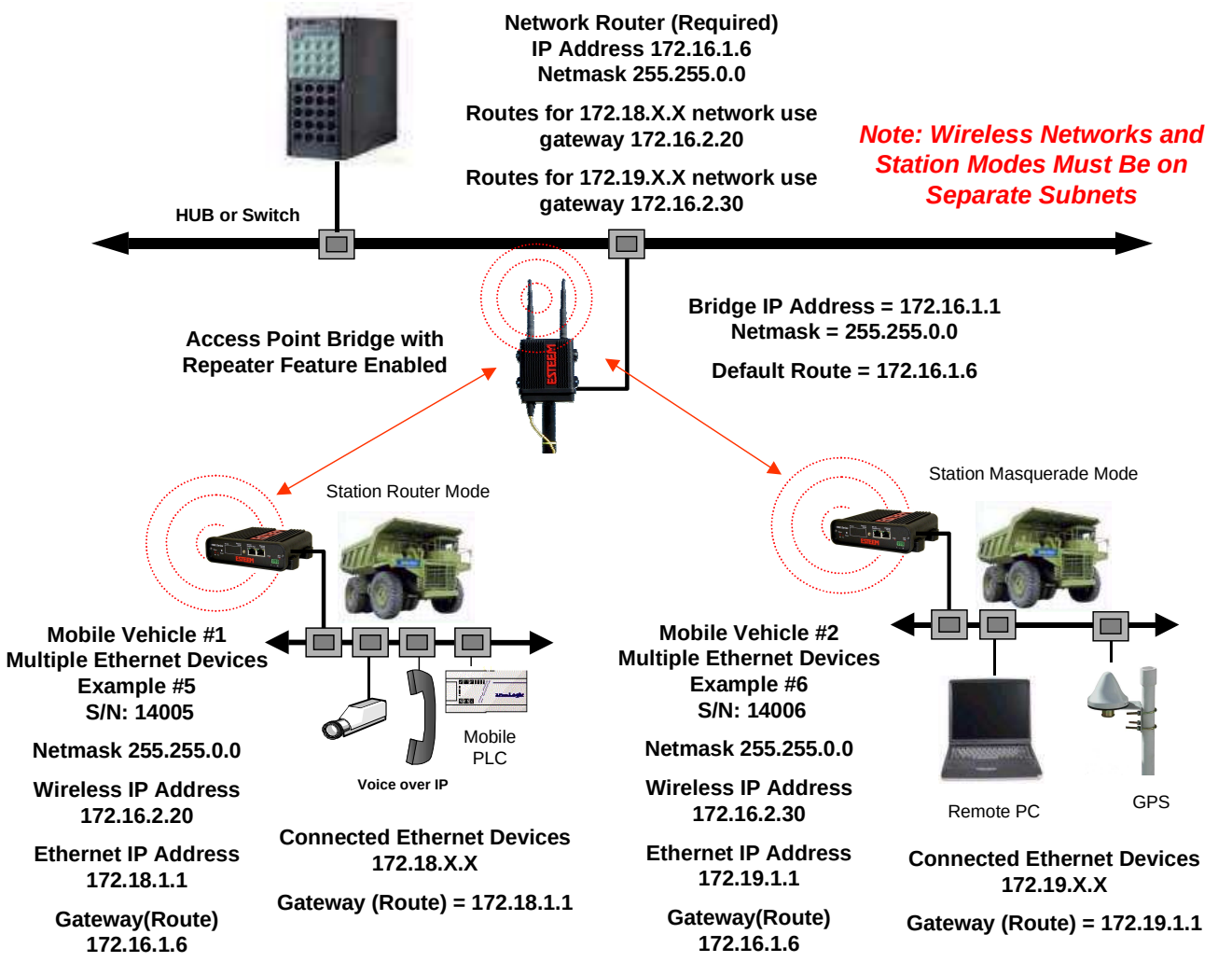

Figure 37: Station Router IP Addressing Diagram

1. Access the ESTeem Web page using your computer's Web Browser as per instructions in Chapter 4. Select Setup from the menu items. From the Select Mode of Operation pull down box , select Station Router (Figure 38) and push the *Next* button below the pull down box.

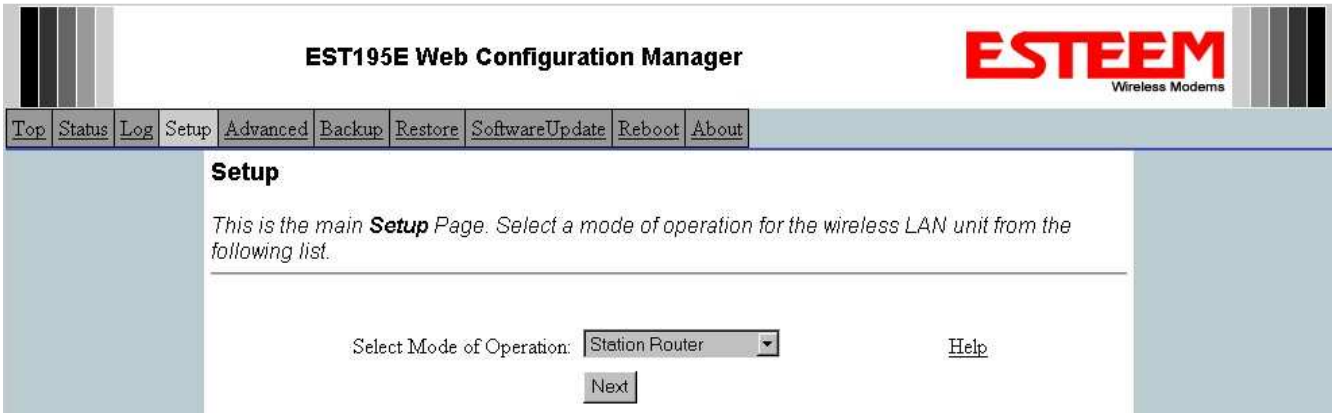

Figure 38:Station Router Selection

2. Select *Yes* if you would like to use DHCP services on either the **wireless** or **ethernet** connections. Enter the SSID for you 802.11g network. The SSID is the unique identification for your wireless network and all 802.11g devices that share a wireless network MUST have the same SSID code. This identification code is case sensitive and must NOT contain spaces. Select the encryption level for the wireless network to match the level of the Access Point canopy. Reference Figure 39.

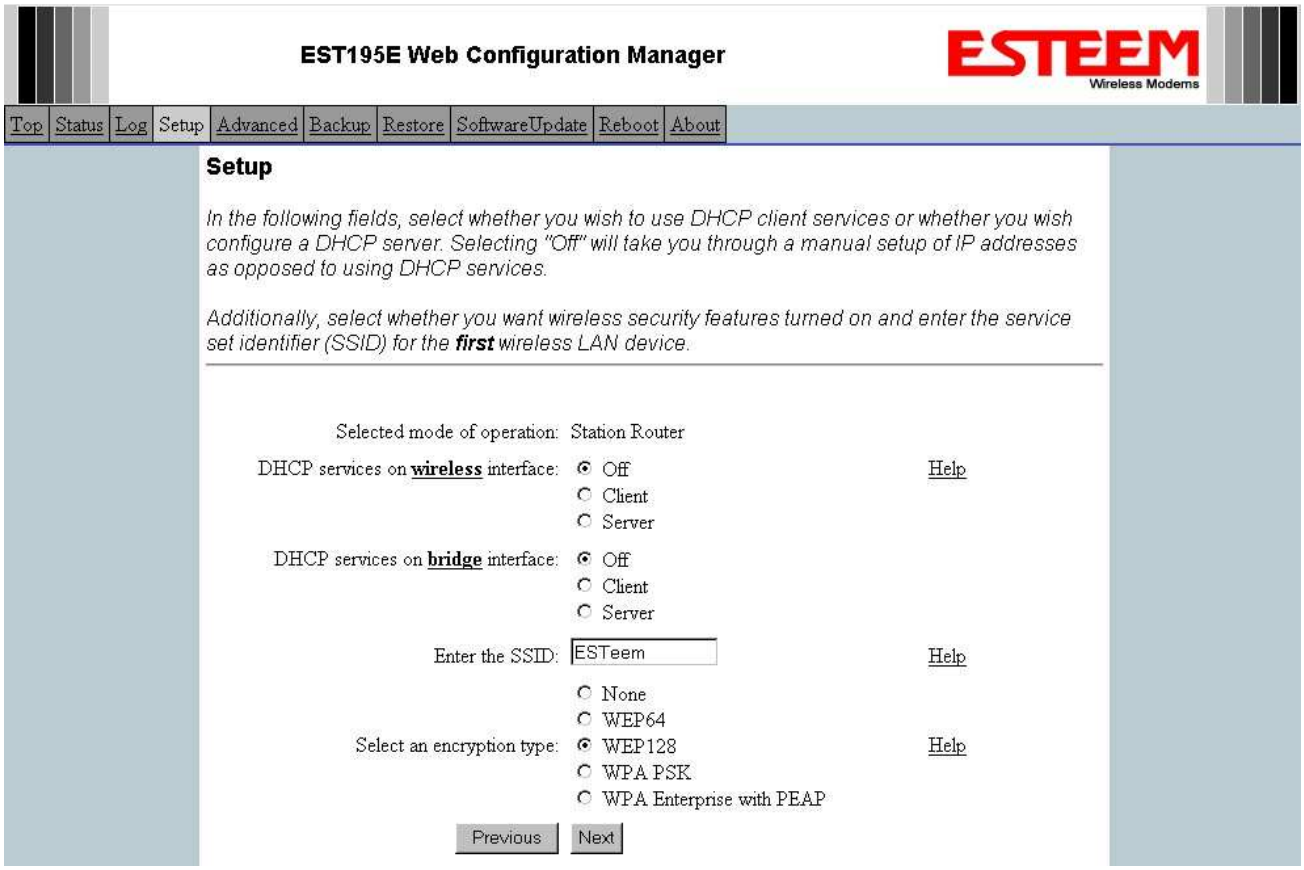

Figure 39:DHCP, SSID and Encryption Settings

3. Enter the WEP key values for your application that will be used by all devices on the wireless network. Reference Figure 40.

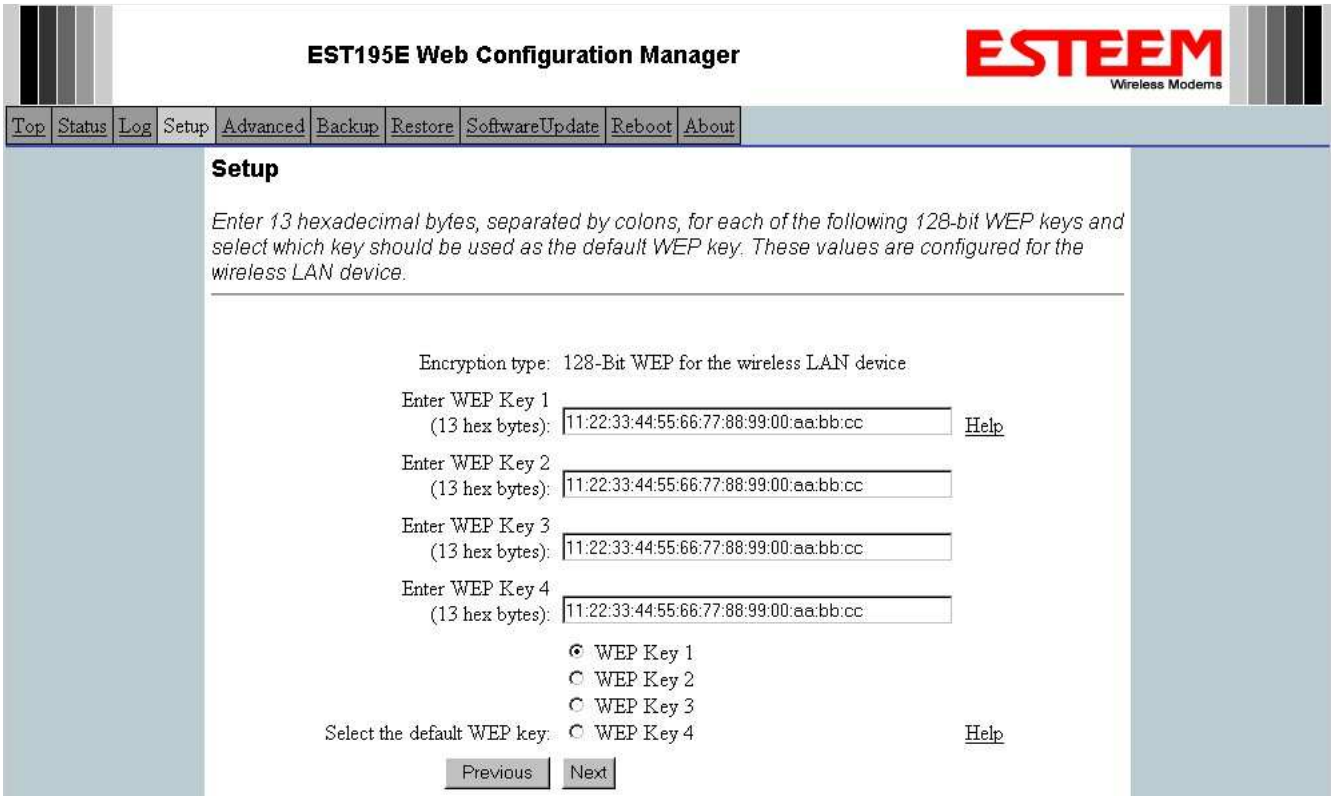

Figure 40:WEP Key Input

4. Refer to the IP address in Table 1 and enter the **wireless** IP Address and IP Netmask for the Station Router. Reference Figure 41.

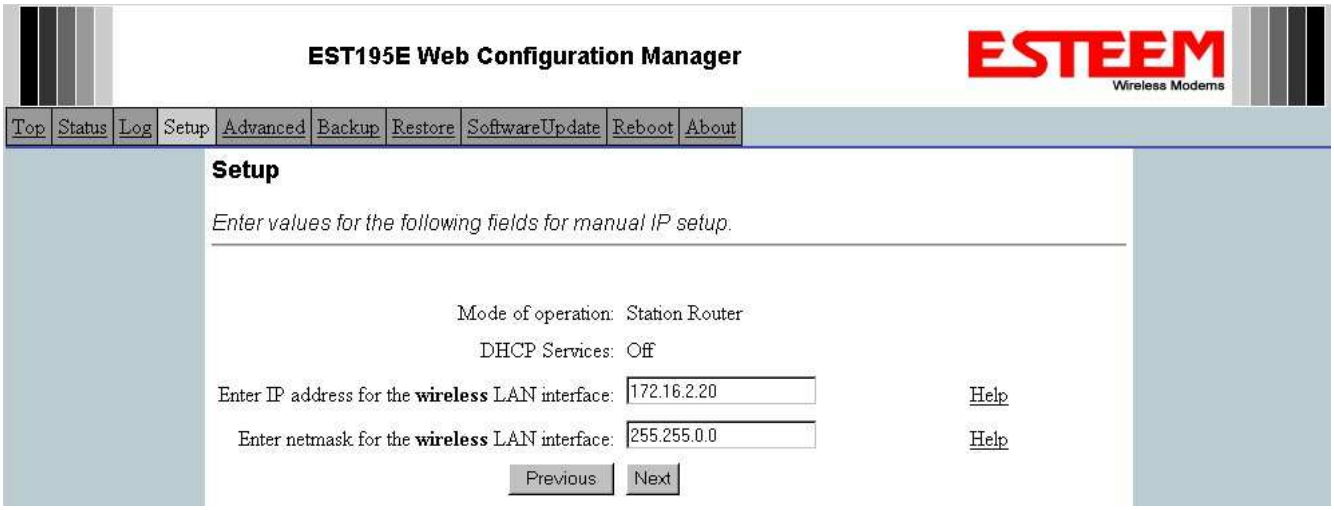

Figure 41:Wireless IP Address

5. Refer to the IP address in Table 1 and enter the **ethernet** IP address and IP netmask. Reference Figure 42.

*Note: When configuring the Ethernet devices connected to the Station Router 195Eg, the ethernet IP address will be **their** Gateway address (Figure 37).*

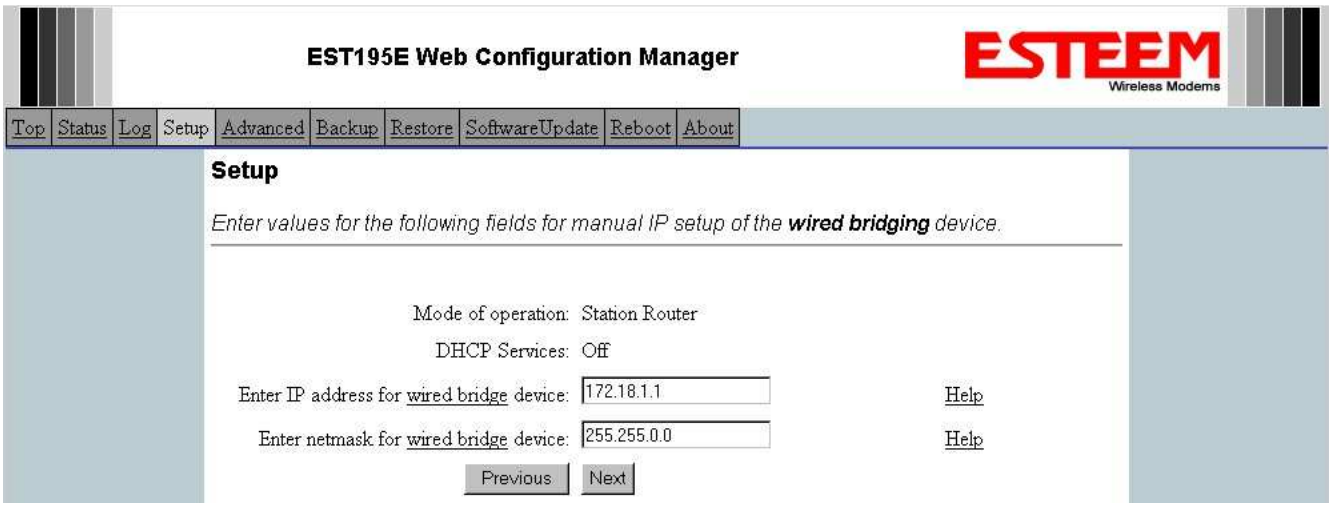

Figure 42:Wired Ethernet IP Address

6. All IP requests for the Ethernet devices connected to the 195Eg Station Router (Example #5) will need to be resolved by the Network Router (Figure 37). Enter the default route (Gateway) IP address for the Network Router in the 195Eg. Enter any DNS server information and press the *Next* button. Figure 43.

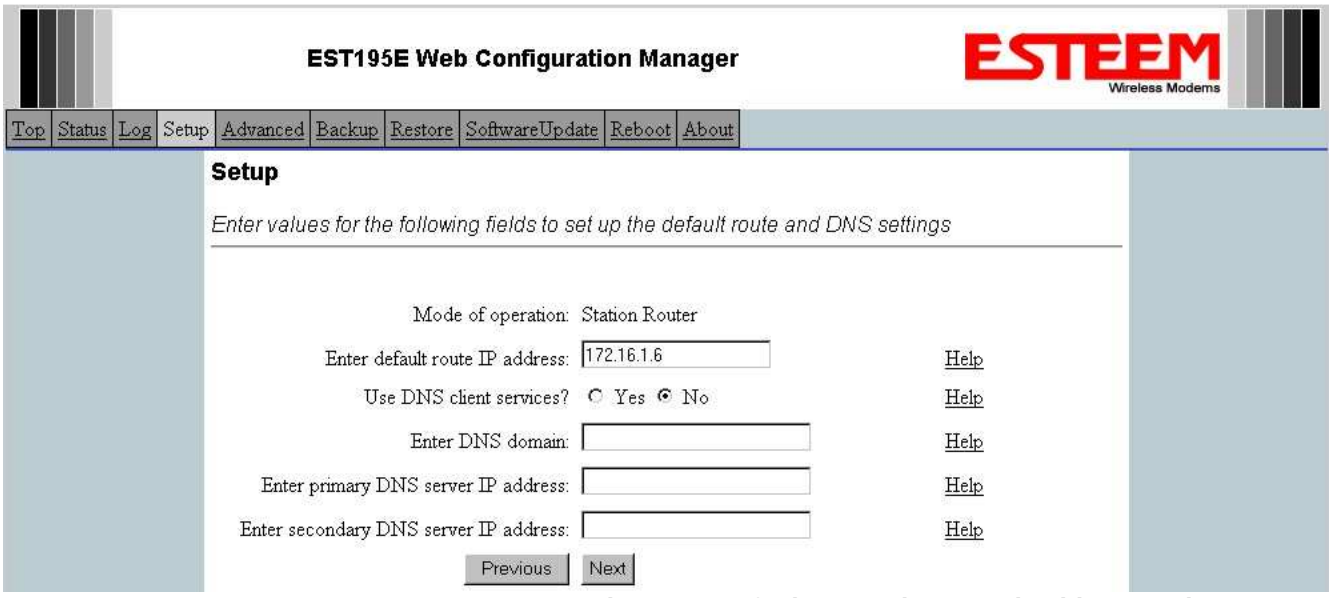

Figure 43:Default Route (Gateway) Address and DNS Input

7. Select *Commit Changes* to write the programming to Flash memory and reboot the Model 195Eg. When the reboot process has completed (approximately 30 seconds) the modem will be ready to place in operation.

Example 6 – Mobile Vehicle #2 (Station Masquerade)

Review the Example Diagram #2 (Figure 2) and locate the 195Eg marked as Example 6. This ESTeem is connected to multiple Ethernet devices in a mobile application and will be configured Station Masquerade mode. In this mode the 195Eg's will gain access to the wireless Ethernet canopy created by the Access Point and act as a firewall between the devices connected to the Ethernet port and wireless network. Each of these networks will require a unique subnet to operate. In this configuration the Ethernet devices connected to the Station Masquerade 195Eg can access the wired LAN network, but not the other way around. This mode could be used if the Remote PC connected to the Station Masquerade needed to access the Internet (connected to the wired LAN), but did not want to be seen by other Ethernet devices on the network.

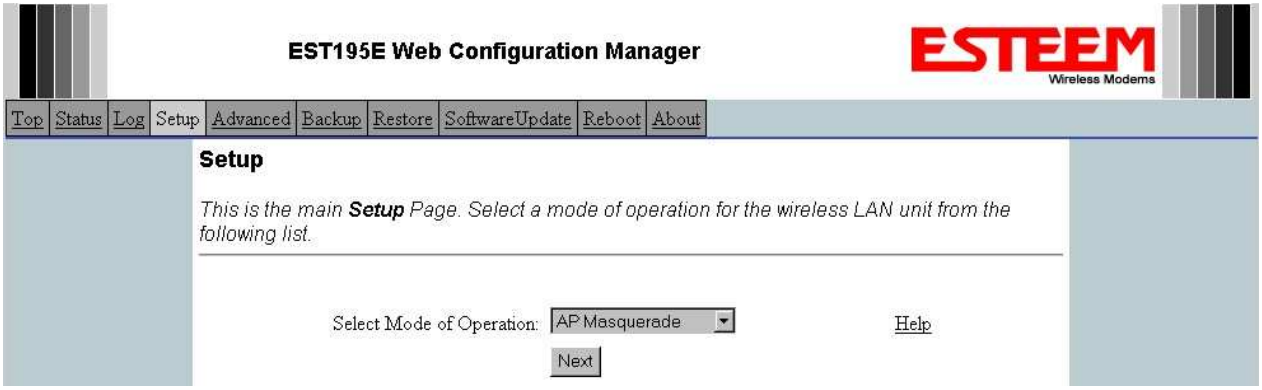

Figure 44:Station Masquerade Selection

1. Access the ESTeem Web page using your computer's Web Browser as per instructions in Chapter 4. Select Setup from the menu items. From the Select Mode of Operation pull down box , select Station Masquerade (Figure 44) and push the *Next* button below the pull down box.

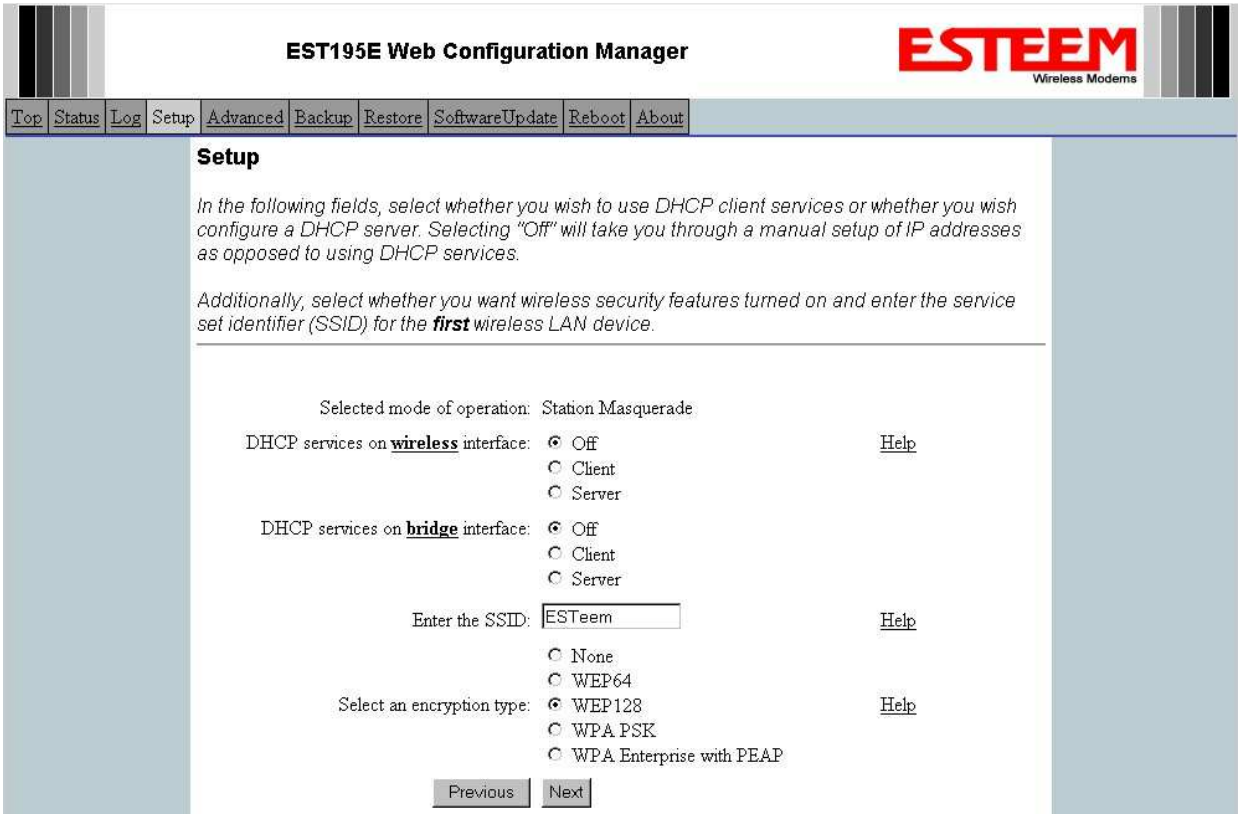

Figure 45:DHCP, SSID and Encryption Settings

2. Select *Yes* if you would like to use DHCP services on either the **wireless** or **ethernet** connections. Enter the SSID for you 802.11g network. The SSID is the unique identification for your wireless network and all 802.11g devices that share a wireless network MUST have the same SSID code. This identification code is case sensitive and must NOT contain spaces. Select the encryption level for the wireless network to match the level of the Access Point canopy. Reference Figure 45.

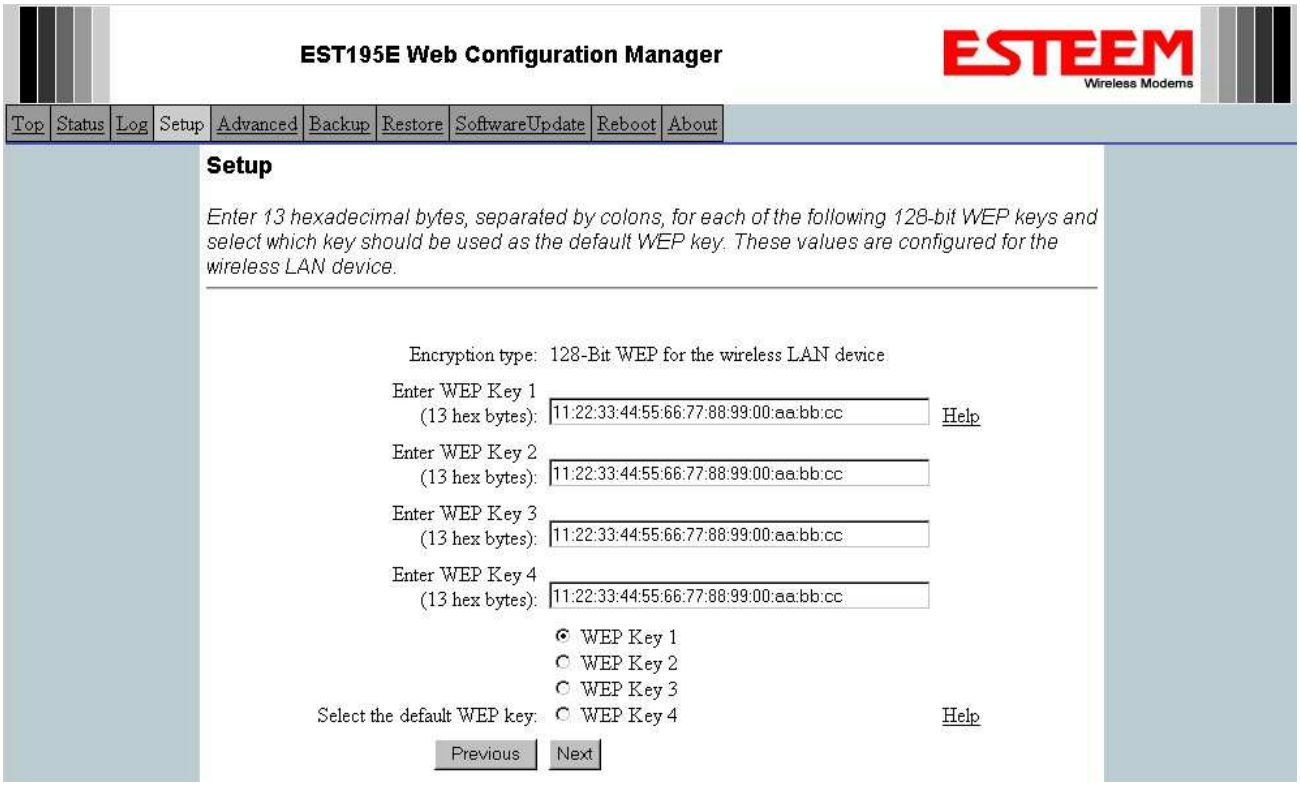

Figure 46:WEP Key Entry

3. Enter the WEP key values for your application that will be used by all devices on the wireless network. Reference Figure 46.

4. Refer to the IP address in Table 1 and enter the **wireless** IP Address and IP Netmask for the Station Router. Reference Figure 47.

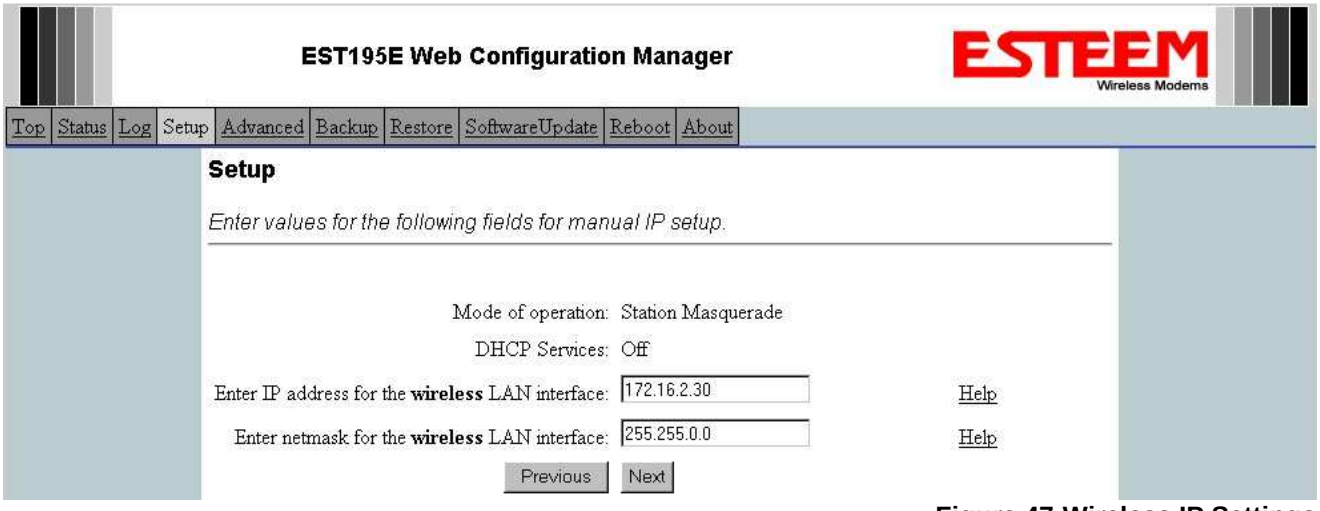

Figure 47:Wireless IP Settings

5. Refer to the IP address in Table 1 and enter the **ethernet** IP address and IP netmask. Reference Figure 48.

*Note: When configuring the Ethernet devices connected to the Station Router 195Eg, the ethernet IP address will be **their** Gateway address (Figure 37).*

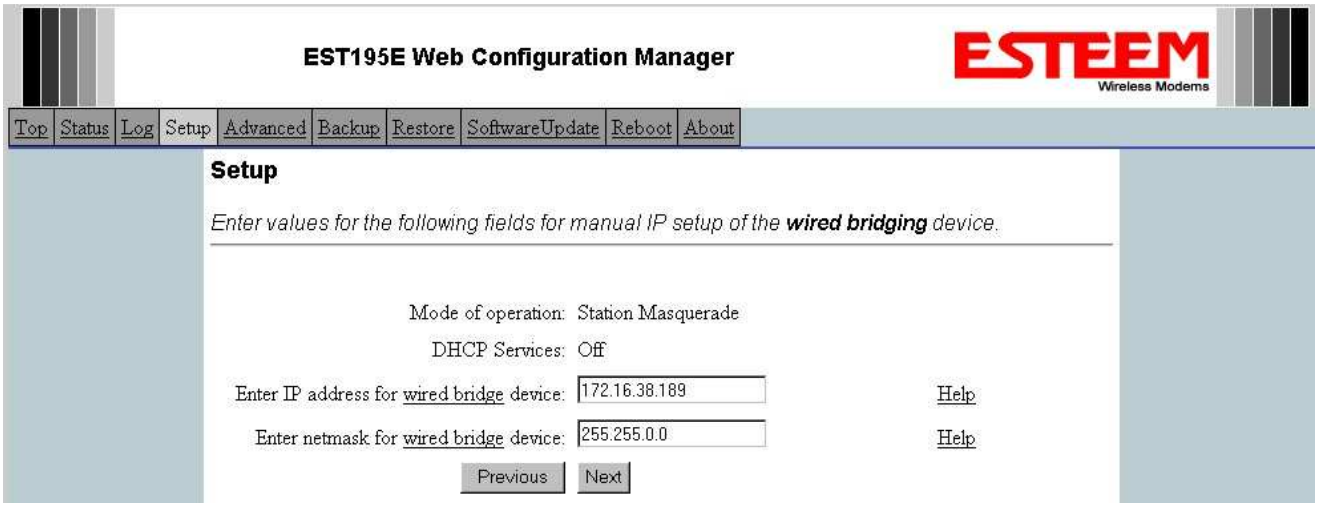

Figure 48:Wired Ethernet Interface

6. All IP requests for the Ethernet devices connected to the 195Eg Station Router (Example #5) will need to be resolved by the Network Router (Figure 37). Enter the default route (Gateway) IP address for the Network Router in the 195Eg. Enter any DNS server information and press the *Next* button. Figure 49.

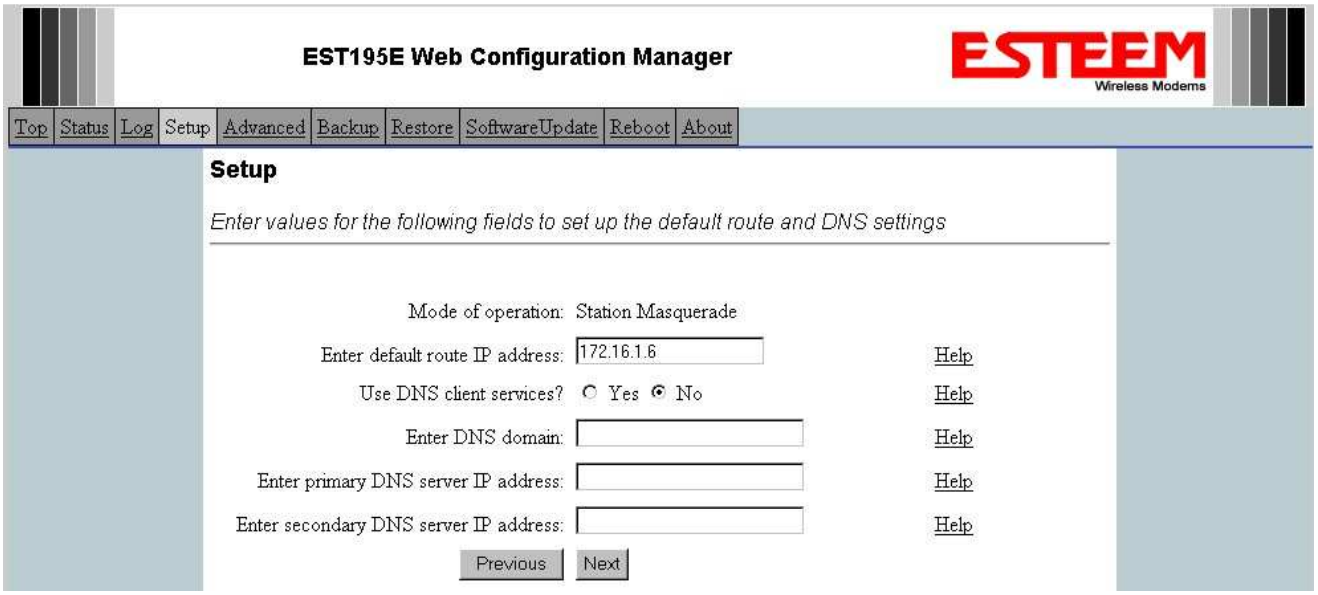

Figure 49:Default Route (Gateway) and DNS Input

7. Select *Commit Changes* to write the programming to Flash memory and reboot the Model 195Eg. When the reboot process has completed (approximately 30 seconds) the modem will be ready to place in operation.