GEEDEE REALTY SYSTEMS PTY LTD
PCANYWHERE PORT FORWARDING EXAMPLES / INSTRUCTIONS

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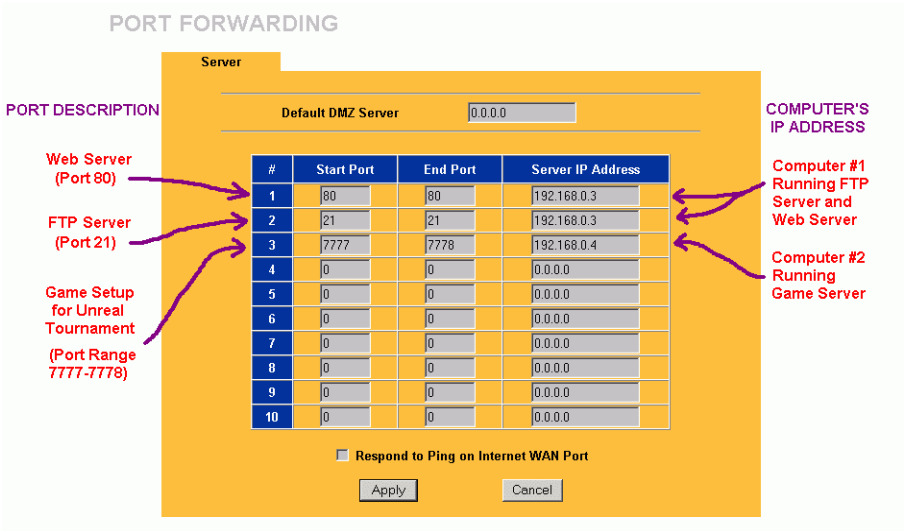
Please Print and Read this document!
This instruction document can be found on the installation CD-ROM in the Technical Notes folder or from the GeeDee website @ http://www.geedee.com.au > *Downloads > Technical Notes.*

How to Setup Port Forwarding/Redirection

To setup port forwarding, you will need two things: The port numbers for the pcAnywhere application you will be using (5631 & 5632), and the IP Address of the computer running the pcAnywhere application. The default IP range is 192.168.0.XXX, where XXX is automatically assigned to your computer by the DHCP server in your router.

Once you have the required information, you can proceed to the Port Forwarding/Redirection Menu in your router to start entering the port numbers and IP address of your pcAnywhere machine. Shown below is a typical setup for a web server, ftp server, and a game server. Depending on your Router the following screen may vary in appearance.



All who read this document will find it very useful for pcAnywhere. The first 5 pages are the technical side of pcAnywhere. The remaining portion of this guide provides easy to view example screen shots and step-by-step example configurations. (Example shots - See page 6).

Table #2: Application and Port List

Application Type	Application Notes	Required Settings for Port Forwarding	
SERVICES	**NOTES**	**Outgoing Connection**	**Incoming Connection**
HTTP	I.E, Netscape	None	80 /client IP
POP3	Outlook, Eudora	None	110 /client IP
SMTP	Outlook, Eudora	None	25 /client IP
APPLICATIONS	**NOTES**	**Outgoing Connection**	**Incoming Connection**
PC Anywhere	**Host must be on the LAN side and client IP set.**		**22 /client IP** **5631 - 5632 /client IP**

Information: pcAnywhere IP port usage for GeeDee

Situation:
You want to configure a firewall/router to allow pcAnywhere connections, and you need to know which IP ports pcAnywhere uses.

Solution:
pcAnywhere uses the registered ports **5631** and **5632**. For GeeDee & pcAnywhere connections please set the ports to **5631** and **5632**.

pcAnywhere version	TCP (data) port number	UDP (status) port number	How to convert to the other set of ports for GeeDee Realty Systems PTY LTD
10.x, 11.x	**5631**	**5632**	**Please see How to change the IP ports that pcAnywhere uses.**

Information: pcAnywhere and Network Address Translation - Setting up the Ports 5631 & 5632

Situation:
You need to know if pcAnywhere will work with Network Address Translation (NAT).

Solution:
Yes, pcAnywhere can be used with NAT, provided that the router is forwarding the proper ports.

Note: The ability of pcAnywhere to access a host through NAT is totally dependent on the configuration of the router. pcAnywhere & GeeDee Support cannot help in setting up a router to allow pcAnywhere connections *(See example step-by-step guides and screen shots)*. You must contact your system administrator, IT professional or the vendor of the router/NAT software for guidance.

To connect pcAnywhere by using NAT, the following requirements must be met

- The NAT table must map to the IP address of the pcAnywhere host.
- The **TCP/UDP** ports that pcAnywhere uses for GeeDee to communicate are ports **5631 (TCP)** and **5632 (UDP)**. These must be entered and forwarded through the router to your chosen pcAnywhere machines local IP address. For further information on setting up port forwarding, you must contact your system administrator, IT professional or the vendor of the router/NAT software for guidance.
- **For your convenience several example documents explaining port forwarding on common routers and screen shots have been included towards the end of this article.** *(See Page 6 Step-by-Step Guides & Screen Shots).*

- **Public Ports (Receives Data from Internet).**
- **Private Ports (Data sent to this Port).**

Information: How to change IP ports for pcAnywhere

Situation:
IF, you want to know how to change these ports.

Solution:
To change the TCP/IP ports on the host computer:

1. Open the pcAnywhere Manager.
2. Click Edit, and then click Preferences (Tools > Options in pcAnywhere 10.x).
3. Click the Host Communications tab. You may have to scroll to the right to see this tab.
4. At the bottom of the TCP/IP options section, click "Advanced TCP/IP Options."
5. Confirm the Data port is **5631 (TCP)** and Status port is **5632 (UDP).**
6. Click OK, and click OK again. You have now confirmed your host to wait on these ports.

Information: How to determine the pcAnywhere host's TCP/IP address

Situation:
How to determine the TCP/IP address of a pcAnywhere host.

Solution:
For pcAnywhere to connect to a host over the Internet, the remote must know what the host's IP address is. To find out the IP address of the host, do one of the following:

If you are *NOT* using a router *(Eg: If you are using a dialup modem)*

If you are using pcAnywhere 9.x or later, you can find the IP address after you have launched the host. Right-click the pcAnywhere icon in the System Tray (in the lower right corner of your desktop), and then click Display Status. The IP address is displayed in the status dialog box. If you see more than one IP address, your ISP or GeeDee can help you to determine the correct one.

If you are using a previous version of pcAnywhere, you can display the IP address using tools included with Windows. Different versions of Windows provide different ways to determine the IP address:

To display the IP address:

Windows 98, Me

1. Click Start, and then click Run.
2. Type Winipcfg and then click OK.
3. Select the appropriate adapter to determine the IP address. For a dial-up connection, select the PPP Adapter. If you are using a Cable or DSL high speed connection, you need to select the adapter that is configured for your Cable or DSL modem.

Windows NT 4.0, Win2K, XP Pro, 2003 Server

1. Click Start, and then click Run.
2. Type **cmd** and then click OK.
3. In the DOS window, type **ipconfig /all** |more and then press Enter.
4. A list of all TCP/IP adapters is listed with each associated IP address. For a dial-up connection, select the PPP Adapter. If you are using a Cable or DSL high speed connection, you need to select the adapter that is configured for your Cable or DSL modem.

If you *ARE* using a router

The IP address that appears in the status dialog box of pcAnywhere will be the private IP address of the host. You will need to use a different method to get the routable IP address. *(See example step-by-step example guides and screen shots).*

To view your IP address:

Note: If your host computer is behind a router or proxy server, you may see the IP address of the router/proxy server instead of the host's IP address.

1. Open Internet Explorer or Netscape Navigator.
2. Browse to http://www.whatismyip.com. Your IP address will be displayed.

The host's IP address is either static (does not change) or dynamic (changes from time to time). If you have a dynamic IP address, you will need the current address of the host *each time* that you want to connect.

Step-by-Step Example Guides & Screen Shots

Configuration screen shots of common DSL router modem

See red highlight **1.** Here you will have to enter your server's IP address or internal modem address into your web browser.

This can be done from any computer on your network. You will have to have your Login and Password handy to enter the router configuration screen. Some example Server addresses are 192.168.0.1, 10.0.0.138, 10.0.0.7, 10.0.0.1, 127.0.0.1 etc...

See red highlight **2.** This is the IP Address which you will need to provide the GeeDee Support Staff so that they may access your PC via pcAnywhere.

D-Link DSL-500 ADSL Router Config Screen

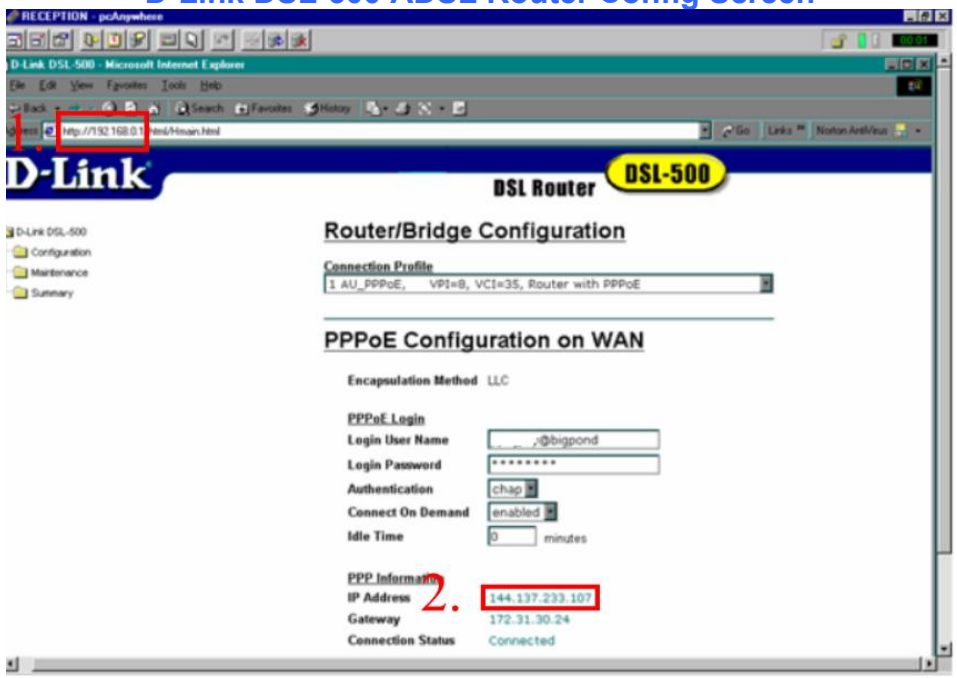


Figure 1

In your router configuration menu (*See Example Figure 2 & Figure 3)* you can add TCP/UDP Port Redirections for pcAnywhere.

D-Link DSL-504 ADSL Router Config Screen

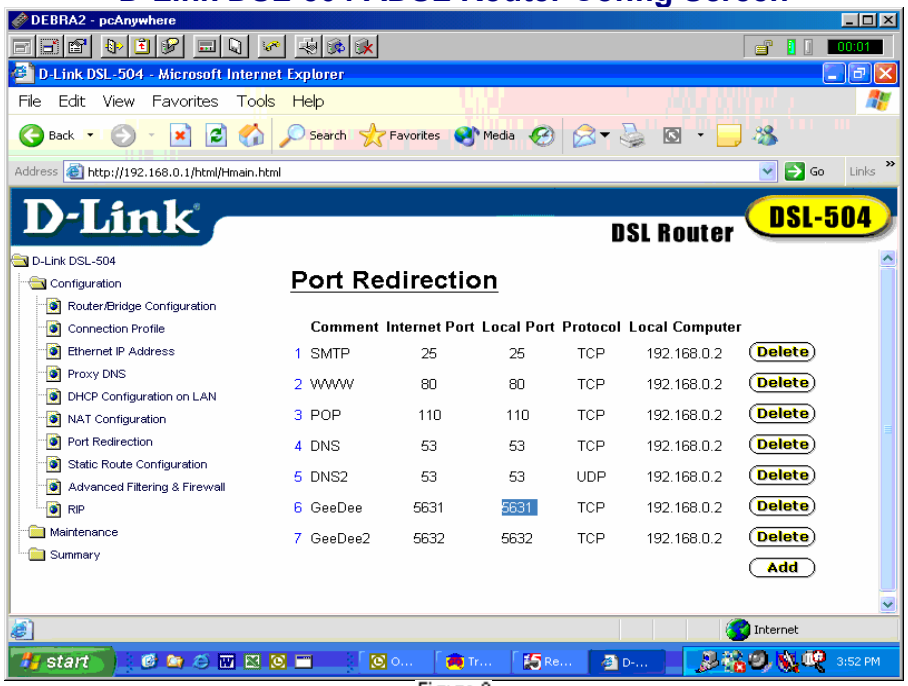


Figure 2

D-Link DSL-500 ADSL Router Config Screen

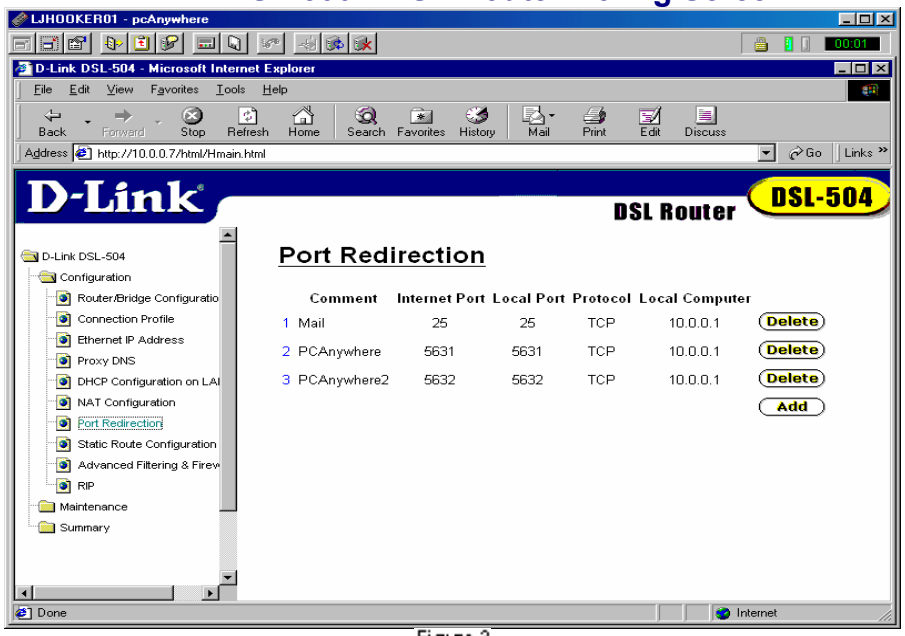


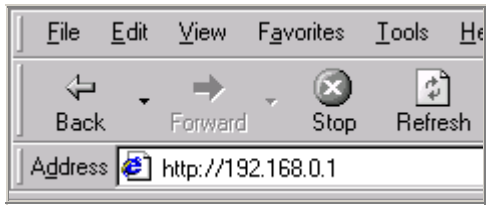
Figure 3

Step-by-Step Example Guides

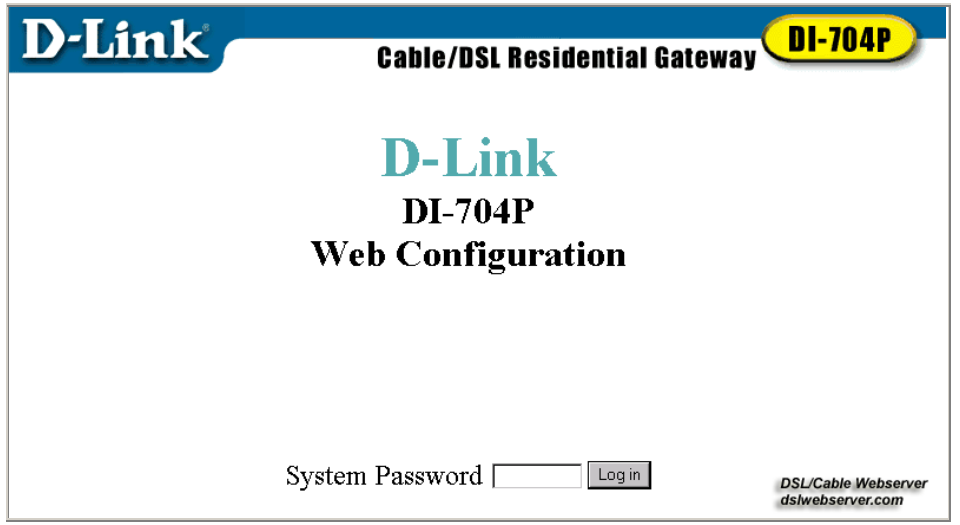
Step-by-Step: Port Forwarding on a D-Link 704P DSL/Cable Router

This guide will show you how to enable and configure port forwarding on the D-Link 704P Cable/DSL Residential Gateway.

To log into your router, fire up your web browser and type in "192.168.0.1".

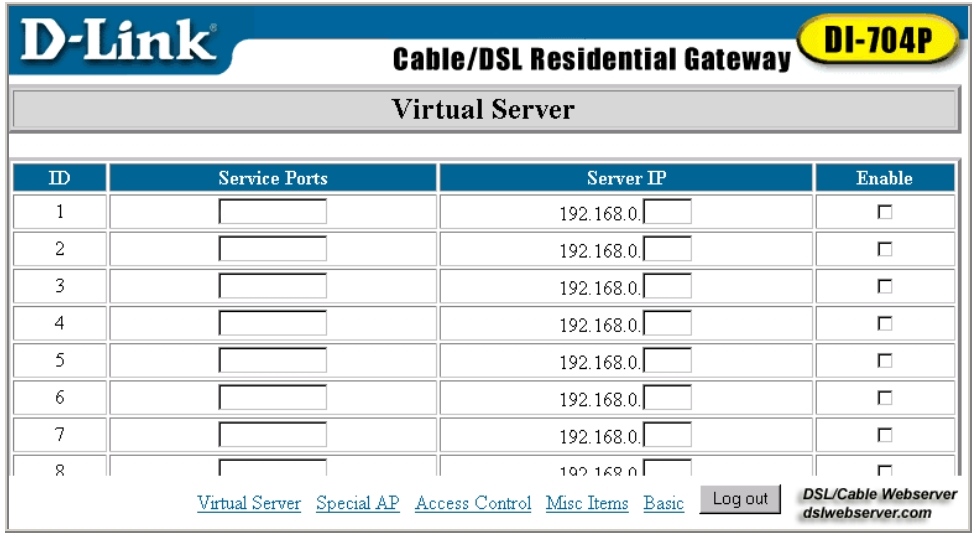


You should see the following login screen.



Type in the password to the router and click "Login". You'll see the "Device Information" page.

Click on the "Advanced" button at the bottom of the menu. You'll see this.

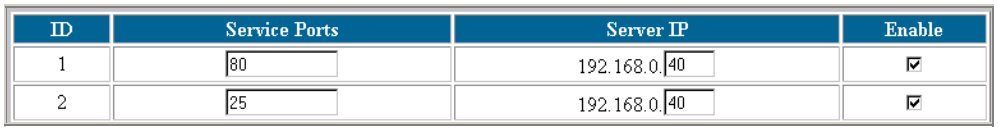


If your router doesn't automatically go to the "Virtual Server" page, click on that link at the bottom of the page now.

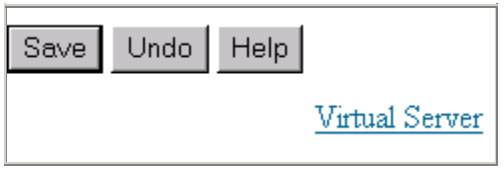
Page 10 is where you can see the entered port numbers and where it is to be forward to. In this displayed example, you will see that port 80 and port 25 have forward requests to a computer located at "192.168.0.40".

The TCP/UDP ports that pcAnywhere uses to communicate, ports **5631 (TCP)** and **5632 (UDP)**, **must be entered** and forwarded through the router to your chosen pcAnywhere machines local IP address.

Make sure to check the "enable" box. This is what our screen looks like.

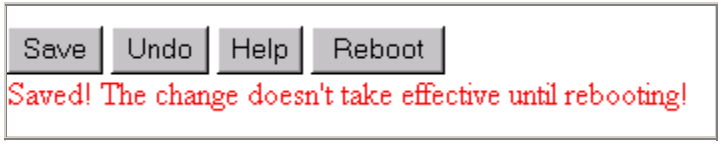


Scroll to the bottom of the screen and click on the "Save" button.



The page will refresh automatically. Scroll to the bottom of the screen once again and you'll see the message "Saved!"

Change doesn't take effect until rebooting!



Now click on the "Reboot" button. A dialog box will ask "Reboot right now?". Click "OK".

As the router restarts you'll see this message:

Then the router will display the Device Information page again. You can click "Log Out".

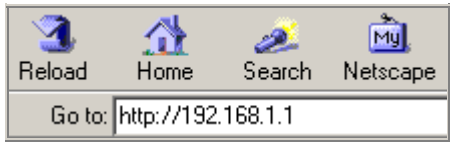
The changes take place immediately and GeeDee should be able to access your pcAnywhere machine though your DSL or Cable Modem (WAN IP number).

Step-by-Step: Port Forwarding on the Linksys Cable/DSL Router

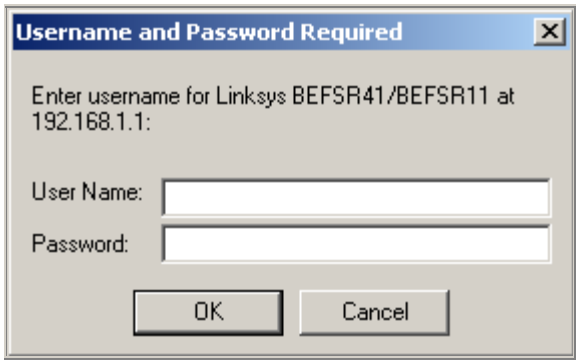
This guide will show you how to forward ranges of ports on the Linksys Cable/DSL Router with the newer versions of the firmware (1.3x). Only the newer versions of the firmware support port ranging. Older firmware support only single port numbers, not port ranging.

The router information says that you cannot have port forwarding enabled if you have DHCP enabled on the router. This is NOT correct. You CAN have both port forwarding AND DHCP active if you take the proper precautions.

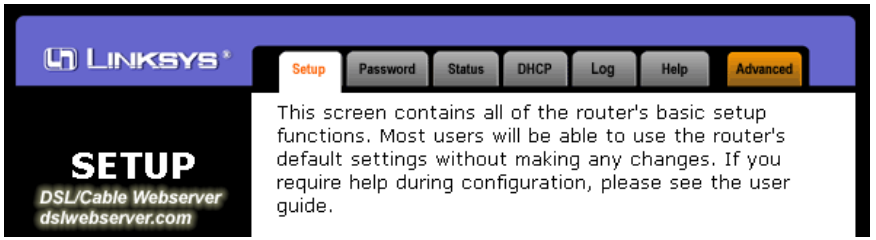
To log onto your Linksys router, type in "192.168.1.1" into your web browser.



You'll see the following prompt asking for the username and password.

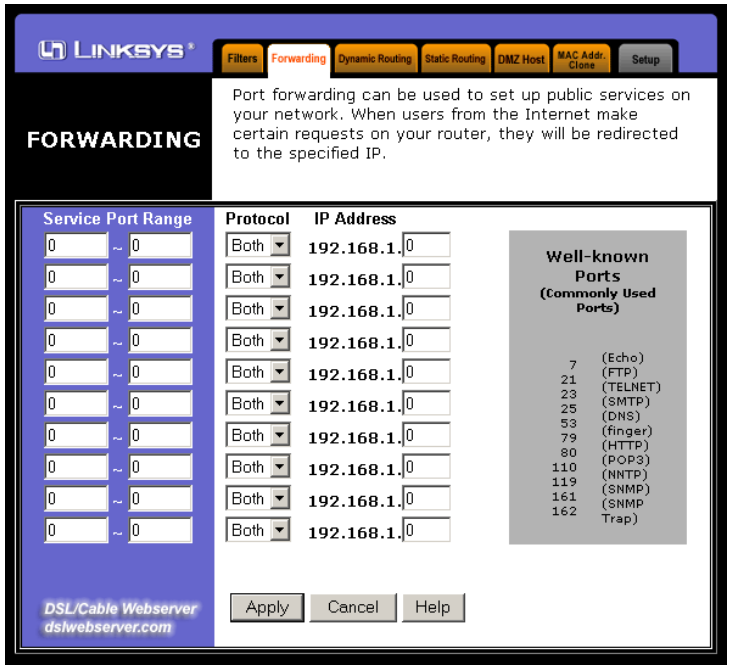


This is the first page you'll see when you log onto your linksys router.



Click on the orange tab labeled "Advanced".

Click on the orange tab labeled "Forwarding".

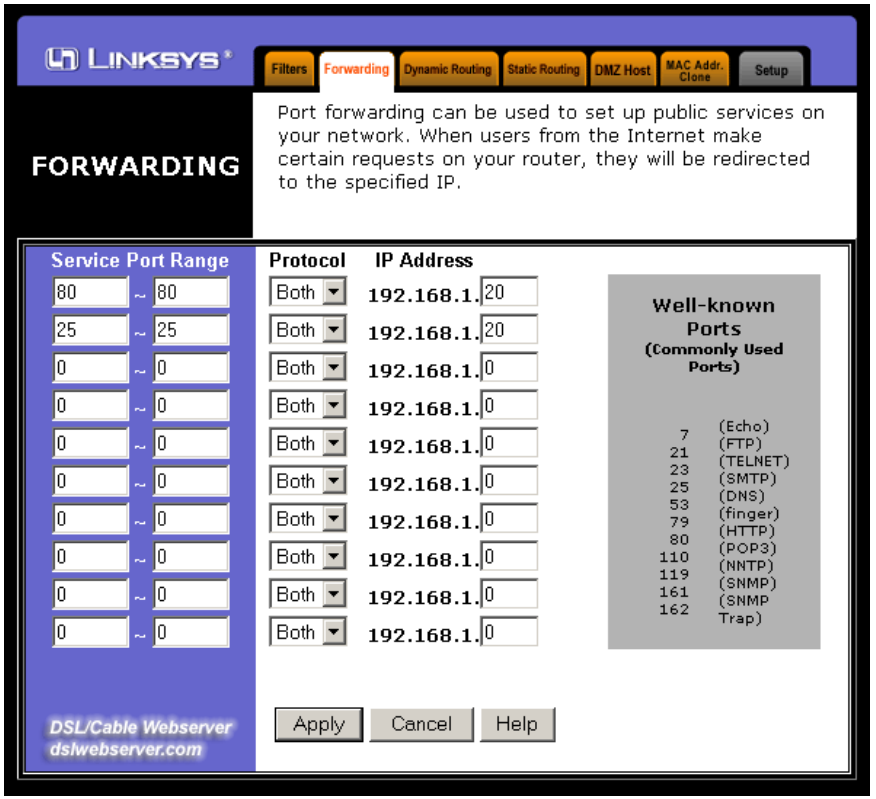


In the gray box is the list of ports that are commonly used by servers.

To the right is where you can see the entered port numbers and where it is to be forward to. In this displayed example, you will see that port 80 and port 25 have forward requests to a computer located at "192.168.0.20".

The TCP/UDP ports that pcAnywhere uses to communicate, ports **5631 (TCP)** and **5632 (UDP)**, **must be entered** and forwarded through the router to your chosen pcAnywhere machines local IP address.

This is what it looks like when it's done:



Click on "Apply" at the bottom of the screen and you're done!

The changes take place immediately and GeeDee should be able to access your pcAnywhere machine though your DSL or Cable Modem (WAN IP number).

Now you can see if your ports are really open or not

This is only for the curious IT professional! **If you like you can test using some of the Tools listed below and do a port scan. You should see that the ports that you just opened are in fact listed as open.**

All the FREE tools listed are either already on your operating system or are tools that other websites provide. I have listed them here for your convenience.

IP/DNS Tools:
See Page 4. **How to determine the pcAnywhere host's TCP/IP address.**
WhatIsMyIP.com - Use this handy website to find out what your external WAN IP address is.

Online Port Scanners:
These tools will scan your ports and let you know if your ports are open or closed.
MyServer.org - Good scanner, tests most ports, can submit your own port number to test. http://www.myserver.org/portscan.asp

Online Security/Vulnerability Tests:
DSLreports.com - Online security analysis. http://www.dslreports.com/scan

Speed Tests:
Are you getting the speed that you paid for? Make sure you are by using these tests and see how close they are to the claimed speeds of your provider. A good rule is that if you get 90% of the claimed speed, your are in good shape.

- DSLreports.com Speed Test - Probably the most accurate test. This test measures both upstream and downstream speeds. http://www.dslreports.com/stest

Internet Tools:
Internet Traffic Report - Shows you the status of Internet traffic.
http://www.internettrafficreport.com/

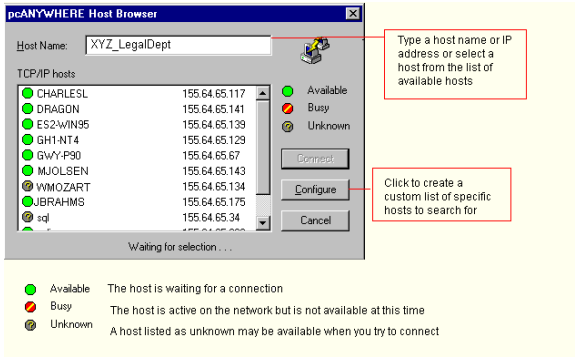
Using pcAnywhere EXPRESS for Internet Connections
(Used to run FREE connections for your Host Only version of pcAnywhere)

Installing pcAnywhere EXPRESS (Optional Use for Remote Control)

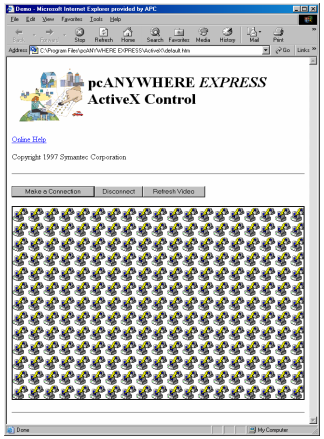
1. The pcAnywhere EXPRESS ActiveX control must be locally installed.
2. Run the **Setup.exe** program in the "**\pcAnywhere Trial\ PcaExpress\disk 1\"** folder located on the GeeDee CD-ROM.
3. Follow the default install prompts to complete the pcAnywhere EXPRESS installation.

Connecting to a Host:

The pcAnywhere EXPRESS control is run automatically when a web page is displayed that contains the pcAnywhere ActiveX control. A connection to a host PC may occur in any of the following ways, depending on how the Web Author implemented pcAnywhere.



To connect to a host PC:



1. Click on the **Start** button, **Programs**, **pcANYWHERE EXPRESS** & then **ActiveX Control** button. *(You will see a web view window similar to the Image above).*
2. Click the **Make a Connection** control button. *(You will see the **pcAnywhere Host Browser** window – See Figure 7).*
3. Type the host name or IP address or select a host from the list of available hosts.
4. [Optional] click Configure to create a custom list of hosts to search for. You can search for hosts on other subnets by using the IP address of the host. You can also search for a group of hosts on a subnet by substituting 255 for the last portion of an IP address. For example, an address of 120.45.62.255 in the TCP/IP list causes pcAnywhere to list all hosts with IP addresses beginning with 120.45.62.
5. After connecting, type your name and password if the host requires it.