IP Camera Installation and Setup Guide

XL Series DVR/NVR Models
Sample Camera Network with Full Gigabit PoE Switches

Public View Monitor

Switch to Switch Connection

Store Network

Camera Network

XL DVR

Internet

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Read First

**Note** Before beginning the setup process for IP cameras on your new DVR, make sure that you have the DVR connected to the internet. This will allow our Technical Support Team to establish a remote desktop session to help you if further assistance is needed for IP camera setup.

When installing IP cameras, you should have a proper layout of where the cameras are going to be installed before you begin. Once the layout has been determined, finding the best location for your PoE switches could save in time and money in cabling. Depending on the number of cameras and switches you are installing, you can mount them in a “central” location of the cameras you want on that switch.

When using Watcher Preferred Power Switches, the switches must be connected together (or to the DVR) using the Gigabit uplink ports on the right-hand side of the switch. Our 16-port switches have two uplink ports and they can be linked to another switch. The 8- and 4-port switches only have one uplink, so these would be better suited for an endpoint that is not connecting to any other switches. It would also be a great idea to get a full gigabit 16-port switch (each port is gigabit speed) and utilize it as a central hub for connecting other switches. Refer to the camera network diagram on page 2.

If you are using full gigabit PoE switches (each port has gigabit speed), you can run the camera network according the diagram on page 3.

The DVR system will have 2 Network Interface Ports (RJ-45) on the back to allow for the separation of Store Network and Camera network. This is important because you will not want the store's bandwidth to be bogged down by the video data sent on the Camera network.

Before mounting any cameras, it is best practice to set them up, one at a time, at the DVR using one of your PoE switches and a short CAT5 cable run.

1. Connect a PoE switch to the DVR in the camera network port with a short CAT5 cable.
2. Connect a short CAT5 cable to the switch to connect to the camera.
3. Connect a camera to the CAT5 cable you just connected to the switch.
4. Follow the IP camera setup instructions beginning on page 4.

5. Once setup is completed, disconnect the camera.

6. Repeat steps 1-5 for each camera that you have.

**Note** For public view monitor (PVM) setup, please call our technical support team.

DVR Setup (must be completed before setting up cameras)

Close the DVR software and, in the bottom right-hand corner, find the Networking icon( ) and right-click on it and go to Open Network and Sharing Center. In upper left-hand corner, click Change adapter settings.

Then double-click the corresponding connection that corresponds to the camera network. It will be the one that does not have an internet connection (it also may say unidentified network).

Select the Local Area Connection that has no internet connection or is "unidentified"
This will open the Local Area Connection Status window. Click on the Properties button on the bottom left.

This will bring up the Local Area Connection Properties. Double-click the Internet Protocol Version 4 (TCP/IPv4).
This will bring up the Internet Protocol Version 4 Properties. In here, click on the bubble next to Use the following IP address and enter the IP address that you would like to use for the DVR. Our recommended default is 192.168.4.100 and no Default Gateway is needed. The DNS server addresses are not used with the camera network. Make sure that this address does not conflict with any other addresses on the store network.

![Internet Protocol Version 4 (TCP/IPv4) Properties](image)

Once done, hit OK. Then hit OK again and, finally, Close. Close out of the Local Area Connections window to get back to the Desktop. Now you are ready to begin setting up your IP cameras.
IP Camera Setup

Step 1:

Once you have your first camera ready to be setup (connected to the switch), open the DVR software. Once open, from the bottom menu options, click on the “ADD/DEL IPC”.

![Image of DVR software with ADD/DEL IPC button highlighted]

Step 2:

This will bring up the IP Camera Device List which will be empty for your first camera. From here you want to click on the IPC Search button in the lower right.

**Note** For each additional camera, once it is plugged in, please allow the camera to power up for roughly 1 min.

![Image of IP Camera Device List window]
This will bring up a menu for which type of camera that you would like to
search for. You may need to try several of the options from this menu. The
most common types are NV Series, DT Series, or DH Series. For third party
cameras, you will have to use the ONVIF_V2.3 selection.
**IMPORTANT** Third Party cameras are not registered by Watcher
Products and will require a $50 registration fee per camera to allow them to
record video.

Step 3:

Once you have chosen the series you want to search for, the IP Cameras List in Local network window will open.
If the list is empty, you may need to go back and search for a different series. If your camera does not show up in any of the searches, check the connection. Once the camera has been found, you will see it in the list with its default IP address. Single-click to select the camera (the background will turn blue, for that camera, across the table row).

Step 4:

Now, it is time to change the IP address of the camera. This is done in the IP Address field in the lower-right.
**Note** Make sure that the camera is on the same IP scheme as the camera network you setup at the beginning of this guide. If the recommended DVR IP address was used (192.168.4.100), it is recommended to start the cameras at IP address 192.168.4.150 and continue up for each additional camera.

**Example:**

Camera 1 = 192.168.4.150  
Camera 2 = 192.168.4.151  
Camera 3 = 192.168.4.152  
...
...
Camera 10 = 192.168.4.159

Select the first set of numbers in the IP Address field (192) by double-clicking it. The background will turn blue and you can begin typing the IP address of the camera. Whenever you hit period (.), the selection will automatically change to the next set of numbers in the address. This makes it easier to type the IP sequentially using the number keys on the keypad. Leave the port on it's default value. It may be 37777, 8000, etc. but the software correctly puts the proper port number for each version of camera (NV Series, DH Series, DG Series, etc.). You will also have to change the password (on the left) to *admin123*.

The Mask Address should be at 255.255.255.0
The NetGate Address should be 192.168.4.254 if using the recommended IP addressing scheme.

Once all the correct parameters have been entered in each field, click the Modify IP button.

After a short delay, the camera should be listed in the IP Cameras List with the new IP address. Click the Update IP List button to change the Server Name to the new IP address.
Next, add it to the DVR software by clicking the Add to NDVR button at the bottom then click the Exit button. The IP Camera Device List should now have your connected camera.

**Note** If your camera is not registered and you purchased it from Watcher Products, please contact our Technical Support for camera registration.
Step 5:

If you know where your camera is going to be mounted (from your layout), you can name the camera at this time as well.

To name your camera, from the IP Camera Device List, select the camera with a single-click (the background will turn blue) and hit the Mod Cam button below the list and to the left. Change the Server Name to whatever you wish to call the camera then hit OK, then hit Save
**Important** Please do not change the Login User ID and Login Pass for the cameras. They need this password to be left on default to connect to the software.

Now in the IP Camera Device List, the camera should have the camera name in the Device Name column.
### IP Camera Device List

<table>
<thead>
<tr>
<th>Device Name</th>
<th>IP Address</th>
<th>Port</th>
<th>Camera NO.</th>
<th>Connect Status</th>
<th>Registered?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td>192.168.4.150</td>
<td>37777</td>
<td>1</td>
<td>connect ok</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Buttons:**
- Add Cam
- Mod Cam
- Del Cam
- IPC Search

**Settings:**
- MD Series decode card work mode: Disable
- Preview auto switch main/sub stream: Disable

**Buttons:**
- SAVE
- CANCEL
Step 6

Once the IP cameras have been added, they need to be added to the recording schedule in Camera Setup.

To get to Camera Setup, click on the Setup button, then the Camera Setup button. Then, under Group Setup, turn the corresponding camera on in the schedule. It will turn from gray to blue.
Step 7

Finally, motion may need to be turned on in the camera itself. This can be done by right-clicking on the camera and going to IP Camera Setup. Then click on the Motion tab at the top. You should see a screen similar to the one below.

1. Sensitivity - This will adjust the sensitivity of the motion detection. Usually the higher the number the more sensitive the detection. You may have to adjust accordingly depending on the camera type.

2. Handling Motion Alarm - This turns motion detection on for the camera. Check this tick box to enable motion detection.

3. Motion Detection Area Buttons – These buttons will clear the motion area completely (Clear) or select the entire screen for motion detection (All). You can also use customized areas by dragging boxes around the areas that you would like to have motion detection. This is done by holding the left mouse button and dragging. In the example below, the register is the only area that would detect motion.
and record.

4. **Upload to Center / Report to Center** – This sends the motion detection signal to the DVR. It should also be checked.

Once you have configured the motion settings, click the Save button in the bottom right and then Exit. Your camera should now be detecting and recording motion in the DVR. This is apparent by the little “running man” icon in the upper-right hand corner of the camera window.

Repeat steps 1 – 7 for each IP camera that you would like to add to the DVR.