



Networking Quick Start 101 – This tutorial will explain the basics of networking your DVR and IP Cameras to your Local Area Network.

Networking Quick Start 201 – This tutorial will explain how to connect to your Luxon Video equipment through the Internet.

Adjusting Security Settings – This tutorial will help you adjust the settings of your computer so it will allow you to connect to your DVR or IP Camera.

How to Ping – This tutorial will help determine if your computer and DVR or IP camera are connecting.

Networking Quick Start 101:

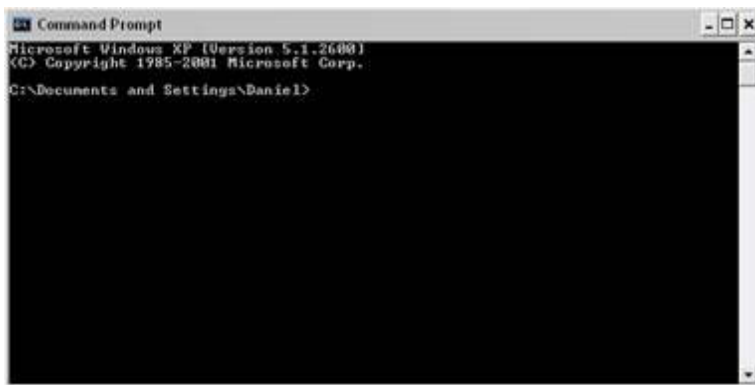
**These instructions are to help provide you with the basic knowledge of connecting your DVR and/or IP cameras to your Network. By viewing this tutorial online you will be able to click on many of the links built within, such as images and additional information.*

Connecting Luxon Video equipment to your Local Area Network.

1. Determine your local IP address, gateway, and Subnet Mask of the network your DVR or IP camera is plugged into.

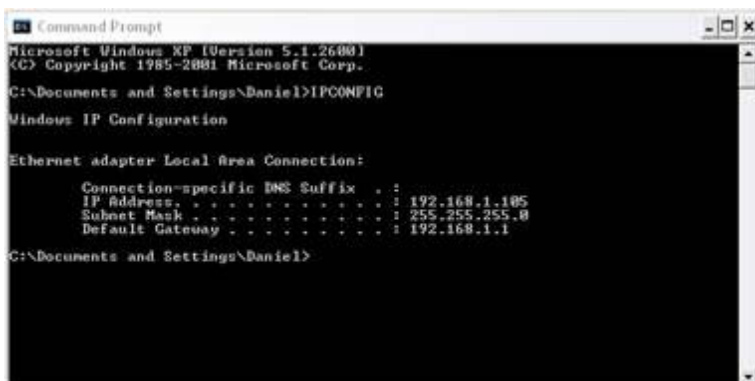
You can determine your Local IP Address, gateway, and Subnet Mask by getting on a computer on the same network that your DVR or IP camera will be connected to and selecting - (START > ALL PROGRAMS > ACCESSORIES > COMMAND PROMPT).

You will see something like the picture below followed by a blinking cursor (blinking cursor not shown in picture below)



Now type the word IPCONFIG and press ENTER and just like magic you now have your local area settings for the computer that you are on. These settings are important because some of these numbers will be the same and some will be very similar to the information that you will enter into your DVR or IP cameras. (See picture below)

If you got more information than in the picture below scroll up in the Command Prompt window until you find something that looks similar to what we have in this picture below.



Now write down this information because you are going to be entering it into your DVR's or IP camera settings in the next section.

2. Configure your DVR with your newly acquired LAN settings.

This section involves entering the information you received in Section #1 into your DVR or IP camera. First make sure your DVR or IP camera is plugged into the same network as the computer you used in Section #1. Now figure out which Luxon Video DVR or IP camera you have by looking at the bottom (underneath) of your DVR or IP camera. The model will determine how you get into the settings. Below is a list of models and the procedure for getting to the correct area where you can enter the settings into your DVR or IP camera. Your manual that came with your DVR or IP camera is also a very helpful tool when it comes to more advanced networking features. Use it! If you lost your manual you can download a new one from the products page associated with that model at www.luxonvideo.com.

LIN104M, LIN108M, LIN8, LIN16 Series Instructions

*The LIN104M, LIN108M, LIN8, LIN16 Series network menus are all setup the same. From the Home Screen you will click on Setup (login to your DVR) > Network Setup > IP Settings > Network Settings

1. At this screen verify that the WebViewer port is set to 80.
2. Click on “Setting”.
3. Now that you are in the System IP settings take the information you wrote down that you received from IPCONFIG in step one and follow these steps.
 - a. Select “Using the following IP address.”
 - IP ----- should be the same as your computers IP for the first numbers 192.168.1.xxx For this example we will use the information we received from our computer in IPCONFIG in Section #1. In the picture above our computers address is 192.168.1.105 however you may have an IP address that looks like 192.168.0.105 with a 0 instead of a 1. That is fine just make sure you give your DVR or IP camera the same first three sets of numbers. We will follow that same pattern but must give our DVR or IP camera a different set of final number in its IP address. Just like your neighbor’s house number is different from yours and everyone else on your street, your IP addresses on each computer and DVR or IP camera on the same network must be different. So we will give our DVR or IP camera the address of 192.168.1.172 because we know that no other computer on our network is using .172 as the last set of numbers.
 - Netmask ---- will be the same as your Subnet mask from the information you obtained in Section #1. It is usually 255.255.255.0
 - Gateway ---- will be the same as your Default Gateway from the information you obtained in Section #1. It is usually something like 192.168.1.1 or 192.168.0.1.
 - DNS ----- most of the time it can be the same as your Gateway address above
4. Your information is now entered so click the OK button and then click the OK button again and then click the OK button again.

Verify that the network is turned on by looking at the button at the bottom of your home screen that says “Network”. This button should be purple indicating that it is tuned on.

Because this series of recorders are browser based you can log into your DVR thru Internet Explorer without installing software from a CD onto each computer that wants to view your cameras. Keep in mind that this setup in this tutorial only allows you to connect from computer to DVR on your LAN (local area network) and not from a home to a business or business to home and so forth. That configuration is in Networking Quick Start 201.

5. Now pick any computer inside your LAN and click on your internet browser. In the URL type <http://192.168.x.xxx> (x represents the numbers you assigned your DVR in Step #2 b. above) In our example we chose .172 as the final part of our IP address so to view our DVR we would enter into

the URL (<http://192.168.1.172:80>). The :80 in our address is the Trigger Port setting from Step #1. Anything on a network that gets logged into such as a server, DVR, IP camera, ect. will need to be given a port # to reference it. If your IP information is correct and your security settings are correctly set for DVR access then you should have a screen pop up asking you to install Active X Controls and allow some programs to run. Select yes for all of the ones that reference your DVR and then you should have to enter in a username and password which is the same as the one you use when you are at your DVR. The User's Manual goes into more detail on these subjects. Please refer to it if you are having trouble with these steps. If you lost your manual you can download a new one from the products page associated with that model at www.luxonvideo.com.

HVR, DVRH, & DVRL Series Instructions

*The HVR, DVRH, & DVRL Series network menus are all setup the same. In the Main Menu you will go to:

MAIN MENU > SYSTEM SETUP > NETWORK SETUP > LAN SETUP

1. Make sure when in Network setup that LAN Select is set to LAN and Trigger port is set to 80 before going into LAN Setup.
2. Now that you are in LAN setup take the information you wrote down that you received from IPCONFIG in step one and follow these steps.
 - a. DHCP ----- should be turned OFF
 - b. IP ----- should be the same as your computers IP for the first numbers 192.168.1.xxx For this example we will use the information we received from our computer in IPCONFIG in Section #1. In the picture above our computers address is 192.168.1.105 however you may have an IP address that looks like 192.168.0.105 with a 0 instead of a 1. That is fine just make sure you give your DVR or IP camera the same first three sets of numbers. We will follow that same pattern but must give our DVR or IP camera a different set of final number in its IP address. Just like your neighbors house number is different from yours and everyone else on your street, your IP addresses on each computer and DVR or IP camera on the same network must be different. So we will give our DVR or IP camera the address of 192.168.1.172 because we know that no other computer on our network is using .172 as the last set of numbers.
 - c. Netmask ----- will be the same as your Subnet mask from the information you obtained in Section #1. It is usually something like 255.255.255.0
 - d. Gateway ----- will be the same as your Default Gateway from the information you obtained in Section #1. It is usually something like 192.168.1.1 or 192.168.0.1.
 - e. DNS ----- most of the time it can be the same as your Gateway address above
3. Your information is now entered so press your ESC button on your DVR (not your remote) or go to Network restart and select yes and then ESC. Usually both save your settings. You will know your settings are saved by going back into LAN Setup after having pressed the ESC button and your information is still there. If it has been erased enter it in again by way of the buttons on your DVR (not your remote).

If everything has been saved from the previous steps continue pressing ESC until you are out of the menu. Again check to make sure that your DVR is connected to the network router or switch and that the two lights on the network plug-in on the DVR are on and one of them is blinking.

Because this series of recorders are browser based you can log into your DVR thru Internet Explorer or FireFox without installing software from a CD onto each computer that wants to view your cameras. Keep in mind that this setup in this tutorial only allows you to connect from computer to DVR on your LAN (local area network) and not from a home to a business or business to home and so forth. That configuration is in Networking Quick Start 201.

4. Now pick any computer inside your LAN and click on your internet browser. In the URL type <http://192.168.x.xxx> (x represents the numbers you assigned your DVR in Step #2 b. above) In our example we chose .172 as the final part of our IP address so to view our DVR we would enter into the URL (<http://192.168.1.172:80>). The :80 in our address is the Trigger Port setting from Step #1. Anything on a network that gets logged into such as a server, DVR, IP camera, ect. will need to be given a port # to reference it. If your IP information is correct and your security settings are correctly set for DVR access then you should have a screen pop up asking you to install Active X Controls and allow some programs to run. Select yes for all of the ones that reference your DVR and then you should have to enter in a username and password which is the same as the one you use when you are at your DVR. The Users Manual goes into more detail on these subjects. Please refer to it if you are having trouble with these steps. If you lost your manual you can download a new one from the products page associated with that model at www.luxonvideo.com.

ST Series Instructions

- If using the supplied remote:
 1. Press 'MENU' on the remote
 2. Log in
 3. Press the Right Arrow on the remote until you get to the 'NETWORK' tab and then press 'Enter'
 4. Press the Down Arrow to access the 'ADDRESS' tab on the left
 5. Press the Right Arrow to access the Address Settings
 6. Press the Down Arrow and either choose 'DHCP' (If you are going to use DHCP and then press 'Apply' at the bottom) or leave DHCP Unchecked, meaning you will enter the network settings manually
 7. Enter in the IP Address, Subnet Mask, Gateway, and DNS information that you received from the steps above
 8. Once you have in the desired addresses press the Down Arrow until you get to 'Apply' and press 'Enter' and your settings will be saved.

- If using the supplied USB mouse:
 1. Right Click anywhere, go to 'Setup' and then to 'Networking'
 2. Log in
 3. Click on the 'Network' tab
 4. If you are going to use DHCP click the box next to DHCP, otherwise leave it unchecked
 5. Enter in the IP Address, Subnet Mask, Gateway, and DNS information that you received from the steps above
 6. Once you have the desired addresses, click 'Apply' to save the settings

*If you are not able connect to your DVR, PING it to see if it can be seen by the router. See the "How to PING" Tutorial.

**You may also have to adjust your security settings for your Internet Browser. See the "Adjusting Security Settings" Tutorial.

Networking Quick Start 201:

**These instructions will point you in the right direction to setup Dynamic DNS, in the event you don't have a static IP address at the location of your DVR and help you understand your router and port forwarding. These instructions will work if you have already gone through Networking Quick Start 101 and have access to your DVR through your LAN.*

Connecting to Luxon Video equipment through the Internet.

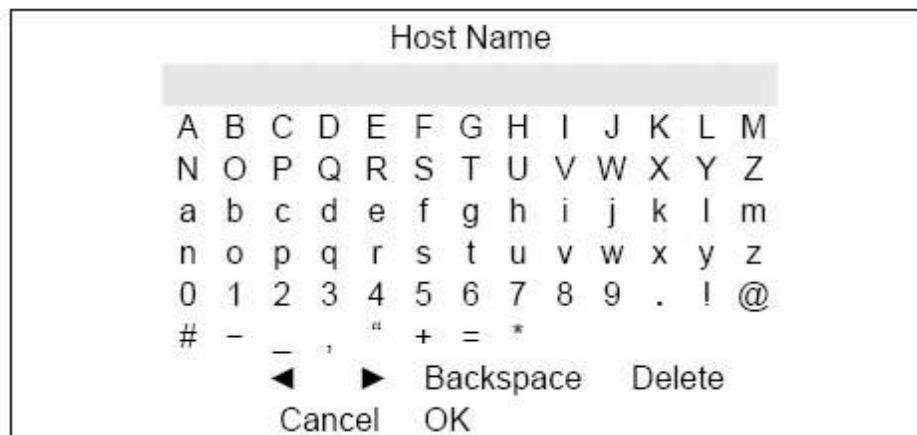
There are 2 basic steps for viewing your DVR outside your LAN (Local Area Network).

1. If you do not have a static IP address you will need to setup a Dynamic DNS.
 - If you **DO** have a static IP address follow the instructions from Networking Quick Start 101 and enter your Static IP Address instead of your LAN address. Not sure if you have a Static IP? Call your internet service provider (ISP).
 - Remember that Static stays & Dynamic changes! **Static IP addresses** stay the same all of the time so you can enter your static IP into your DVR and never worry about it not working. **Dynamic IP addresses** occur when the ISP gives a computer network an IP address that is different every time it connects. If this is your situation, you will need a dynamic DNS service that will update their name servers with your new IP address each time you log on.
2. You will need to forward a port on your router.

Step #1

Luxon Video's Series -- HVR, DVRH, & DVRL all have a very easy DDNS setup built into the DVR. If you will go into the NETWORK SETUP and then select DDNS SETUP on this series of DVR's you will only be a few clicks away from a Dynamic DNS name that will not change. Keep in mind that you have already networked your DVR for access on your LAN so you do not need to touch the LAN SETUP or TRIGGER PORT. Dynamic Domain Name System (DDNS) allows a DNS name to be constantly synchronized with a dynamic IP address. In other words, it allows those using a dynamic IP address to be associated to a static domain name so others can connect to it by the domain name.

1. **Enable DDNS** - The item is used to enable or disable the Dynamic Domain Name Service. Select to enable the service, or to disable.
2. **Host Name** - The item allows users to setup a domain name, which is used for entering the **DVR** through internet on the remote PC. To setup the host name of the DVR, follow the bullets below.
 - Select **<Name>** from DDNS Setup menu and press ENTER. A virtual keyboard displays as below.

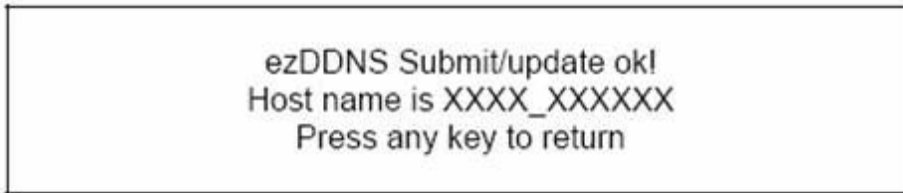


- Use Direction keys to select a character.
- Press ENTER to add the selected character to the entry field.

- When it's done, move the cursor to and press ENTER to save the settings and exit.

NOTE: Each **DVR** should have a unique host name.

3. **DDNS Port** –The item allows users to setup the port for DDNS. Use the same as the port you entered when setting up your LAN settings on your DVR.
4. **Submit/ Update** - When the settings are finished, move the cursor to this item and select to submit the settings.
NOTE: If more than one DVR has the same domain name, only the first one will be submitted successfully.
5. **ezDDNS** - enables the users to register for host name automatically. Press ENTER and select . The following screen will be displayed:



Once the setting is completed, the DDNS address will be:

<http://hostname.ddns.iview-ddns.com>

For example: If the chosen host name is “**H264DVR**”, then the address will be:

<http://H264DVR.ddns.iview-ddns.com>

Optionally you can signup with a FREE third party DDNS service such as:

DynDNS

You can get up to 5 subdomain names like yourname.dyndns.org which you can redirect to either a static or dynamic IP address. Alternatively, they also provide URL or web redirection where you can get hostnames (subdomains of domain names like doesntexist.org, webhop.net, webhop.org, etc) that are redirected to your actual URL. I'm not sure if there are any advertisements imposed on your site when you use their web redirection service.

The Google Public DNS Service

This is one of the oldest and longest running free DNS services providing 2 name servers for your website. If you need a name server or two for your site, and don't wish to use your web host's name servers or pay for commercial DNS services, try this one. Managing your domain records require some expertise though, since they do not provide you an easy interface like some of the other free and commercial DNS servers. However, you really get to control nearly every aspect of your domain records. You can add A records, CNAME records, MX records and nearly everything else that can go into the name server records for your domain You can have unlimited number of domains here. Note: they rely on donor hardware and connectivity for their name servers.

No-IP Dynamic DNS, Static DNS for your Dynamic IP

No-IP offers you Dynamic DNS so that you can run your websites from your own computer. They also provide you with a short hostnames (like yourname.hopto.org) that you can redirect to your existing website, ie, URL redirection. They also redirect email sent to you@yoursite.no-ip.com to up to three email servers/addresses of your choosing. You can have up to a maximum of 5 subdomain names here.

At Luxon Video we are most familiar with DynDNS but they are all very much alike. You set up a

username and password to create an account. You then select the Dynamic DNS Service you would like and select Get Started. You are asked to choose a hostname and your outside IP address (usually auto detected) by going to www.whatismyip.com and continuing from there. Follow the directions and it is quite simple.

You now enter that hostname into a browser that is outside of your LAN after you have forwarded the ports on your router and you are in business. Keep in mind that this free service will go inactive if it goes unused for over 30 days. If that is a problem call your ISP about a static address or pay for a pro account.

Step #2

Things get a little more difficult when it comes to port forwarding, mainly because every brand of router is setup different or looks different. The only guide you may ever need for port forwarding a router is found at:

WWW.PORTFORWARD.COM

Find the orange link "Start Here"

Portforward.com gives you the why's and step by step how's of port forwarding and a lot about routers in general. You will find a Router List link at the top of their page that takes you to a list of routers that they have detailed instructions and pictures on forwarding ports within that router. Just choose your router and go.

If you still can't connect after several attempts contact the IT person in charge of the network. They will be able to help!

Adjusting Security Settings:

Often times people network their DVR correctly but Internet Explorer blocks Active X controls and other programs that need to run in order for you to view your DVR or IP Cameras. Below is the fix.

First open your Internet Explorer Browser and at the top menu click on <Tools> and then on <Internet Options>. A screen called Internet Options will open. This screen has several tabs at the top.

Select <Trusted Sites> and click <Sites> to specify its security setting.



Uncheck <Require Server Verification (https:) for all sites in this zone> to disable.

Type the IP address of the DVR or IP camera in the <Add this Web site to the zone field> then click <Add>



Click <OK> to confirm the setting and close Trusted sites dialog and to return to Security Settings.

Now that you are back in Security Settings click on the <Custom Level> button that is right above the OK button. You should see this.



Under All ActiveX controls and plug-ins, set all item to <Enable> or <Prompt>.

Click <OK> to accept these settings and close the <Security> screen.

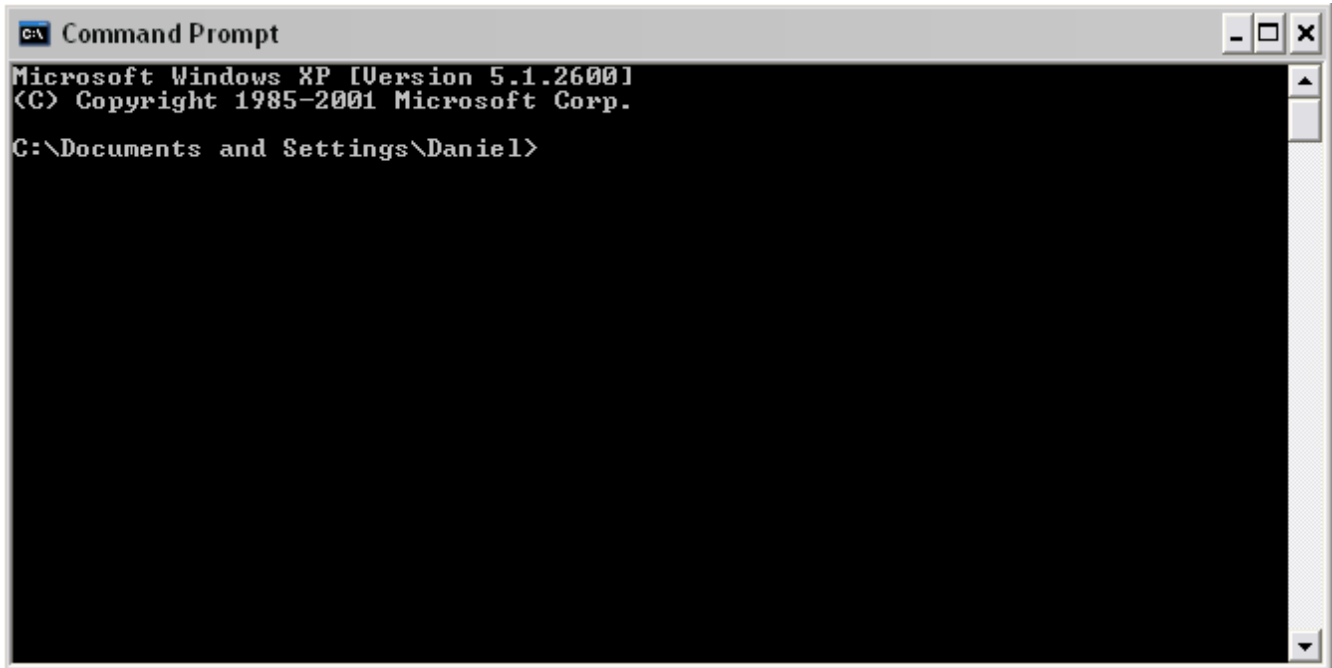
Click <OK> to close Internet Options dialog.

How To Ping:

Ping is a basic Internet program that allows a user to verify that a particular IP address exists and can accept requests. Ping is used diagnostically to ensure that a host computer the user is trying to reach is actually operating and can be used for troubleshooting to test connectivity and determine response time.

You can PING by getting on a computer on the same network that your DVR or IP camera will be connected to and selecting - (START > ALL PROGRAMS > ACCESSORIES > COMMAND PROMPT).

You will see something like the picture below followed by a blinking cursor (blinking cursor not shown in picture below)



```
C:\ Command Prompt
Microsoft Windows XP [Version 5.1.2600]
Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Daniel>
```

Now type the word then a space followed by the IP address of the DVR or IP Camera you are checking the connection of. Example: (PING 192.168.1.172)

Press Below is an example of my PING on a DVR on my network. As you can see there were 4 packets of information sent and 4 received which means my DVR and computer are connected and reaching each other.

```
C:\ Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Daniel>ping 192.168.1.172

Pinging 192.168.1.172 with 32 bytes of data:

Reply from 192.168.1.172: bytes=32 time<1ms TTL=64
Reply from 192.168.1.172: bytes=32 time<1ms TTL=64
Reply from 192.168.1.172: bytes=32 time<1ms TTL=64
Reply from 192.168.1.172: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.1.172:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

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

If they were not connecting it would look something like this:

```
C:\ Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Daniel>ping 192.168.1.172

Pinging 192.168.1.172 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.172:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

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

If you have followed the Network Quick Start 101 training correctly and still can't PING after several attempts contact the IT person in charge of the network. They will be able to help!