

Getting the DVR Setup for Internet Viewing

Preface:

Getting your DVR setup for the internet is one of the best features that these DVR's have. This guide should help most users get their DVR setup for the internet but please note that there are several different types of ISP's (Internet Service Providers) and Network Configurations. While this guide will help most, there may be some users that may have to contact their ISP to figure out how to do certain tasks within this guide. We will let you know during this tutorial on when you may need to contact your ISP to get certain information.

What you will need:

DVR, A Router, Network Cable AKA CAT5 Cable AKA Ethernet Cable (most of the DVR's come with this but you may find the need to get a longer one and that is okay), High Speed Internet (Dial Up is not ideal and may not work depending on the speed). Internet Explorer is the browser were using for this tutorial. **Terms you will learn if you don't know them already (don't worry, we will teach them as we go):**

IP Address: An IP address is a unique number that a computer has or other type device (such as your DVR) that helps identify itself within a network. There are 2 types of IP Addresses: LAN IP's and WAN IP's

WAN IP: Wide Area Network IP. Otherwise known as your public IP. This is the IP that most people are familiar with. This IP address identifies your local network to the internet. Think of it like a street address for your home which helps identify your location to the world. Since you are using a router to connect all your devices to the internet, your router will have one WAN IP address that identifies your entire network to the internet.

LAN IP: Local Area Network IP. LAN IP's are individual IP's assigned to each device within your Local Network. Each device that is connected to your router, whether it be your computer or DVR will have its own individual LAN IP. Remember when we said a WAN IP is like a street address for your home? Well, LAN IP's are like the individual people living in the home.

Static or Dynamic IP: Your WAN IP will be either one of these 2 types. A static IP is one that permanently stays the same. A dynamic IP is constantly changing.

Port Forwarding: This is a configuration that is done within your router to allow your DVR to be seen from remote locations over the internet.

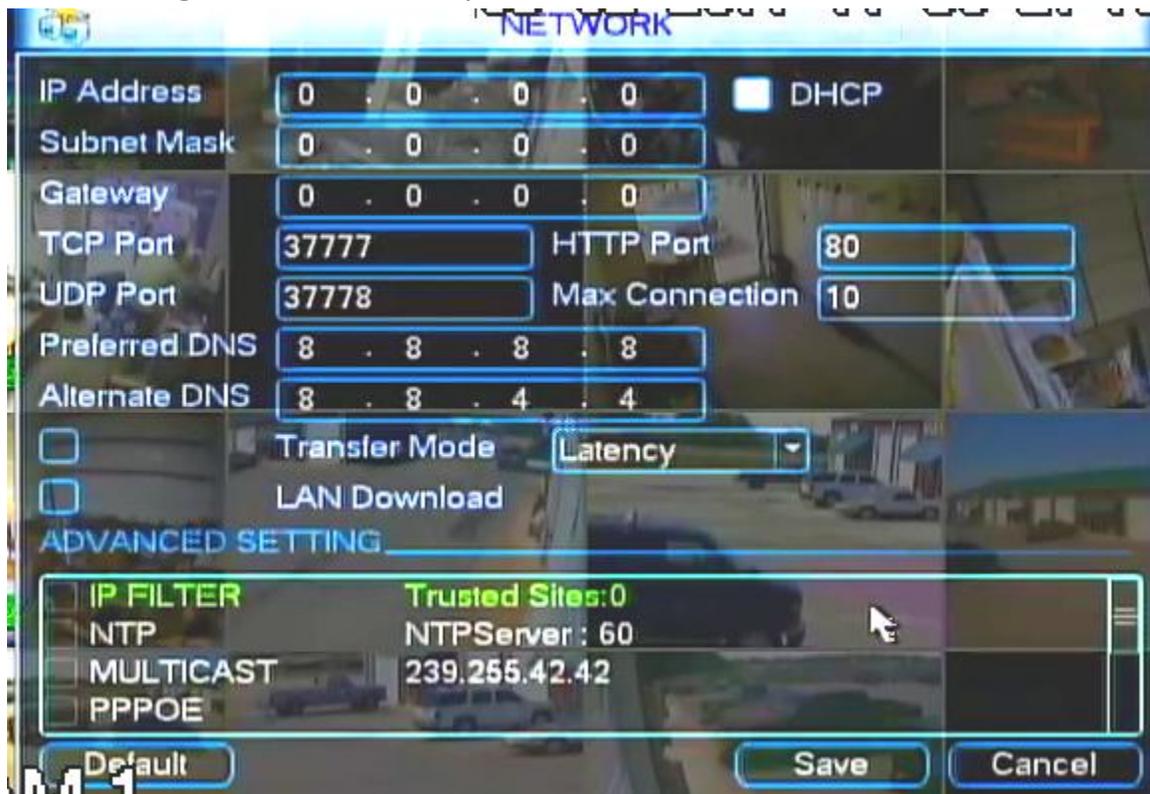
Preperation:

Please ensure that you have your router setup properly and that you can access the internet with it from a regular computer. Most internet users typically do use a router so more than

likely you are probably already setup but if you do not have a router then you will need to get one. You will also need to make sure that you have access to your routers administration page. Chances are, you may have not accessed this in a while but you will need to access this now to do some slight configurations. Also, go ahead and run the Network cable from the network port on the back of the DVR to an open port on your router.

Step 1: Have your router assign your DVR a LAN IP.

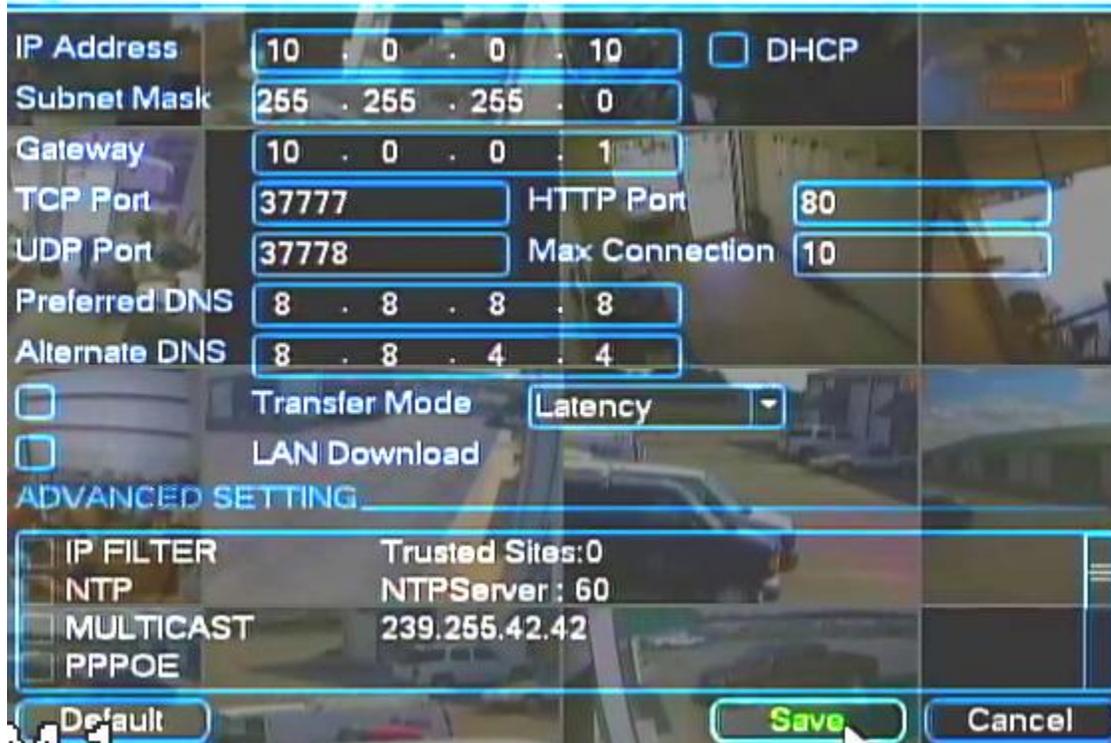
You can do this by simply going into the DVR's Main Menu>Setting>Network. Once you get there, you will need to highlight the box that is labeled "DHCP". Once you highlight the box you will notice that the IP address, Subnet Mask and Gateway fields will become blank, after that happens, be sure to click Save. Once you click save, it should automatically exit the network menu, If not, go ahead and manually exit the menu.



Next you will need to go back into the network menu. Once you get back into the menu, you will notice that the IP address, Subnet Mask, and Gateway fields are automatically filled in with numbers now. These are the numbers that the DVR obtained from your router. If you do not see any numbers filled in the fields, then please restart your DVR and go back into the network menu and you should then see the fields filled in with numbers. The IP address that you see in the Network menu is your DVR's LAN IP, be sure to write this down as you will need this info

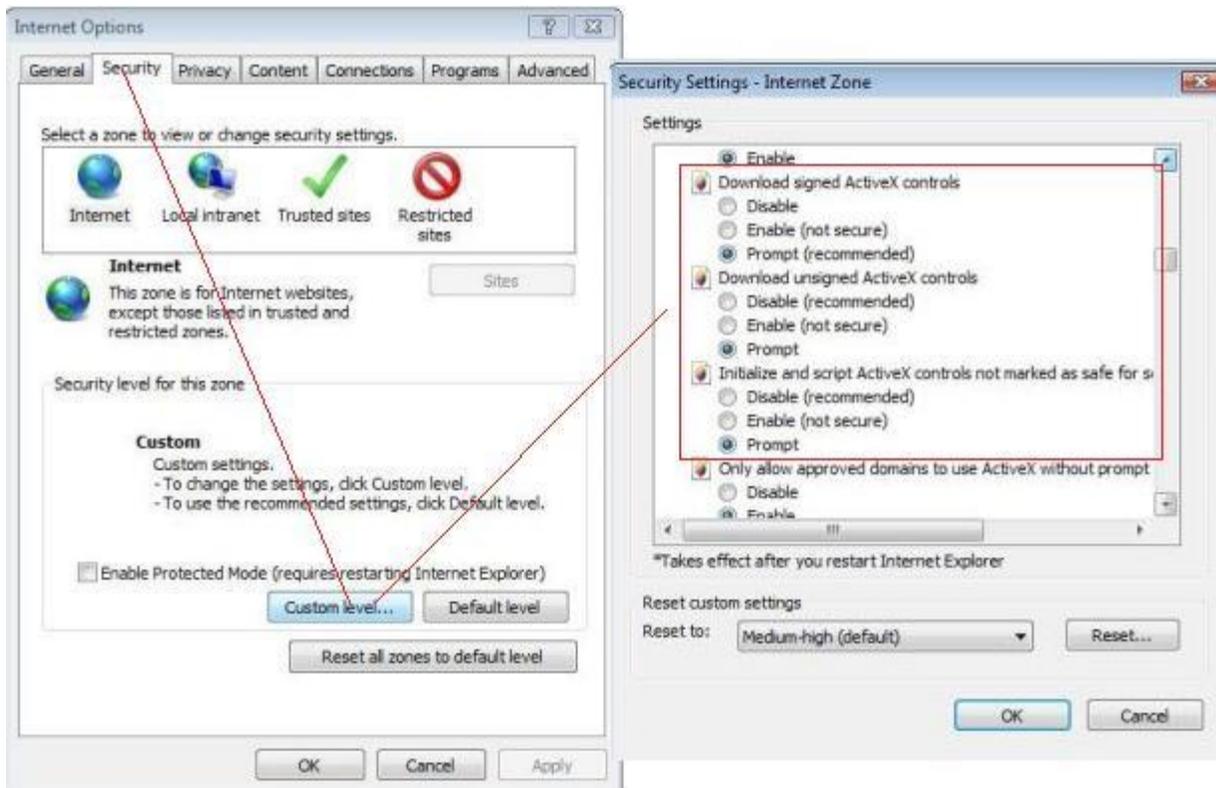
later. In the following example, our LAN IP is 10.0.0.10, please note that yours will more than likely be different but for our example, our router assigned our DVR the LAN IP of 10.0.0.10.

IMPORTANT: Once you see that all of the information is filled in be sure to uncheck the DHCP box and click save. Doing this will make the DVR keep the same IP address permanently. If you leave the box checked, the DVR will get a new IP address every time the DVR restarts or shuts down and you do not want that to happen.

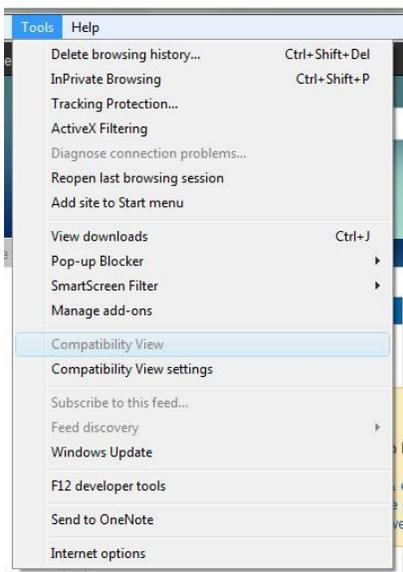


Step 2: Verify that you can log in to the DVR from a computer within your local network.

In order to do this, you will need to use a computer that is connected to the same router as your DVR is. Use Internet Explorer if that is your primary browser. First we must configure Internet Explorers Active X settings in order to operate the remote software. To do this open Internet Explorer>Tools>Internet Options>Security. Then Click on the Custom Level Button. Now you will need to scroll down to where the active X controls are. You will need to find the 3 following Active X configurations: 1) Download Signed Active X controls 2) Download unsigned ActiveX controls 3) Initialize and script ActiveX controls not marked as safe for scripting. You will need to select the "Prompt" box for all 3 of these configurations:

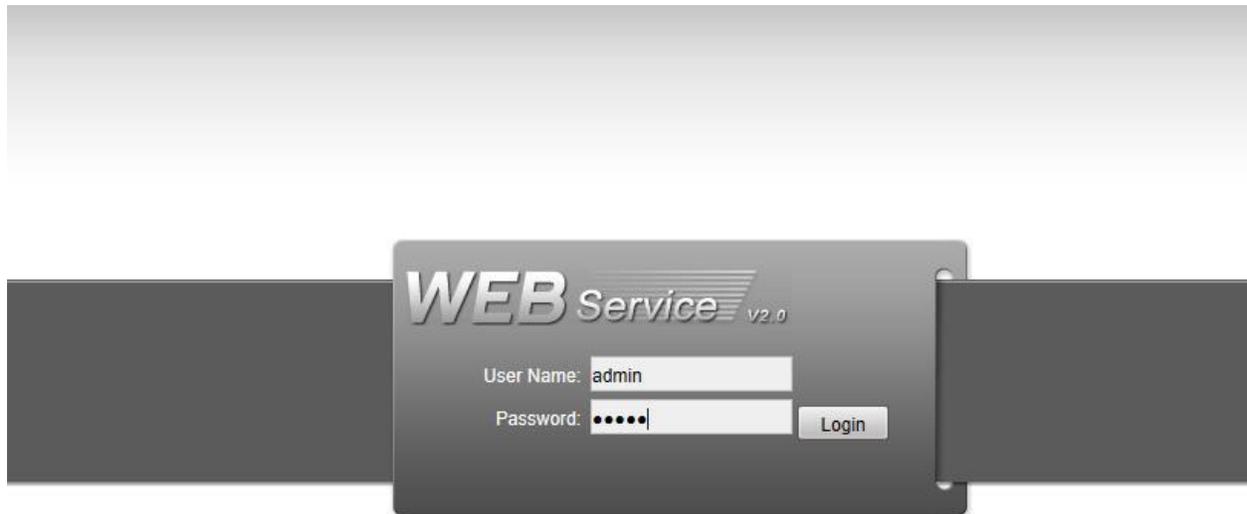


Next we need to set the Internet Explorer browser to compatibility mode, to do this simple click the "Tools" option on the menu bar at the top then about halfway down the window you will see "Compatibility View". Click that to allow Internet Explorer to view your DVR page.



Now that we have internet explorer configured correctly, it is time to login to the DVR. Do this by simply typing in your DVR's Local IP address. This is the address that we told you to write

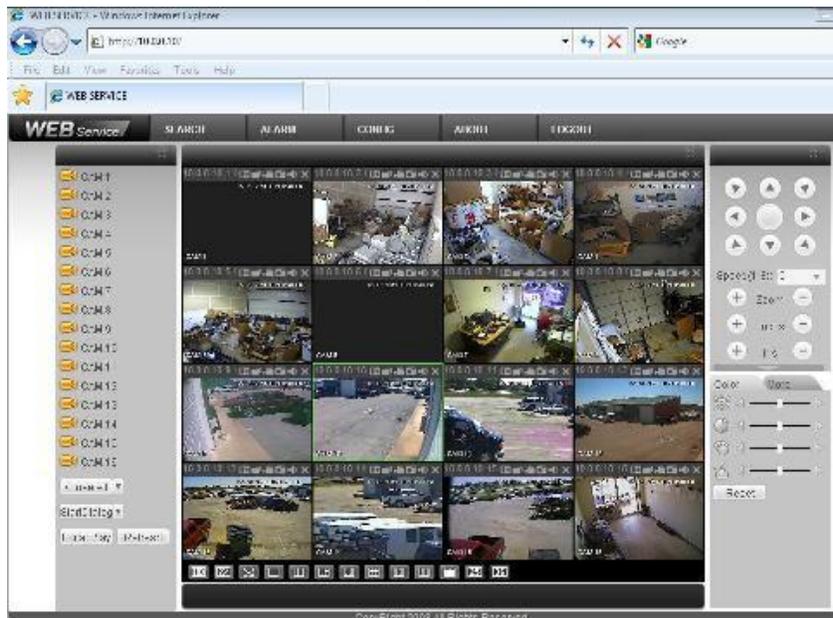
down earlier. In our example, our Local IP is 10.0.0.10. Please note that if you get any prompts to install active x or any add-ons, please click yes to all of the messages. It may take a while to popup but this is what your login screen will look like



Important: Please note that whenever you login you will need to use a username that is able to access the DVR remotely. **The default username and password 888888 will not be able to login to the DVR remotely.** Even if you have changed the username and password for this account to something else, you still will not be able to use that account to login over the network. That user account is made primarily to be used directly at the DVR, not over the network. However, you can use the other user accounts, for example, if you have not changed any of the default usernames and passwords, you can use admin as your username and password to login to the DVR. Whichever user account you choose to control over the network, you will want to go into your DVR and allow full access as an administrator so that you can access all of the remote software's configurations. In order to gain access to all of your user accounts, please go to your DVR and access the main menu. From there you go to Advanced>Account. From there you can edit the various user accounts permissions and/or add other user accounts.

After you successfully login, this is what the remote software will look like (please note that it may take a while to load) (Also, whenever the screen comes up, be sure to click the open all

button at the bottom left to see your cameras):



Step 3: Get your DVR and Router Configured so you can see your DVR from a remote location outside of your local network.

You are halfway finished. Now you will have to configure your router to allow you to login to your DVR from a remote location outside of your network. Simply typing in your DVR's LAN IP from a remote location will not work. This is where your Networks WAN IP will come into play and you will also need to know if your WAN IP is a Dynamic IP or a Static IP.

Figure out your WAN IP:

You can do this by going to the website www.ipchicken.com. Once you get to IP chicken it will show you your WAN IP. Write this number down. In our case our networks WAN IP is 70.234.179.105



Figure out if your WAN IP is Static or Dynamic:

The difference between a static IP and a Dynamic IP is a static IP stays the same permanently. A Dynamic IP changes constantly. For example, our network has a Dynamic IP, so our WAN IP of 70.234.179.105 will be totally different here in an hour or so. If you do not know what kind of

WAN IP that you have, you will need to contact your ISP (Internet Service Provider) and ask them. A static IP requires less configuration to get this process setup than a Dynamic IP. You can still have a Dynamic IP, but you will need to take an extra step to configure your router to make it work. We will get to that later though.

Configure your Router for Port Forwarding:

This process allows your router to be seen over the internet so you can see your DVR remotely outside of your network. All routers are different but in our example, we used a Netgear router. If you do not know how to access your routers Port Forwarding section, please consult your routers manual or customer support to guide you to the port forwarding section. This is the part where you will need to access your routers admin page.

There are 2 ports that you will need to forward in order for this DVR to work correctly. You do this by adding a custom service to the Port Forwarding Section. You will need to forward ports 80 and 37777 to your DVR's Local IP. Lets take port 80 for example. The service name is not important but lets just go ahead and name it DVR1. For the service type you will need to select TCP/UDP. For the starting port, input 80. And for the ending port, input 80. In the Server IP address field, you will type in your DVR's LAN IP. Click "Apply":

Ports - Custom Services

Service Name	DVR1
Service Type	TCP/UDP
Starting Port	80 (1-65534)
Ending Port	80 (1-65534)
Server IP Address	10 . 0 . 0 . 10

Apply Cancel

You will also need to do the same thing for Port 37777

Ports - Custom Services

Service Name	DVR2
Service Type	TCP/UDP
Starting Port	37777 (1-65534)
Ending Port	37777 (1-65534)
Server IP Address	10 . 0 . 0 . 10

Apply Cancel

So once you get all of your custom port forwarding services completed. You will have a total of 2 services listed:

#	Service Name	Start Port	End Port	Server IP Address
1	DVR1	80	80	10.0.0.10
2	DVR2	37777	37777	10.0.0.10

Ensure that ports 37777 and 80 are open:

We will now need to make sure that ports 37777 and 80 are open and accessible and that they are not being blocked by your ISP. In order to do this, you will need to make sure that you are on a computer within the same local network as your DVR. Next you will need to visit the website www.canyouseeme.org. Once you get there, you will notice that your WAN IP is listed and there is a box where you can input the port number that you want to check. First you will want to check port 80. Enter port 80 in the box and click check. If your port is open, you will see a green "success" notification at the bottom. Do the same thing for port 37777:

CanYouSeeMe.org - Open Port Chec

This page will serve as a free utility for remotely verifying a port is open or closed. It see if a server is running or a firewall or ISP is blocking certain ports.

Your IP: 70.234.179.105

What Port?



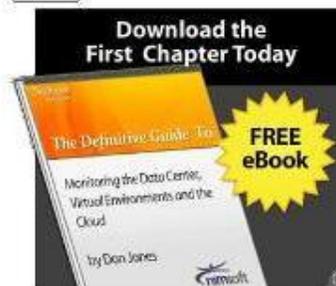
Common

- FTP
- SSH
- Telnet
- SMTP
- Web
- Pop 3
- IMAP
- Other Appli
- Remote Deskl
- PC Anywhere

This page will serve as a free utility for remotely verifying a port is open or closed. It will be see if a server is running or a firewall or ISP is blocking certain ports.

Your IP: 70.234.179.105

What Port?



Common Ports

- FTP 21
- SSH 22
- Telnet 23
- SMTP 25
- Web 80
- Pop 3 11
- IMAP 14
- Other Applications
- Remote Desktop 33
- PC Anywhere 56

Success: I can see your service on 70.234.179.105 on port (80).
Your ISP is not blocking port 80

Success: I can see your service on 70.234.179.105 on port (37777).
Your ISP is not blocking port 37777

Background

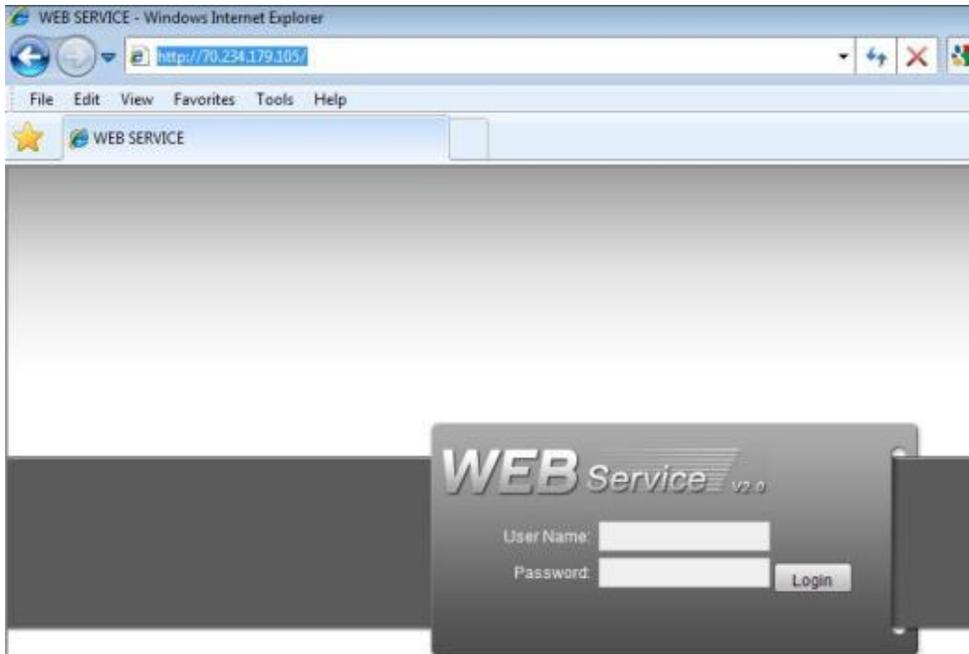
If you received an error that your port was not open or that your service could not be seen, then it is likely that your ISP is blocking those ports. In this case you will need to contact your ISP to ask them to unblock those specified ports so that you can use this DVR over the internet. Or you can ask them which ports are open that you can use, if they tell you that you need different port numbers, then please note that you will need to re-configure your router and DVR with those according numbers. The best option though would be to have them unblock those ports because this would require less configuration and hassle.

Verify that you can login to the DVR from a remote computer that is outside of your network.

Now you have everything configured correctly. It is time to see if you can login to the DVR from a remote computer. Remember how we initially logged in to the DVR from the local network by typing in the DVR's LAN IP into the browser bar? Well this time you will instead type your WAN IP into the browser bar. Please note that in order to properly do this, you will need to login from a remote computer outside of your local network. This means that you may have to leave your house or call a friend to attempt it for you. Whichever remote computer you decide to use to login to your DVR with, **DO NOT FORGET TO USE INTERNET EXPLORER AND DO NOT FORGET TO CONFIGURE YOUR ACTIVEX SETTINGS FOR THAT COMPUTER AS DESCRIBED IN STEP 2 OF THIS TUTORIAL.** Also, if you try to visit your WAN IP from within your local network, do not be surprised if that does not work. Some ISP's do not allow what is called a "loop through". Please ensure that you try this from outside of your local network.

Also, if you have a dynamic IP, you may want to verify with IPchicken.com that your WAN IP has not changed. If it has, then you will need to use your new WAN IP and type that into the browser bar from the remote location.

Now for our example, all we do is type in our WAN IP of 70.234.179.105 (yours will be different) from a remote location and it brings us to our login screen:



Please note that if you have other devices that you are using that require port forwarding, then you will need to type in your WAN IP followed by a Colon and then 80. For example, ours would be 70.234.179.105:80

Simply type in your username and password and you are done! Congratulations!!

For Dynamic IP users:

Since your WAN IP will be changing all the time, there is obviously no way of knowing what your ever changing WAN IP is when you are away from the DVR's location. To combat this problem, there is a website called www.dyndns.com that allows you to have a permanent WAN IP "in essence". This service is completely free. You will need to configure your router to the dyndns service. Please visit the dyndns website to obtain the service. Since all routers are different, there is no way we can give a general tutorial on how to connect your router to dyndns, so please contact dyndns customer support or your routers customer support if you do not know how to do this. dyndns also has many great tutorials on how to achieve this process.

TroubleShooting:

I followed all the steps to a "T" but I still cannot connect to the DVR from a remote location. More than likely, the problem lies within your ISP's network configuration. Some networks do

not allow you to access devices such as DVR's from outside the network. For example, some Hughes Net users will not be able to access their DVR remotely unless they upgrade to their special Static IP service. Some other ISP's have similar settings. If you feel you have followed all of the instructions in this tutorial and you still cannot access the DVR, the best thing to do would be to contact your ISP and let them know what you are trying to do. They will more than likely let you know the reason why you are not able to connect to the DVR and they should give you some options on how to configure your network in able to access the DVR remotely. Please note depending on which ISP provider you have, you may want to request to speak to a tier 2 representative so that you have a knowledgeable person on the phone. Some ISP's are more helpful than others.

Another reason you may not be able to connect is due to a slow internet connection. Please note that you must have high speed internet connection not only at your DVR's site but also at your viewing site. Very slow connections may cause problems or may prohibit it from working at all.

The web interface seems very slow from a remote location

The most likely culprit to this problem is a slow internet connection, either at the DVR's site or at the viewing site. Please ensure you have high speed internet at both locations.

To help combat this, you can also enable the substream for each camera. The substream is a video feed in which the resolution will be lesser than the main stream but it will take up less bandwidth. To enable the substream, from within the web viewer, move your mouse cursor over one of the channel selectors, from there you will see a down arrow. Click on it and click on extra stream. Do this for as many cameras as you need to. You can also adjust the extra stream settings from within the "encode" section of the main menu.



The PTZ controls and color settings are showing up below the camera views and are being cut off.

In Internet Explorer, go to Tools>Select Compatibility View. This will log you out and bring you back to the menu screen. Simply log back in and the problem is solved.