

QC SERIES IP CAMERAS



USER MANUAL





Thank You for Choosing a Q-See Product!

All of our products are backed by a conditional service warranty covering all hardware for 12 months from the date of purchase. Additionally, our products also come with a free exchange policy that covers all manufacturing defects for one month from the date of purchase.

Permanent upgrading service is provided for the software and is available at www.Q-See.com.

Be certain to make the most of your warranty by completing the registration form online. In addition to warranty and technical support benefits, you'll receive notifications of product updates along with free downloadable firmware updates for your NVR. Register today at www.Q-See.com!

Please see the back of this manual for exclusions.



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About this Manual

This manual is written for the Q-See's QCN series of IP Cameras and was accurate at the time it was completed. However, because of our ongoing effort to constantly improve our products, and the different capabilities of the models additional features and functions may have been added since that time and on-screen displays may change. We encourage you to visit our website at www.Q-see.com to check for the latest firmware updates and product announcements.

This manual covers the setup and local operation of the IP cameras whether used in conjunction with an NVR or as stand-alone devices. Instructions for use with an NVR is written specifically with Q-See's QC-Series NVRs. If you are using another brand, please consult your system's manual for configuration instructions. The QC-Series **User Manual** and **Remote Monitoring Guide** will both be useful in configuring your system. Both are included on the CD that accompanied your NVR and can likewise be found on www.Q-See.com/support.

Throughout the manual we have highlighted warnings and other important information that will assist you in operating your new system in a safe and trouble-free manner. Please take the time to read and follow all instructions and pay attention to alerts as shown below:



IMPORTANT! Red boxes with this icon indicate warnings. To prevent possible injury or damage to the product, read all warnings before use.



NOTE! Text in blue boxes with the Information icon offer additional guidance and explanations about how to make the most out of your system.

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When installing your camera, it is important to select a proper site not only for field of view, but for other considerations as well:

Distance from viewing/recording device. The further the camera is from the NVR or power source, the higher the chances of signal degradation. Typical 100Ω Ethernet Cable provides acceptable signal at distances up to 330' (100m). At greater distances, UL-Listed shielded RG59 should be used. The camera's power supply should be located as near to the camera as possible when the distance exceeds 200' as the power level will drop over extended distances resulting in a decrease in video quality.

Do not place near high voltage wires or other sources of electrical interference. Electrical interference will degrade the quality of the signal.

Place camera out of reach to avoid damage.

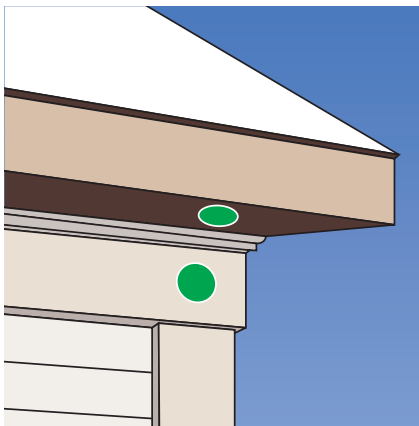
Avoid direct exposure to weather. Do not place the camera where rain or snow will hit the lens directly nor should the camera be placed so that the sun or bright light shines directly into the lens. Your camera is weatherproof, but it will not work when submerged in water. Ensure that all power and video connections are not directly exposed to water and are protected from the elements.

Do not place camera behind a window. If there is a light source behind the camera, it can cause a reflection in the window that will obscure events on the other side of the glass. Likewise, the camera's infrared LEDs will reflect off the glass and shine into the lens, thus degrading the image.

Light levels should be approximately the same between camera and target area. A camera in a brightly-lit area looking into a shaded area, or vice versa, may produce inadequate results.

The above are guidelines and the optimal location for your camera will depend on your unique circumstances. As a general rule, the locations highlighted in green in the picture to the right indicate the best locations to mount your camera. Both locations are sheltered from rain or snow and offer good sight lines to allow your camera to monitor a wide area. Because your camera is weatherproof, it requires less protection than weather-resistant cameras and it can be placed in more exposed locations if needed. Keep in mind that this camera is designed to operate between 14°F to 122°F (-10°C to 50°) with a relative humidity of up to 95%) and consider wind chill and other environmental factors when selecting your location.

Your camera comes with both a ceiling and wall mount. Where you locate your camera will determine which mount you will need to use. The mounting surface must be sturdy and able to hold at least five times the camera's total weight.



PICTURE 1-1

Because your camera is weatherproof, it requires less protection than weather-resistant cameras and it can be placed in more exposed locations if needed. Keep in mind that most Q-See cameras are designed to operate between 14°F to 122°F (-10°C to 50°) with a relative humidity of up to 95%) and consider wind chill and other environmental factors when selecting your location.

Specialty cameras are also available from Q-See which are able to operate in more extreme environments.

ADDITIONAL CONSIDERATIONS

Most users prefer to operate their systems with the DVRs recording only when motion is detected. This provides the most efficient use of the hard drive's capacity, plus making it easier for a recording to be located. However, if the camera's location has a lot of "environmental" motion, such as a fan, wind, or the like, you will receive a lot of "false alarms." Usually, these events can be avoided by simply adjusting the placement of the camera. Other situations may require some fine-tuning of your settings. **Chapter 8 Alarms**, covers these settings in detail, but some easily avoidable situations are presented below:

TV/Computer Screens. If the camera can see a video screen, it will trigger a motion alarm any time the screen changes, whether there is a video or simply a screen saver. The screen can be masked out as described in **Section 4.2**. You can also reduce the level of motion sensitivity in specific areas of the screen by following the instructions in **Section 8.3**.

Fans/Machinery. Motion is motion and if machinery within the camera's field of view starts automatically, it will cause an alert. Similarly, if the camera is mounted on a wall with machinery on the other side that causes it to vibrate, that can also cause it to detect motion. Moving machinery within the camera's field of view may be masked off as mentioned above, or motion detection may be turned off for that channel. If there is another camera that covers access to the area where the machinery is located, you can set it so that the first camera will only be recording when triggered by a motion event detected by this second camera. See "Triggers" in described in **Section 8.3**.

Bugs. An occasional insect flying through the field of view is usually not enough to trigger an alert. However, some flying insects are attracted to infrared light and will swarm the camera. This is usually a temporary situation that occurs at only a certain time of the year. Lighting the area with yellow "bug light" of sufficient brightness can keep the camera operating in daylight mode and keep the infrared LEDs turned off. A second solution is to set the channel to record all the time, and turn motion detection off at night until "bug season" is over. Reducing the motion sensitivity (**Section 8.3**) can also reduce alerts as can using another camera to trigger recording as described above.

Additionally, keep your cameras clear of spider webs as the movement of the webs due to wind or critters in the web will cause an alert. The reflection of the infrared off the webs and back into the camera will also reduce the night vision range.

Snow/Rain. As with bugs, this is usually a seasonal event and may require motion detection to be temporarily disabled to avoid false alarms. However, positioning the camera further under shelter, such as closer to the wall and away from the edge of the eaves, can make the rain or snow too small for the camera to notice. Adjusting motion sensitivity may also help in some situations.

2.1 WHAT ARE IP CAMERAS?

Internet Protocol (IP) or Network cameras differ from conventional video cameras in that each is a stand-alone device with a built-in processor of its own. Rather than being processed and encoded on the recorder, the video is instead processed and encoded on the camera itself before being sent to the recorder. The onboard processor allows the camera to operate on its own with the video being available directly from the camera itself. The video can be recorded onto internal memory (depending on model), sent to an FTP drive, accessed by a computer or be streamed directly to a Digital Network Video Recorder (NVR) using standard network protocols.

When it is connected to the NVR - whether locally, through a network or over the Internet the NVR treats an IP camera as a peripheral device with the NVR serving as the control interface and recording system.

Q-See's QC-series NVRs feature an industry-exclusive built-in Power Over Ethernet (POE) block that allows you to connect up to four IP cameras directly to it up to 200 feet away using RJ-45 (Ethernet) cables without the need to purchase a separate power block or to locate the cameras near power outlets. The Ethernet cable will both power the camera and deliver the video signal to your system. Cameras beyond the number of POE ports, or those located away from the NVR will require a separate power source, such as from the powered port of a POE hub, or from a power supply. This power source must be located between the camera and the network. It is not possible to power a camera through a network or over the Internet using a POE port.

Cameras connecting to your system over a network (local or Internet) will also ultimately connect through your network's router and their signal will be received by the NVR through its Network port. Cameras located outside of the network, and those being used as stand-alone devices, will be accessed by using their web address - whether by entering it into the NVR, a web browser, or through a surveillance program.

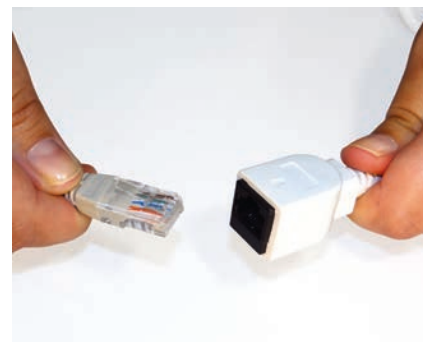
2.2 CONNECTING AN IP CAMERA

LOCALLY CONNECTING TO AN NVR

Your IP camera delivers video through a standard Cat 5, 5A or 6 Ethernet cable connected to the RJ-45 socket at the end of the cable leading from the camera. Under most conditions, power is delivered to the camera through this cable when it is connected to a POE block. Regardless of how it is connected to the NVR, it is best to use a continuous length of cable, whenever possible, rather than multiple short segments as each intervening connection could result in a small loss of power and signal.

The following directions are for connecting your IP camera(s) to one of Q-See's QC-Series NVRs with a built-in POE block of powered Ethernet ports. If you are using another brand of NVR, please consult that system's user manual.

STEP 1. Connect one of the long Ethernet cables to the socket on the wire leading from the camera.



PICTURE 2-1

STEP 2. Plug the other end of the Ethernet cable into any of the Power over Ethernet (PoE) ports on the back of the NVR or into a stand-alone POE block.

In the latter cases, the camera will also need to be connected to a network.

STEP 3. Repeat for additional cameras.

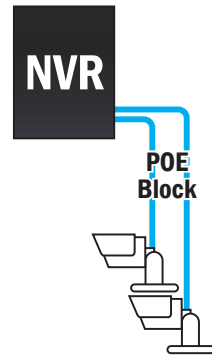


PICTURE 2-2

Using the Power Over Ethernet Block

Your NVR's POE block will power up to four cameras while receiving their video signals. This is the primary and preferred method to connect cameras to your NVR. This feature cannot be expanded through use of a network switch. These ports are also not to be used to connect the NVR to a network router. When an IP camera is connected to the NVR through the POE port, it will receive power immediately, but there may be a delay of up to a minute before the camera's signal appears on the screen as the system establishes connectivity.

If you are unsure, and if your camera has infrared LEDs, you may cup your hand over the lens area to activate the infrared night vision mode. You will see a faint red glow from the LEDs confirming that the camera has power.



PICTURE 2-3

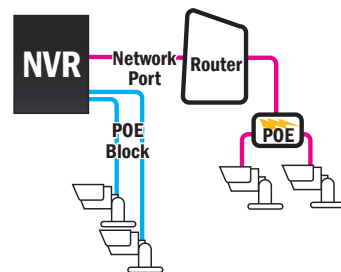
CAMERAS CONNECTED THROUGH A NETWORK

There are two types of networks – local (LAN or Intranet) and Internet (or WAN). Cameras can be accessed by the NVR over both types.

Local Networks

For cameras positioned too far away to reasonably run a network cable directly to the NVR, you can connect it to the same network as the NVR and the system will be able to access and use them.

Ultimately, each camera will have to connect to the same router that the NVR is connected to. They will need to be connected to a power source on their side of the network - preferably a POE - as the POE block on the NVR itself is unable to provide power through the network.



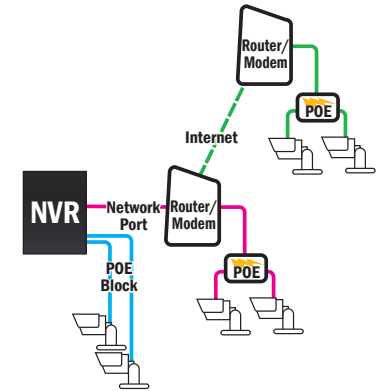
PICTURE 2-4

Alternately, if your NVR was bundled with cameras, they may include a power input as additional power option. You will need to acquire a power adapter that matches the ratings listed on the camera itself if you are not connecting them to a POE.

The NVR will connect to these cameras through the same cable that it uses to communicate with the network.

Connections Over the Internet

A third connection option is via the Internet. This method is more complicated, but it allows the user to view cameras that are located in a completely different building – or region – from the NVR itself. In essence, your NVR will be remotely monitoring those cameras. As such, the user will need to forward ports using the IP Tool software included on the **Manuals and Software CD** to obtain the IP address for any camera that will be accessed over the Internet. Full instructions are covered in **Chapter 2**.



PICTURE 2-5

2.3 ADDING AND REMOVING CAMERAS IN YOUR SYSTEM

LOCAL CAMERAS

Once you have connected your cameras, you will need to add them to your system's display. For cameras connecting to one of Q-See's QC-Series NVRs, they will automatically appear on-screen shortly after being plugged in. Cameras will be assigned to the first available channel by the NVR in this case, regardless of which port in the block that they were connected to. These cameras can only be removed from your display by physically disconnecting the cameras from the NVR.

CAMERAS ON THE SAME NETWORK

Cameras sharing the network with the NVR will not automatically connect. There are three ways to connect them on a QC-Series NVR. The first two methods are by either using the **Add Camera** icon in the **Live View** window, or right-clicking within it. The third method uses the **Remote Device** window located in the **Main Menu**.

Add Camera

Moving the cursor to the center of any empty channel will reveal the **Add Camera** icon shown in **Picture 2-6**. Clicking on this will open a window listing available cameras.



PICTURE 2-6

Clicking on **IP Search** will refresh this list. Simply click on the desired camera from the list and it will become the camera for that channel. Please note that it is possible to load a camera which is already in use by another channel. In which case, you will have two identical channels.

REMOTE DEVICE					
	IP Address	Port	Device ID	Manufacturer	Type
1	10.1.1.65	1	YZC2OC061966	Private	IPC-HFW210
2	10.1.1.67	2	YZCAU192012	Private	IPC-HFW321

IP SearchManual Add

FilterNone

AddCancel

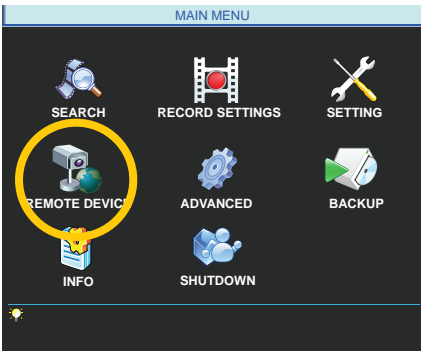
PICTURE 2-7

QC NVR REMOTE DEVICE MENU

Use of remote IP cameras connected to a network - whether local or remote - requires your NVR to be connected to a router. It also requires that the cameras are connected to a router as well - even if it isn't the same one as the NVR. If you intend to connect to devices that are located outside of your local network, then this router must be able to access the Internet. Instructions for connecting your system to the Internet are presented in the **Remote Monitoring Guide** that also came on the CD with your system. It is also available from our online resource at www.Q-See.com/Support.

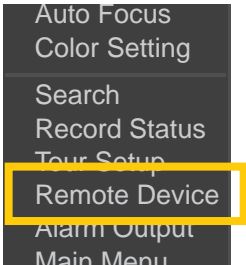
Similarly, the remote devices must be able to communicate with the local network or Internet. This will be covered in **Section 2.4**. You will need to follow the instructions in that chapter in order to obtain an IP address for any cameras that will be accessed over the Internet. Once you have connected your cameras to a router you can connect to them using the **Remote Device** window.

This window can be reached by clicking on the **Remote Device** icon in the **Main** menu...



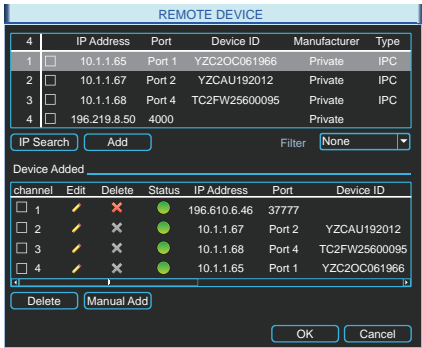
PICTURE 2-8

...or through the **Shortcut** menu by right-clicking on the screen and selecting **Remote Device**.



PICTURE 2-9

When the window opens, you will be presented with a list of all connected devices in the lower portion. This section, marked Device Added, indicates the status of each device along with other information about it.



PICTURE 2-10

Icon	Meaning	Description
	Editable	You may edit the settings on this device by double-clicking on it
	Cannot Delete	This device is connected directly to the NVR and must be physically unplugged to be removed from this list.
	Removable	This device may be deleted from the list by checking the box next to it and clicking on the Delete button below.
	Device Status OK	The connected device is operating normally.
	Device Error	There is an issue with the connected device that is preventing it from operating normally.

Clicking on **IP Search** under the upper portion of the window will generate a list of all devices that the NVR was able to locate - both directly connected as well as connected to the same network as your system. Items showing a short IP address beginning with “10” are cameras directly connected to the NVR and who’s IP addresses were assigned by the NVR itself. Care should be taken that you do not attempt to connect a device that is already connected to the system as it will create a duplicate video feed and could cause connectivity issues.

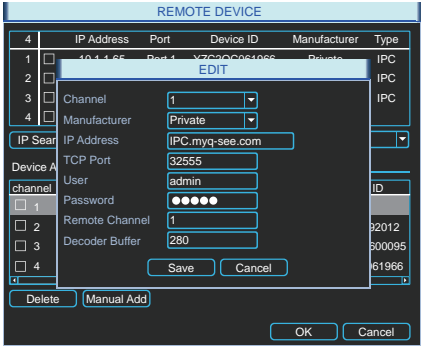
Edit

Double-clicking on a device in the **Device Added** portion of the window will display information regarding the connected remote device. Making any changes within this window will not change anything on the camera or remote device itself. To make those changes, you will need to access the camera or other remote device (such as a DVR) directly, or through one of the remote methods described in the **Remote Monitoring Guide**.


Once you have made those changes, you will need to update the user name and password within the **Edit** window. Failing to change these in this window will result in an on-screen message about incorrect password and may lock you out of the IP camera for a period of 30 minutes in the case of QC-Series cameras - other brands may vary.

It is important that you do not remove the device you are making the changes upon from the list of connected devices before editing the information in the **Edit** window. If you later remove the device from the list and wish to reconnect, you will need to do so using the **Manual Add** feature as described below.

Similarly, if you already know the IP address and port of the camera, you can use the **Manual Add** feature.



PICTURE 2-11

**IMPORTANT!** To avoid connection issues, you should not change the information within the **Edit** window unless you have first made those changes to the remote device itself.

The lower portion of the window shows all devices currently connected to your NVR. If all of your channels are occupied, you will need to delete one of the connected devices from this list by selecting the check box next to it and clicking delete. Items with a gray “X” are directly connected to your NVR and may only be removed by physically disconnecting them from your system.

Clicking on the **IP Search** button will create a list of all remote devices that the NVR was able to detect. You may limit this search to only IP cameras by selecting **IPC** in the **Filter** pull-down. Items being accessed by your NVR over the Internet will not appear in the list at the top of the window. They must be added manually (see below).

If you have an available channel, you may add a device by selecting the check box next to it and then clicking **Add**. Please note that if you changed the default user name and password for your camera(s) in the Web Service application as described in **Chapter 3**, you will need to use the **Manual Add** feature instead.

2.4 CONNECTING YOUR CAMERA TO A REMOTE NETWORK

As was mentioned in the previous section, cameras connected to the same network router as the NVR can be discovered by that system and added. Cameras on a different network require additional steps to be connected to an NVR, and these same steps are needed if one is going to be accessing the camera only using a computer or mobile device.

First and foremost, you will need to physically connect your camera to a router. This router can be part of an existing network of computers, or it can be the router/modem supplied by your Internet Service Provider (ISP) to connect you to the Internet. This connection will be made by plugging the other end of the Ethernet cable that you connected to the camera into a router or into an Ethernet port that connects to a router.

You cannot connect the camera to the Internet through a modem because there is no method available to cause the modem to dial out to the ISP. Your camera will need to be directly connected to its own power supply - whether it is a power adapter or a Power Over Ethernet (POE) block. In the case of the latter, the POE block will then connect to the router or network.

Your camera is not designed to be connected wirelessly to a network. It is also recommended that the router that the camera is connected to should be connected directly to the Internet rather than to another router if Internet access is desired as multiple routers can create problems with connectivity. You will also need to have a computer connected to the same router - at least temporarily - to make certain settings. If, after following the instructions you are still not able to access your NVR, please see **Section 2.5 Troubleshooting Network Connections** later in this chapter.

In order to access your camera over the Internet, you will have to determine its IP address. Each device on a network - both a LAN or the Internet - has a specific IP address. This address is what allows different devices on the network to communicate with each other. You will also need to confirm that two ports, or openings, have been permitted by your router to allow communication to and from your camera.

BEFORE YOU GET STARTED

You will need to have:

- Your router's brand, model number and manual. The manual is also usually available on your router's manufacturer's website.
- The "Manuals and Software" CD that came with your camera. It contains necessary software and links to other important programs which are mentioned in this guide.
- Your router's password (the default password should be in your router's manual).
- Your router's Gateway address.

If your camera is able to automatically connect to your network, you will only need your router's Gateway address to connect to your camera from outside of the local network. However, if your camera is unable to connect automatically, you will need this information in order to make the connection.

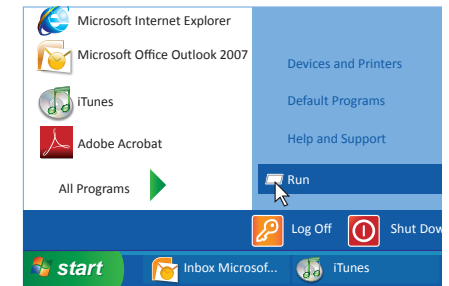
OBTAINING IP INFORMATION USING IPCONFIG IN WINDOWS

You will need to get your router settings to not only create an IP address, but for the Default Gateway information as well.

To get the router settings:

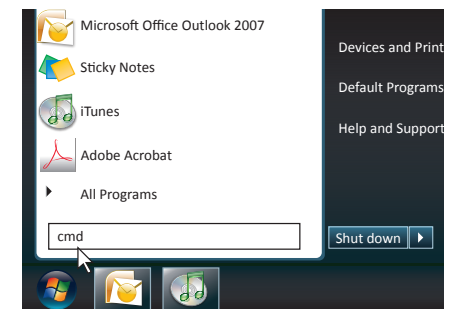
STEP 1. To access the router's settings you will need to enter the **Command (CMD)** panel on a computer also connected to the same router.

A. WINDOWS XP – Select **Run** from your Windows **START** menu (lower left of screen) and type "**cmd**" after the prompt.



PICTURE 2-12

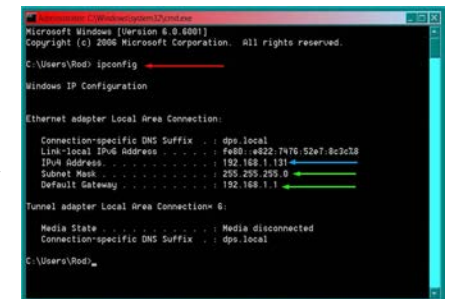
B. WINDOWS VISTA and WINDOWS 7 – Click on the **START** menu (Windows icon) in the lower left of your screen. Type "**cmd**" into the field that says, "**Search programs and files**" and hit **ENTER** or click on the magnifying glass icon.



PICTURE 2-13

STEP 2. Type "**ipconfig**" at the prompt (**Red arrow in Picture 2-14**) to access router settings.

STEP 3. Write down the Default Gateway number (**bottom green arrow**).



PICTURE 2-14

OBTAINING IP INFORMATION USING A MAC

The easiest method for locating the router's Gateway address for Macintosh is through the computer's Network window.

STEP 1. Click on the **System Preferences** icon at the bottom of the Macintosh's screen.



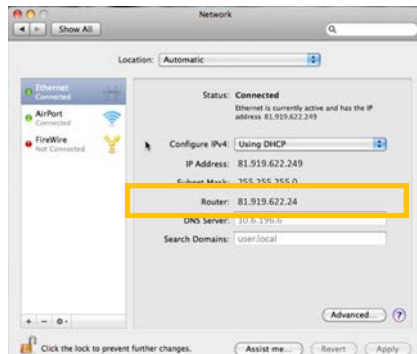
PICTURE 2-15

STEP 2. Click on the Network icon.



PICTURE 2-16

STEP 3. Make sure that your network connection is highlighted in the list of connections to the right of the main part of the **Network** window and that its status reads "Connected." The Router's IP address will be displayed.



PICTURE 2-17

TESTING THE CONNECTION

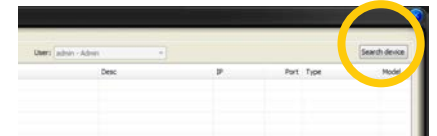
Your camera features UPnP (Universal Plug 'n Play) connectivity. This allows network devices to be automatically added to the network and communicate with other devices within it without additional setup. If your Network router has this feature - and it is turned on - your camera may be accessible from the moment you connect it to the network.

To test this, once you have connected the IP camera to a network, you will need to run the **ConfigTool** software on a computer connected to the same router.



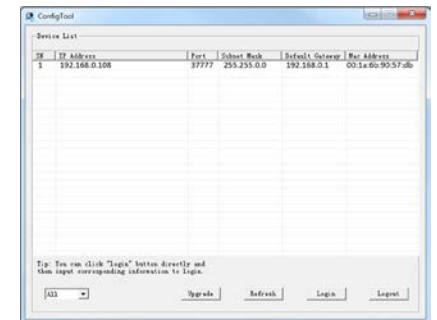
PICTURE 2-18

This Windows software is located in the **Software** folder on the CD that came with your system. Macintosh computer users will need to use the **Search Device** function within the **Device Manage** window in **PSS** to locate the camera. PSS is covered in **Chapter 4**.



PICTURE 2-19

When **ConfigTool** launches, it will produce a list of all QC-Series IP cameras that are connected to the same network. This will confirm that your camera has been successfully added to your network.

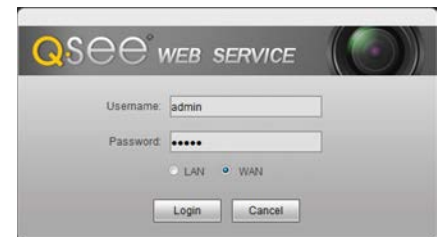


PICTURE 2-20

To ensure that the camera and the connection are operating properly, right click on the camera's name in the list.

A pop up window saying, "**Open Device Web**" will open. Click on it to open a browser window.

When the browser window has opened, you will be presented with a login screen for the **Q-See Web Service**. Since you're on the same network as the camera, you will want to select LAN from the options at the bottom of the screen.



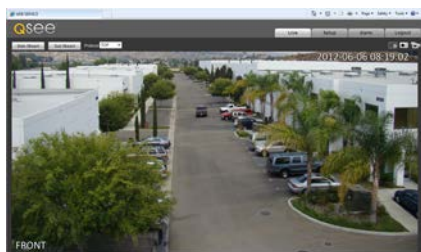
PICTURE 2-21

The default username and password are **admin** and **admin**. It is recommended for security reasons that you change the password before you add the device to your NVR. See **Section 3.6** for instructions on modifying the password on your camera.

Internet Explorer users may be asked to download an ActiveX plug-in from Q-See International, Ltd. Firefox and Chrome users may be asked to allow QuickTime to run. In these cases, you should allow the required plugins to operate. In some cases, you will be returned to the log in screen after the plugin has loaded. This is normal.

Although **ConfigTool** is Windows only, the **Web Service** browser program will operate on Macintosh computers as well. To access your camera without ConfigTool, simply enter the camera's local IP address into the browser window on a computer located on the same network.

After you log in, you should see live video from your camera. This confirms that your connection and camera are operating optimally. You may also use the **Web Service** program to access your camera separately from your NVR. The camera can also be accessed through the PSS software included on the CD. These are both covered in the next chapters.



PICTURE 2-22

Once you have confirmed that you can access your camera on a local network - and if you wish to access it from over the Internet - you will need to confirm that the camera's ports have been opened as well as obtain the camera's Internet IP address

If you are unable to see video from your camera, you should check all connections and ensure that your computer software is operating properly. You may also wish to try to connect using a different browser or computer if the problem persists. Instructions for opening ports and troubleshooting connection issues are provided in the next section.

OPENED PORTS AND INTERNET IP ADDRESS

Just as with your NVR, you will need to confirm that your ports are open and that your camera is accessible from the Internet. You will also need to get the Internet IP address which you will use to connect to the camera outside of its local network.

Confirming that the ports have been opened

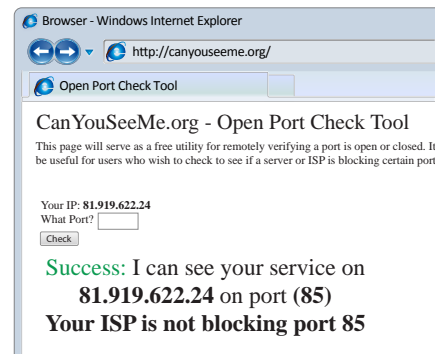
To confirm that your ports have been forwarded successfully, go to www.canyouseeme.org using a computer connected to the same router as the camera.

STEP 1. Enter "85" into the box labeled "What Port?"

STEP 2. Click on the **Check** button.

STEP 3. You should see a green "Success" message. If not, return to ConfigTool and double-click on the camera in the list. Change port 85 to 81 or 83 and click Apply to save your changes before checking using that new number on CanYouSeeMe.

STEP 4. Repeat for port 37777. If there is a problem with port 37777, then try 37000 in the same manner as above.



PICTURE 2-23

Obtaining Internet IP address

This website will also display your Public IP address near the top of the page above the box where you entered your port number. This is the first part of the number which you will use to access the IP camera using your NVR, the PSS software, the **Web Service** browser app or your mobile device from outside of your local network (away from the building in which your NVR is located). The second part is the first port number that you confirmed was open. Using the number shown in the image above, you would enter <http://81.919.622.24:85> with 85 being the opened port. If you used a number other than 85 for the first port, you will use that instead, placing it after the colon (":") in the address.

Be sure to record this address for use at your NVR. If you had to use a different port than 37777 you will need to record that as well.

2.5 TROUBLESHOOTING NETWORK CONNECTIONS

OPENING PORTS

The most common factor causing network connection issues is for communication between the device and a device outside the network to be blocked. The router's built-in-firewall is designed to keep malicious users and software out of the network. At times, this can also block legitimate connections. To avoid this, routers can allow communication to pass through specific ports within the firewall. These "virtual tunnels" only allow access to specific devices within the network. Properly managed with passwords and other safeguards, these do not pose a threat to the security of the network.

If your network's router has the UPnP feature turned on, it and the camera should "discover" each other on the network in less than a minute. Ports 85 and 37777 will be "forwarded" to the camera's local network IP address, allowing it to communicate with the Internet. The former allows you to control the camera, while the latter port is used by the camera for the video stream.

However, some brands of routers, such as the 2Wire used by AT&T for its Uverse service do not include this feature. In this case, the ports will need to be manually forwarded using one of the methods described on the next few pages. You will only need to use one of these methods - which are the same if you are using a Macintosh or Windows PC. If you are still unable to connect your NVR to the Internet using any of these procedures, the likely cause is the presence of multiple routers on your network. Solutions to overcome that situation are presented at the end of this section.

Regardless of the method you use, you will need to get your router's Public (Internet) IP and Gateway addresses in order to log into the router, and eventually connect to the camera.

Option 1: UPnP

Check your router's manual to confirm the presence of the UPnP feature. You may need to log into your router to turn it on. There are legitimate reasons to disable UPnP, but you may wish to enable it briefly in order to allow the camera to connect. Once you've confirmed that the camera's ports have been opened and you've set the camera to use a Static IP address as described later in this section, you can disable UPnP.

The location of the UPnP settings within your router vary by brand and model. Consult your router's manual to locate and enable this feature before continuing.

Option 2: Opening Ports Using DMZ

The exact location of DMZ within the router's settings vary by manufacturer so please consult your router's manual for the location of this feature. The method for accessing your router's settings, however, is pretty standard.



NOTE! If you are an AT&T Internet or Uverse customer, you should follow the instructions laid out in Option 3 as they specifically apply to the brand of router used by AT&T.

STEP 1. On a computer connected to the same router as your camera, open a web browser and enter the Gateway (Router's IP address) into the browser window's address bar to access your router.



PICTURE 2-24

STEP 2. Locate the DMZ settings in your router. Each manufacturer is different so please consult your router's manual for the location of this setting. Two examples are shown at right.



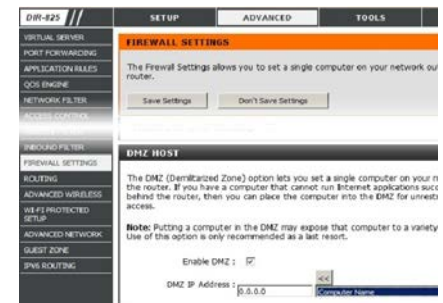
PICTURE 2-25

STEP 3. Enable DMZ.

STEP 4. Enter the NVR's IP address.

STEP 5. Click on **Apply** or **Save** to preserve your settings.

Leave your router control panel open as you will need to obtain DNS information from your router in **Section 1.5 Domain Name System (DNS)**. You should now proceed to the section entitled **Confirming that Ports are Opened**.



PICTURE 2-26

Option 3: Opening Ports Using DMZ on 2Wire Routers

2Wire brand routers are currently the exclusive router used for AT&T's Uverse and other Internet servers. Their configuration protocols are different enough that you should follow these instructions rather than the generic router instructions in Option 2 if you are an AT&T customer.

STEP 1. On a computer connected to the same router as the IP Camera, open a web browser and enter the Gateway (Router's IP address) into the browser window's address bar to access your router.

STEP 2. Click on the **Settings** tab and then **Firewall**. Once in **Firewall**, click on **Applications, Pinholes and DMZ**.

STEP 3. In the **Select Your Computer** area, locate your camera's IP address and click on it.

STEP 4. Scroll down to select **User Defined**.

STEP 5. Click on **Add a new user-defined application**.

STEP 6. In the box labeled **Application Profile Name**, enter "IP Camera".

STEP 7. Ensure that **TCP** is selected.

STEP 8. Enter 85 in the **From** and **To** boxes for **Port (or Range)**.

STEP 9. Leave the next two boxes blank to use the default settings.

STEP 10. Click on **Add to List**. Your router will require you to log in to accept the settings. If you have not created your own password for your router, it is the 10-digit System Key printed on the label on your router between the square brackets "[]".

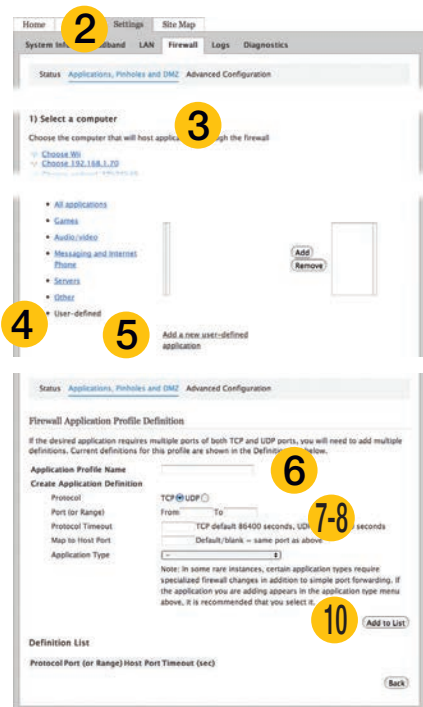
STEP 11. Once your settings have been confirmed, repeat **Steps 8-10**, this time entering 37777 for the **From** and **To** ports.

STEP 12. Click on **Back** and then select **IP Camera** from the list of Applications. Clicking on **Add** and then **Save**.

Leave your router control panel open as you will need to obtain DNS information from your router in **Section 2.6 Additional Network Services**.



PICTURE 2-27



PICTURE 2-28

Confirming That Ports are Opened

To confirm that your ports have been forwarded successfully, go to www.canyouseeme.org using a computer connected to the same router as the camera.

STEP 1. Enter "85" into the box labeled "What Port?"

STEP 2. Click on the **Check** button.

STEP 3. You should see a green "Success" message. If not, return to the NVR's Network window and, in the Network tab, change port 85 to 81 or 83 and click Apply to save your changes before checking using that new number on CanYouSeeMe. Afterwards, you will need to forward that new port using Option 2 or 3.

STEP 4. Repeat for port 37777. If there is a problem with port 37777, then try 37000 in the same manner as above.



PICTURE 2-29

This website will also display your Public IP address near the top of the page above the box where you entered your port number. This is the number which you will use to access the IP camera using a web browser, the PSS program or your mobile device from outside of your local network (away from the building in which your camera is located).



NOTE! If you are successful after changing from port 85, then you will need to add that to the IP address when accessing the camera via the Internet. If, for example, you changed to port 81, the address would now read 64.245.112.90:81

ISSUES WITH DHCP

As long as you are connecting your camera to a router with DHCP enabled, you should not have an issue connecting to your camera. The majority of routers do have the DHCP feature, but some users disable this feature and manually assign IP addresses to the devices on their network. The first step in resolving a connectivity issue, is to ensure that DHCP is active on your router. You will need to consult your router's manual for information on where this feature is located.

If you have disabled DHCP and prefer to manually assign IP addresses to your network devices, you may do so using the **ConfigTool** software. If you do not know the correct IP information, you can use the Windows IPCONFIG command shown in **Section 2.3** to obtain the needed information.

Double-click on the desired device to open the camera's **Login** window within **Config Tool** to open the **IP Address Modification** window.

Enter the IP address, default gateway and subnet mask.

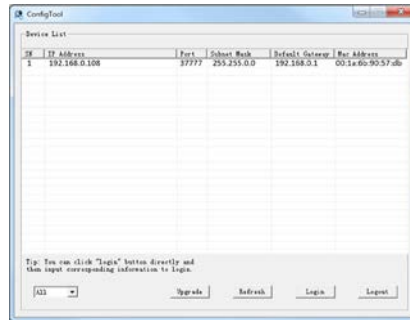
Click **OK** to save, and you will see the information update in the **Device List**.

Right-click on the camera to open it in the **Web Service** browser program and proceed as described in **Section 2.4**, above.

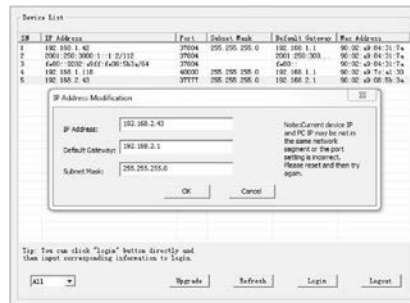
Alternately, you may wish to turn on DHCP in your router long enough to allow the camera to obtain an IP address, which you can then change to **Static** in the **Web Service's Network TCP/IP** window. Enter the information into the proper fields in ConfigTool's **IP Address Modification** window.

Click **OK** to save, and you will see the information update in the **Device List**.

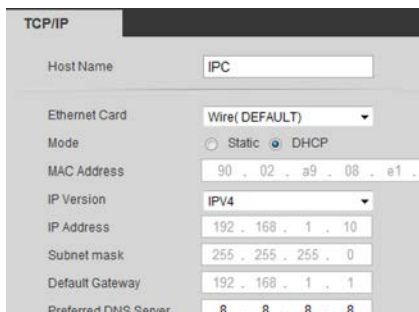
Right-click on the camera to open it in the **Web Service** browser program and proceed as described in the next chapter.



PICTURE 2-30



PICTURE 2-31



PICTURE 2-32

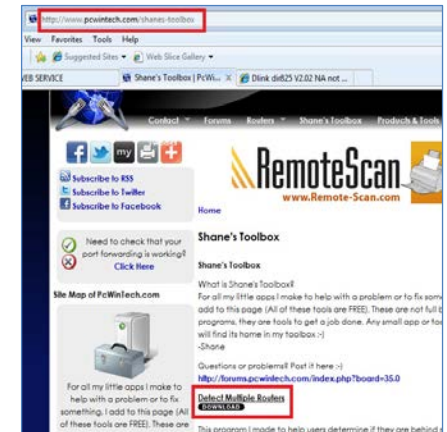
MULTIPLE ROUTERS ON THE NETWORK

If you have tried the previous methods and are still unable to connect to your camera from outside of the local network, it is possible that there may be more than one router between your camera and the Internet. Having more than one router between the camera and the Internet will block communication to and from your device. The simplest remedy is to connect the camera to the router that directly connects to the Internet.

To find out the number of routers on your network, you will need to download a **FREE** router detection program.

STEP 1. Go to <http://www.pcwintech.com/shanes-toolbox>

STEP 2. Click on **Detect Multiple Routers** to begin the download.



PICTURE 2-33

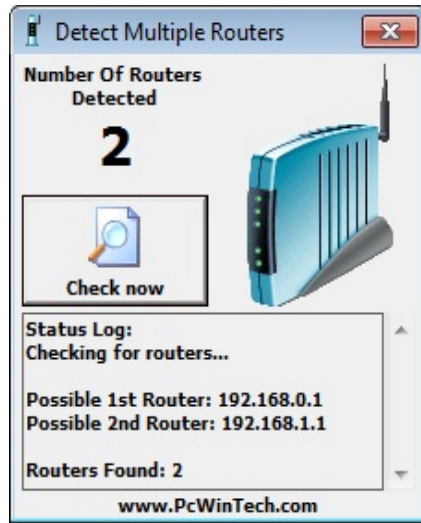
STEP 3. Unzip the application to install it.



PICTURE 2-34

STEP 4. Click on the **detect_routers** application to run it.

STEP 5. Click on **CHECK NOW** to detect how many Routers are in the network.

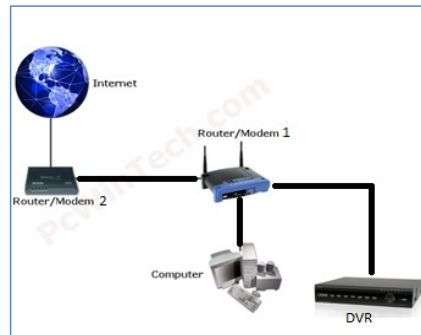


PICTURE 2-35

STEP 6. If there is only one router detected, and you are using UPnP, then you will need to turn off that setting and attempt to connect using DMZ as described in **Section 1.2 Opening Ports**.
If you are using DMZ, check to make sure that the UPnP option is turned off.

If Multiple Routers are Detected

If there are multiple routers, you will see a display similar to **Picture 2-36**.
If so, it may be preferable to connect your NVR and computer to the router that connects directly to the Internet. However, this is not always possible depending upon your particular situation.

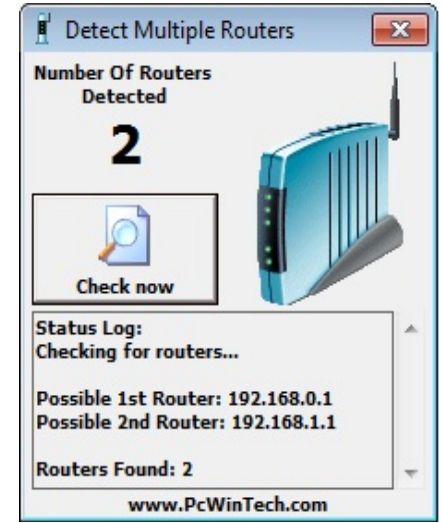


PICTURE 2-36

In this case, you will need to proceed with the next section and set up DMZ in the second router to allow communications to pass through it from the first. If only one router is detected you will need to consult your router's manual.

Setting Up DMZ in Router 2

- STEP 1.** Login into Router 1 by putting the IP of Router 1 into the Internet Explorer browser, as in the example shown in **Picture 2-37** where the IP address of Router 1 is 192.168.0.1
- STEP 2.** Find the status page on the router settings that shows the WAN/Internet IP address and write it down this WAN IP address.
- STEP 3.** Log into the Router 2 by putting the IP of Router 2 into the Internet Explorer browser, as in example shown in **Picture 2-37** where the IP address of Router 2 is 192.168.1.1
- STEP 4.** Find the **DMZ** page in the router settings.
- STEP 5.** Enter the WAN IP for Router 1 into the **DMZ** page and enable DMZ.



PICTURE 2-37



NOTE! If you do not have a **DMZ** setting in the router, check to see if there is a **Bridge** setting. If so, then use the **Bridge** setting instead of DMZ.

STEP 6. Save your changes.

You have forwarded the ports on the router to which the NVR is connected, to the IP address of the NVR, and set the second router to pass the connection to this router.

CONFIGURING ACTIVEX

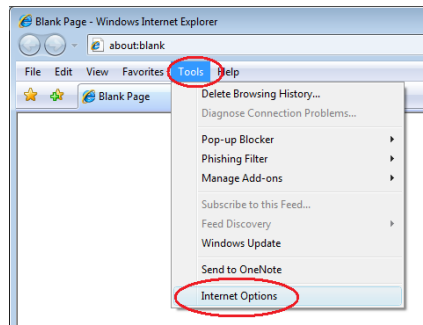
Accessing your NVR using Internet Explorer is generally as simple as using an interactive website. Some users may need to configure Microsoft's built-in ActiveX controls prior to logging into their camera in order to ensure smooth operation. ActiveX is built into Internet Explorer to enable it use multimedia content. Sometimes, this can cause conflicts with security settings within the browser program itself.

Setting Up ActiveX Control

STEP 1. Open Internet Explorer

STEP 2. Click on **Tools**

STEP 3. Select **Internet Options** in the pull-down menu

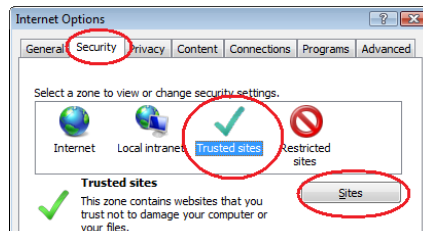


PICTURE 2-38

STEP 4. Click on the **Security** Tab

STEP 5. Select **Trusted Sites**

STEP 6. Click on the **Sites** button



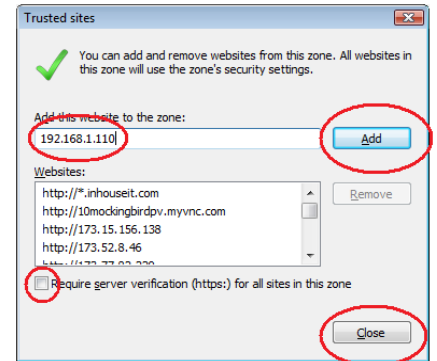
PICTURE 2-39

STEP 7. Uncheck the "Require server verification (https:) for all sites in this zone" button.

STEP 8. Type the NVR's IP address (obtained during **Network Setup**) or DDNS domain name into the "Add this website to the zone:" box.

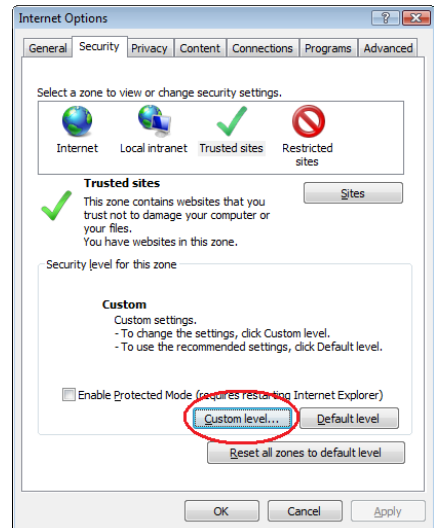
STEP 9. Click the Add button

STEP 10. Close the window.



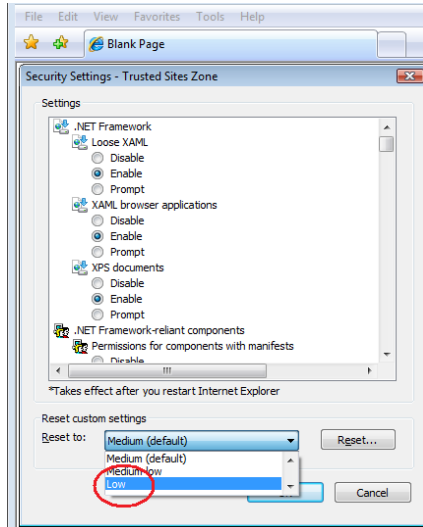
PICTURE 2-40

STEP 11. Click the Custom level... button.



PICTURE 2-41

STEP 12. Pull down the “Reset to:” menu button and select **Low**



PICTURE 2-42

STEP 13. Click the **Reset** button

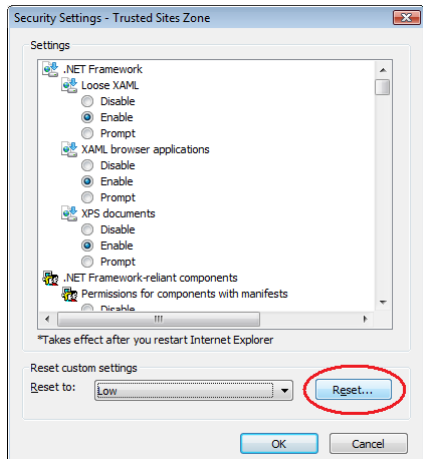
STEP 14. Click “Yes” when asked, “Are you sure you want to change the setting for this zone?”

STEP 15. Click **OK**

STEP 16. Click **Apply**

STEP 17. Click **OK**

STEP 18. Close Internet Explorer



PICTURE 2-43

Open a browser window in Internet Explorer and enter the IP address or DDNS name (obtained in **Section 1.1**) into the address bar.

You will see a log in screen similar to that shown in **Picture 2-44** or yellow alert bar at the top of the window asking for permission to open an ActiveX application. Allow it to install **webrec.cab control** to reach the sign-in screen.

Proceed to **Chapter 3** for instructions on logging in and remote monitoring.



PICTURE 2-44

Troubleshooting: User Account Control for Windows Vista and Windows 7

Some users of computers using Windows Vista or Windows 7 operating systems may receive an error message informing of a codec that is missing or not installed. This conflict can be resolved by turning off User Account Control (UAC).

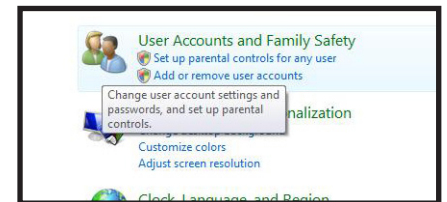
Windows Vista

STEP 1. Open the Control Panel (accessible by clicking on the Windows icon in the lower left of your screen.



PICTURE 2-45

STEP 2. Select **User Accounts and Family Safety**.



PICTURE 2-46

STEP 3. Select “**Add or Remove User Account.**”



PICTURE 2-47

STEP 4. Select the desired user account.



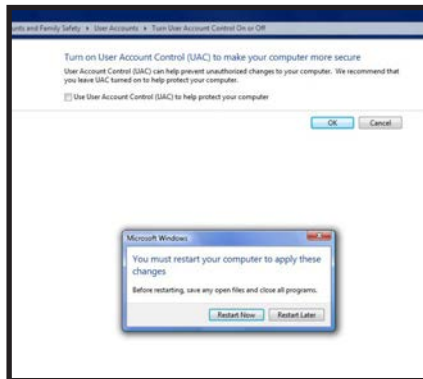
PICTURE 2-48

STEP 5. Select **Turn User Account Control on or off**



PICTURE 2-49

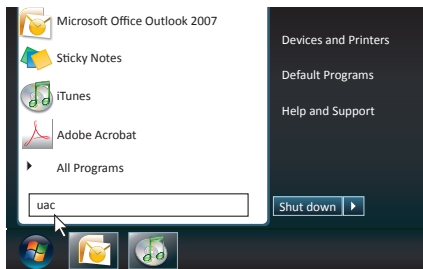
STEP 6. Uncheck the box next to “Use User Account Control (UAC) to help protect your computer.”



PICTURE 2-50

Windows 7

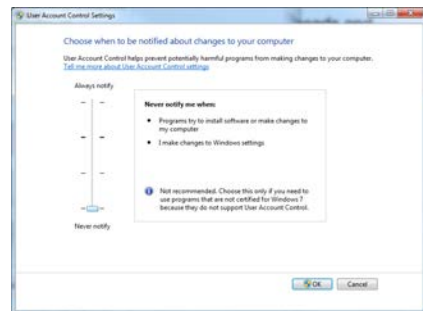
STEP 1. Open up the Start Menu (accessible by clicking on the Windows icon in the lower left of your screen.



PICTURE 2-51

STEP 2. Type “uac” into the search bar and hit **ENTER**. The User Account Control will open or you will be offered a link to click to open it.

STEP 3. Move slider to lowest setting and press **OK**.



PICTURE 2-52

2.6 ADDITIONAL NETWORK SERVICES

Once you have connected the IP camera to a network and are able to access it from another network as well, you will need to obtain the Domain Name System (DNS) from your router and enter it into your camera to enable the camera to send out e-mail alerts. Optionally, you will also want to set up a Dynamic Domain Name Service (DDNS) to create an easy-to-use web address that you can use in place of the string of numbers making up the IP address when logging into the camera.

Entering these settings may be made within the **Web Service** or **PSS** software running on a computer connected to the same router as the camera. The method for obtaining the DNS is identical for either program. Both of these programs will be covered in full in their respective chapters following this one. However, it is generally easier to make the settings in **Web Service**, later accessing the camera using **PSS** since these settings must be made on a computer connected to the same router as the camera.

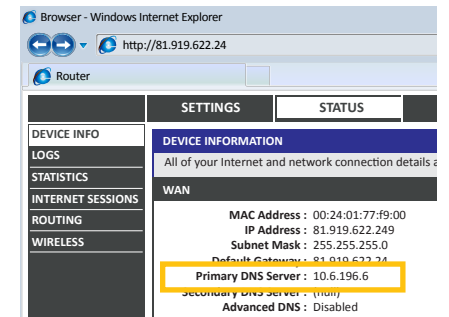
OBTAINING DNS INFO - MACINTOSH AND PC USERS

STEP 1. On a computer connected to the same router as your camera, open a web browser and enter the Gateway (Router's IP address) into the browser window's address bar to access your router.



PICTURE 2-53

STEP 2. Locate your router's status window (may also be named “Information” or “Info”, it will list the DNS number. You will only need to use the primary set of numbers - write it down for later use.



PICTURE 2-54

MACINTOSH COMPUTERS

In addition to retrieving the DNS info from the router, Macintosh users can get it from the computer's Network window.

- STEP 1.** Click on the **System Preferences** icon at the bottom of the Macintosh's screen.



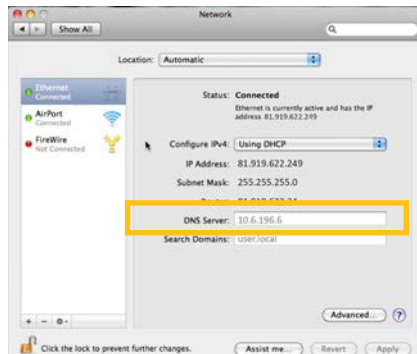
PICTURE 2-55

- STEP 2.** Click on the Network icon.



PICTURE 2-56

- STEP 3.** Make sure that your network connection is highlighted in the list of connections to the right of the main part of the **Network** window and that its status reads "Connected."
- The DNS server information will be shown. Write this down for use in the next section.

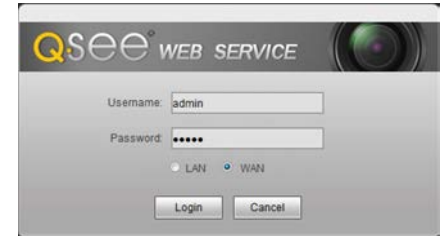


PICTURE 2-57

ENTERING THE DNS INFORMATION INTO THE CAMERA

- STEP 1.** Open another browser window and enter the camera's Local IP address which you obtained in **Section 2.4**.

- STEP 2.** When the browser window has opened, you will be presented with a login screen for the **Q-See Web Service**. Since you're on the same network as the camera, you will want to select LAN from the options at the bottom of the screen.



PICTURE 2-58

The default username and password are **admin** and **admin**. It is recommended for security reasons that you change the password once you have finished making your settings.

Internet Explorer users may be asked to download an ActiveX plug-in from Q-See International, Ltd. Firefox and Chrome users may be asked to allow QuickTime to run. In these cases, you should allow the required plugins to operate. In some cases, you will be returned to the log in screen after the plugin has loaded. This is normal.

If you are able to log in with Internet Explorer, but are unable to view the video from the camera, please adjust the ActiveX settings as described at the end of **Section 2.5**.

STEP 3. Once the camera has opened. Click on the **Network** tab on the left and then on the **TCP/IP** option.

STEP 4. Enter the DNS number

PICTURE 2-59

STEP 5. Click **Save**.

2.7 DYNAMIC DOMAIN NAME SERVICE (DDNS)

This is an optional step which allows you to take advantage of Dynamic Domain Name Service, or DDNS. Not to be confused with DNS above, DDNS allows you to enter a conventional web address when remotely logging into your Camera from outside of your network. It also allows you to avoid having to repeat Sections 2.3 when/if your ISP reassigns IP addresses. Q-See offers DDNS service for free at www.MyQ-See.com and your IP camera is configured to accept account information from that site.

STEP 1. Open a browser window and go to www.MyQ-See.com

STEP 2. Register with the website and follow the instructions for creating a domain name. The website will display your public IP address and your domain name which will look like this: <http://example.myq-See.com>

PICTURE 2-60

STEP 3. In your camera, click on the **Network** tab on the far left of the window.

STEP 4. Click on the **DDNS** option.

STEP 5. Check the **Enable** box and select MyQ-See.com in the **DDNS** server pull-down menu.

STEP 6. Enter your account information – including the user name and password that you used when creating your domain name .

PICTURE 2-61

STEP 7. Click the **Save** button to preserve your settings.

The **Web Service** app allows you to access your camera with only a web browser. You connect with the camera by entering its address into the browser just like any other web page. As was explained in the previous chapter, if you are on the same network as the camera, then enter the local IP address shown in **ConfigTool** into a browser address window. When connecting to the camera from outside of its local network, you'll either use the Internet IP address obtained from **CanYouSeeMe** in Section 2.3 or the address you created using DDNS in Section 2.6. No matter whether you're accessing the camera locally or remotely, the operation will remain the same. You will not be able to access a camera directly connected to your NVR using the Web Service application.

Accessing the camera will bring up the login screen for the program. If you are connecting locally, the default video stream will be the larger Main Stream. Selecting WAN from the choices in the **Login** window will default to the lower-bandwidth Sub Stream. You can choose to switch between either stream once you have connected using the tabs above and to the left of the video display. The amount of activity on the network(s) can affect the streaming rate from the camera to your computer or mobile device.



PICTURE 3-1

3.1 LIVE VIEW

When you have logged in, you will see a live view from that camera. **Live View** is the default mode for the Web Service program. TCP is the default protocol. Use of the Multicast protocol for streaming requires it to be set up in your router.



PICTURE 3-2

The main function of the **Live View** window is, of course, to display the video stream from the camera. There are additional settings available from the tabs located to the upper right of the video image. The operations of these will be covered on the following pages.

FUNCTION BUTTONS (PC ONLY)

PC users have three functions that can be performed while in Live View and the buttons for these are located immediately below the tabs in the upper right:



Digital Zoom

Snapshot

Local Record

PICTURE 3-3

Digital Zoom - After clicking this button, click and drag on a section of the video image to enlarge it.

Snapshot - Clicking this will take a still image of the current video feed.

Local Record - This will begin recording video to your computer's hard drive.

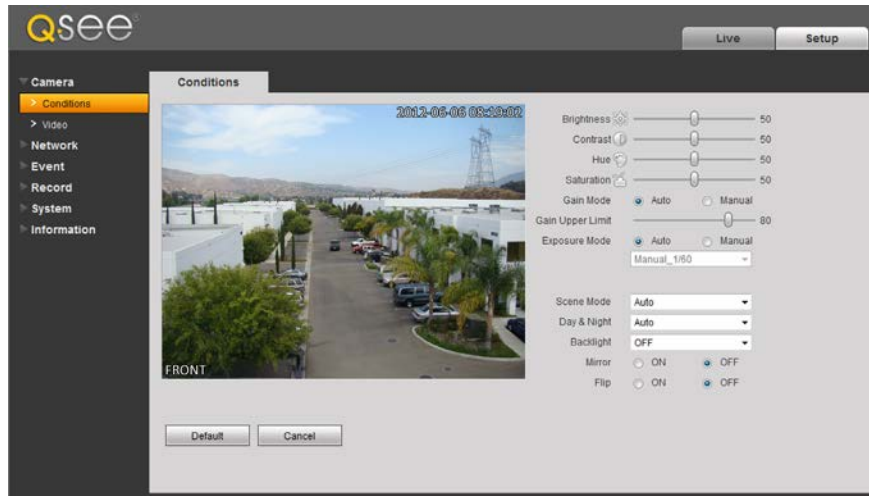
You will be able to set the location where video and still images are saved onto your computer's hard drive in the **Camera** option under the **Setup** tab.

3.2 SETUP

The options available in this tab are divided into several sections dedicated to the camera itself, the network connection, event monitoring, direct recording to an FTP server, system maintenance and history. Each of these sections will include one or more submenus to allow you complete control of your camera.

CAMERA

This is divided into two sub-menus - **Conditions** and **Video**. In Conditions, you can adjust the camera's settings to adjust for any lighting or environmental factors specific to its location for the best possible image.



PICTURE 3-4

The **Brightness**, **Contrast**, **Hue** and **Saturation** sliders can be moved to improve image clarity.

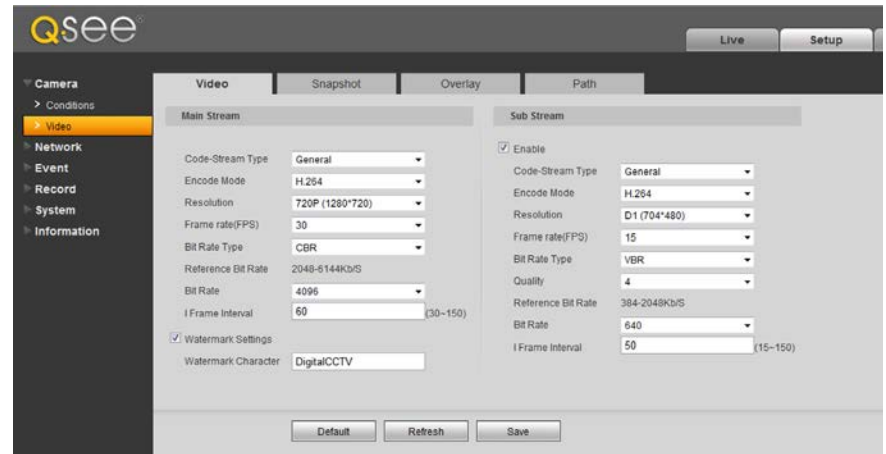
Gain - For cameras located in darker areas, Gain allows the camera to electronically compensate by making the image brighter. The trade off is a potential loss in image quality due to increased "noise" in the picture. You can allow the camera to adjust automatically or manually, with an adjustable upper limit to prevent the image from reaching a point where it is unusable due to excessive noise.

Exposure - this controls the amount of light reaching the camera's receptors. This allows the user to compensate for areas that are excessively lit resulting in overexposed images that have some detail areas "blown out." On a traditional camera, this feature would be controlled by opening or closing the camera's iris. On an IP camera, this is controlled electronically. You can "lock" the exposure level to a specific setting by selecting **Manual** and adjusting it from the pull-down menu.

Scene Mode - This allows the camera to compensate for sunlight versus moon light. This is done by adjusting the red and blue light levels. This can be done automatically, or is fully customizable by the user. The mode can also be disabled or set to permanently utilize only a single mode.

VIDEO

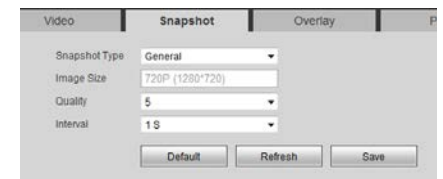
The **Video** sub-menu contains four tabs controlling how video is streamed from the NVR, the camera's built-in snapshot feature, on-screen displays and, on PCs the file path to save locally recorded video and snapshots.



PICTURE 3-5

The settings available within the **Video** tab are similar to the options available in the **Record Setting** menu which was covered in **Section 2.2**. However, these settings only apply to the camera and not the NVR. If the Internet connection is poor either at the camera's location or with the monitoring PC or device, then the settings can be lowered to improve the video transfer. For example; a bitrate of 4096 requires an upload speed of 4mbps.

The **Snapshot** tab allows you to set the resolution, quality and frequency of snapshots captured by the camera. These are separate from the snapshots captured by the NVR using this camera.



PICTURE 3-6

You can change the camera's name, create a privacy mask and enable/disable the on-screen display of the camera's name and time in the Overlay tab. Your NVR is configured not to display the channel title info on its screen, but you may change that setting in the **Overlay** setting within the **Record Setting** menu (see **Section 4.3** of the **User Manual**).

You may set up to four masked areas in the camera's display. These are separate from those made in your system and cannot be overridden by the masks made in the NVR.

Path allows you to select the location on your PC's hard drive where video and snapshots will be saved when the appropriate icon is selected in **Live View**.



PICTURE 3-7

3.3 NETWORK

The settings available in this menu govern how the camera connects to the outside world. Many of these features are exactly like the same functions on the NVR.

TCP/IP

Like your NVR - and every other device connected to your network router - the IP camera has an Internet Protocol, or IP address. As a general rule, this should not be changed in order to avoid future connection problems. However, if you wish to establish a static IP address, it is done here.

The screenshot shows the 'TCP/IP' configuration window. On the left is a sidebar with a tree view containing 'Camera', 'Network' (expanded), 'TCP/IP' (selected), 'Connection', 'PPPoE', 'DDNS', 'IP Filter', 'SMTP(E-mail)', 'UPnP', 'Bonjour', 'Event', 'Record', 'System', and 'Information'. The main area is titled 'TCP/IP' and contains the following fields: 'Host Name' (set to 'IPC'), 'Ethernet Card' (set to 'Wire(DEFAULT)'), 'Mode' (radio buttons for 'Static' and 'DHCP', with 'DHCP' selected), 'MAC Address' (set to '90 . 02 . a9 . 08 . e1 . 87'), 'IP Version' (set to 'IPv4'), 'IP Address' (set to '192 . 168 . 1 . 10'), 'Subnet mask' (set to '255 . 255 . 255 . 0'), 'Default Gateway' (set to '192 . 168 . 1 . 1'), 'Preferred DNS Server' (set to '8 . 8 . 8 . 8'), and 'Alternate DNS Server' (set to '8 . 8 . 8 . 8'). At the bottom, there is a checkbox labeled 'Enable ARP/Ping to set IP address service' which is checked. At the very bottom are three buttons: 'Default', 'Refresh', and 'Save'.

PICTURE 3-8

STATIC IP ADDRESS

All routers currently on the market have DHCP functionality. This means that the router will assign a newly-connected network device a random IP address that is not currently in use by another device on your internal network. If this feature is enabled in the router as well as selected within this window, the camera will automatically receive an IP address.

The reason for converting to a static IP address is to ensure that the camera's IP address stays unchanged in case of a power loss by the router. With the exception of 2Wire brand routers, when a router or networked device reboots due to a power loss or other issue, the addresses will change and the port forwarding configuration will no longer work. For that reason, **unless you have a 2Wire router**, we recommend changing your NVR's network setting to a fixed, or "static" IP address which will not change.

To convert to a Static IP address, all you need to do is check that option and then click **Save**.

CONNECTION

The fields in this window allow you to set the maximum number of simultaneous user connections, as well as showing which TCP port was forwarded.

The screenshot shows the 'Connection' configuration window. On the left is a sidebar with a tree view containing 'Camera', 'Network' (expanded), 'TCP/IP', 'Connection' (selected), 'PPPoE', 'DDNS', 'IP Filter', 'SMTP(E-mail)', and 'UPnP'. The main area is titled 'Connection' and contains the following fields: 'Max Connection' (set to '10' with a range of '(1~20)'), 'TCP Port' (set to '37777' with a range of '(1025~65535)'), 'UDP Port' (set to '37778' with a range of '(1025~65535)'), 'HTTP Port' (set to '85'), and 'RTSP Port' (set to '554'). At the bottom are three buttons: 'Default', 'Refresh', and 'Save'.

PICTURE 3-9

PPPOE

If you are going to attach the NVR directly to a DSL or cable modem instead of to a router then select the PPPOE option in the Network options. Before you proceed, you will need to contact your ISP to obtain your User Name and Password. You will not have to worry about Static IP (previous section).

DDNS

This was covered in **Section 2.6**.

IP FILTER

Using this window, you can create a "white list" of trusted IP addresses for users who are allowed access to this camera. Any IP address that is not listed will not be allowed to access this camera. If you will only be accessing this camera through the NVR, then you should enter the NVR's IP address as an extra layer of security. However, it is important to add the IP address that you are currently accessing the camera from to ensure that you are able to continue to make your settings without getting "locked out" of the camera. This address can be removed once you have completed configuring the camera.

SMTP (E-MAIL)

The camera can send out its own e-mail alerts - with snapshot attachments. If the camera is connected remotely to an NVR, these e-mails will be in addition to those that the NVR creates. The camera's e-mail address should therefore be different than that used for the NVR to avoid confusion.



NOTE! Depending upon your settings, the system can generate a lot of e-mail alerts. For that reason, we recommend setting up a dedicated e-mail address specifically for the system to send alert notices. If you do not have your own e-mail system (such as a corporate mail server) you should consider using a free e-mail provider. However, because many free e-mail services allow only a limited amount of e-mail traffic we specifically recommend using Google's Gmail service with its higher limit. Similarly, you will want the alert e-mails to go to a different account than the one sending them. This will ease your management of these alerts.

SMTP Server – This the SMTP server IP name

Port – This is the port your mail provider uses

User Name and Password – These are for the sending e-mail address and were set up when you created the e-mail account.

Title – This is the subject line of e-mails generated by this NVR.

Receiver – This is the recipient e-mail account.

Attachment – This allows the e-mail to include one or more snapshots as attachments

SSL Enable – The system supports SSL encryption when this is enabled.

Interval – This adjusts the amount of time that will pass before the NVR sends out another e-mail. The interval can be set from 0 seconds to ten hours (3600 seconds). If you are getting too many e-mails, you may wish to increase the length of the interval. Using this feature also helps prevent overloading your outgoing e-mail server.



PICTURE 3-10

UPNP (UNIVERSAL PLUG 'N' PLAY)

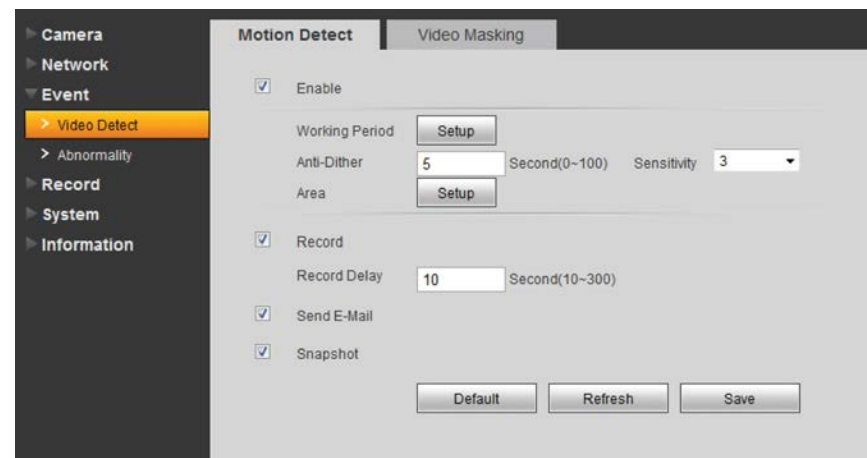
As described in **Section 2.4**, UPnP allows networked devices to communicate with each other. UPnP, like DHCP, allows the router to assign the camera an IP address on its network, and will automatically forward the ports for outside communication. In addition to the HTTP (port 85) and TCP (port 37777) communications protocols, UDP and RTSP allow the camera to stream data and communicate with other devices.

BONJOUR

Bonjour is Apple Inc.'s version of UPnP to enable easy network connectivity.

3.4 EVENT

Like your NVR, your IP camera can detect motion events and when it is being blocked or masked. You can configure these features on your camera in the same manner as on your NVR and alerts can be e-mailed and/or alarms triggered. Using these features on the IP Camera would not interfere with the operations on the NVR and some users prefer the duplication of event detection as a backup in case the NVR is affected.

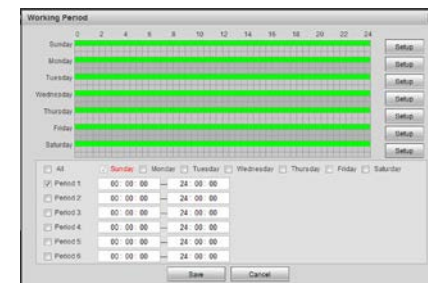


PICTURE 3-11

The operation and setup of these event monitoring is identical to that on the NVR itself. See **Section 3.7** of the **User Manual** for full explanations.

MOTION DETECTION

Clicking on **Setup** next to **Working Period** will open up a schedule allowing you to set the periods when the camera will actively detect motion events. You can set six periods each day for the camera to be "on alert" using the start and stop times at the bottom. Click **Save** to preserve your changes and they will appear on the schedule when you next open the window.



PICTURE 3-12

You can enable a motion alert to trigger several one or more events - video recording, e-mail alerts and snapshot images. Videos and snapshots are sent to an FTP site - which must be set up by the user. Some camera models allow the insertion of a Micro SD flash memory chip which can be used to store these images "onboard" the camera for retrieval using the PSS software. Video recording is controlled by the **Recording Schedule** (see following pages) which overrides the settings here. If the camera is set to record on motion detection, those recordings will only take place during the time period(s) configured in the **Recording Schedule**.

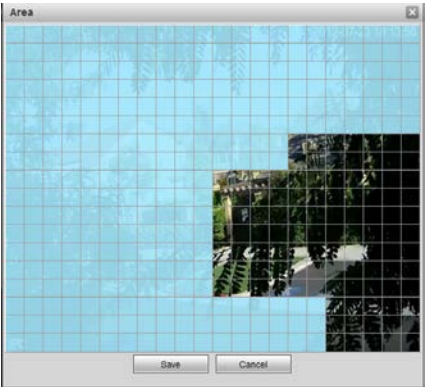
Anti-Dither - is the amount of time that the camera will delay before beginning the alarm response. If the motion isn't detected again during the delay period, the camera will not treat it as an event.

Sensitivity - You can adjust the camera's sensitivity to motion to minimize false alarms caused by environmental factors such as insects.

Record Delay - This is the amount of time beyond the event that the camera will continue to record.

In addition to triggering recording, you can also have the camera take a snapshot and send an alert e-mail.

Click on the **Setup** button next to **Area** to turn off motion detection in certain areas, such as roads, a flag or trees that move in the wind to avoid false alarms. Clicking on a square in the grid, or clicking and dragging across multiple areas will remove the blue mask and deactivate motion detection in that area.



PICTURE 3-13

VIDEO MASKING

If the camera detects that it is being blocked or covered, it can be configured to record, send an e-mail and/or take a snapshot of what it sees. You can also set up a schedule so that it will not be active during a regularly scheduled period when it might be blocked by a door, for example.

DISCONNECTION

If the IP Camera detects that it no longer has a network connection, and if it has an SD flash memory chip installed, it can record video to the chip for later recovery through the PSS software.

IP CONFLICT

Whether in DHCP or UPnP, the router will automatically assign IP addresses to devices on its network. If someone on the network manually changes the IP address of a connected device to an address identical to that of the IP camera, this can cause difficulty in accessing the camera remotely. You can enable the camera to begin recording if this occurs.

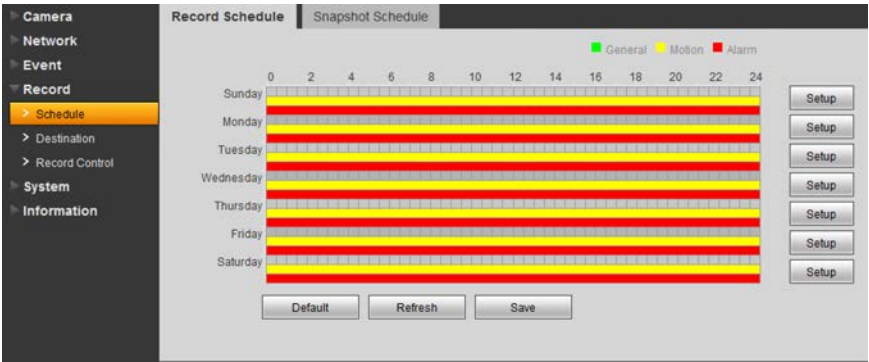
3.5 RECORD

If you have enabled the record function for this camera elsewhere in the **Web Service** program, you will need to set when those recordings will occur using the Record Schedule tab. In addition, you will need to configure the destination for those files along with the duration and quality of the recorded files.

Videos will be recorded in the .dav format and will require the use of the included video player software to review and convert to a different format.

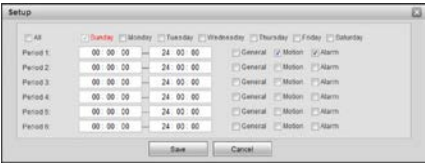
RECORD SHEDULE

The camera is configured to allow event recording all day and every day. To change these settings, click on the **Setup** button to the right of the date you wish to schedule.



PICTURE 3-14

The pop-up **Setup** window will open allowing you to set up to six periods within a day during which recording will be enabled.



PICTURE 3-15

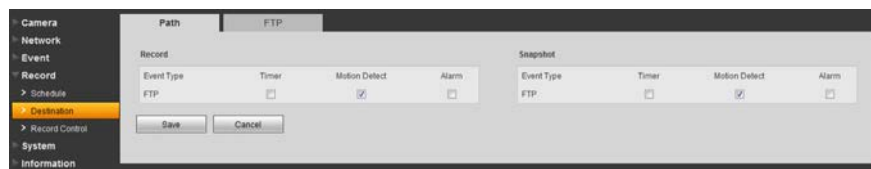
SNAPSHOT SCHEDULE

This is exactly like the **Recording Schedule**.

FILE DESTINATION PATH

Unlike an NVR, the camera does not contain a hard drive on which to record its files. The default method is to use an FTP (File Transfer Protocol) site to store the recorded files for later access. An FTP site is the equivalent of an Internet-accessible hard drive. There are both free and commercial sources for FTP hosting available through the web.

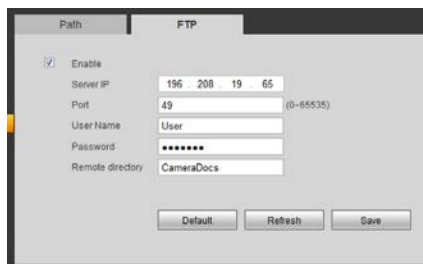
Some camera models allow the installation of a Micro SD card within the camera. Due to the nature of security cameras, these chips are not easily accessible once the camera has been installed, but the files may be retrieved using the PSS software. If you are using a camera with an installed Micro SD card, an extra tab (not shown) will appear allowing you to make additional configurations.



PICTURE 3-16

Both recorded video and snapshots can be saved to the FTP site. You can allow all types of events to be saved, or choose only Timer (scheduled recordings), Motion Detection or Alarm events to be saved to the FTP.

Use the FTP tab to direct the camera where to save the files. You will also need to enter the user name and password that you normally use when you log into the site yourself, or you can create a specific user account for this camera. The **Remote Directory** is the folder into which the files will be saved.

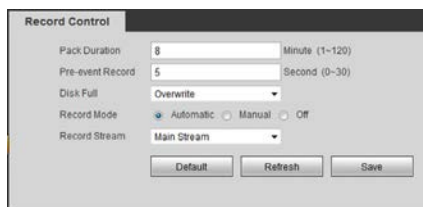


PICTURE 3-17

RECORD CONTROL

This tab allows you to set the maximum length of the recorded video, along with amount of pre-event video is added to the file. Like the NVR, you can have the camera overwrite old files when the storage area is exceeded, or it can stop recording until the files are manually deleted.

Additionally, you may choose to record larger main stream of video, or the smaller - and lower quality - sub stream.



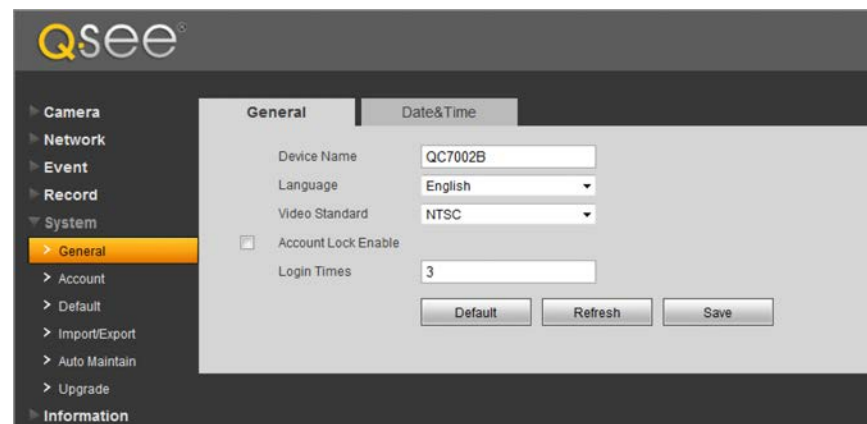
PICTURE 3-18

3.6 SYSTEM

This submenu is where the user can make changes to the camera itself, including setting local time, configuring user accounts, upgrade the firmware and reset all values to their default settings.

GENERAL

You can change the camera's device name here, which will make it easier to pick out in the **Remote Device** menu when adding it to your NVR.



PICTURE 3-19

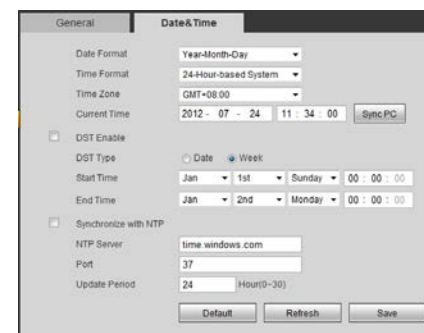
English is the only language currently available and you can choose the video standard - NTSC (North America and most of South America) or PAL (Europe), but this won't generally make a difference when monitoring the camera through the Web Service program or the NVR.

Account Lock Enable is disabled by default. Enabling this feature will lock the camera from remote access - either by the NVR or through the Web Service - app if the wrong user names or passwords are entered the selected number of times. If the camera is locked out, it will need to be physically reset using the **Reset** button on or in the camera (depending on model).

DATE & TIME

The date and time can be set locally for the camera and it can synchronize with a time server and keep track of Daylight Savings Time just like the NVR.

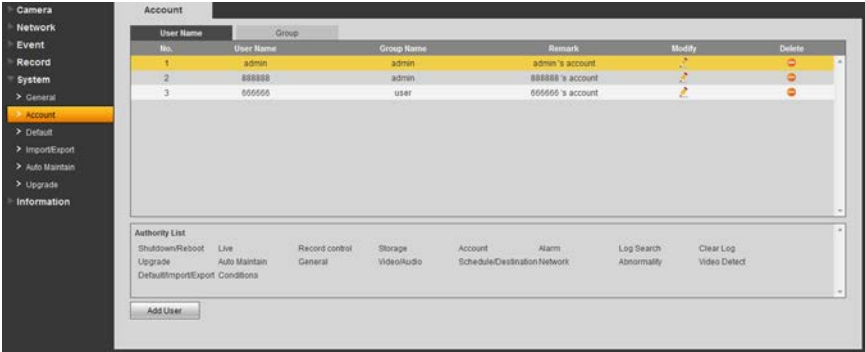
The **SyncPC** button will set the time to that of the computer which you are using to access it. Keep in mind, that settings on the NVR can override this and synchronize the time with itself as described in **Section 4.3** of the **User Manual**.



PICTURE 3-20

ACCOUNT

This window shows all the available user accounts. There are three pre-configured accounts available with different authority levels. The **admin** account has full privileges to view or change the camera's settings, while the **666666** user account can only view the camera's live feed. The Authority List at the bottom of the window shows what each account may do with the camera.



PICTURE 3-21

You may edit, add or delete accounts, with the exception of the **admin** account. It is strongly recommended that you change the passwords from their default settings. A malicious user would have to discover the camera's IP address in order to access it in the first place, but changing the password prevents unauthorized tampering.

DEFAULT

Clicking this button will reset everything to the factory default settings.

IMPORT/EXPORT

You can back up your camera's configuration settings onto a computer to later import back into the camera if needed.

AUTO MAINTAIN

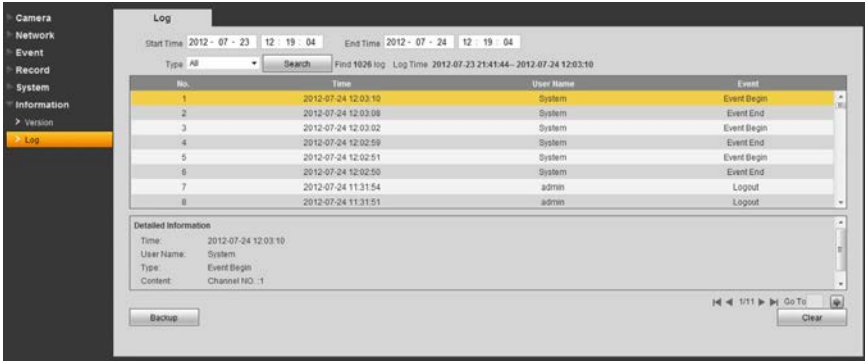
This allows you to have the camera reboot on schedule to improve performance - much like a computer. You can set the time and day of the week when this reboot will take place.

UPGRADE

Q-See releases firmware updates from time to time to address known issues, to address specific issues or to add functionality. You can download the firmware update file to the computer you are using to access the camera and then use the **Browse** button to navigate to the file before clicking on **Upgrade**.

INFORMATION

This window shows both the current version of the software along with the camera's serial number in addition to an event log that the camera maintains.



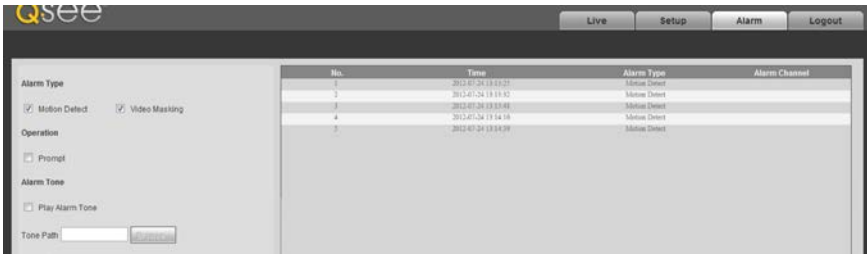
PICTURE 3-22

Clicking on an event will bring up detailed information in the bottom window, including the nature of the event.

You can back up the logs to your computer or clear the log file.

ALARM

The **Alarm** window contains a log of all events, which can be searched by selecting the **Alarm Type** of interest.



PICTURE 3-23

You can also have the camera alert you of any events that occur while you’re monitoring it. Select an audio file from your computer to serve as the alarm tone.

LOGOUT

Clicking this tab will log you out of the camera and return you to the **Login** window.

PRO SURVEILLANCE SOFTWARE CHAPTER 4

4.1 INSTALLING PRO SURVEILLANCE SOFTWARE (PSS)

In addition to using the web-based **Web Service** method to monitor and control your system, Q-See also offers, the **Smart PSS** (Pro Surveillance Software). This free software is included on the CD packaged along with your DVR. The file is also available for free download on Q-See.com/support.

Smart PSS differs from the browser-based **Web Service** in that you can monitor up to 36 cameras at one time. These cameras can be connected to a QC-Series DVR or NVR, or they can be IP cameras operating in stand-alone mode. **Smart PSS** is compatible with Windows XP, Vista, 7 and 8 or Mac OSX 10.7 and later. PC users also have the option of installing **PC-NVR** which enables the computer to be used as a security recorder and server.

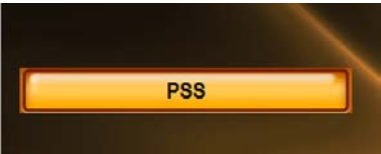
SYSTEM REQUIREMENTS

	Windows	Macintosh
OS	Windows XP, Vista, 7, 8	OSX 10.7, 10.8
CPU	2.4GHz or Higher	2.7GHz or Higher
Display Card	Supports DirectX 8.0c or later	
Memory	Minimum 1GB (WinXP)	
Video Display	Minimum 1024x768	Minimum 1024x768

INSTALLING SMART PSS ON A PC

To install **Smart PSS** from the included CD using the menu

Click on the **Software** button in the CD’s menu. Next, click on the **PSS** button. The installer will start and ask you to select a language - currently English or Chinese. By default, the installer will place the application within the Programs folder on your computer’s hard drive. You can change the install location if desired. Once installed, **Smart PSS** can be launched like any other program.



PICTURE 4-1

To install **Smart PSS** from a download or from the CD

The latest version of **Smart PSS** can be downloaded from our support site, Q-See.com/support and it comes in a highly compressed “.rar” format for faster download. You will need to download an extraction program to be able to install PSS. One extraction program can be downloaded for free at <http://rarlabs.com/download.htm>

You can also access the **Smart PSS** installer directly from the CD’s menu. It is located in the following directory: Software ► PSS - Viewer Program ► PSS for Windows

The installer will start and ask you to select a language - currently English or Chinese. By default, the installer will place the application within the Programs folder on your computer’s hard drive. You can change the install location if desired. Once installed, **Smart PSS** can be launched like any other program.



PICTURE 4-2

INSTALLING SMART PSS ON A MACINTOSH

Smart PSS can be either installed from the included CD or downloaded from our support site, Q-See.com/support. The download will be in the form of a .zip file which your computer should automatically decompress. On the CD, it will be located in the following directory:

Software ► PSS - Viewer Program ► PSS for Mac. Simply drag and drop the application into your **Applications** folder - or any other desired location - on your hard drive. You may wish to create an "Alias" or shortcut on your desktop from the computers **File** menu or drag and drop the program's icon to your **Toolbar** for easy access to the program.

4.2 USING SMART PSS

LOG IN

Upon launch, you will be asked to log in. Enter **admin** for both the user name and password. You can (and should) change this to ensure your security. Instructions for changing your password are included later in this section. The Admin account cannot be deleted.



IMPORTANT! Please keep in mind that this manual and other documentation are freely available for download online. Therefore it is absolutely essential that you should change the passwords on your system and any application used to access it in order to maintain the integrity of your system.

Once you have logged in, you will see the **Device Management** page. In the future, once you have added systems to **Smart PSS**, you'll be able to use the **Home** page to manage them.

The **Device Management** page consists of two tabs: **Add Device** and **Group Manager**. The first is used to add DVRs, NVRs and IP cameras to the **Smart PSS** program, while the second tab allows you to organize them into groups for your convenience.

You can switch between the two pages as desired. The **Device Management** page can be closed, and its icon removed from the top of the **Smart PSS** program window by clicking the 'X' in the upper right of the icon. It can be re-opened by clicking on the **Device Management** icon in the **Home** page.



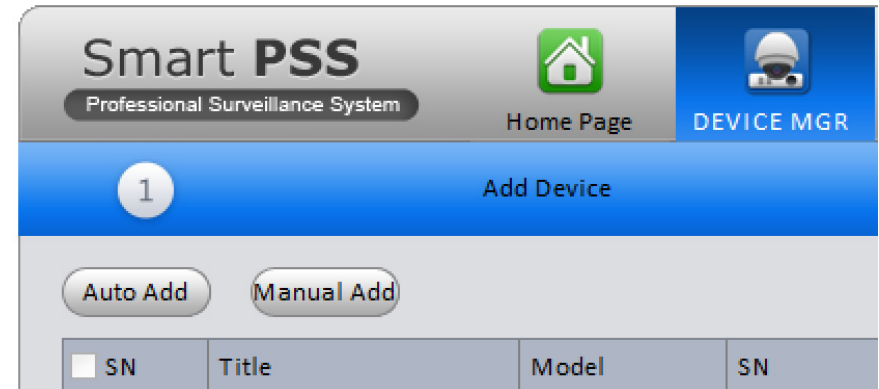
PICTURE 4-3



PICTURE 4-4

ADDING A SYSTEM TO PSS

As was written earlier, when opening **Smart PSS** for the first time, the **Device Management** page will be opened to the **Add Device** tab as well.



PICTURE 4-5

If you are adding systems that are located on the same network as the computer, click on **Auto Add**. **Smart PSS** will then search the network for any DVRs, NVRs or IP cameras that are connected. Those that are found will be added to the list of systems that are available to be added to **Smart PSS**. Select which systems to add using the check box to the left of that device's name.



PICTURE 4-6

Once you've selected the desired systems, click on **Add** to allow **Smart PSS** to manage it. If you do not see a specific system, click **Refresh** to search the network again.

For systems that are not connected to the same network as the computer you are running **Smart PSS** on, you must use the **Manual Add** button.

You'll need to manually add the information needed for the program to connect to the item.

Title - Name the device to make it easy to identify from the other systems you may be controlling.

Group Name - Enter the name of an established group. Or, if you've not created one yet, enter the group name and make sure that the Create Group box at the bottom of the window has been checked.

Type - Select whether the device is a DVR, NVR or IP Camera (IPC).

IP/Domain Name - This should be the public (Internet) address that you obtained when setting up your DVR (see **Confirming That Ports are Opened** in **Section 1.2** of this manual). It may also be the Dynamic Domain Name Service (DDNS) address you created in **Section 1.6**.

Regardless of which you choose, you will not be able to connect to the camera using its local network address because your computer and system are not on the same network.

Port - The default for your device will be 3777, but if you've changed it during setup, then you will need to enter the correct number in this field.

User Name & Password - Enter the User Name and Password that you use to log into your system.

Get Info - Click on this to have **Smart PSS** query the device. Device Model and Serial Number are read-only, but they and the other fields will be auto-filled.

PICTURE 4-7

Once you have finished adding systems to your **Smart PSS** program, you'll return to the **Add Device** tab and will see your devices listed.

PICTURE 4-8

Clicking on one will reveal three tools under the **Operations** heading at the far right.

	Modify Opens Manual Device Addition window		Device Configuration Opens Device Configuration window		Delete Remove device
--	--	--	--	--	--------------------------------

You can also remove a device from **Smart PSS** by checking the box to the left of the device's name and clicking on **Delete** at the bottom of the window.

Clicking on the **Next** button on the bottom right of the window will take you to the **Group Manager** tab. You can also switch between the two tabs simply by clicking on them.

PICTURE 4-9

Creating a Group

When you add an NVR or DVR, it will most likely be its own group. However, you can create a new group using selected cameras from multiple systems up to 36 cameras.

1. Click on the **New Group** button on the left of the window and name your new group.
2. Choose a DVR, NVR or IP Camera from the **Device List** on the right. When selected, all of that device's channels will display in the middle.
3. Select the cameras that you wish to add to your new group and then click on the << button. They will appear in the group's list of cameras.
4. To add cameras from another device to this group, repeat steps 1-3.

HOME PAGE

All of **Smart PSS**' functions are accessed through its main window which is referred to as the **Home Page**. The functions are divided into three areas; **Basic**, **Extension** and **Setting**.



PICTURE 4-10

The first area, **Basic**, is where you'll find the live viewing, search and playback, and alarm events functions which are the most commonly used. **Extensions** contains features and operations not found on your system and **Setting** allows you to make changes to your DVR or NVR as if you were at the machine. Clicking any one of the icons will open up a new window within **Smart PSS**. You will be able to move between windows by clicking on its icon at the top of the window. Hovering the mouse over the icon will reveal an **X** which can be clicked upon to close that window. Only the **Home Page** window cannot be exited in that manner.

PREVIEW

Viewing live video from your connected devices takes place in the **Preview** window.



PICTURE 4-11

1	Icon Tab	Switch between windows by clicking on icons in this area.
2	Viewing Area	Shows video feed from camera
3	Active Screen	Green outline indicates which channel is active for control
4	Device List/ PTZ Tabs	Shows available groups and cameras PTZ Camera Controls
5	Information Bar	Appears when mouse hovers over camera view. Contains information about bit stream, and includes shortcut controls: <ul style="list-style-type: none"> Turn audio on or off Turn microphone on or off Begin/end local record (saves to computer's hard drive) Take snapshot (saved to computer's hard drive) Closes channel
6	Tasks	Allows quick access to saved tasks, such as tours, channel combinations, etc.
7	Multi-Screen Mode	Slider adjusts between single-screen view and 36-screen view with 10 configurations possible.
8	Screen Aspect Ratio/Full Screen	Change the aspect ratio (height vs. width) of the on-screen view. Click to bring window to full screen. Pressing ESC will return to normal window view.
9	Shortcut Menu	Gives access to additional controls and functions.

Cameras can be dragged from the **Device List** on the right of the window into a channel space where the camera's video will appear. If a camera is dragged onto a space where another camera already is, the new video feed will replace the old one. You can close the camera view by clicking on the **X** in the information bar that appears at the top of the video image when you place the mouse cursor in that area.

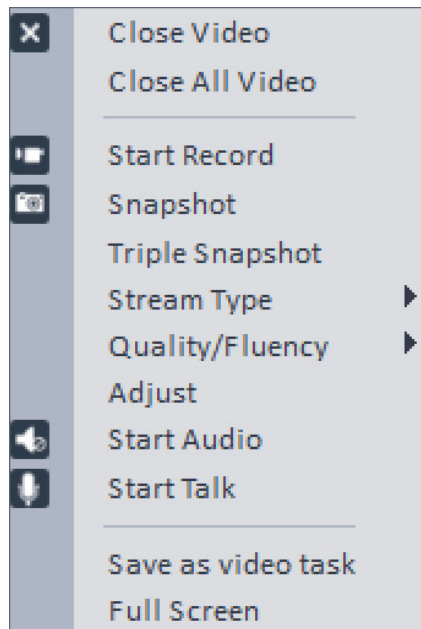
Shortcut Menu

Right-clicking on any camera's screen view will open up the **Shortcut Menu**. This is a different menu than that which appears on screen in the DVR. This menu includes the same controls that are available in the **Information Bar** that appears above the screen view along with addition of expanded options and functions.

Close Video/Close All Video - Ends the display of the live feed from the camera(s). Does not close **Smart PSS**.

Start Record/Snapshot/Triple Snapshot - Records video or still images directly to the computer's hard drive. The save paths for these files can be set in **Files** are of the **General** setting window which is located in the bottom portion of the **Home Page**. **Triple Snapshot** will, as the name suggests, save a sequence of three images to your hard drive. When Snapshot is selected - either through the **Shortcut Menu** or the **Information Bar** - a new window will open to allow you add notes and classify the image before saving it.

StreamType, Quality/Fluency - These settings allow you to adjust the video stream to compensate for network and/or bandwidth issues. Your system records both a **Main Stream** - which is saved to the device's internal drive and an **Extra Stream** which is lower quality, and therefore smaller to better be sent out over a network. If you are connecting through the same network as your security system, you should be able to use the Main stream for the best quality. Likewise, if both your device and the computer are both connected to networks with good Internet connections, the Main stream should also provide best quality. However, if you regularly see breaks in on-screen movement, then switching multiple streams may improve the quality of the on-screen video. Also be aware that viewing multiple screens at the same time can also affect the smoothness of the video they "overflow" the available bandwidth of your connection. With **Quality/Fluency**, you can choose whether you prefer higher quality images or whether smooth-flowing video is more important. None of the changes made here will affect the quality of the video recorded onto your device's hard drive.



PICTURE 4-12



PICTURE 4-13

Adjust - This will open a new window with four sliders which allow you to adjust the Brightness, Contrast, Color Saturation and Hue of that channel's video. These settings will not affect the recorded video.

Audio/Talk - If you have audio-equipped cameras, or a microphone co-located with a camera, you can listen to the audio from that equipment. Similarly, if you have a microphone connected to your computer and a speaker located near to the camera's location, you can use that to communicate. The system is not "duplex" like a telephone where you can talk and hear at the same time, but rather it is like a CB radio or walky-talky where you will need to turn off your microphone to hear any response. Depending upon network speeds, there may be a lag, or delay between the time you say something and the person on the other end will here it.

Save as Video Task - You can save a camera as a "Video Task" that will create a shortcut to that camera which can be accessed through the **Tasks** pulldown at the lower left of the **Preview** window (Item 6 in **Picture 4-11**).

Full Screen - This will bring the camera viewing windows to full screen by hiding the control areas on the top, right and bottom. If you are viewing in a four-camera split screen, for example, the four screens will occupy the available space on the computer monitor. Press **Esc** on the keyboard to return to normal viewing mode.

VIDEO SEARCH AND PLAYBACK

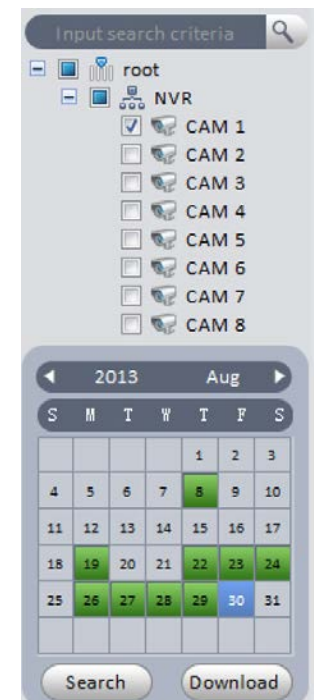
Using **Smart PSS** to search for video recorded on your DVR functions in the same manner as the search and playback function on the DVR itself.

STEP 1. Select the camera(s) you want to search. The **Calendar** below the camera list will highlight those dates with recorded video in green. The current date will be highlighted in blue. Depending on network speeds, it may take a few moments for the **Calendar** to update.

STEP 2. Select the date to review and press **Search**. The timeline at the bottom of the window will show colored blocks representing video that has been recorded.

STEP 3. Click on a colored block to begin playback. The playback controls operate in the normal manner. The slider is used to speed up or slow down the playback rate.

As with Preview mode, the screen with the green frame is considered the "active" screen for purposes of using the controls.



PICTURE 4-14



PICTURE 4-15

1	Device List	Choose which camera(s) you wish to search
2	Snapshot/Record Bar	<ul style="list-style-type: none"> Lists recorded files. Files can be downloaded to your computer Take snapshot (saved to computer's hard drive) Closes channel
3	Calendar	Shows which days have video records
4	Download Manager	Opens list of videos saved to computer's hard drive
5	Playback Controls	Controls playback function in selected screen. <ul style="list-style-type: none"> Starts playback of other channels with video recorded at the same time.
6	Volume Control	Requires an microphone to be connected to that channel
7	Multi-Screen Mode	Slider adjusts between single-screen view and 36-screen view with 10 configurations possible.
8	Screen Aspect Ratio/Full Screen	Change the aspect ratio (height vs. width) of the on-screen view. Click to bring window to full screen. Pressing ESC will return to normal window view.
9	Timeline	Shows videos recorded on that date. Arrows to right of camera name filter results based on method of recording. Magnifying slider adjusts scale of timeline for precise selection of video

ALARMS

This section will cover all of the areas of **Smart PSS** that deal with alarms as they are interrelated. These alarms are in addition to those already set up in your system. You can determine which of those pre-configured alerts will generate a notification in **Smart PSS** and you can also create notifications and actions that will occur within the program itself. In this manner, **Smart PSS** acts as a back up, or second layer of defense for your recorder and property. If an intruder is able to get to your DVR, and the program is properly configured, you will still retain evidence and be alerted - even if the phone cable at your system's location is cut.

Alarm Setup

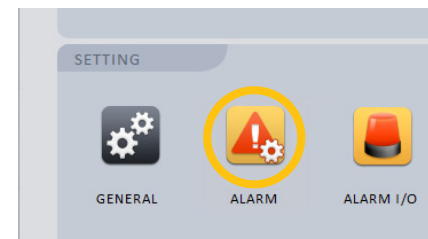
To begin, you will need to create the Alarm Scheme using the **Alarm Setting** window.

Once the window has been opened, you will need to create a name for this event, set the time of day that it will be active and the nature of the event. You can also have the computer play an audible alert and, if the E-map (described later) is configured, the camera's location will appear on screen. Click **Loop play** to have the alarm play until silenced. Setting the level is optional. You may decide, for instance, that a motion detection event in a certain area is less important (Level 5) than a similar event in another (Level 1). This will make it easier to filter alarm events when searching for a specific event.

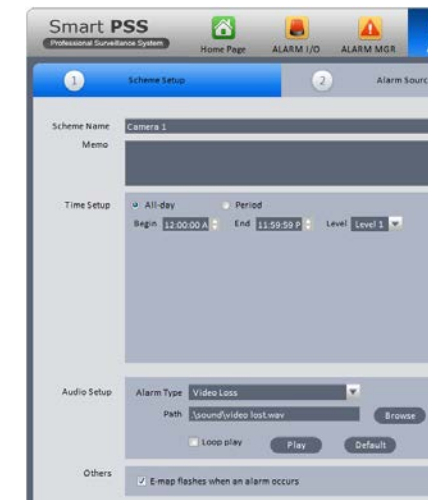
After you have created an event, move to the next tab, **Alarm Source**, to select the trigger for the event. Select the trigger(s) from the list on the left of the window and click on the >> button to add it to the right panel. You can limit the type of alarm to just Motion Detection, Camera Masking or Video Loss, or you can have all three serve as triggers.

Lastly, in the **Link Video** tab, select your alarm from the **Alarm Source** list on the left of the window and then choose which video source(s) you will be using. Make sure that your source is highlighted in blue or you will get an alert asking you to select an alarm source. Click **OK** to save your alarm. When you return to the Alarm list, click on **Close** to change it to **Open** in order to make it active.

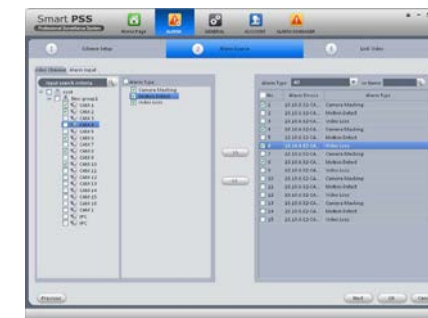
If you have alarms attached to your system, repeat these steps, using the **Alarm Input** tab in the **Alarm Source** window for the trigger.



PICTURE 4-16



PICTURE 4-17



PICTURE 4-18

Alarm Manager

This window contains the logs of alarm events that have occurred. They can be filtered by level of severity if you included that when creating your alarm scheme. If events are happening at a rapid pace, check the **Stop Refresh** box to “freeze” the list.

Clicking **Display Overlay Window** will leave a small panel open on screen that will show the number of alarms, CPU usage and a volume control. It will appear above any other applications you have running.



PICTURE 4-19

Use the **Search** tab to locate alarm events in the same manner as searching for video.

Alarm Link

This is a standalone window which, when activated by selecting it from the Home Page, will pop up when an alarm is detected to show the linked video(s). It will run in the background behind any other apps until an event occurs at which time it'll pop up to appear on screen. This allows you to have an instant video notification on your computer without having to run the full **Preview** window at all times.

Alarm I/O

This allows you to group alarms together in the same manner as you can create groups of cameras using **Device Manager**. When alarms in a group are activated, they can be used to activate a siren, or other device connected to the system's Alarm Out port.

GENERAL

While most of the controls in **Smart PSS** are for operating your system remotely, the General Setting window is for controlling the program itself. There are two tabs in the **General** settings window - **General** and **File**. The first tab, **General**, lets you perform some basic housekeeping.

Network - Adjust this slider to reflect your network speed. It ranges from “WAN” to “1000M”

Log Save - This lets you set how long the activity logs are saved. Choose from 1 to 6 months.

Auto Login - When checked, **Smart PSS** will automatically log into your system when the program is launched.

Auto Login Windows - If this is enabled and the computer restarts while **Smart PSS** is running, then the computer will automatically log you back into Windows.

Auto Time Sync - If needed, you can instruct **Smart PSS** to sync to the computer's internal clock at a set time.

The **File** tab is where you set where recordings and snapshots will be saved on your computer's hard drive.

DEVICE SETUP

This window handles the functions found in the **Alarm** and **Recording** menus on your system. Clicking on any of the five icons under the **Device List** on the left of the window will open up the appropriate settings options.



PICTURE 4-20

When you have made a changes, click the **OK** button at the bottom right of the window to save your new settings. You can also apply these settings to another camera by clicking on the **Use To...** button and selecting the other camera.

Audio/Video

This window contains three tabs which allow you to control the settings for the video streams, snapshot quality and quantity along with privacy masks and on-screen display.

Audio Video Stream - This tab allows you to make settings to optimize the video stream from each camera. This is the same as found in the **Camera Settings** window of your system. You can adjust the quality, frame rate, coding and other aspects of both the Main Stream, which is recorded onto the DVR and sent through the local network as well as the Substream, which is used by mobile devices and Internet access.

Pic Stream - You can set the quality and number of images taken when a snapshot is taken. You can apply different settings depending on whether the image is captured manually, as a result of motion detection or when triggered by an alarm.

Video Cover - This tab lets you mask up to four areas of the video as well as toggling the display of the camera name, the date and the time.

To mask an area, select a camera and its video will appear in the center left. Select whether you want the privacy mask to apply to just remote viewing, or on the DVR itself and then click on the **Edit** (pencil) button to the right to draw the privacy mask. When managing multiple systems, it may be easier to add an identifying name to a particular channel to specify where a camera is located. These overlays are separate from those on the recorder itself. Click the **Edit** button to position the overlay where desired. The Date/Time overlay works in the same manner.



PICTURE 4-21

Recording Settings

This window replicates the Schedule window on the DVR.

Recording Plan - This tab shows the current schedule for each camera. Click on **Set** and a new window will open to allow you to set the recording mode and schedule.

Recording Control - Use this tab to adjust the pre-recording time (0 to 5 seconds) for this camera when an event occurs.

Video Check

This window is identical to the **Events** menu on the recorder. You can set how the system responds to Video Loss, Camera Masking and Motion Detection, including activating other cameras, sending out alarm notices and etc.

Pic Property

These settings allow you to adjust the on-screen appearance of the video to compensate for the lighting conditions where the camera is located. If the light changes during the day, you can set two different lighting profiles.

PTZ Control

Make changes to the PTZ camera communication protocol, bit rate, and etc. if needed.

Account

Just as you can authorize others to use your system, you can also create user accounts for others to use **Smart PSS** to observe and control any connected recorders. The process is the same as on your DVR or NVR. And, you can grant users specific permissions or limit their ability to make changes as needed.

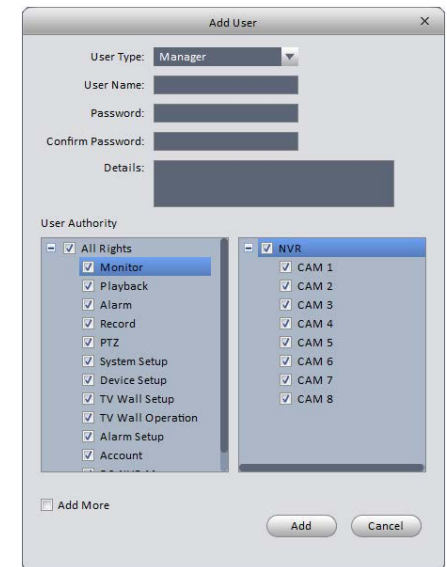
STEP 1. Open the **Account** window and select **Add** from the upper left.

STEP 2. The **Add User** window will open. Enter the new user's name and password. You will also need to set whether this user is a Manager or Operator. Additionally, you may add notes regarding this user.

STEP 3. Select which rights this user is allowed from the User Authority menu. You can also limit which cameras and devices this user has access to using the Device List on the right of the window.

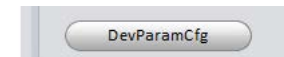
STEP 4. Click **Add** to save the new account.

Select **Add More** to add additional users without closing the window.



PICTURE 4-22

You can edit or remove a user account by clicking on that user's name in the Account window and clicking on the **Edit** or **Delete** button respectively.



PICTURE 4-23

Device Parameter Configuration

This button is located in the lower left of the

Device Setup menu and opens up the **Device Configuration** window. This window contains menus granting access to more of your system's functions. Detailed information on these functions is contained in respective parts of the User Manual. Included menus are: **Network**, **Event Manager**, **Storage Manager**, **System Configuration** and **System Info**. Again, these menus replicate those found on your recorder.

Network - The settings for your system's connection to the network are located here.

Care should be given when altering these settings as changing them could result in loss of connection to your recorder.

Event Manager - This contains the remaining settings that were not included in **Video Check**, above. You can set responses for both the recorder itself and any other networked systems. You are also able to configure the alarm responses for network conflicts, hard drive failure or full disk among others.

Storage Manager - This shows the status of your recorder's hard drive(s).

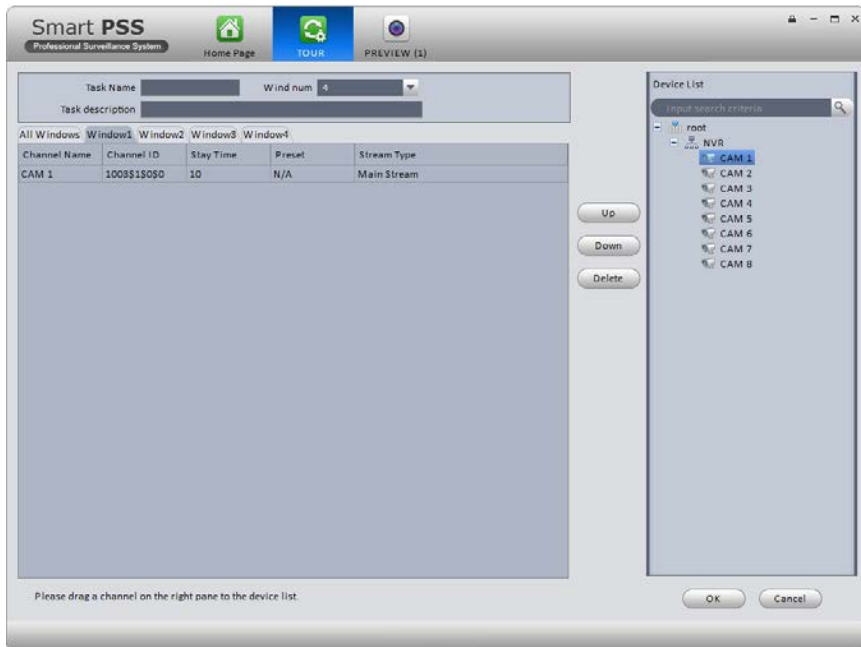
System Config - Many of these are found in your **Settings** menu on your system, including the general settings, such as the system language, date format, daylight savings time, etc. You

can also add and manage users with access to that recorder. If you are connected to an NVR, you may also add remote IP cameras to your system using the **Remote Setting** sub-menu. Note that QC systems do not make use of the Serial Interface. The Auto Maintenance option is to allow the NVR or DVR to reset on a schedule for optimal performance.

System Info - Use the **Log Information** submenu to search and download activity logs from your system.

TOUR

Just as with your recorder, you can have **Smart PSS** cycle through your cameras. In this case, those cameras can be connected to many different systems.



PICTURE 4-24

STEP 1. Determine how many screens will be displayed at once and set the **Windows Number** to the desired amount (up to 36).

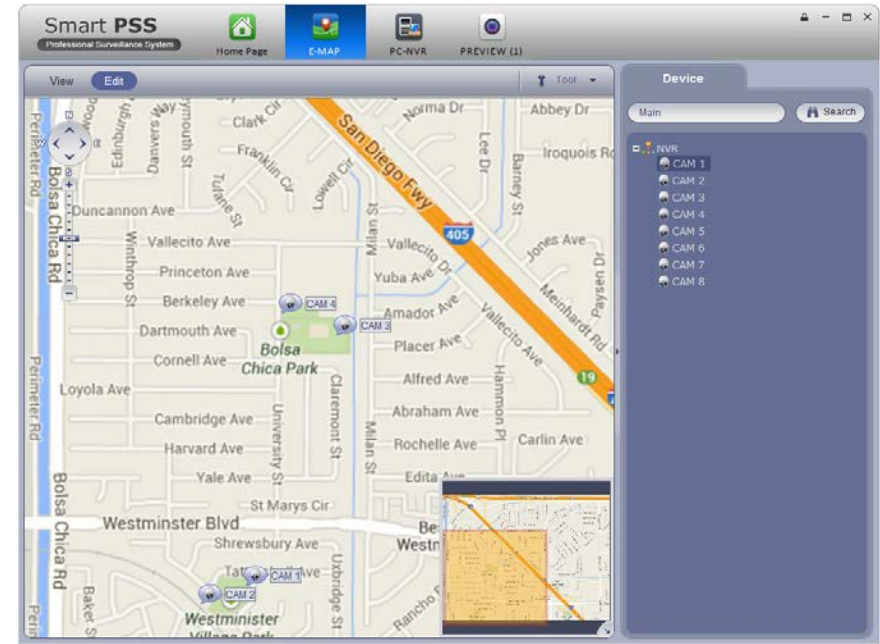
STEP 2. Name your task and add a description if needed.

STEP 3. Drag cameras from the **Device List** on the right to the desired tab. A camera can be placed in more than one tab. You can double-click on the **Stay Time** and **Stream Type** to set the amount of time this channel will stay on screen and which data stream will be used, respectively. Use the **Up** and **Down** buttons to organize the order in which each channel will appear in a window.

STEP 4. Click **OK** to save your settings.

E-MAP

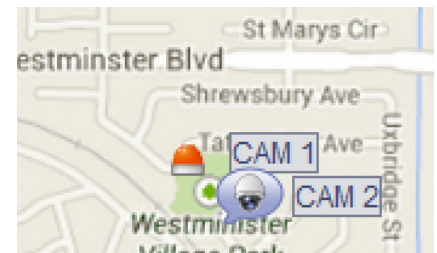
When systems and cameras are connected from multiple locations, it can sometimes be difficult to keep track of where an event is occurring. Using the E-Map feature, you can import a graphic map in .BMP, .JPG or .PNG format and place icons representing your cameras in the appropriate location. Depending on where your cameras are located, the map can be the floorplan of your building, or of a much larger area.



PICTURE 4-25

When you first select the E-Map icon, you will be asked to add a map. Once you have imported the file, it will appear in the window. Select **Edit** and then drag a camera from the device list on the right to its location on the map. While in Edit mode, you may modify or add to the map using the options in the **Tool** pulldown to the right.

If you selected Flash in E-Map option when creating your Alarm Scheme, the icon for a camera that is triggered will flash red to alert you. You can double click on either icon, or the camera's name in the device list to see its video.



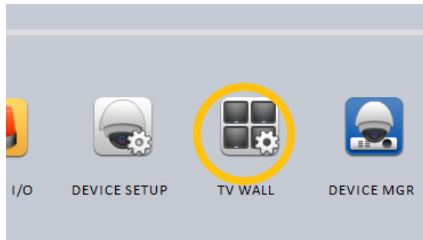
PICTURE 4-26

TV WALL

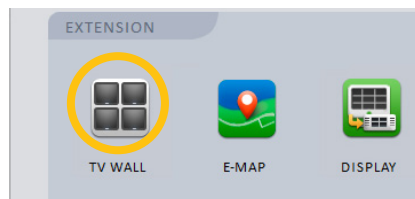
If you have a multi-screen video, or other large format display connected to your computer, you can export your camera views instead of being constrained to a single computer monitor.

The operation of your video wall will follow the same process used to set up your **Preview** screen. You can splice the video from two or more adjacent screens by selecting them (hold **Ctrl** while clicking on the screen(s)) You will need to “bind” your display to a format by first using **TV Wall** setup. If you do not see your video device shown on the left part of the screen while in the **Screen Input Binding** window, check your connections and video drivers.

You can create multiple combinations of screens. Each will be saved as a Task, much as with the Preview window. You can switch through Tasks from within the TV Wall extension.



PICTURE 4-27



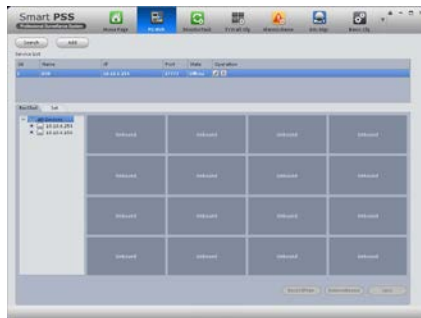
PICTURE 4-28

PC-NVR

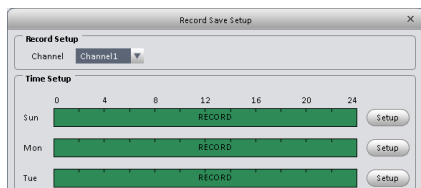
This is an optional program that lets you use a computer as a Network Video Recorder and server. This will allow you to take advantage of some broadband connections. You will need to have installed the PC-NVR software on the computer that will be used for this purpose. Click **Add** to get started. You will be entering the Name, IP address and network port information for the computer that will be used, along with the user name and password needed to log into the computer.

Once you have added your computer, you can add cameras by dragging and dropping them into the available screens. Set up a recording schedule for each channel using the **Record Plan** button. Click the **Copy** button to apply your schedule to another channel.

You may adjust the file packet size, network settings, user access and manage the hard drives through the Setup tab.



PICTURE 4-29



PICTURE 4-30

MOBILE SURVEILLANCE

CHAPTER 5

In addition to remotely monitoring your phone over the Internet or a local network, you can view live feeds and recorded events on your iPhone, iPad, Android mobile device, Symbian, Windows Mobile or BlackBerry smartphone using free software.

Before you can access your DVR via a smartphone, you must have completed Port Forwarding for ports 80 and 37777 as discussed in **Section 2.3**.



NOTE! As of this writing, the Symbian operating system was no longer being supported by its manufacturer. The apps for Symbian, the older BlackBerry operating system and Windows Mobile are provided by a third party and instructions for use are provided as a courtesy.

These mobile applications are designed to work with DVRs and NVRs as well as IP cameras operating in a stand-alone role. Therefore, there will be certain features and functions which are not available for use with your camera, simply because your camera does not have the same features found on a complete system. The primary purpose of accessing your camera using a mobile device is to view the live video. You will not be able to access the camera's internal memory (if available) but some of the programs, including the QC View app, will allow you to record video directly to your mobile device.

5.1 IPHONE AND IPAD

In order to monitor your camera using your iPhone or iPad, you will need to install either the Q-See QC View app for smartphones or Q-See QC View HD app if you're using a tablet. These are available for free through the Apple AppStore by searching for “Q-See.” Install either one as you would any other AppStore application.

Both versions have identical functionality. The HD version for the iPad differs in that you can view 16 cameras simultaneously and the viewing resolution is greater to take advantage of the tablet's higher resolution screen.

For smartphones:



Q-See QC View

Utilities

Released Apr 28, 2012

INSTALL

For tablets:



Q-See QC View HD

Utilities

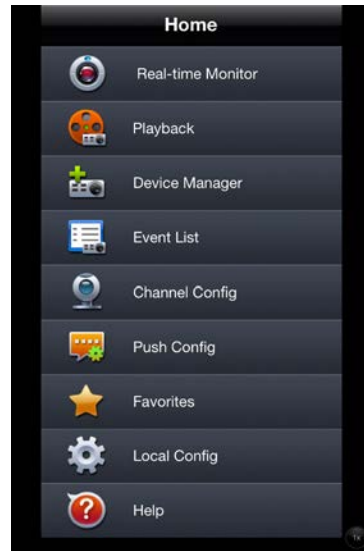
Released May 2, 2012

INSTALL

PICTURE 5-1

STEP 1. To launch QC View, simply tap on its icon in your app menu.

STEP 2. Upon launch, the program will display its main menu. To view your camera, you will need to add it using the **Device Manager** option.



PICTURE 5-2

STEP 3. A connection to our Demonstration system is already pre-loaded on the application. You can remove this from your list at any time, but it offers an easy option to get the feel of how to use the program.

STEP 4. Click on Add to begin the process of configuring QC View to access your camera.



PICTURE 5-3

STEP 5. You will need to enter certain details in order to access your camera. You will most likely want to set up two methods to connect to your system - one for when you're on the same network (ie; within the same building as the camera and able to connect wirelessly to your network) as well as one for times when you're away and will be accessing using the Internet IP address.

DVR Title: This should be a descriptive name, such as "Camera Local" or "Camera Internet" to help you utilize the proper connection method.



PICTURE 5-4

Server: Enter the LAN or Internet IP address as appropriate. If you set up a domain name with MyQ-see.com, then you can enter that name for Internet connections.

Port: 37777.

User Name: *admin* (by default or use whatever user ID that you set in the camera)

Password: *admin* (by default or whatever password you set in the camera)

Channel amount: Since your camera offers only a single view, there will only be a single channel available.

OPERATION

Once you have selected the device you wish to monitor, you are able to view the live feed from your camera. You may capture still images from the video by pushing the **Snapshot** button. These images will be found in your device's **Photos** menu.

The **Main** menu gives you access to all of the functions of QC View. Touching the device's **Return** button - whether on screen, or on a keypad - while in one window will return you back to this menu.

Initially, you will need to turn on your camera's display individually from the **Device List**. You can bring up the device list by tapping on its icon on the right of the screen, or by double-tapping in an empty video display. Even though the application will show multiple channels available, there is only one channel from the camera. A green surround around your camera's video shows that this is the "active" channel and any actions performed using the buttons on the left of the screen will affect that channel.



PICTURE 5-5

Real-time Monitor: This window is where you will view the feed from your camera.



PICTURE 5-6

Audio (requires audio-enabled camera)

Snapshot (saves to Local Files)

Favorites (groups of channels)

Close Channel

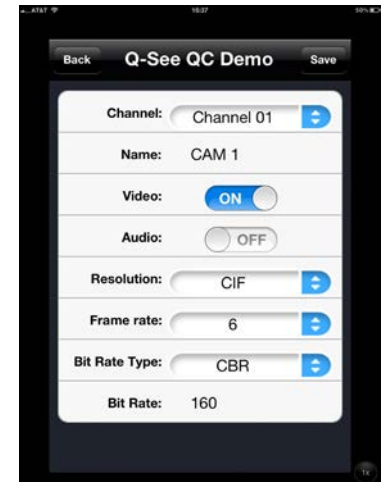
Device list

PTZ Controls

Playback: This is not available when monitoring a camera.

Event List: When you set up **Push Config** (below) to notify you of events such as motion detection, camera masking (video blind) or a local alarm triggered at the DVR itself, QC View will keep a log of these events which can be reviewed in this list.

Channel Config: You are able to adjust the configuration of each video channel to optimize the performance on your iPad or iPhone. These settings will not change those set on your DVR, but instead allow you to compensate for being in areas where with poor connectivity, for example.



PICTURE 5-7

Push Config: This window provides you a check list allowing you to indicate which cameras will alert you based on motion detection, camera masking, or a local alarm triggered at the DVR itself. When Push is activated, you will receive alerts on your mobile device even when you're not currently in the program. You can click on an alert and it will take you directly to video playback of the incident that triggered the alert.

Favorites: This is not applicable for the camera as it only has a single channel.

Local Config: This is not applicable to your camera.

Help: Opens the internal help documentation.



PICTURE 5-8



NOTE! If you like this application, please leave positive feedback in the App Store.

5.2 ANDROID

In order to monitor your camera using your Android smartphone or tablet, you will need to install either the Q-See QC View app for smartphones or Q-See QC View HD app if you're using a tablet. These are available for free through the Android market by searching for "Q-See." Install either one as you would any other Android application.

Both versions have identical functionality. The HD version for the Android tablet differs in that you can view 16 cameras simultaneously and the viewing resolution is greater to take advantage of the tablet's higher resolution screen.

For smartphones:



Q-See QC View
DPSI

Free

For tablets:



Q-See QC View HD
DPSI

Free

PICTURE 5-9

STEP 1. To launch QC View, simply tap on its icon in your app menu.

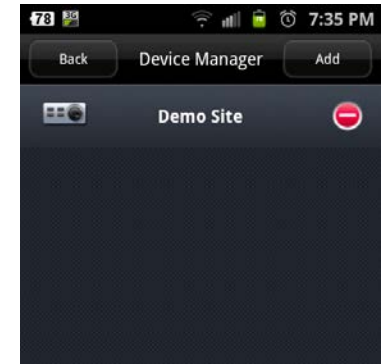
STEP 2. Upon launch, the program will display its main menu. To view your DVR, you will need to add it using the **Device Manager** option.



PICTURE 5-10

STEP 3. A connection to our Demonstration system is already pre-loaded on the application. You can remove this from your list at any time, but it offers an easy option to get the feel of how to use the program.

STEP 4. Click on Add to begin the process of configuring QC View to access your camera.



PICTURE 5-11

STEP 5. You will need to enter certain details in order to access your camera. You will most likely want to set up two methods to connect to your system - one for when you're on the same network (ie; within the same building as the camera and able to connect wirelessly to your network) as well as one for times when you're away and will be accessing using the Internet IP address.

DVR Title: This should be a descriptive name, such as "Camera Local" or "Camera Internet" to help you utilize the proper connection method.

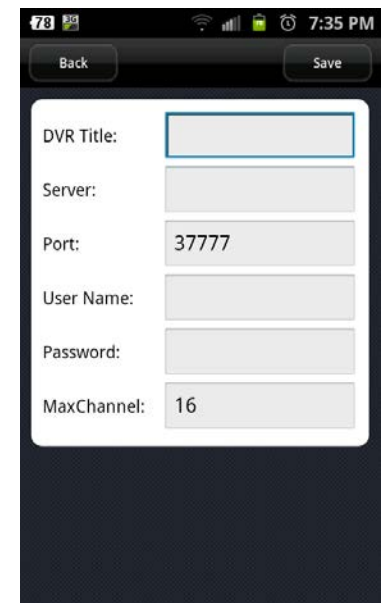
Server: Enter the LAN or Internet IP address as appropriate. If you set up a domain name with MyQ-see.com, then you can enter that name for Internet connections.

Port: 37777.

User ID: *admin* (by default or use whatever user ID that you set in the camera)

Password: *admin* (by default or whatever password you set in the camera)

Max Channel: This will be 1.



PICTURE 5-12

OPERATION

Once you have selected the device you wish to monitor, you will be able to observe live video from the camera. You may capture still images from the video by pushing the **Snapshot** button.

The **Main** menu gives you access to all of the functions of QC View. Touching the device's **Return** button - whether on screen, or on a keypad - while in one window will return you back to this menu.

Initially, you will need to turn on your camera's display individually from the **Device List**. You can bring up the device list by tapping on its icon on the right of the screen, or by double-tapping in an empty video display. Even though a multi-channel display will have more than one space for video available, the camera can only provide one video stream.

The green surround around your camera's view indicates that it is the "active" channel and any actions performed using the buttons on the left of the screen will affect that channel.

Real-time Monitor: This window is where you will view the feeds from your cameras.

Play Back: You cannot use this function with a camera.



PICTURE 5-13

Alarm Push: This window provides you a check list allowing you to indicate which cameras will alert you based on motion detection, camera masking, or a local alarm triggered at the DVR itself. When Alarm Push is activated, you will receive alerts on your mobile device even when you're not currently in the program. You can click on an alert and it will take you directly to video playback of the incident that triggered the alert.

Favorites: This feature isn't applicable as there is only one possible channel configuration from your camera.

Local Files: Snapshots captured from the Real-time Monitor are stored here.

Config: This operation does not work while monitoring stand-alone cameras.

Help: Opens the internal help documentation.

5.3 BLACKBERRY

The QC-Series IP cameras support phones running BlackBerry Version 5.0. You will need to install a program called DMSS in order to monitor your camera using your BlackBerry smartphone. This software is available both on the CD that accompanied your camera as well as via download from www.Q-See.com/Support. If you are downloading the software, begin with **Step 1**, below. Otherwise, copy the software from the CD to your computer's desktop and begin with **Step 3**.



PICTURE 5-14

STEP 1. Download the phone software from Q-See.com/Support by looking up your camera's model number and then selecting BlackBerry OS Smart Phone Software.

STEP 2. Extract the files from the software download. You will have two files; dmss.alx and dmss.cod. Save these files to your desktop.



NOTE! The file you download will be a .rar formatted archive. We use this format to compress the file to the smallest possible size to speed up your downloading. If you need an extraction utility to open it, you can find free software at <http://rarlabs.com/download.htm> (PC) or <http://www.unrarx.com> (Mac)

STEP 3. Connect your Phone to the PC using a USB cable.

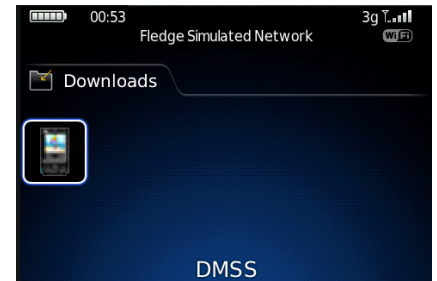
STEP 4. Run **BlackBerry Desktop Manager** and make sure it detects the application.

STEP 5. Click on **Application Loader**.

STEP 6. On **Add/Remove Application**, click on **Start**. Then click on **Browse** and Go to the Location where you have the dmss.alx file.

STEP 7. Once you finish uploading, you will see DMSS application in your blackberry (in the **Download** folder).

STEP 8. Click on the DMSS icon to launch the program. If this is your first time using this application on your phone, you will be presented with the login screen shown in **Picture 5-16**.



PICTURE 5-15

STEP 9. Enter the following details:

Address: Enter the Server IP (your public IP)

Port: 37777.

User ID: *admin* (by default or use whatever user ID that you set in the camera)

Password: *admin* (by default or whatever password you set in the camera)



PICTURE 5-16

After you log in, you will be able to see your camera listed as a channel available to monitor.



PICTURE 5-17

Once you've selected your camera, it will display along with a list of selections.

Camera - Go back to the camera selection window. You only have one camera to choose from.

PTZ - Display/Hide PTZ controls. This is not functional with your camera.

Full - Switch to full-screen display (no controls). Clicking on the phone's scroll ball will return the display to normal.

Set - Go to Video Monitor Interface

Exit - Exit the software.

Set

This returns you to the Login window where you can enter the information to connect to another DVR, NVR or camera or exit DMSS. You can also use the Exit button at the bottom of the screen.



PICTURE 5-18



PICTURE 5-19

5.4 SYMBIAN

QC-Series IP cameras can be configured to be remotely monitored by a phone running the 3rd and 5th editions of the Symbian OS through the use of the DMSS software included on the disk that came with your camera or available via download from www.Q-See.com/Support

If you are downloading the software, begin with **Step 1**, below. Otherwise, copy the software from the CD to your computer's desktop and begin with **Step 3**.

STEP 1. Download the phone software from Q-See.com/Support by looking up your camera's model number and then selecting Symbian OS Smart Phone Software.

STEP 2. Extract the DMSS.sis application from the archive and save it to your desktop.



PICTURE 5-20



NOTE! The file you download will be a .rar formatted archive. We use this format to compress the file to the smallest possible size to speed up your downloading. If you need an extraction utility to open it, you can find free software at <http://rarlabs.com/download.htm> (PC) or <http://www.unrarx.com> (Mac)

STEP 3. Connect your phone to the computer using a wireless or infrared connection to send the software to your phone as a message. Or, you can use the Nokia PCSuite software with a local connection to transfer DMSS to your phone.

STEP 4. Double-click on the DMSS icon to launch it.



PICTURE 5-21

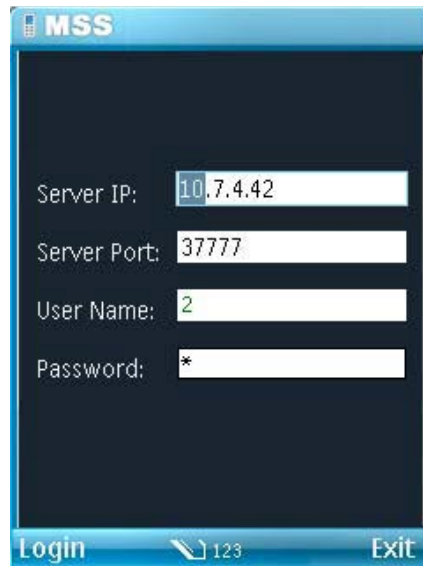
STEP 5. Enter the following details:

Address: Enter the Server IP (your public IP)

Port: 37777.

User ID: *admin* (by default or use whatever user ID that you set in the camera)

Password: *admin* (by default or whatever password you set in the camera)



PICTURE 5-22

STEP 6. Once you've entered the information and then the **Login** button, you'll be connected to your camera and can chose which channel to view. Your camera will only display one channel as available.



PICTURE 5-23

STEP 7. Once you've selected your camera, it will display along with a list of selections.

Camera - Go back to the camera selection window.

PTZ - Display/Hide PTZ controls. This is not functional with your camera.

Full - Switch to full-screen display (no controls). Clicking on the phone's scroll ball will return the display to normal.

Video - Go to Video Monitor Interface



PICTURE 5-24

5.5 WINDOWS MOBILE

Your QC-Series IP camera can be configured to be remotely monitored by a phone running the Windows Mobile operating system through the use of the DMSS software included on the disk that came with your camera or available via download from www.Q-See.com/Support

If you are downloading the software, begin with **Step 1**, below. Otherwise, copy the software from the CD to your computer's desktop and begin with **Step 3**.

STEP 1. Download the phone software from Q-See.com/Support by looking up your DVR's model number and then selecting Windows Mobile Pro Smart Phone Software.

STEP 2. Extract the DMSS.cab file from the archive and save it to your desktop.



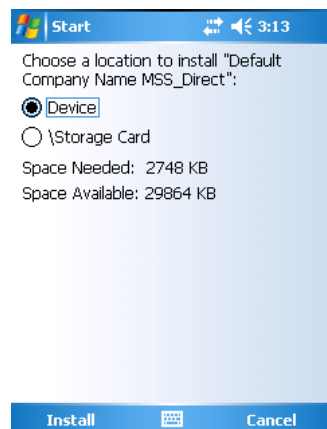
PICTURE 5-25



NOTE! The file you download will be a .rar formatted archive. We use this format to compress the file to the smallest possible size to speed up your downloading. If you need an extraction utility to open it, you can find free software at <http://rarlabs.com/download.htm> (PC) or <http://www.unrarx.com> (Mac)

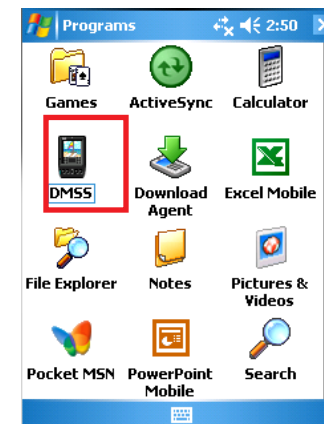
STEP 3. Connect your phone to the computer and transfer the software to your phone in the usual manner.

You will be asked whether you wish to install the software to your device or storage card.



PICTURE 5-26

STEP 4. After the program is installed, you can launch it from the **Programs** menu.



PICTURE 5-27

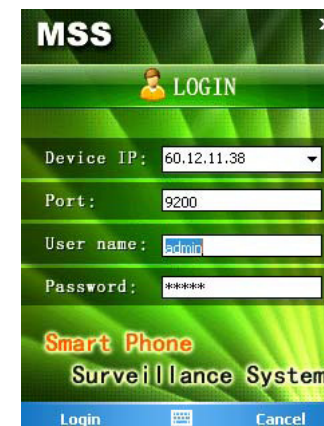
STEP 5. Upon launch, you will be presented with a login window. Enter the following details:

Address: Enter the Server IP (your public IP)

Port: 37777.

User ID: *admin* (by default or use whatever user ID that you set in the camera)

Password: *admin* (by default or whatever password you set in the camera)



PICTURE 5-28

STEP 7. Once you've logged in, select your camera by double-clicking on its name or by clicking on it once and then selecting the **Video** button. You will now be in the **Video Monitor** interface.

Camera - Go back to the camera selection window.

PTZ - Not functional with this camera.

Full - Switch to full-screen display (no controls). You can also click on the video itself, or use the maximize icon in the upper right of the screen.

Video - Go to Video Monitor Interface.



PICTURE 5-29

To exit DMSS, click the X at the top right corner of the screen.

Q-SEE PRODUCT WARRANTY

Q-See is proud to back all of our products with a conditional service warranty covering all hardware for 12 months from the date of purchase. Additionally, our products also come with a free exchange policy that covers all manufacturing defects for one month from the date of purchase. Permanent upgrading service is provided for the software.

Liability Exclusions:

Any product malfunction or abnormalities in operation or damage caused by the following reasons are not within the free service scope of our company:

1. Equipment damage caused by improper operation.
2. Improper equipment operation environment and conditions (e.g., improper power, extreme environmental temperatures, humidity, lightning and sudden surges of electricity).
3. Damage caused by acts of nature (e.g., earthquake, fire, etc).
4. Equipment damage caused by the maintenance of personnel not authorized by Q-See.
5. Product sold over 12 months ago.

In order to fulfill the terms of your warranty, you must complete the registration process after purchasing our product. To do this, simply fill out the User's Information Card on our website at www.Q-See.com



QUESTIONS OR COMMENTS? CONTACT US

24/7 Technical Resources at www.Q-See.com/support

Live Support

Mon.-Fri. 6am to 7pm Sat & Sun 9am to 5pm Pacific time

simplicity - quality - technology



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