

Basics of Port Forwarding on a Router for Security DVR's

The basic concept of setting up your router to allow for “Off Site” access to your DVR involves setting up the two necessary ports the Security DVR uses for its “IE” interface to view your cameras online.

The common ports we set up in the DVR network menu are:

Http: Port 80
TCP: Port 4000

The Http port is the method that the DVR will use to make the web page log-in for the user name and password to access the DVR.

The TCP port stands for “Transmission Control Protocol” and it is used to control the DVR menus and Video Playback and viewing.

It is important that the router is set-up properly to allow for “Off Site” Remote viewing if it is desired to be able to view your DVR over the internet.

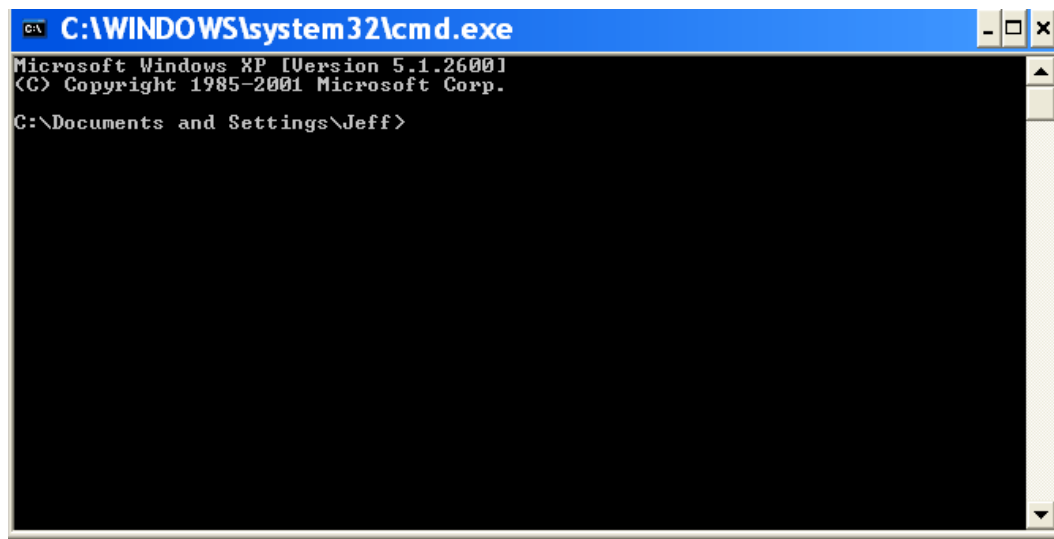
The TCP port is also used for the Mobile Phone apps. Both of the two DVR manufactures also have software that does not use the “IE” built in interface of the DVR, this software also does not use Port 80, but does use port 4000 to access the DVR.

When viewing the DVR “locally”, meaning on your Local Area Network it is not required that you do any Port Forwarding on the Router, but it can only be viewed when you are at the DVR's location.

Assuming that you have the DVR in place with the cameras and the network patch cord plugged into your network we can start the set-up of the network needed to get things online.

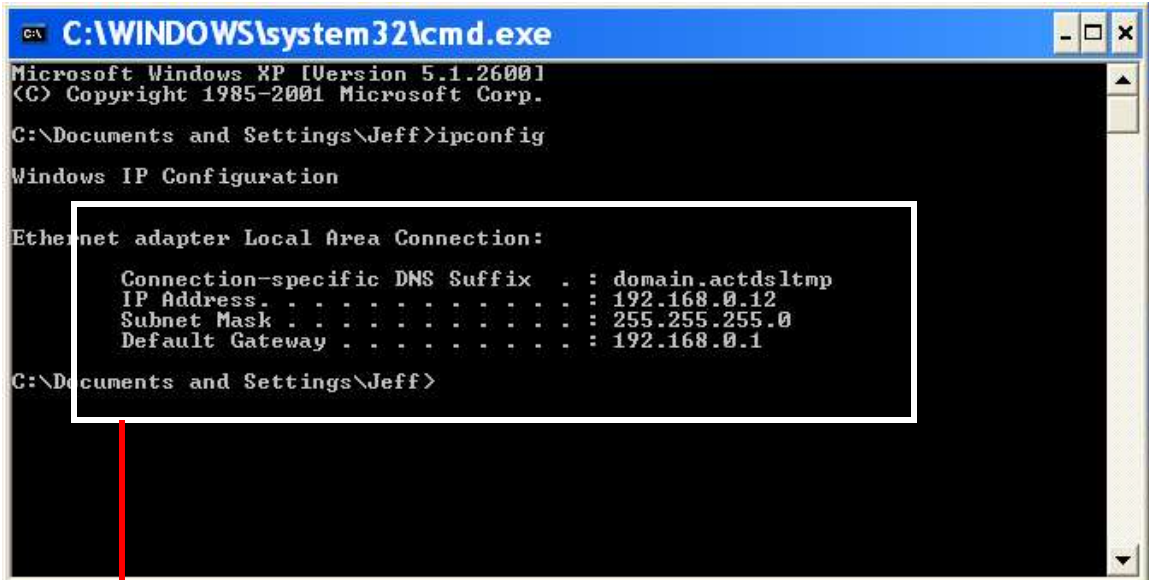
The Basic Steps to setting up the DVR and Router:

Start at your onsite PC connected to the same network your DVR is on. From the “Start” button find the “Run” or “Search” (Windows Xp, Vista, and Windows 7). You will type in the command “CMD” to bring up the window as shown below.

A screenshot of a Windows Command Prompt window. The title bar reads "C:\WINDOWS\system32\cmd.exe". The window content shows the following text: "Microsoft Windows XP [Version 5.1.2600] (C) Copyright 1985-2001 Microsoft Corp. C:\Documents and Settings\Jeff>". The window has a standard Windows XP interface with a blue title bar and a scroll bar on the right side.

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Jeff>
```

The next step is to type in “ ipconfig” to bring up the network setting that we need to use to set-up the DVR Network Settings.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Jeff>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

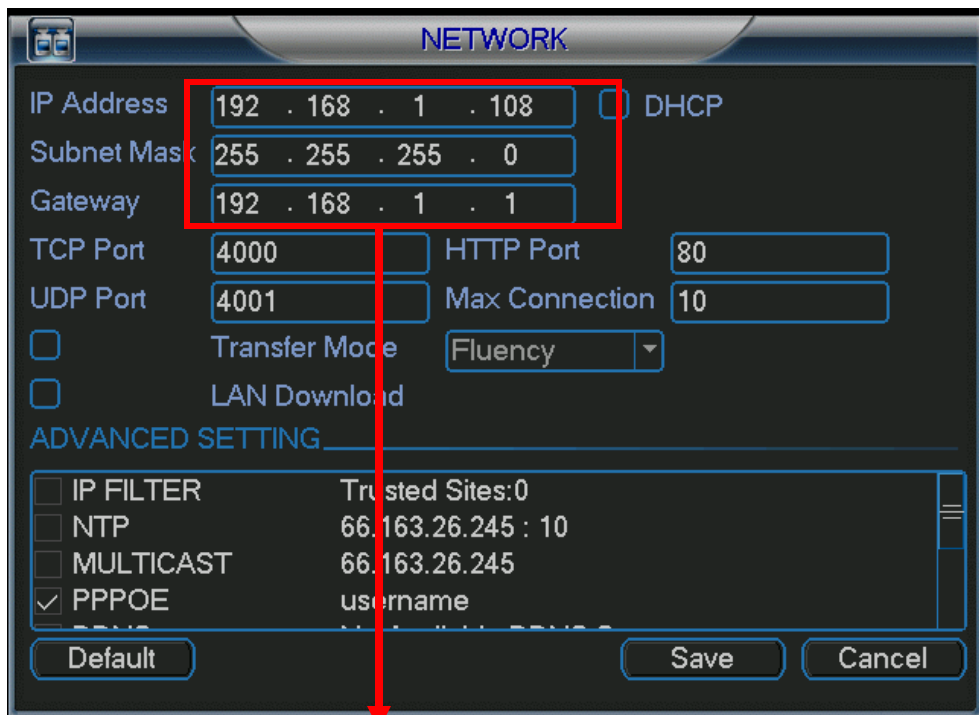
    Connection-specific DNS Suffix  . : domain.actds1tmp
    IP Address. . . . .               : 192.168.0.12
    Subnet Mask . . . . .             : 255.255.255.0
    Default Gateway . . . . .         : 192.168.0.1

C:\Documents and Settings\Jeff>
```

From these settings you get from your PC, write down the **Subnet Mask**, and **Default Gateway** IP address settings.

It is now time to log into your DVR. (Depending on the brand you can find more detailed information on the “Setting up ...” information pages.)

Once logged into the DVR navigate to the icon for the Network setting page. See example below of IC Realtime Network Settings page.



Make Sure the Subnet and Default Gateway setting match up to your Settings that you have written down. The top IP Address is User assigned, make sure the first three groups

of the IP address match the gateway. The last group of numbers will be assigned as the Static IP address of the DVR on your network. In this case the IP address of the DVR is 192.168.1.108. The Http Port by default is assigned to port 80, and the TCP Port should be assigned to port 4000, and the UDP port should be assigned to port 4001. At the bottom of the screen click on the “Save” button, the DVR will prompt you to restart if the network IP settings have been changed.

Setting up the Router

The next step is to Log into the Router for the port forwarding as outlined below. (For this example we will be using a Linksys Router.)

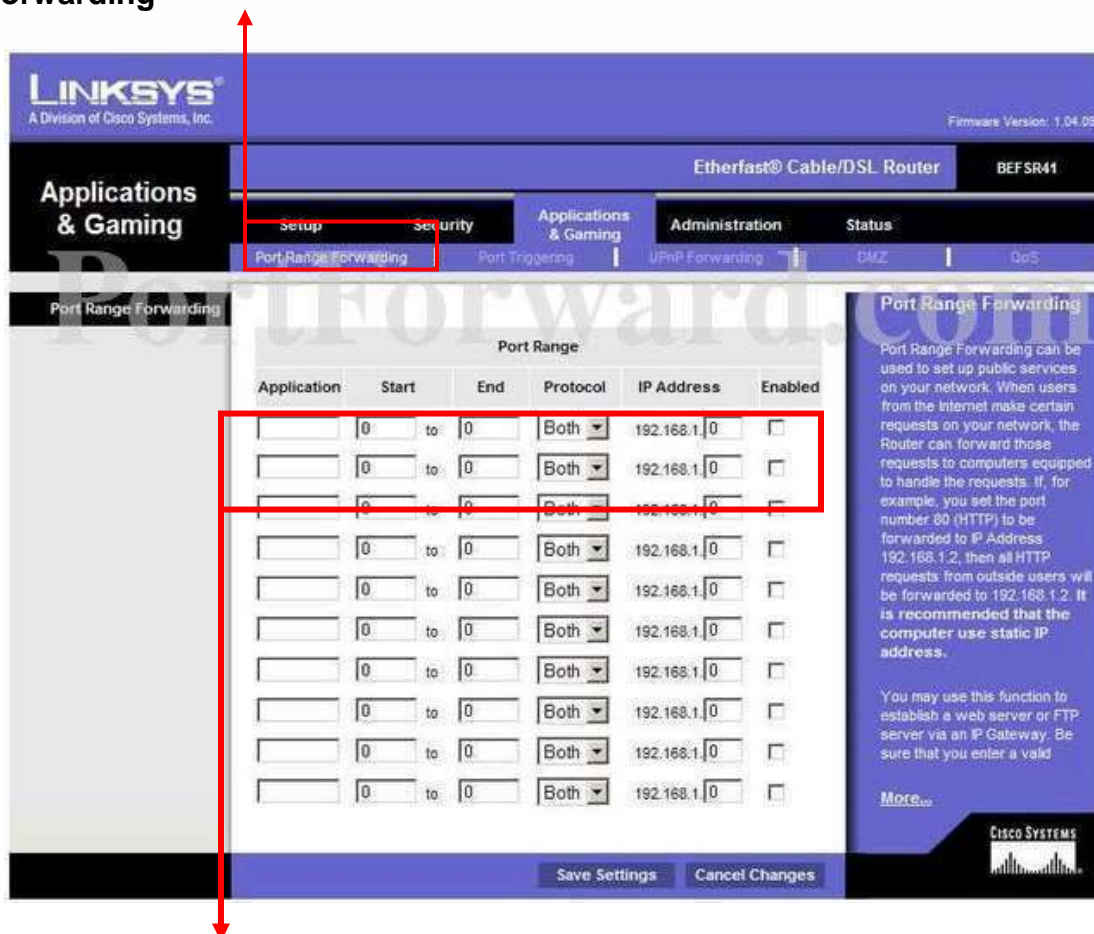
Open a web browser like Internet Explorer or Firefox. Enter the **internal IP address** of your router in the address bar of your browser. The IP address of the Router is the gateway address we have written down from the “ipconfig” information.



You should see a box prompting you for your username and password. Enter your username and password now. By default the username is **admin**, and the password is **admin**. Click the **Ok** button to log in to your router.



Click the **Applications & Gaming** link near the top of the page.
 You should now see a new menu. In this new menu, click **Port Range Forwarding**



Starting with the first blank box enter

Port Range					
Application	Start	End	Protocol	IP Address	Enabled
DVR	80	80	BOTH	192.168.1.108	<input checked="" type="checkbox"/>

In the second blank box enter

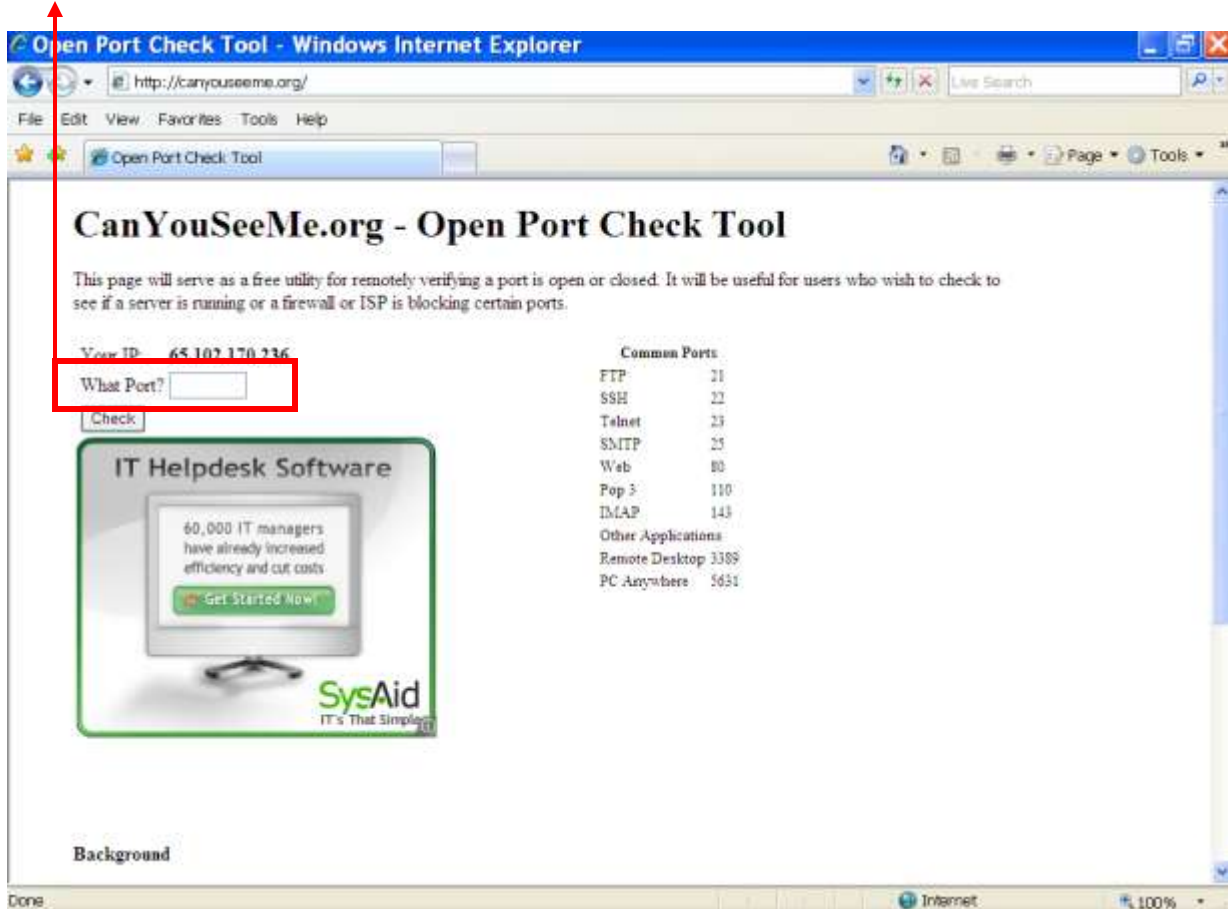
Port Range					
Application	Start	End	Protocol	IP Address	Enabled
DVR1	4000	4000	BOTH	192.168.1.108	<input checked="" type="checkbox"/>

When you're finished, click **Save Settings** near the bottom of the screen to save your changes. That's it , your done with the router set-up.

Check your work

You can use any port checking website to verify that the two ports we just set up are working properly. I use a site called "canyouseeme.org" to check to make sure the set-up is correct. The site also will report your IP address, which is necessary information to have to set-up the Mobile phone apps.

Enter 80 into the box labeled "What Port" then using the mouse click the "Check"



The response you get will either a success or failure, this will be reported back on the site usually right above where you see "Background" on the image above.

Success means you are Done with setting up the router.

Failure means something is wrong with the router settings (Make sure the DVR is on and plugged into the network, otherwise you will get failure)

Repeat the process with port 4000 to make sure that is correct and you are done with this part of the Set-up process.

Setting up the DDNS Service Overview

The next step is to set-up the DDNS service depending on whether you have a Watchnet DVR, or have an ICR realtime DVR. That will be outlined in the “Setting up (brand)” section of the on-line guides.

To explain DDNS services, Internet Providers work from a pool of IP addresses and those are “leased” out to you and tracked by your router. From time to time it is possible that your IP address is going to change. Tracking those changes and directing the user to the correct internet IP address is what the DDNS service does. The DVR has the built in function to “ping” the DDNS Server to let the DDNS Service know what the DVR’s Internet IP address is , so the DDNS server can be updated to the correct internet IP address.

Watchnet DVRs use a website called www.Viewdvr.com . You sign up for the service with them, and it gives you an easy site to go to. Enter your “sitename” and connect to your DVR.

ICRealtime uses www.No-IP.com and once this service is setup , you then enter the site name you create on the no-ip website to access your DVR. Your customised name might something such as www.mydvr.no-ip.biz .

If you have a Static IP from your internet service, then you can skip the set-up of the DDNS services and just use your WAN (internet) IP address to access your DVR online. Static IP’s are a premium service from the Internet Company and are usefull, but not necessary if you use a DDNS service to track any changes to your IP address.

Please see the “Setting up ICR realtime” or “Setting up Watchnet” for more detailed instructions on how to use the DDNS service for each brand.