



Rawafed LIBYA
Telecommunication & Technology

Tooway Troubleshooting Guide



Customer Service Department

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1. Understanding the Tooway hardware

Upon signing the service contract, the client is supplied with a number of hardware items to facilitate the use of their Internet service. The basic components are described below:

1.1 Tooway Modem

The Tooway Modem is used to establish data transfers using a satellite as a relay. The modem's main function is to transform an input bitstream to a radio signal and vice versa.



1.2 Satellite Dish

A satellite dish is an antenna with a curved reflective surface that is used to collect and project radio waves. The Tooway satellite dish is designed to send and receive microwaves to and from the communication satellite.



1.3 TRIA

A TRIA (Transmit and Receive Integrated Assembly) is a device used to process signals to and from the dish and the satellite. It converts the high frequency KA-band satellite signals to and from the L-band microwave signals used for the transmission between the dish and the modem.



1.4 Coaxial Cable

Coaxial cable is used as a transmission line for radio frequency signals. The cable has an inner conducting copper core surrounded by an insulating layer that is surrounded by a second tubular conducting shield. Coaxial cables are unique in that their dimensions are accurately controlled to give a precise and constant conduction rate.

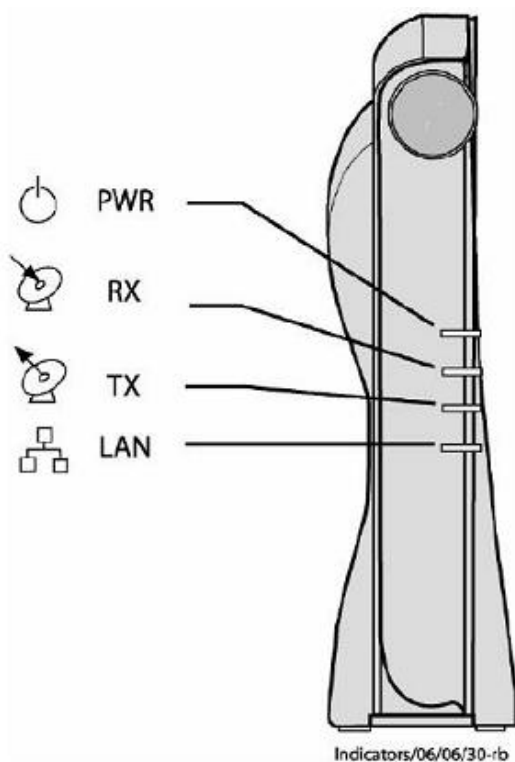


1.5 Ethernet Cable

An Ethernet cable is one of the most popular forms of network cable used on wired networks to transfer data from one device to another. Ethernet cables connect devices on local area networks (LANs) such as PCs, routers and switches. The Ethernet cable supplied can be used to connect the modem directly to a PC/laptop or to a router that will then share the Internet connection.



2. The Tooway Modem



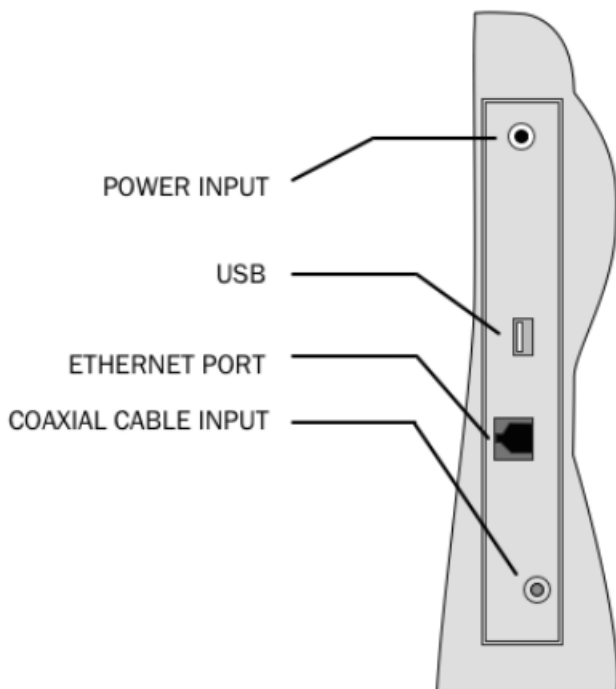
FRONT OF MODEM

PWR – Indicates that power is supplied to the satellite modem

Rx- Indicates that the modem is synching (connecting) or synched (connected) to the satellite network

Tx- Indicates that the modem is transmitting data

LAN- Indicates that there is a PC or alternative device (e.g. Router) connected to the satellite modem.



BACK OF MODEM

Power Input – Power adapter input jack

USB – Used to connect modem to PC/Laptop for firmware upgrades and advanced configurations

Ethernet Port- Network port to connect modem to PC/Laptop or router

Coaxial Cable Input – Used to connect coaxial cable which is connected to the TRIA on the dish

3. No Connection Troubleshooting

3.1 No lights

- Check power cable is plugged in firmly at the back of the modem, at the external PSU (power source unit) and directly at the wall socket.
- Check power supply directly in an alternate wall socket

3.2 Rx Light blinking or off

- Switch off the satellite modem for 15 minutes then switch back on, waiting for 5 minutes before checking the LED status and testing the connection.

3.3 LAN light off

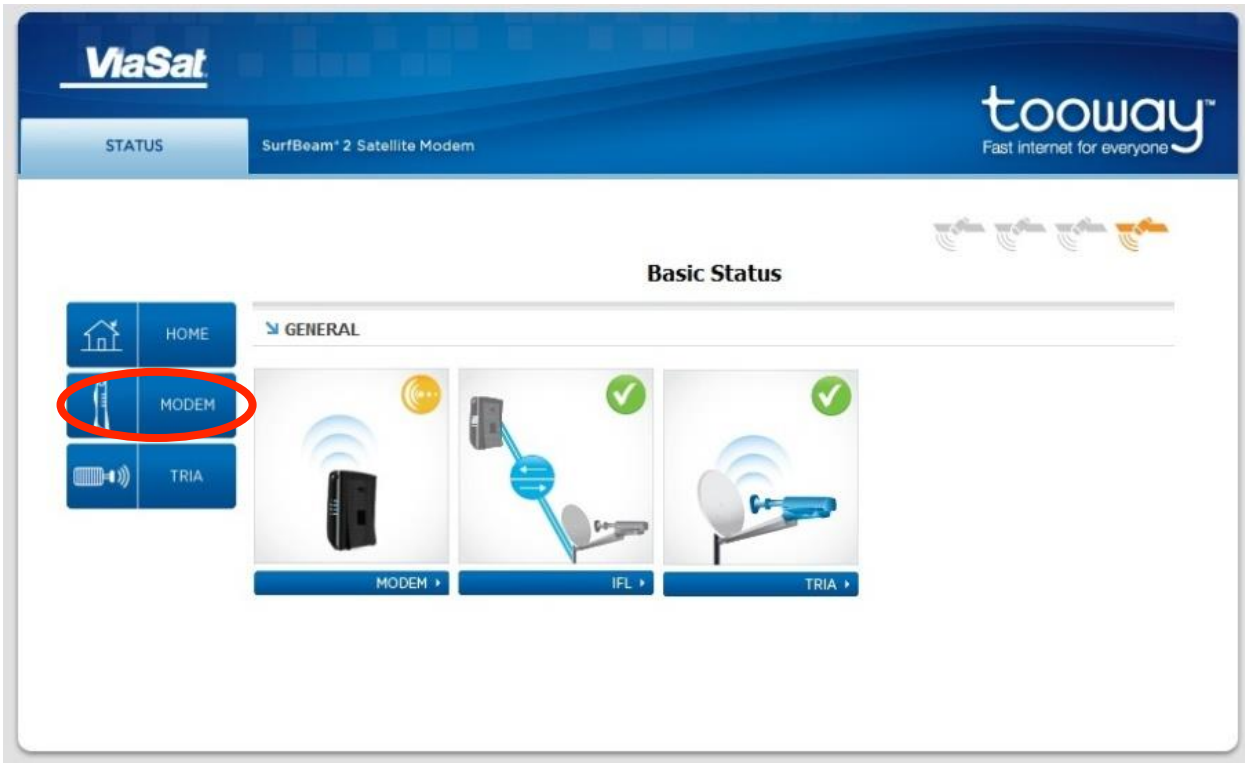
- Check cabling between Modem and PC / Laptop / Router to confirm that they are connected correctly
- Replace Ethernet cable between the satellite modem and PC / Laptop / Router
- If using a Router / Firewall, try a direct connection by disconnecting the Ethernet cable supplied from the back of the Ethernet Router and connect to the network port on your PC / Laptop (As per above instructions, remember to switch the satellite modem off and on after changing device)
- **If using a direct connection from the satellite modem to the PC / Laptop:**
 - Please ensure that the “Local Area Connection “ LAN adapter on your PC / Laptop is enabled
 - Ensure that the computer is set up for DHCP
 - Make sure you have received the correct IP address from the Tooway modem; normally it would either be “192.168.100.3” or “192.168.100.4” if the modem is not connected to the Tooway Service (If all the lights on the modem are not lit). If you are connected to the Tooway service, all the lights on the modem would be lit, and you would receive an IP address that would either start with “5.x.x.x” or “10.x.x.x”
 - Test with a 2nd PC / Laptop

3.4 Normal Operation

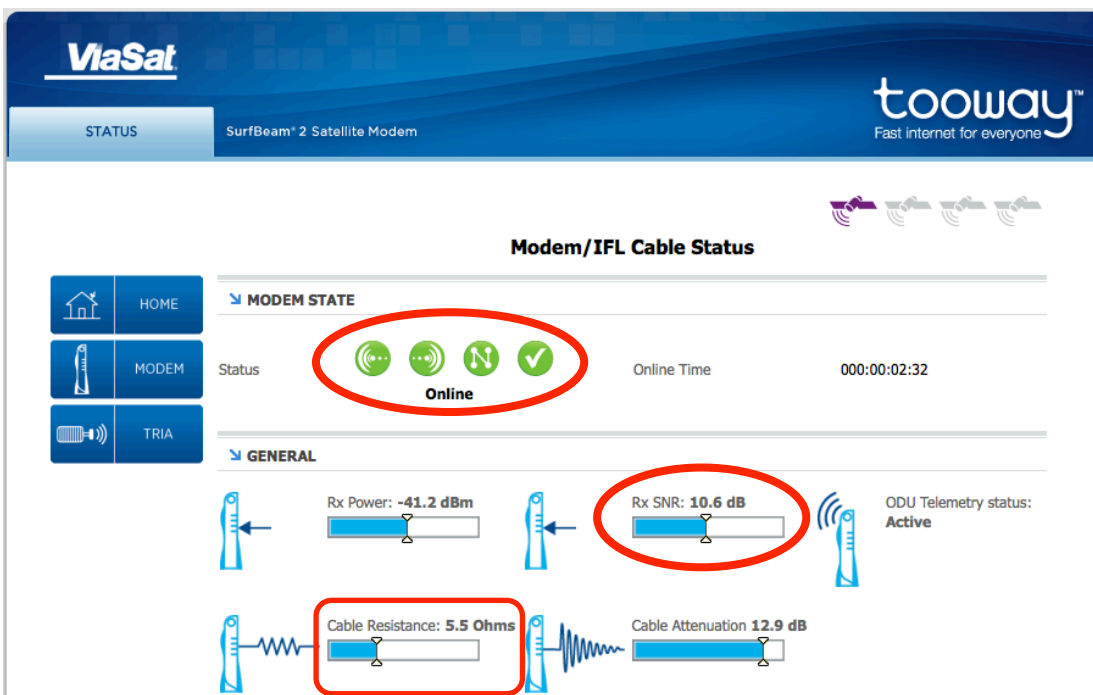
- If you are using an Ethernet Router, please try a direct connection by disconnecting the supplied Ethernet cable from the back of the Ethernet Router and connecting it to the network port on your PC / Laptop (remember to switch the satellite modem off and on after changing device).
- If already using a direct connection, try a second PC / Laptop
- Where you are confident in doing so, please confirm the IP being picked up by the PC / Laptop when directly connected.

4. Troubleshooting using Admin Page

4.1 Orange Circle in Modem Box:



This means the Tooway modem is not online. Proceed by clicking on the **Modem** button on the left hand side; this will open the Modem/IFL Cable Status page. The example below shows what the Modem/IFL Cable Status page **should look like** when you are connected.



Possible Solutions:

Rx SNR: Below 9db you will have no connection, the dish might have moved out of alignment. In the example the Rx SNR is 10.6db.

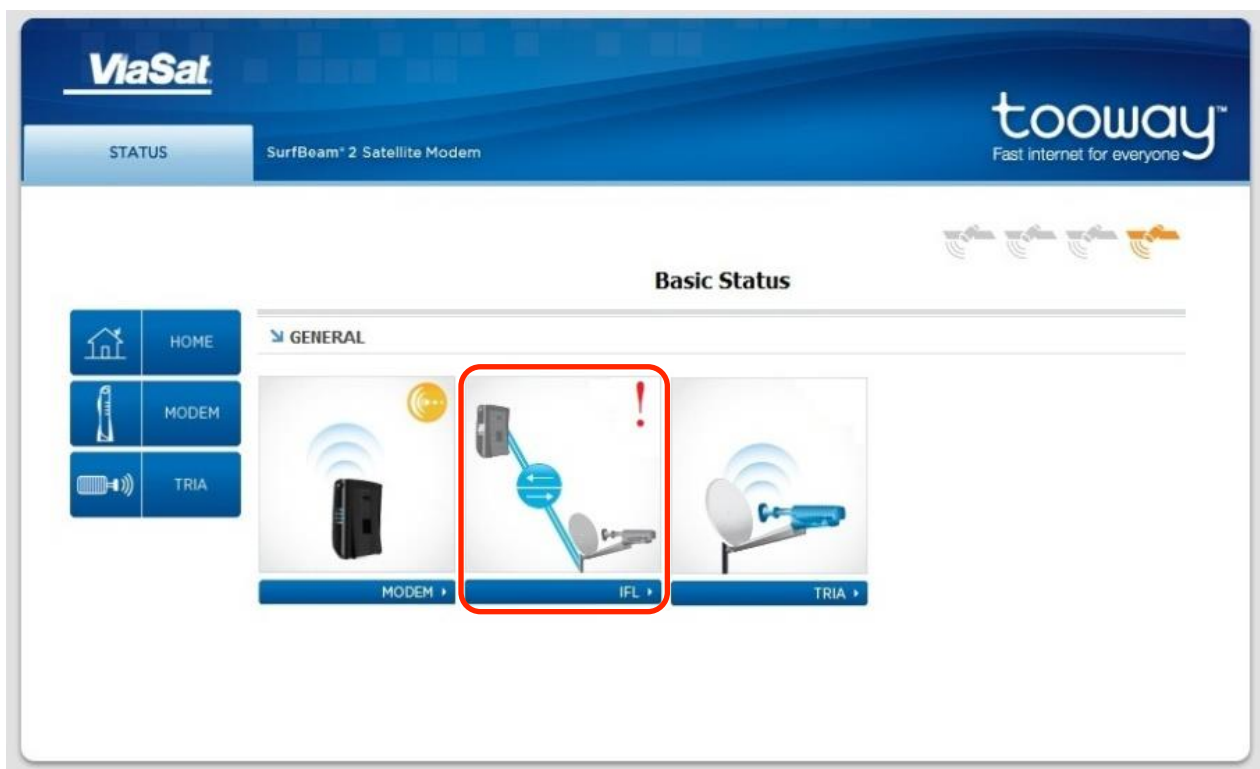
Solution: Contact Rawafed Libya to arrange a service call.

Cable Resistance: 3 Ohms and above the system will not perform to specification.

Solution: Replace the IFL cable or contact Rawafed Libya to arrange a service callout.

4.2 Red Exclamation mark in the IFL box:

This means there is a problem with the cable from the dish to the Tooway modem.



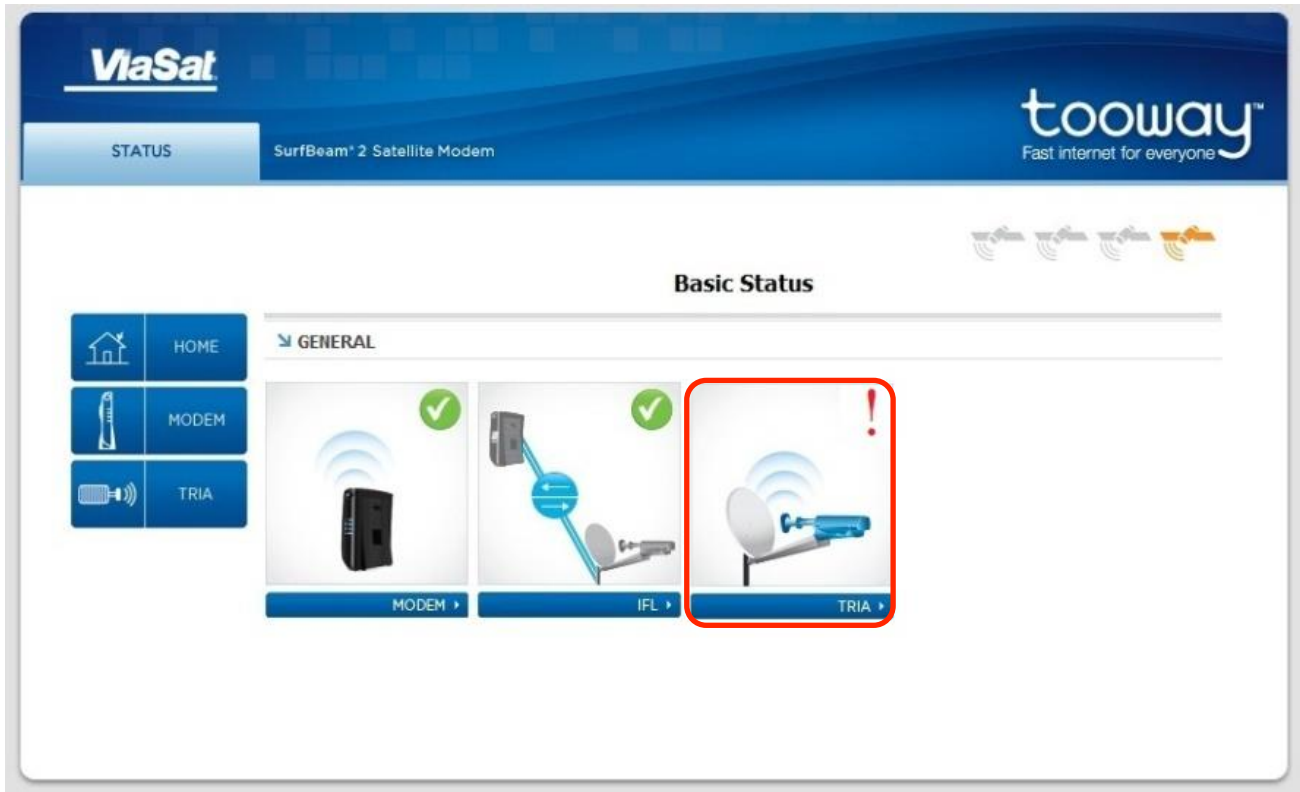
Possible Solution:

1. Power down the Tooway modem
2. Remove the IFL cable from the Tooway modem
3. Attach the cable to the Tooway Modem
4. Power the modem and access the Basic Status Page (<http://192.168.100.1>)
5. If the Red exclamation mark is still present in the IFL box, then arrange for a service callout

4.3 Red Exclamation mark in the TRIA box:

This means there is a problem with the TRIA on the Tooway dish. The TRIA would need replacement.

Solution: Arrange for a service callout



5. Cannot connect to the Modem Troubleshooting

5.1 Make sure your computer is connected to the modem directly via the Ethernet cable:

A computer only has one Ethernet cable connection and would look similar to the illustration to the left. So the one end of the cable will be connected to the computer and the other end will be connected to the Tooway Modem.



5.2 Make sure your “Local Area Connection” LAN adapter is enabled:

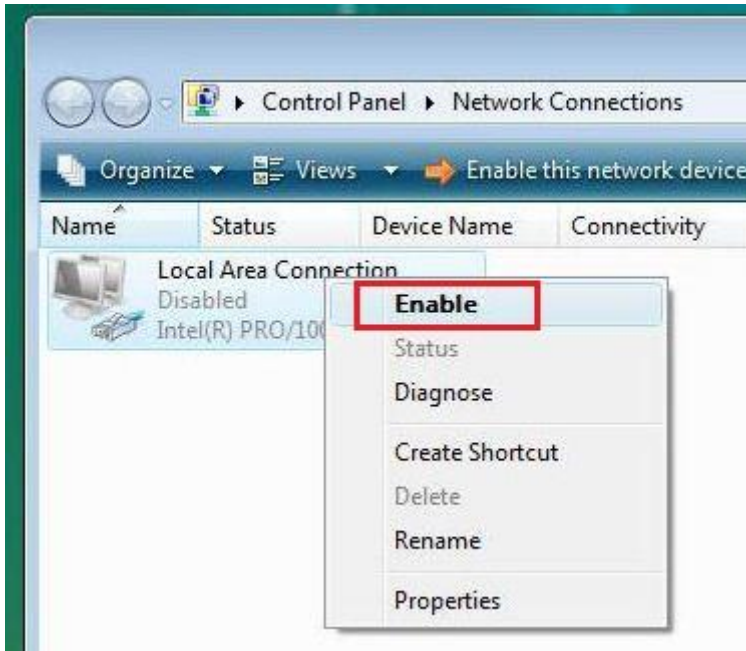
For Windows Vista/7 users:

1. Click on **Start**
2. Open **Control Panel**
3. Select **Network and Internet**
4. Select **Network and Sharing Center**
5. Which version of Windows do you have?
 - a. **Windows 7** - In the left pane select **Change adapter settings**
 - b. **Windows Vista** - In the left pane select **Manage Network Connections**

This will take you to the Network Connections Page. After the modem has been connected with the Ethernet cable, you should be able to see a “Local Area Connection” icon as displayed below.



If it is displayed as “Disabled” as shown in the illustration, “right click” on the Icons and select “Enable” as shown below. This will then enable you LAN connection and after a few seconds you should have connection to the modem. Always make sure your modem is powered when this is attempted.



For Windows XP users:

1. Click on **Start**
2. Open **Control Panel**
3. Inside Control Panel:
 - a. If your Control Panel is **Categorized** (you will know this if the screen says “Pick a Category” on the top of the page in control panel) you need to select Network and Internet Connections, and then select Network Connections.
 - b. If your Control Panel is **Not Categorized** then you need to open Network Connections. If the LAN adapter is displayed as “Disabled”, “right click” on the Icons and select “Enable”. This will then enable you LAN connection and after a few seconds you should have connection to the modem.

Always make sure your modem is powered when this is attempted

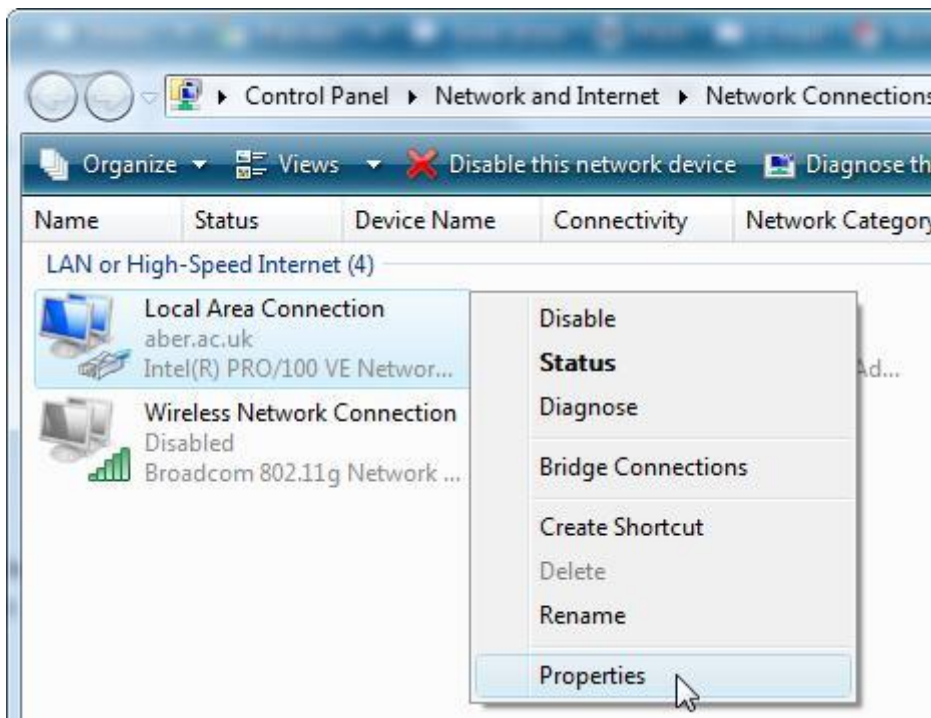
5.3 Make sure your computer is set up for DHCP

The modem supplies a DHCP IP address that enables a computer or wireless router to “talk” to the Tooway modem and access the internet. For initial setup of the modem and installation you would need to make sure your computer is set up to receive an IP address from the modem.

Because different operating systems are in use all over the world, we have assembled the most common Operating system and given step by step guides on how to check whether your computer is correctly setup.

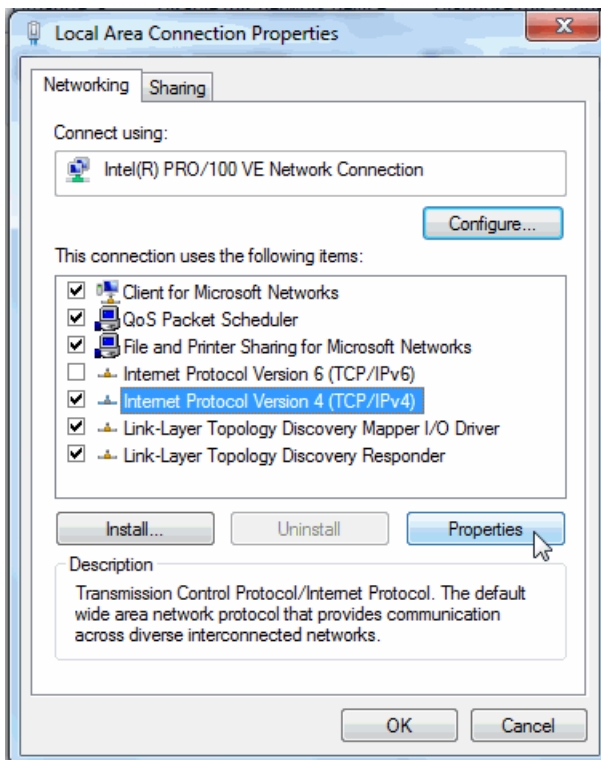
5.3.1 Windows 7 & Vista users

1. Click on **Start**
2. Open **Control Panel**
3. Select **Network and Internet**
4. Select **Network and Sharing Center**
5. Which version of Windows do you have?
 - a. **For Windows 7** - In the left pane select **Change adapter settings**
 - b. **For Windows Vista** - In the left pane select **Manage Network Connections**
6. Right click on the Local Area Connection and in the drop down menu select **Properties**

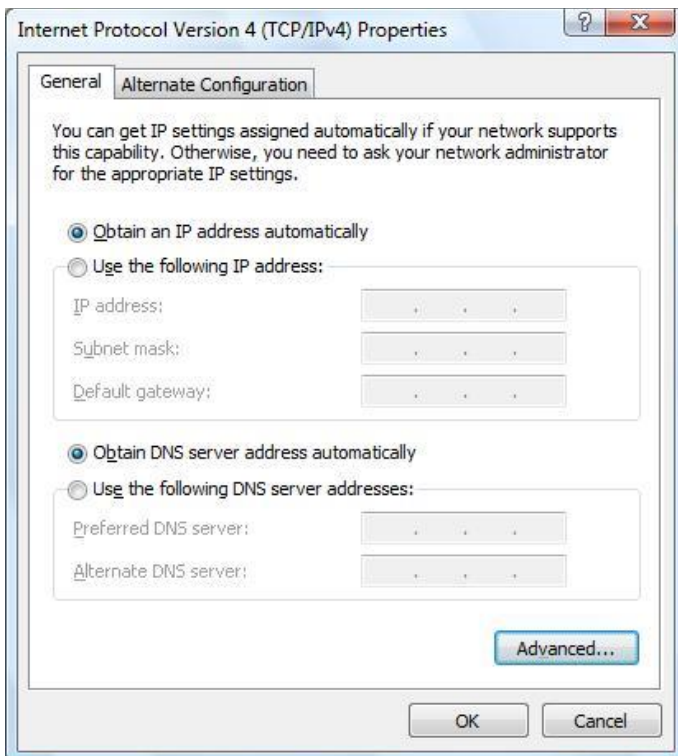


Note: If you do not have a Local Area Connection Icon, try to plug in the Tooway modem via the Ethernet cable provided (make sure the modem is powered).

- This will open the Local Area connection Properties window. Under the list: **This connection uses the following items**, highlight **Internet Protocol Version 4 (TCP/IPv4)** then select the **Properties** button.



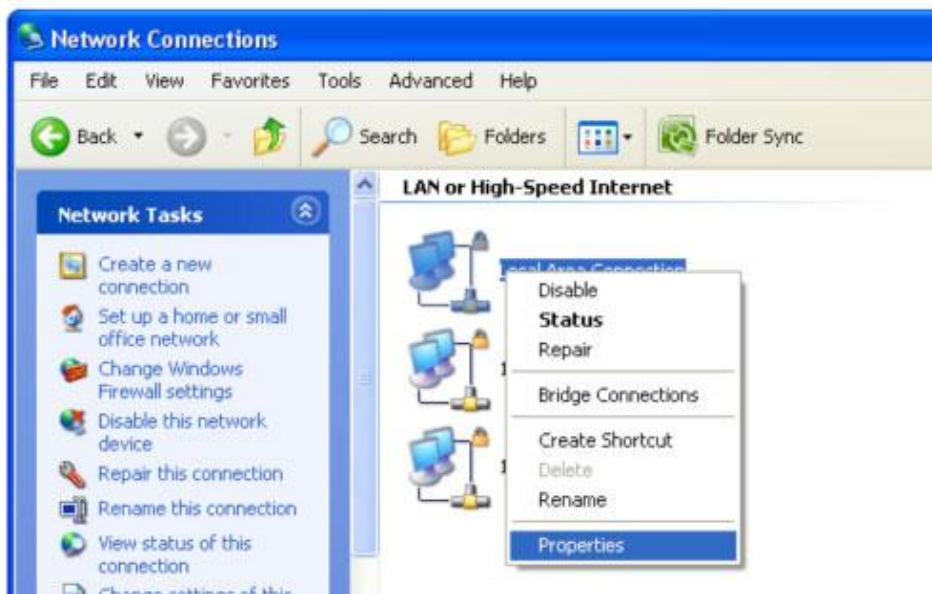
- Now you should make sure the Obtain an IP address automatically is selected and Obtain DNS server address automatically radio buttons are selected.



9. Click OK
10. Click OK again
11. Restart your computer.

5.3.2 Windows XP users

1. Click on **Start**
2. Open **Control Panel**
3. Inside **Control Panel**:
 - a. If your Control Panel is **Categorized** (you will know this if the screen says “Pick a Category” on the top of the page in control panel) you need to select Network and Internet Connections, and then select **Network Connections**
 - b. If your Control Panel is **Not Categorized** then you need to open **Network Connections**
4. Right click on the **Local Area Connection** and in the drop down menu select **Properties**

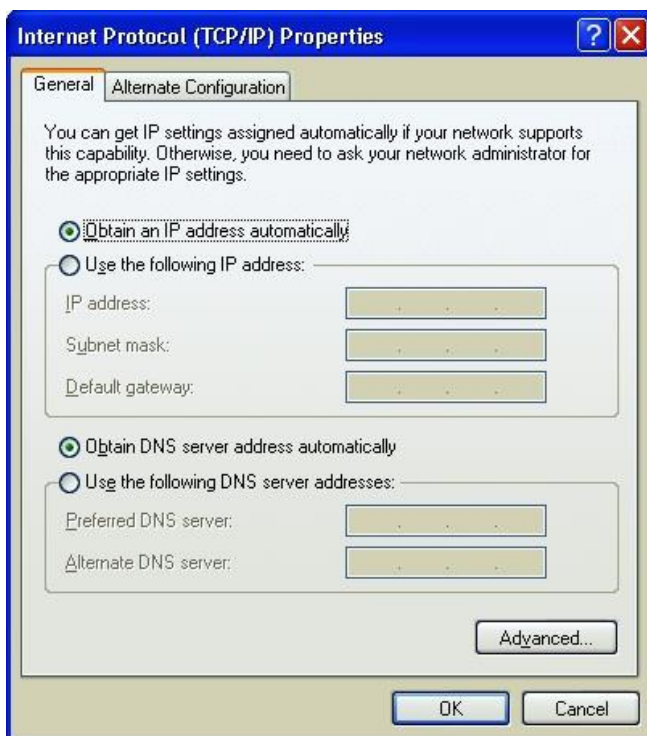


Note: If you do not have a Local Area Connection Icon, try to plug in the Tooway modem via the Ethernet cable provided (make sure the modem is powered)

5. This will open the Local Area connection Properties window. Under the list: **This connection uses the following items**, highlight **Internet Protocol (TCP/IP)** then select the **Properties** button.



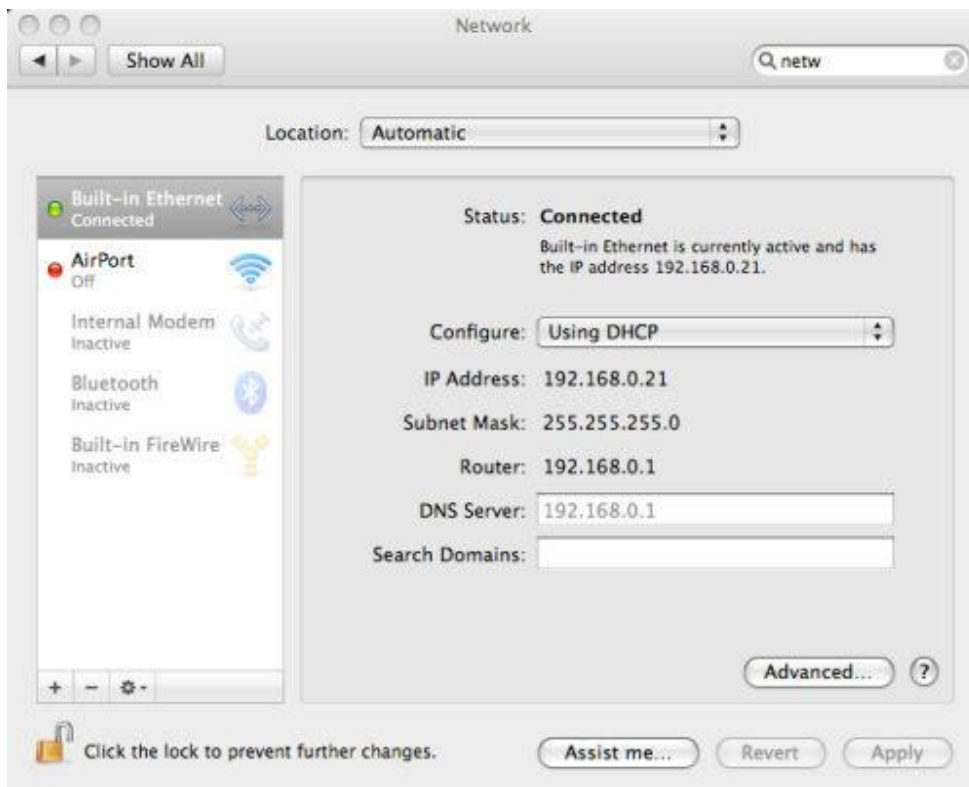
6. Now you should make sure the Obtain an IP address automatically is selected and Obtain DNS server address automatically radio buttons are selected.



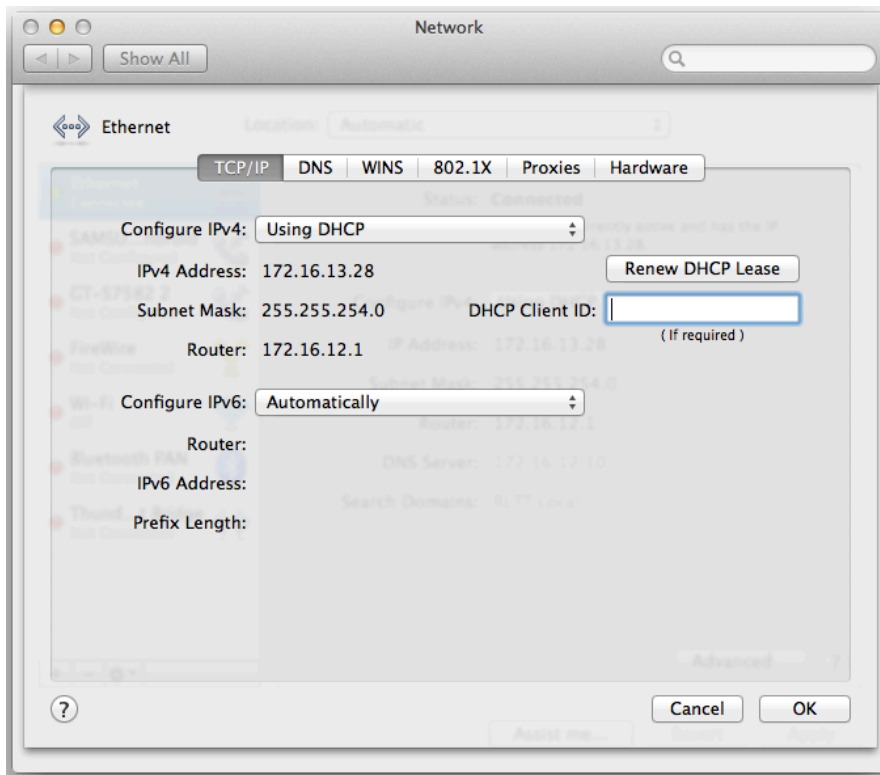
7. Click **OK**
8. Click **OK** again
9. Restart Computer

For Apple MAC OS 10.5 – 10.7 (Leopard, Snow Leopard, Lion)

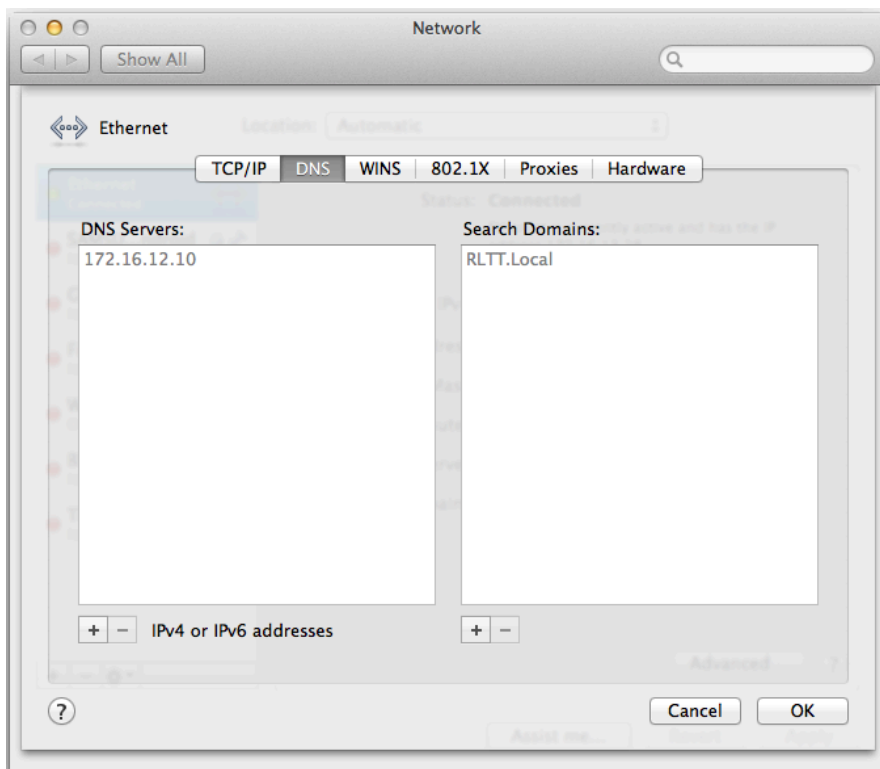
1. Click on the Apple Menu and select System Preferences
2. In the Internet & Network section, click on the Network icon.
3. Select Built-in Ethernet as shown in the image below



4. **If the DNS server is greyed out**, which means it, is automatically provided by DHCP so you do not have to proceed any further.
5. **If the DNS server appears in normal text** (i.e. is not greyed out) you will need to change it - **click on the padlock to be able to make changes**. You will be prompted to enter your administrator username and password.
6. Click on Advanced.
7. In the TCP/IP tab, ensure that Configure is set to Using DHCP.



8. Select the **DNS** tab. Ensure that **DNS servers** and **Search Domains** are empty.



9. Click OK

10. Click the open padlock icon to lock the settings again.