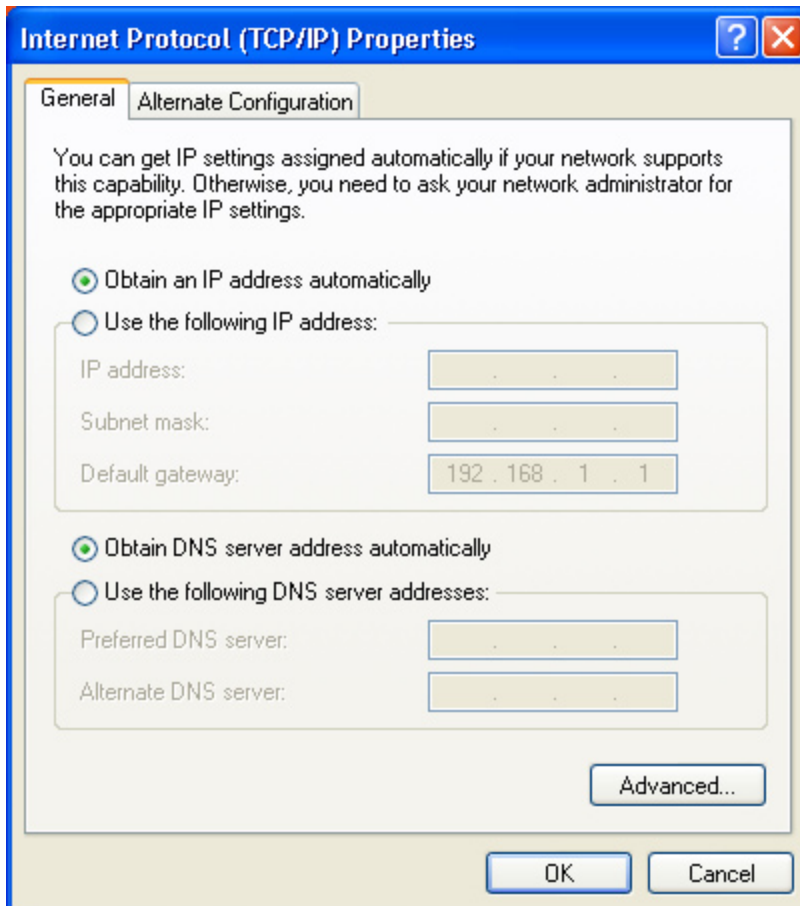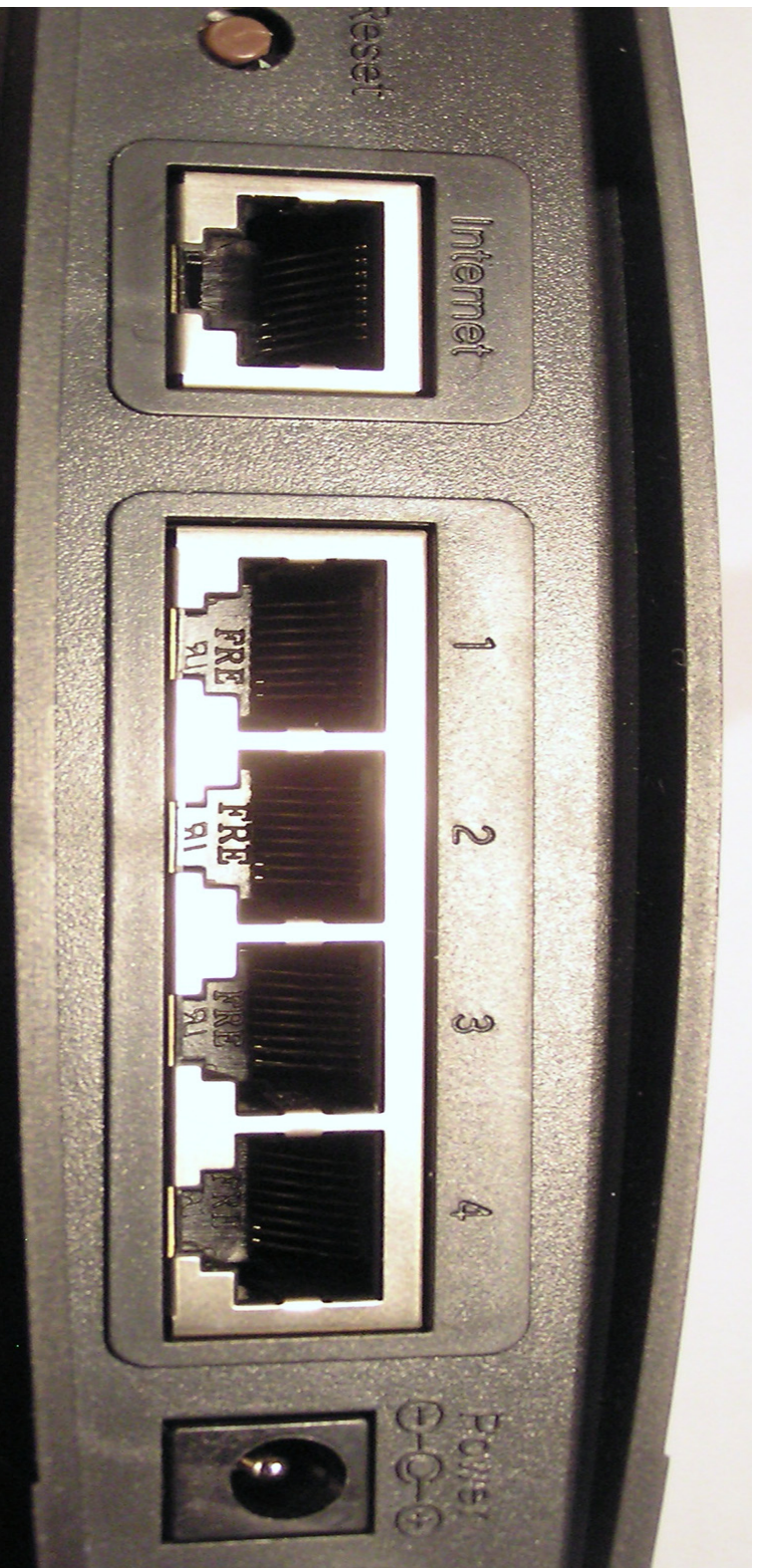**Select Internet Protocol (TCP/IP) and then click "Properities"**



**On the next screen, be sure to select the "Obtain an IP address automatically" radio-button and then the "Obtain DNS server address automatically" radio-button, then click "OK."**

Here on the back of the Router it is easy to see the modem connection to the Internet on the left and the four switch ports on the right for your wired network components on the right. Use the "Internet" port to connect your router to your cable or DSL modem.  Although the Internet port is physically the same as the other four ports, they have different requirements for connections. Note *NO* Uplink port.

Here is the System Properties screen. Click on the Computer Name tab to access the Computer Name Change screen.

My computer belongs to a Domain. But you would click the Workgroup radio button, enter the workgroup name and click ok. Repeat this procedure on all your network computers.
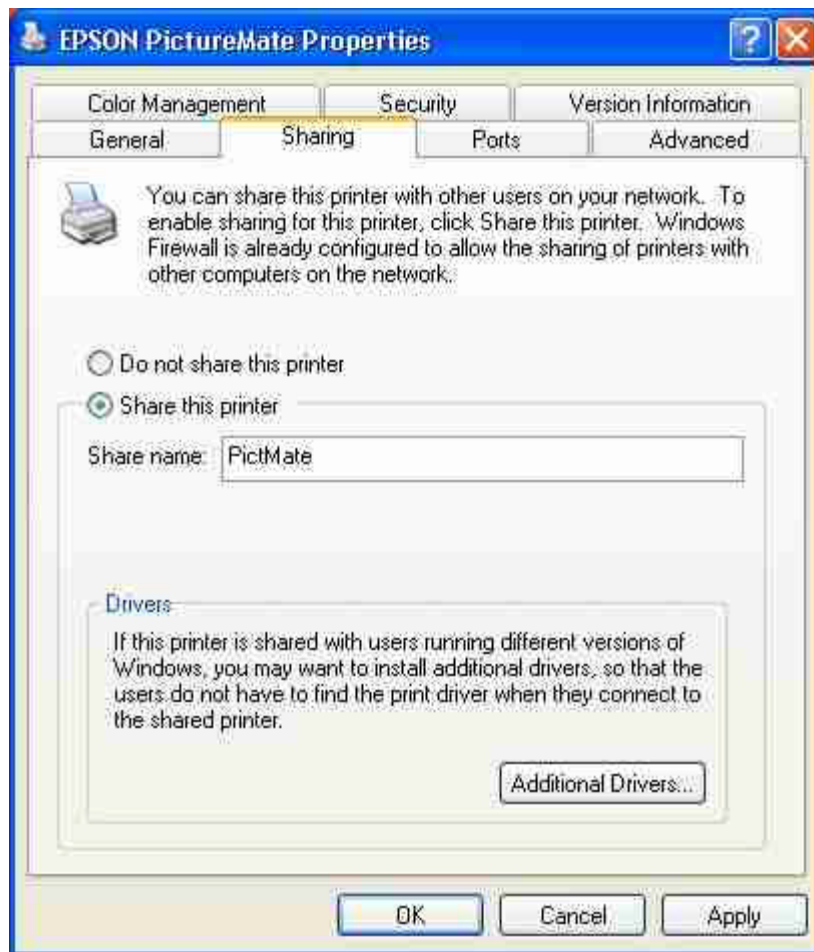
Here is the Printer Sharing dialog. This is a WinXP host so it has the option of adding additional print drivers for other versions of Windows.
Again, you may provide a name for the shared printer that is different from the name in the printer folder.

# NETWORK TROUBLESHOOTING TRICKS

When things don't go right, its always helpful to have some advice and tools ready to help identify and hopefully resolve the problem. With any luck you may find something useful here.

Ping command – from the command prompt you may "ping" an IP address to determine if you computer can send and receive data packets or datagrams in the network world. Assuming you used this guide while building your network, you can ping your router.

**_ping ip address_**

eg. **ping 192.168.1.1**

If you see replies back from the router, then you know your pc, the router and the path between them is working.

If you do not receive a reply then try pinging your own pc.

**_ping 127.000.000.1_** – this is a special case and address. This command pings the network card in your computer to verify the transponder can both create and send as well as receive a datagram.  If you get replies using this command, it means your network card is functioning properly.

If you do not receive a reply from a ping, that means either your network configuration or your software is not setup correctly. So you verify your settings and then check your IP configuration using the following command:

**_ipconfig /all_** – This command displays all the IP settings for the computer you are currently using. It displays the length of time of the IP address lease and even the MAC address of the NIC card. A lot of interesting information is available using this command. Check it out!

Sometimes, additional software is required to assist in your troubleshooting activities. One tool that is very helpful is also free from AnalogX. Visit the AnalogX website and download the HyperTrace utility at: http://www.analogx.com/.

**AnalogX HyperTrace** is a GUI version of *traceroute*, which shows you the route that information travels from your machine to another machine on the internet. Of course, AnalogX wasn't happy just making a GUI version, HyperTrace is also faster, and not just a little bit; an average of 20-30x faster than before! It displays each hop, machine name, machine response time, and the route TTL.

If you're a system admin, or even just an interested user, AnalogX HyperTrace is a great tool to give you both information about your connection, as well as spot problem areas in your connection!

Another interesting web site is: http://www.ipchicken.com/. This website automatically displays your current IP address as well as the name address (through your ISP), the port you are using as well as your browser information.

Geof Goodrum reminds us that:

His September 2004 handout on wireless networks is still on the WAC web site at http://www.wacug.org/recmtgs.html

Another useful network diagnostic web site is http://www.samspade.org/

Another easy-to-remember site for determining the assigned IP address is http://www.whatismyip.com/

Then there's Gibson's site http://www.grc.com for ShieldsUP! to test firewall security.