THINGS YOU WILL NEED:

1. **Router Login Information**: You will need ALL router passwords that the DVR is connected through. If you have multiple routers (network tiers) between the DVR and the internet connection, you will need to forward through ALL of them to allow the unit to be accessible to the WAN (remotely). Many times the login information is left default by the client; you can check out routerpasswords.com to see if you can find out the default information. NOTE: In rare cases, the ISP (Internet Service Provider) blocks gateway access and you will need to call them to set up the port forwarding for you.
2. **ConfigTool**: To make the setup go more smoothly, use the ConfigTool to find all connected devices on the network and find out their IP addresses. This is mostly helpful in setting up IP systems, where there are multiple cameras. Many times the IPCs will have the same IP address (default 192.168.1.108) and they will need to be changed to the same gateway (network tier) and to differentiate them to prevent conflicts.
3. **DDNS Account**: You will need to setup a DDNS account, either through us or through another provider if you utilize a dynamic IP address through your ISP. The DDNS allows you to keep a host name that will automatically refresh the IP address as it periodically changes. A document on how to setup a DHDDNS (our DDNS service) is attached to this email.

PORT FORWARDING:

1. Make sure the DVR is connected to a router or gateway device that assigns IPs. Make sure the computer you are using to do this configuration is on the same tier (router) as the DVR.
2. Find out the Gateway Address of the Router (network tier) that you are connected to. In Windows you can use either the CMD -> **ipconfig /all** command to find out the information or go to Network Connections and check the status of the network connection being used.
3. Either go to the Setting->Network menu on the DVR or use the ConfigTool to find out the IP address of the DVR. The default address should be 192.168.1.108. If you are on a different network tier, make sure the DVRs IP address, subnet mask and gateway address match that of the network. For example, if the routers gateway is 10.1.10.1, then the DVR will have to be 10.1.10.108 and with the matching gateway and subnet. At this point you should make sure that the DVR is even visible on the network; the ConfigTool helps with this or you can simply try logging into the DVR using the web browser or PSS software. If it isn't visible, try enabling DHCP on the DVR (Setting->Network) to see if it can pick up an IP. If it doesn't pick up an IP with DHCP, then there is a cabling or underlying network issue that needs to be resolved.
4. Access the router's gateway by inputting the correct address into a web browser. Login using the correct information you could out earlier.
5. Take note of the DVR's HTTP and TCP ports. These are the ports that need to be forwarded. The HTTP allows for remote browser access, and the TCP port is for mobile devices (apps) and for config software. The defaults are 80 (HTTP) and 37777 (TCP).
6. Many routers have different menu options that lead to the port forwarding. Many times they are located in the Advanced or Firewall section of the router, and the menu will usually be called something similar to Port Forwarding Rules, Application Rules, Pinholes or Virtual Private Servers. Here is a good site that gives a detailed walk through of various router setups.
7. Forward the HTTP and TCP ports noted earlier for the DVR's IP address. You only need to forward for the TCP Protocol (not both TCP and UDP). If the router asks for a range, just make

the range the same ports (e.x. 80-80, 37777-37777) and if the router asks for separate private and public IPs or ports, make them the same. Make sure to save the settings; take note that some routers need to restart to allow these settings to take effect.
8. Go to www.canyouseeme.org and test to confirm that the ports are open. Also note the external IP address listed. This is the address needed to access the DVR remotely.

PORT FORWARDING ISSUES:
1. If one or both of the ports are not open, then double check the port forwarding rules you created in the router. If only port 80 is not opening up, then your ISP could be blocking that port and you will need to change the HTTP port in the DVR and forward that instead. Good alternatives for the HTTP port are 8080 and 81-89.
2. If both ports are not opening, it could be a number of issues, please check the following:
** Check to see if there is another router (or routers) or gateway between the DVR and the modem (internet) then the ports will need to be forwarded through that as well. Sometimes the modem provided by the ISP is a gateway in and of itself, thereby being an additional router in the network chain. Information regarding multiple router port forwarding is located below.
** If there are no other routers on the network, or you forwarded through all routers and the ports are still not open, try opening a DMZ host on the DVR IP address. As with port forwarding, many routers have this capability located in either the Advanced or Firewall settings. The DMZ host will open all ports on that device. Take note, most routers only allow for ONE DMZ host, so if you have multiple DVRs or IPCs to be forwarded, it will only work for one.
** If neither of the above options correct the issue, try making sure UPnP is enabled on the router and then turn on UPnP on the DVR (Setting->Network). Check the router's attached devices menu to see if the DVR is being detected. Check to see if the ports are open again.
** If all else fails, contact the ISP. Sometimes the ISP blocks all port forwarding unless they allow it on their end. There are a few specific ISPs that are notorious for this, most notably AT&T (2Wire, U-verse, etc). If the client has a satellite provider, chances are they will not be able to forward ports unless they purchase a static IP for a monthly fee.

MULTIPLE ROUTER PORT FORWARDING:
1. If you have multiple routers, you will need to forward the HTTP and TCP ports through all of them. Firstly, forward the ports through the router that the DVR is connected to.
2. Go to the router's status page and find out what IP address is being assigned to it. This is a great way also to find out if you indeed have another router giving out IPs in the network if you were sure about it before. Lets say the current router's gateway is 192.168.2.1, but its IP address is 192.168.1.10. This means the router before it in the network chain is giving out that address and more than likely in this case its gateway address is 192.168.1.1. If the current router's IP address appears to look like an external address, there may not be an additional router.
3. As previously mentioned, use the current router's IP address to deduce the preceding router's gateway. Use the gateway to access the router and forward the ports for the attached router's IP. For example, since the attached router's IP is 192.168.1.10 in step 2, forward the HTTP and TCP ports for that address.
4. Repeat the steps mentioned in the Port Forwarding instruction earlier in this email to check and see if the ports are open.

DDNS SETUP:

1. If your client has a static IP, there is no need to setup a DDNS. However if you have a dynamic you will no doubt want a DDNS host to retain access to the external IP. As mentioned before, set up a DDNS account either through us or through another provider.
2. Create a new domain name and take note of your account name / password.
3. In the DVR, go to Setting->Network->DDNS and input the information from step 2. Be sure to select the correct provider in the drop down box. If you are using a DHDDNS, select DH DDNS, however if that option is not present, use DYNDNS and change the server from members.**dynddns**.org to members.**dhddns**.org.
4. Check to make sure the IP address refreshes on the DDNS account page.
NOTE: The DDNS usually will not be accessible on the LAN due to the router not having a loopback feature. If this is the case, use the local IP to access the unit on the LAN (locally).

MOBILE APP (DMSS) SETUP:
1. Make sure that Extra Steam is enabled in the DVR encode settings (Setting->Encode) on all channels. The extra stream is what mobile devices use to view live playback. Also, if you are using the paid app to view playback, make sure that the DVR is set to schedule record on extra stream for all channels in the Schedule Menu.
2. Use the Device Manager menu to add your DVR to the app. Make sure to select Manually Add. Input the Name, External IP Address/DDNS Host, TCP Port and Username/Password of the DVR into the menu. Also make sure your phone is on 3G/4G rather than WiFi as the External IP/DDNS host may not be accessible on the LAN.
3. If the device fails to login, double check the settings you inputted in the Device Manager. Also check the DVR Setting->Network and make sure that Trusted Sites is disabled and that there are no addresses listed in IP Filter.

WEB SERVICE ISSUES:
1. As of now, only Internet Explorer can be used to access the DVR on the web, although the 6.16 firmware can work at a limited capacity on Chrome, Firefox and Safari.
2. Make sure to run Internet Explorer as Administrator (right click the shortcut) or you can run into issues (No Rights error and limited menu options).
3. The ActiveX control for Web Service is unsigned so make sure that all ActiveX options are enabled in the IE->Tools->Internet Options->Security (Tab)->Custom level...(Button). If the option says Enabled (Not Recommended) select Prompt, and Enable all other options.
4. If you have problems installing the ActiveX control, check for the following:
** Disable your anti-virus auto protection, since the control can throw a false a positive.
** Select compatibility mode in the IE and input the address.
** Navigate to C:\Program Files\ and delete the **webrec** folder (ActiveX control install folder). Try to install the ActiveX control again.
** Check Trusted Sites in IE Internet Options.
** If you are running a 64-bit OS, try running the 32-bit version of IE.

IP CAMERA SETUP:
1. An IP system presents a new set of problems to overcome. The first is making sure that all IP cameras have different IP addresses. You can login to each cam individually and change the addresses using the Web Service (IE) or you can use the ConfigTool (much easier).
2. Add each camera individually to the NVR using the Remote Device menu. As you add each

camera, check the Encode settings to make sure they do not reach the limits of the NVR (32MB Bitrate all channel limit, 120FPS 1080P / 240FPS 720P all channel limit, etc.)
3. Make sure to add the cameras as **private** if they are DaHua brand. If they are not DaHua brand, make sure the camera is Onvif compatible (firmware upgrade the camera if any compatibility issues remain).

If you any more issues or concerns, please call our Tech Support Department and we will be happy to assist you.
Thank you and have a nice day.