Digital Video Surveillance Software

USER'S MANUAL

The following manual contains instructions how to use this software.

Most common support questions can be answered using this manual.

Release Date: October 24, 2008

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1 Introducing Software

About the program

This program has been designed as universal software for standalone security systems. It simultaneously captures images from unlimited number of video devices including capture cards, USB and IP cameras, TV-boards, and frame grabbers.

As part of standalone system the program has web interface which has the same look and functionality on local and remote computers. Users watch cameras on the local and remote computers, as well as perform customization and have full control to the program through Network (according to user's permission). Because of the surveillance computer is fully configured through network it can be operated with no monitor, keyboard, and mouse connected.

Software has modular structure. All modules act as independent applications, which is significantly increases program's reliability. If one module fails, other modules continue running. For example if the "capture" module freezes, the "watchdog" module restarts it. During this time viewers don't notice anything because they are watching video using a "playback" module.

Video and audio feed from cameras can be continuously recorded or the recording can be activated by motion, audio activity, sensor, or by schedule. The program performs "cyclic" recording of all video and audio content that the "disk full" situation never occurs. Duration of pre alarm recording can be configured up to 60 sec. and there is no limit for duration of post alarm recording.

The recorded content can be played back on the surveillance computer as well as on remote computer through Web interface. The program performs synchronized video playback for event analysis from multiple cameras simultaneously. Also recorded data can be searched by date, time or by sensor event. All recorded data can be encrypted and password protected.

Product Features

Viewing

- Supports 1, 2x2, 3x3, 4x4, 8x8, 16x16... etc. simultaneous camera viewing formats (unlimited number of cameras on the screen)
- No limit of number of cameras
- Zoom-in / zoom-out function on the camera view
- Control PTZ Cameras
- Record / display / playback simultaneously
- Hybrid platform that works simultaneously with Wireless Cameras, Analog Cameras, Powerline Cameras, USB, and IP Cameras
- Configurable each camera's name, video quality, video resolution, brightness, and contrast
- Multi-level protection by user administration (unlimited number of users)
- Automatically resumes viewing and recording after system reboot

Recording

- "Cyclic" recording which is recyclable overriding of hard disk space and the "disk full" situation never occurs
- Logo Images can be placed anywhere on picture
- Recording by motion detection, audio activity, event trigger, or by schedule
- Pre alarm recording up to 60 sec.
- Post alarm, unlimited duration recording
- Remote playback through Web interface
- Synchronized video playback for event analysis from multiple cameras simultaneously
- Query recorded data by date, time & events
- Time & date stamping on video playback
- Print snapshots of recorded video
- Encrypted and password protected recording

Remote Access

- Full Control and Customization through Network (surveillance computer can be operated with no monitor and keyboard connected)
- Dynamic IP support for Internet access
- Access trough tunnel web server (helps accessing the surveillance computer from Internet even if network completely protected by firewall)
- Encrypted and password protected video/audio remote access

Alarms and Notifications

- SMS, E-Mail & FTP alarm notification (e-mail with attached image)
- Dial out for Internet connection to send alarm notification
- Image pop-up when a motion detected or sensor alarm occurs
- Selectable camera zone coverage with motion detection

Ways to Use

Banking

Financial institutions can install this software at offices to increase security. Separate video files of each specific action can be stored onto a central Web server for potential future investigation. High image quality leads to easy identification of people and at the cashier in the branch office. Ability to encrypt video files gives additional proof of identity.

Buildings, offices, shopping-malls and parking lots

Surveillance system with this software can monitor buildings, offices, shopping-malls and parking lots securely and easily, thus making these places safer for all visitors. At night, surveillance system can be used to monitor the facility. In the event of an unauthorized entry, motion detection can initiate recording of the intruder and send an immediate notification to security.

Retail

This surveillance software provides additional security over traditional analog systems for retail stores who are constantly exposed to the threat of robbery. Live video is transmitted over Internet and can be stored on a web server in a secure place, rather than on a tape cassette that is reachable by potential criminals.

Home security

During the day, you can watch your children, parents, pets etc. remotely trough Internet. At night, motion detection can trigger an alarm, start recording video, and scare off intruders with a sound siren.

System Requirements

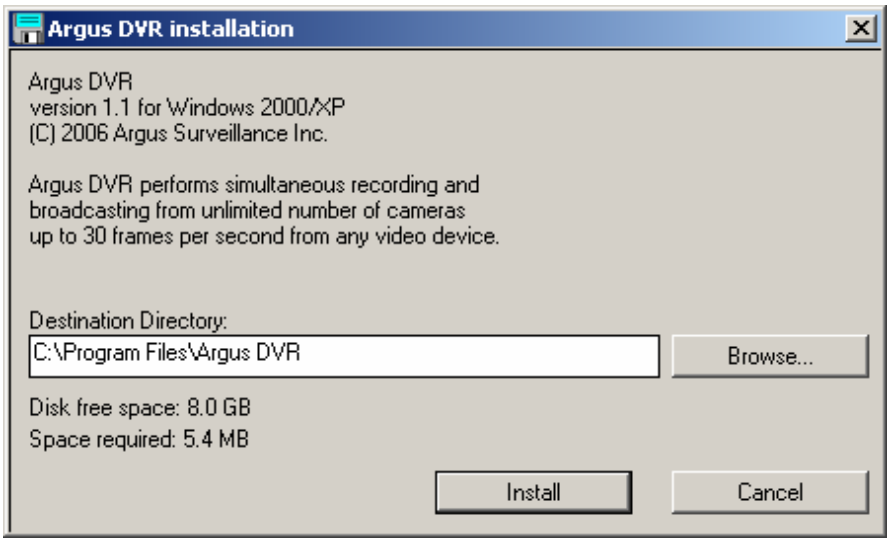
The program needs the following computer configuration to run:

- PC Compatible computer;
- 256MB RAM;
- 1GB free disk space;
- Microsoft Windows 2000 or Windows XP or Windows 2003 or Windows Vista 32bit;

2 Installation

Installing Software

On the computer's screen click **Start**, then **Run** and execute the program installation file.



If you would like to install the software in a different directory, you can click the **Browse** button to change the installation folder. Click the **Install** button to continue installation.

The installation creates a group with the software name in the **Programs** group under the **Start** menu.

Registering Software

Registration removes a "Demo" reminder that unregistered program places on every picture.

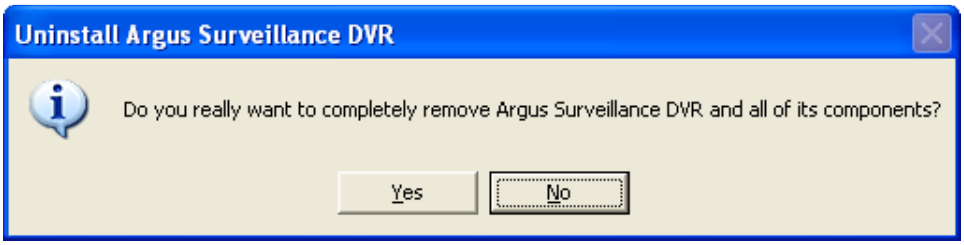
To register the program

- Click **Purchase** from the top menu.
- Purchase the program and obtain a **Registration Number**.
- Click **Registration** from the **Program Options** menu.
- Enter **Registration Number**.
- Click the **Ok** button.

Uninstalling Software

To remove the program from your computer:

- Click **Start**, **Programs** then click on the program name and click on **Uninstall**.



- Click the **Yes** button to remove the software.

Installing Hardware

Installing Capture Card or Frame Grabber

Please follow the following steps to properly install and configure your capture card:

- Run the BtInstaller.exe installation utility.
- When prompted, select the "Uninstall any previously installed driver" option. The installation utility will search your system for any Bt8x8 drivers and delete them.
- Unplug your computer from the wall and remove your computer's case cover.

The electronic components of the card can be damaged by electrostatic discharge. To avoid any possible risk, before the installation, put your hand in contact with the metal part of your computer's chassis (switched-off and connected). Ensure also that your clothing does not touch any components during the card handling.

- Locate your capture card slots on your motherboard. Then remove the screw holding the PCI slot cover.
- Align your capture card with the slots on the motherboard.
- Firmly press down on capture card until it is in position. Replace the screw that you removed before to secure the capture card into place.
- Plug your computer back in and turn it on.
- Windows detects there is new card and pop-ups the "Found New Hardware Wizard" window. Click the "Cancel" button in this window.
- Run the BtInstaller.exe installation utility again.
- Select the "Install" option.
- Select "Generic Bt8xx with 4 Composite ins" when asked for a card type.

- Select "No TV functions" in the TV Tuner list.
- Finish the installation.
- Restart computer and verify there are at least two items are shown as correctly installed in your "Control Panel", in the "System Properties", in the "Device Manager", under the "Sound, video and game controllers":
  - **Conexant's BtPCI WDM Video Capture**
  - **Conexant's BtPCI WDM Audio Capture**
- Run the program.
- Select **Search Cameras** from the **File** menu.

The program searches cameras connected to your computer and displays each camera in separate window.

Connecting USB Camera

To connect a USB camera to your computer:

- Install software which comes with the camera.
- Restart your computer and connect camera to USB Port on your computer.
- Windows shows notification **New Hardware Found** and installs drivers for USB camera.
- Run the program.
- Select **Search Cameras** from the **File** menu.

The program searches cameras connected to your computer and displays each camera in separate window.

Connecting IP Camera

To connect to an IP camera:

- Plug camera into your network either in its planned position or at a convenient access point on the network.

- Insert a CD-ROM supplied by camera's manufacturer and run setup program. Typically, this CD-ROM will automatically search and find all cameras of this brand name located in your network. Search for the camera that has been supplied with a default IP address and double click it. This will access the video stream of the camera and give access to the set-up screens for the camera.
- Select camera configuration. Now write down the IP address and assigned to the camera and /or assign a new IP address for the camera.
- Write down the IP port number of the camera. Most cameras have the 80 port number as default. Our recommendation is that you leave the default value.
- Run the program.
- Click **New Camera** from the **File** menu.

  Camera Setting dialog box appears.
- Follow instructions at the **Network Camera** Parameters topic (page 22) to properly install and configure your IP camera.

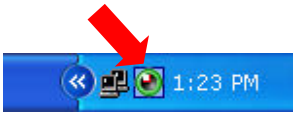
Starting the Program

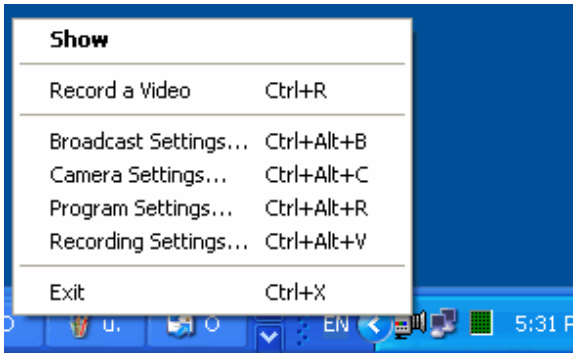
To start the program:

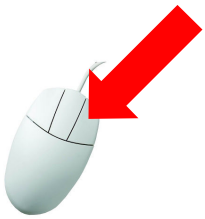
On the Window's **Start** menu, click **Programs**, then the group with the program name, and then the program.

Activating the Program Interface

When the program starts it displays an icon in the notification area at the bottom right corner of computer's screen. This icon helps you to activate the program interface:





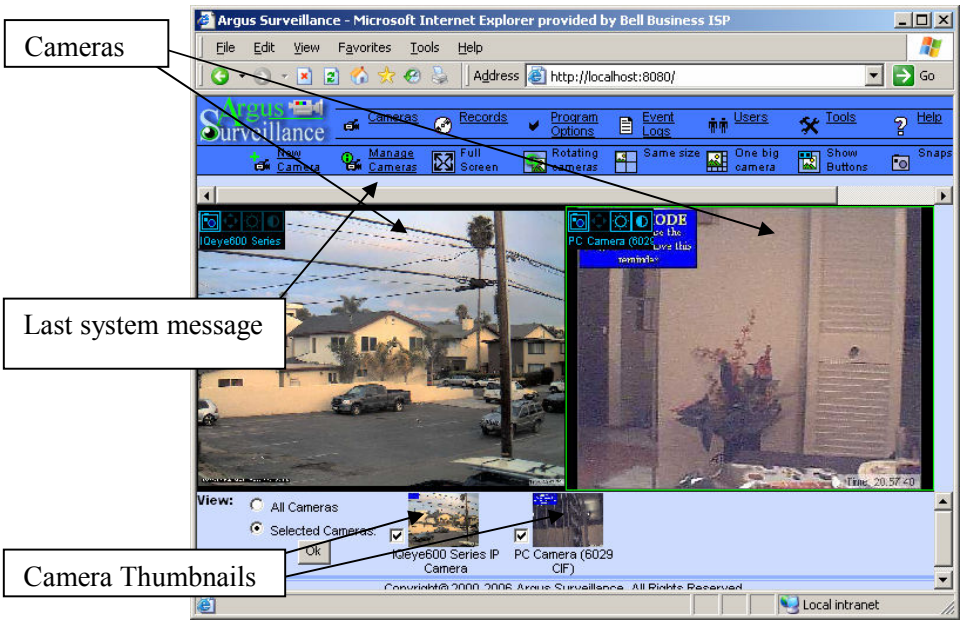


- Click **right mouse button** on the icon to display a popup menu.
- **Double click** the icon with the left mouse button to activate the program interface.

About the Program's Interface

The program has own web server, which is active all the time. It creates a website that can be viewed from any web browser. Users, from multiple computers, connect to this web server to view cameras and play-back recorded video simultaneously. Thus, program's interface is a web page with an ActiveX inside. ActiveX shows video feed from cameras and used to play-back recorded content.

Top side of the program's Web page contains menu and buttons to access parameters and features. Central side shows video feed from selected cameras. Bottom side contains **Camera Thumbnails** which is used to select cameras to view.



Here are some of the most used components:

- The **Camera Window** is used to control and preview camera. It has small button bar to take snapshot, control pan/tilt/zoom cameras, and change camera's brightness and contrast.
- **Camera Thumbnails** are used to select a camera and show or hide it.
- **Last system message** alerts about last event or error. It helps to troubleshoot an unwanted situation.

Tips for the Program's Window

Show Camera

To pre-view a camera click to select a check box near its thumbnail at the bottom of the screen. Then click the **Ok** button.

Click to on the **All Cameras** radio button to make all cameras selected.

Camera's Right-Click Context Menus

Right-clicking on the camera window opens a context menu which includes basic controls (e.g., Take Snapshoot, Zoom, etc.).

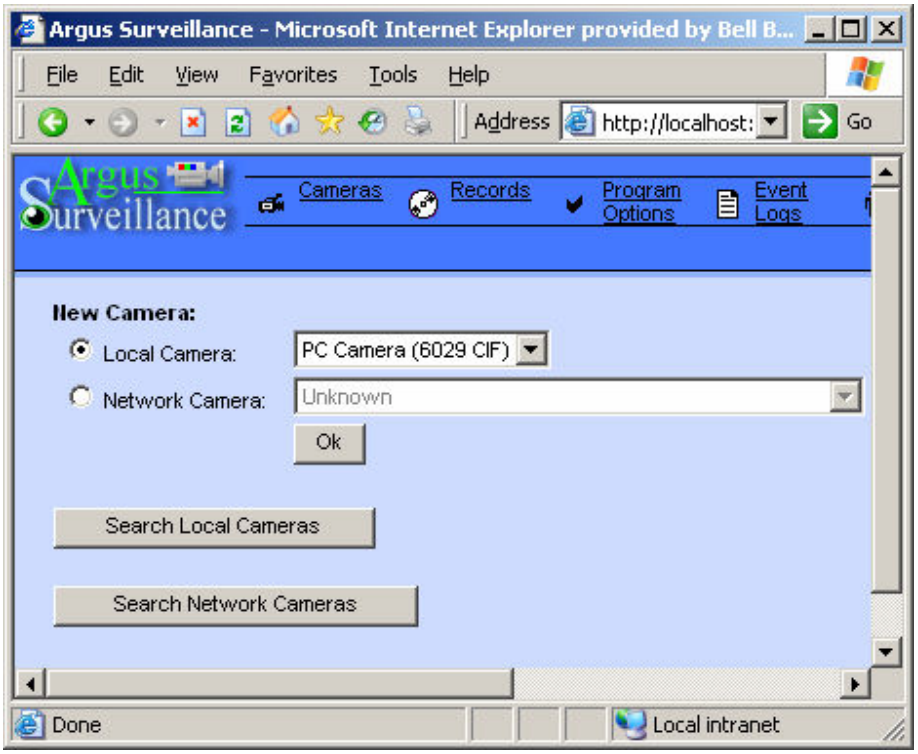
Getting Help

To open file with the program documentation click the **Help** link on the top of the program's Web page.

3 Setting up Camera

Creating new Camera

The program captures video from many video sources simultaneously. Every video source represented by an object called "Camera", it can be "Local Camera" (capture card or USB camera) or "Network Camera" (a video device that has own web interface).



To create new Camera

- Click **New Camera** from top menu.

- Select type of camera: local or network.

  Local Camera is a video device connected directly to surveillance computer.

  Network Camera is a video device in local network or in Internet which has own web server.

To create Local Camera

- Click to select the **Local Camera** radio button and choose video device from drop-down list.

If you click the **Search Local Cameras** button the program shows list of cameras connected to the surveillance computer.

To create Network Camera

- Click to select the **Network Camera** radio button and select the camera brand name from drop-down list.

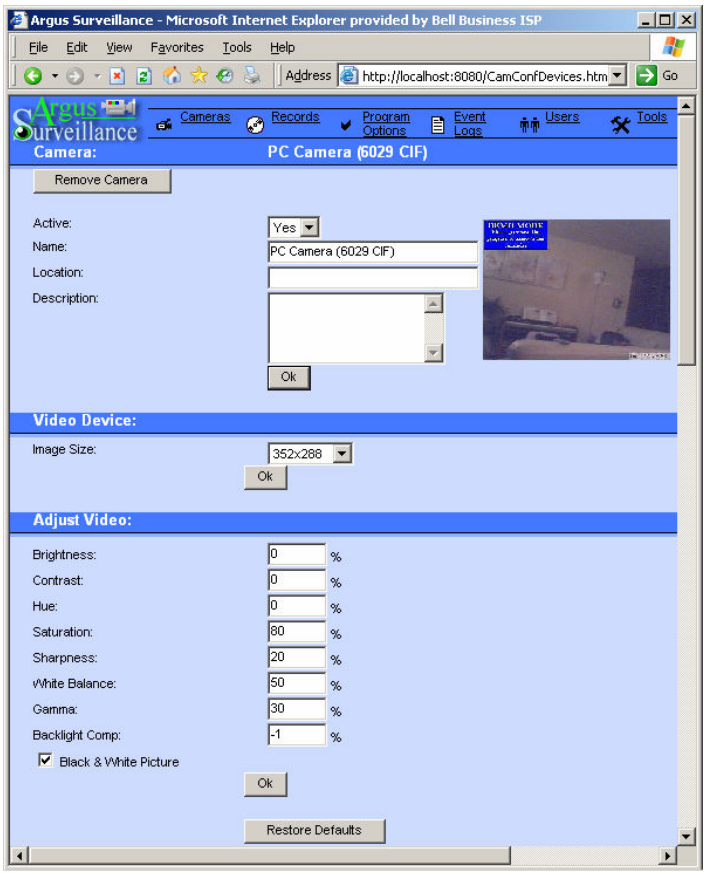
If the brand name of your camera is not presented in the list of Network Cameras it means either your camera is presented under other name in this list or your camera is not supported by this program.

Click the **Search Network Cameras** button to cause program search all known cameras in the local network.

Configuring Camera

To configure a camera

- Click **Manage Cameras** from top menu.
- Click the **Configure** button near the camera picture



With the **Active** control you can change the **camera status active** or **not**. If camera is not active it doesn't receive video from camera.

Enter the camera **Name**, **Location**, and **Description** in the appropriate fields to personify camera.

Picture Size

The **Image Size** list helps changing resolution of camera's picture. Select desired resolution from the drop-down list and click the **Ok** button. This list shows well known resolutions; it doesn't guarantee that the camera supports particular resolution. If you select such resolution that is not supported by your camera the image size will unchanged.

Network Camera Parameters

Enter the network address of your camera in the **IP Address** box. Don't place the protocol prefix (like http://), just four digits of IP address delimited by dots, like: 192.168.1.101. If your network camera has dynamic IP address, you can find the camera address in the DHCP table of your network router.

Enter the numeric value of IP port number which is used to get video feed from camera in the **Port** box. Most cameras use 80 as default port value. Refer to the camera manual to get this information.

If you don't know the camera IP address and port number:

Insert a CD-ROM supplied by camera's manufacturer and run setup program. Typically, this CD-ROM will automatically search and find all cameras of this brand name located in your network.

If network camera requires user name and password, type these values in the **User ID** and **Password** boxes.

Adjusting Video Contrast, Brightness, Hue, Saturation, etc.

The **Adjust Video** section will typically contain controls for **contrast**, **brightness**, **hue**, **saturation**, and similar. Presence each of these controls strictly depends on camera type.

Press the **Restore Defaults** button to return all settings to the original values.

Audio Source

In the **Audio Device** section select an audio source that will be associated with this camera. Select a local audio device from the **Computer's Audio Source** list, or, if network camera has microphone, select the **Camera's Microphone** radio button.

Video and Audio Compression

The **Compression** section allows you set up image and sound quality. These settings are used to prepare content for remote access and recording.

Adjust the video and audio compression by selecting appropriate **Image Quality** and **Sound Quality.**

Higher quality results more detailed pictures and more clear sound but it requires more network bandwidth for remote access and more hard drive space for recording.

Altering Image

Scale Image

Click to select the **Scale Image** check box to shrink or grow captured image. Set desired image size in pixels in the **Image Width** and **Image Height** boxes.

Rotate Image

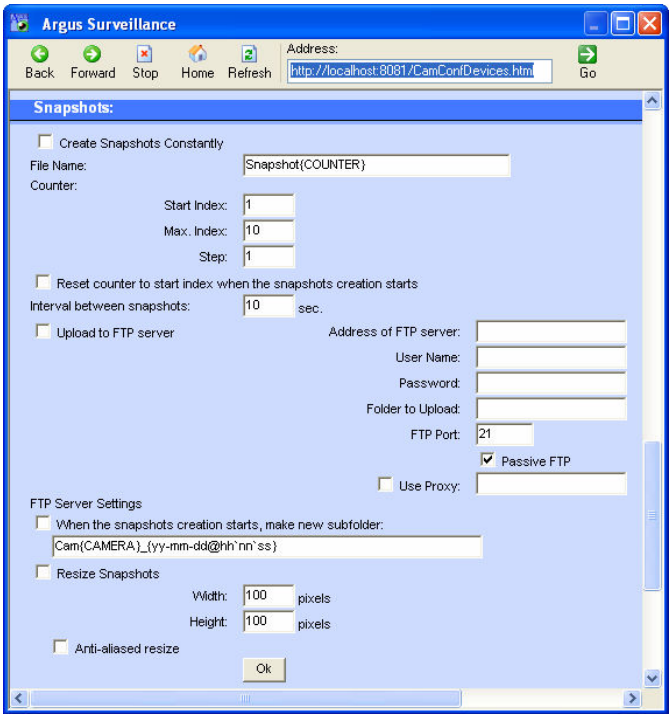
If your camera is ceiling mounted, you can have 180° rotated image by selecting the **Rotate 180°** item from the **Rotate Image** list.

Some cameras and frame grabbers allow producing cropped, scaled or rotated images. If these functions are performed "on board" it doesn't use computer CPU. Check the presenting of such features by clicking the **Video Capture Filter** button in the **Device** tab.

Creating Snapshots

If you want the program to create archive of captured images, click to select the **Create Snapshots Constantly** radio button.

Select the **Create Snapshots on Schedule Basis** radio button to create snapshots at desired time only. Click the **Edit Schedule** button to select desired day and time. The program will start and stop task every week according to this schedule.



File Name - the program saves incrementally named JPEG snapshots under this name.

If you specify full path in the **File Name** box, snapshots are saved under this file name, otherwise they are saved in the **Gallery** folder.

Use the **{COUNTER}** tag in the file name as a place-holder for the counter value. Enter index from which counter starts, its maximum index, and the increment step in the **Start Index**, **Max. Index**, and **Step** boxes.

Click to select the "**Reset counter to start index when the snapshots creation starts**" box if you want the counter to be set to the start value every time when new snapshots sequence begins.

Interval between snapshots - use this box to set the frequency of the snapshots creation.

The **Upload to FTP server** check box causes the program to upload snapshots to the FTP server.

Address of FTP server

Type name of FTP host, for example: **ftp.mywebhosting.com** or **myftpspace.aol.com**.

Please don't place the **ftp://** or **http://** prefix in the address. Contact your hosting company or Web server administrator to obtain address of your FTP server.

User Name

Type your user (login) name on this FTP server. You have to receive this name when you subscribe for web hosting.

Password

Type your password for this FTP server. The password field replaces all typed characters with asterisks to hide it.

Folder to Upload

Type full path to a folder on FTP server. This folder must exist. If you have no idea what this path looks like contact your hosting company or Web server administrator.

FTP Port

Specify port number, which is used for FTP service on your web site. Mostly used value is 21, but it may be different if you are going through a firewall, or if the site administrator has assigned the FTP service to a non-standard port.

Passive FTP

This option causes the program to use passive mode on FTP uploads. Some proxy servers require using this option.

Use Proxy

Specify if the program needs to use a proxy server to connect to FTP server. To list a proxy for a specific protocol, the string must follow the format:

```
<protocol>=<protocol>://<proxy_name>
```

The valid protocols are http, https, ftp, and gopher. For example, to list an ftp proxy, a valid string would be:

```
ftp=ftp://ftp_proxy_name:21
```

where **ftp_proxy_name** is the name of the ftp proxy and **21** is the port number that must be used to access the proxy. If the proxy uses the default port number for that protocol, the port number can be omitted.

Click to select the **When the snapshots creation starts, make new sub-folder** box if you want the program to create new sub-folder on the FTP server every time when new snapshots sequence begins. The folder name may include parameters like time: **{hh:nn}**, camera number: **{CAMERA}**, or current motion value: **{MOTION}** enclosed in the braces {}. See more info about parameters in the **Wildcards and time** formatting macros topic (page 57)

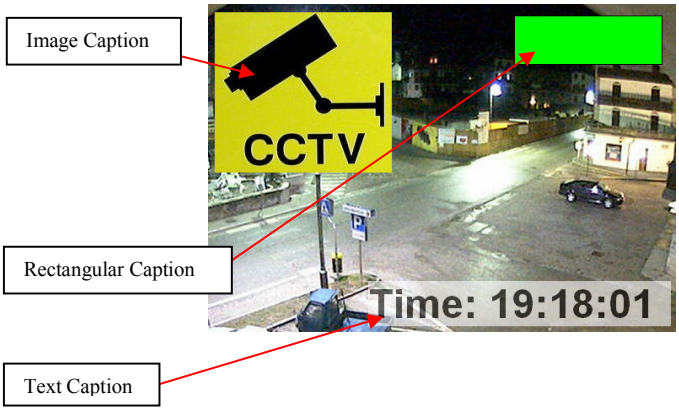
In some cases it's necessary to change size of snapshots, for example to use them as thumbnails. Click to select the **Resize Snapshots** check box and enter the desired **width** and **height** in appropriate boxes.

Click to select the **Anti-aliased resize** check box to have smooth pictures. This option takes much processor time that on the many cameras systems it can dramatically slow down performance.

Captions on Image

The program has ability to place unlimited number of text, image and rectangular captions onto captured images. Text captions are providing some information on captured image, and / or data - time stamp. The image and rectangular captions allow you decorate video feed.

The caption position can be specified in pixels or you can choose from the list of predefined positions like Top-Left, Top-Center etc. In this case the caption will stay at this position regardless the image size.



To enable the caption drawing

- Click to select the **Caption Enabled** check box in the camera settings page.

Text Captions

To create new text caption

- Click the **Add Text Caption** button in the camera settings page.
- In the **Text Caption** box, type a text that will be placed on picture.

If you want to insert a date and time in the caption, it must be enclosed in the braces **{}**. Like: **{dd/mm/yyyy}**.

For example the text:

```
Captured on {dd/mm/yyyy} at {hh:nn:ss}
```

will be displayed as:

```
Captured on 10/08/2001 at 22:13:30
```

Please see more information about wildcards that can be used in text captions in the **Wildcards and time formatting macros** topic (page 57)

You can change the following parameters of the text caption: **Font**, **Font Size**, **Text Color**, and **Background Color** in the appropriate fields.

The color field is six character hexadecimal RGB color code. For example red color is FF0000, green color is 00FF00, blue color is 0000FF, etc. Please see more hexadecimal RGB color codes in the **Color Table** topic (page 58)

Image Captions

To place an image overlay

- Click the **Add Image** button.
- Choose the image file by clicking the **Browse** button.
- Click the **Ok** button to add image.

If the image periodically changes, for example it shows current weather condition, you can click to select the **Reload Image** check box and enter updating interval in seconds in the **Every** field. In this case the program will update this image.

Rectangular Captions

The program can draw rectangular areas onto picture. You can set up the rectangle color and outline, as well as width, height, position, opacity, and transparency.

To draw a rectangle

- Click the **Add Rectangle** button.
- Use appropriate fields to change the rectangle **Width**, **Height**, **Outline Width**, and **Outline Color**.

Text File as Caption

The program has ability to draw text from a file and refresh it periodically. You can use this feature in a Point of Sale system to overlay live real time transaction data over a video channel. Also this transaction data can be stored on hard drive for searching and playing back.

To place text file as caption

- Click the **Add Text File** button in the camera settings page.
- Choose the text file by clicking the **Browse** button.
- Click the **Ok** button to add caption.

You can change the following parameters of caption: **Font**, **Font Size**, **Text Color**, and **Background Color** in the appropriate fields.

The color field is six character hexadecimal RGB color code. For example red color is FF0000, green color is 00FF00, blue color is 0000FF, etc. Please see more hexadecimal RGB color codes in the **Color Table** topic (page 58)

To refresh file content on the screen click to select the **Reload Text** check box and enter updating interval in seconds in the **Every** field. The update interval must be the same or less than the frequency of file changing.

Change Position of Caption

The caption position can be specified as absolute in pixels; or you can choose from the list of relative positions like top-left, bottom-right, etc. If you select a relative position caption will stay at the same place whenever picture size is changing.

To set absolute position

- Select **Custom**.
- Set horizontal position in pixels in the **Left** field.
- Set vertical position in pixels in the **Top** field.

To set relative position

- Select the relative position like **Top-Left**, **Top-Center**, **Top-Right**, etc. from drop-down list.

Change Caption Opacity

Opacity allows a blending mode, that part of picture behind the caption show through.

To change caption opacity

- Set the value in the **Opacity** box.

A setting of 100% renders the caption completely opaque. A setting of 0% (zero) renders the caption completely transparent.

Change Caption Transparency

You can make any color in the caption transparent, but most often it is the background color. A transparent background simply means that the background color of the caption is invisible.

To make caption transparent

- Click to select the **Transparent** check box.
- Set the transparent color in the **Transparent Color** field as six character hexadecimal RGB color code.

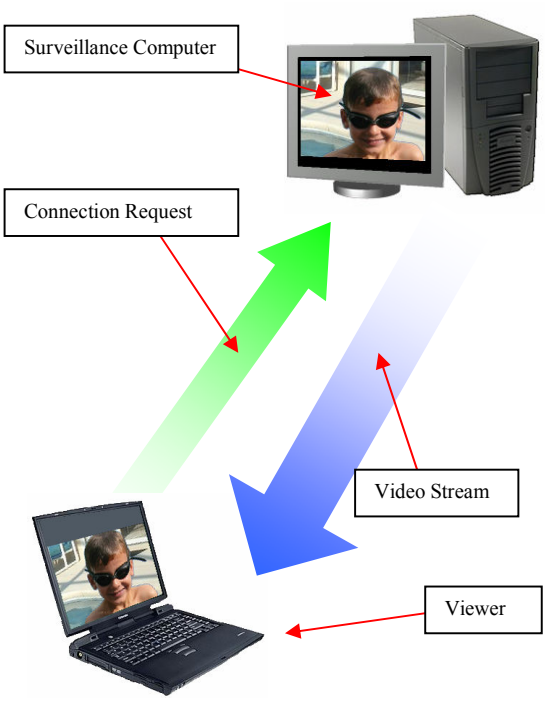
4 Remote Access

Remote access gives you opportunity to connect to surveillance computer from another computer to watch live video from cameras, playback recorded content, and change the program settings.

Setting up Remote Access

The program runs own HTTP Server to provide remote access. Viewers use Internet browser to connect to surveillance computer.

To watch cameras, viewers type address and HTTP port of surveillance computer. See more information at the **Access from Remote Location** paragraph (page 32).



How does Remote Access work?

When a viewer types address of surveillance computer in the Internet browser, it sends a connection request to surveillance computer. Surveillance computer identifies this viewer and sends video stream to the Internet browser on viewer's computer.

To activate Remote Access

- Click **Remote Access** from the **Program Options** menu.
- Click to select the **Always** from the **Active** list.

Frame Rate

In the **Frame Rate** box enter how often you want the picture refreshes on viewer's computer. To avoid the "Off Line" color bars appearing on client's computer, set the **Frame Rate** equal to client's network bandwidth.

TCP/IP Port

In the **TCP/IP Port** box type the port number that is used by HTTP server. This port must be not used by other programs. We recommend using numbers within 8000 to 10000 range.

If you change this value, pay your attention that you need to reconnect to surveillance computer with new port value; also all current viewers will be disconnected.

Authorization

Access to the surveillance computer can be restricted by user name and password. To restrict the access click to select the **Use Authorization** check box. If **Use Authorization** is selected viewers must enter valid name and password in order to connect to surveillance computer.

Disconnect Inactive Viewers

The program remembers viewers' IP addresses that viewers need to enter password just one time per session, however if you want the program to prompt for login every time when viewer reconnects click to select the **Authorize viewer again** check box and enter number of seconds of inactivity.

Limit Number of Viewers

You can limit number of viewers if you want to minimize Internet traffic. To limit number of viewers click to select the **Limit Number of Viewers** check box and enter maximum number of viewers.

Limit Connection Time

You can limit connection time to prevent viewers from watching your cameras for hours. Click to select the **Limit Connection Time** check box and enter number of minutes that remote viewer can be connected to the program.

Enter number of minutes in the **Allow connect again after** box to specify delay after which the viewer can connect again.

This limitation takes effect for remote connections only, and it doesn't cut-out user with administrator permissions.

Encrypt Transmitted Data

Video and Audio data can be encrypted for security reason. Select the encryption type from the **Encrypt Transmitted Data** list.

To turn off the encryption select the **No Encryption** item.

Use Tunnel Server to Store the Surveillance Computer IP Address

If surveillance computer doesn't have static IP address and its IP address periodically changes you can use WEB2CAM.com server, which gives surveillance computer a permanent address on the internet. This web address is based on the Login Name, which you receive after subscribe for "Dynamic IP" service. For example, if your Login Name is **billsmith**, the Internet address of surveillance computer is **http://billsmith.web2cam.com/ip**

How does this service work?

- The program connects to web server.
- Web server defines external IP address of surveillance computer and updates own data base.
- A viewer to watch surveillance computer points Internet browser to web server (for example: **http://billsmith.web2cam.com/ip**).
- Web server redirects Internet browser directly to the external IP Address of surveillance computer.
- Internet browser connects to surveillance computer and shows video stream from camera.

To use Dynamic IP service you have to be subscribed on it.

To activate Dynamic IP Service:

- Click **Remote Access** from the **Program Options** menu.
- Click to select the **Periodically update computer's IP address on Dynamic IP Server** check box.
- Click the **Ok** button.

Therefore, whenever IP address changes, you can access your surveillance system easily.

5 Access from Remote Location

Access within Local Network

You can use any Internet browser to connect to the surveillance computer remotely. The **Internet Security** settings on the remote computer must allow using ActiveX controls. Please see more information how to configure Internet Browser on the viewer side in the **Setting up Internet Browser for Remote Connection** paragraph, page 59.

To connect to surveillance computer from another computer within local network

- Open Internet browser and enter Internal IP Address and HTTP port of surveillance computer in the address box, for example: **http://192.168.1.147:8080**

If you don't know IP Address of surveillance computer you can get it by clicking **Tools** from top menu and then the **Surveillance Computer's IP Addresses**. Please see more information about this function at the page 46.

The HTTP port value is described in the **Setting up Remote Access** paragraph, page 29.

Remote Access through Internet

If your network uses firewall, make sure that the port and IP address of surveillance computer are open on the firewall. For more information please refer to the Router Configuration section at page 54.

To connect to surveillance computer from Internet

- Open Internet Browser, and type external IP address and port of surveillance computer like: **http://211.28.1.17:8080**
- If you subscribed for **Dynamic IP** service enter address like: **http://<*yourname*>.web2cam.com/ip**, where <yourname> is your Login Name in the **Dynamic IP** service.

Watching Video through Tunnel Server

To watch web streamed video the web streaming must be activated. For more information please refer to the Setting up Remote Access section, page 29.

To watch video streamed through Tunnel Server

- Open Internet browser and enter address like: **http://<*yourname*>.web2cam.com**, where <yourname> is your Login Name in the streaming service.

Access using PDA or Cell Phone

To connect to surveillance computer from PDA or Cell Phone

- Open Internet browser and enter IP address of surveillance computer with the "pda/" prefix, for example: **http://192.168.1.147:8080/pda/**

You will be redirected to a special page that has small size and limited functionality to correctly display image from camera on any portable device.

Select a camera from the drop-down list and click the **Reload** button. The image from camera doesn't refresh automatically. To refresh image you need to click the **Reload** button again.

6 Events Monitoring

The program monitors critical events generated by motion detection, audio monitoring, sensors, and system failures. It performs special tasks if an event occurs.

To activate Events Monitoring

- Click **Motion & Events** from the **Program Options** menu.
- Select **Active all the time** to have non-stop events monitoring.
- Select the **Not Active (activates by scheduler)** radio button to perform this action at desired time only. Click on the camera link to open schedule window and select desired day and time. The program will start and stop task every week according to this schedule.

Events Monitoring Frequency

Specify the monitoring frequency in milliseconds in the **Check for events every** box.

Motion Detection

Motion Detection analyzes captured images and generates an event if the image significantly changes.

Customizing Motion Detection

To customize Motion Detection

- Click **Motion & Events** from the **Program Options** menu.

Motion Sensitivity

Motion Sensitivity defines the ability to detect motion when it is truly present. Large value means more sensitivity but more probability that motion event will be triggered by noise.

You can specify **Constant Sensitivity** or, if you need different sensitivity during the day time – **Hourly Sensitivity**. If you plan to detect motion around the clock you can use **Hourly Sensitivity** and decrease motion sensitivity at night time to avoid unwanted events triggered by noise.

Event Trigger Threshold

The **Trigger event if motion more than** parameter specifies the minimum motion value when the program triggers the motion event and performs motion actions. Low value causes more sensitive motion detection.

Threshold that Event doesn't Trigger

You can specify a maximum motion value that doesn't trigger event. For example you can use it to filter out unwanted motions caused by clouds or turning off lights.

Click to select the **Don't trigger event if motion more than** check box and enter the value.

Warming Time

Warming Time defines a delay in milliseconds before the program starts motion detection. Increase this value if your camera needs more time to adjust focus and stabilize picture.

Monitoring Cameras

Select cameras where motion is monitored in the **Cameras to monitor** list.

Motion Area

You can specify an area of motion detection. Motion that occurs outside the area will not be detected. For example, you can use this feature if you want to remove cars moving outside the window.

To define Motion Area:

- Click on the camera name that motion area you want to define.
- Click left mouse to select or unselect a rectangle that will be removed from motion detection. Black color means that the motion is not detecting.
- Repeat this until all unwanted motions are covered. Less observed area you specified, the motion will be detected more accurately.

Motion Actions

Action Performing Frequency

Enter number of milliseconds in the **Trigger not often than one action** box to specify minimum interval in two performed alerts. Any alert condition will be ignored during the interval.

When a motion is detected, the program performs the following actions:

Record Video

Click to select the **Record Video** check box to have the program record video on motion event.

Pre-event recording

Each camera stores in memory video with pre-alarm activity. This allows seamless playback of activity before and after the event. Specify the pre-alarm recording duration in seconds in the **Pre-event recording** box.

Post-event recording

Specify the recording duration in minutes in the **Post-event recording** box. If there was a motion during the recording time, the program continues recording. The recording stops if there was no motion during the **Post-event recording** period.

Send Email

Click to select the **Send Email Notification** check box if you want to receive emails when motion detected.

Outgoing Mail Server

This is the mail server that your e-mail is sent through. If you are unsure of this setting, have a look at the settings of your E-Mail client and see what you have set for your SMTP server.

Server Requires Authentication

Click to select the **Server Requires Authentication** check box and enter the **Account Name** and **Password** for your email server.

Sender

Enter your e-mail address.

Recipient

Enter the e-mail address of who will receive e-mail message. If there is few recipients, type the e-mail address of each recipient, separating addresses with a comma or semicolon (;).

Subject

Enter the subject of e-mail message.

Message

Enter contents of the message.

If you want to insert date and time in the email body or in the subject, it must be enclosed in the braces {}. Like: {dd/mm/yyyy}.

For example the text:

```
Motion on {dd/mm/yyyy} at {hh:nn:ss}
```

will be displayed as:

```
Motion on 10/08/2001 at 22:13:30
```

Please refer to the **Wildcards and time** formatting macros topic (page 57) for more information.

Attach Images to Email

Click to select the **Attach Images to Email** check box and enter number of images. Images with captured motion will be included in the e-mail.

Message Priority

Select the priority of e-mail message – high, normal or low.

Play Sound

Click to select the **Play Sound** check box to make an alert sound when motion is detected.

Launch a Program

Click to select the **Launch a Program** check box to start a program when motion is detected.

Change Settings

This feature helps to save disk space by recording good quality video when there is motion and have poor quality and, as result, less disk space when there is no motion. Set the appropriate settings for video and sound quality when motion detected. These settings take place when motion detected. When the time period, defined in the **Set Settings back after** box, passes the program goes back to the settings defined in the **Compression** and in the **Recording** tabs.

Send SMS Message

To use this service you have to be subscribed on it.

Click to select the **Send SMS Message** check box if you want to receive SMS messages when motion detected.

Phone Number

Enter a phone that SMS message will be sent to. It must be digits only with country code and area code (example: 14168315678). Up to 16 digits.

If there is few recipients, type the phone number of each recipient, separating addresses with semicolon (;).

Sender

Enter your name or phone number. Up to 16 characters or digits.

Message

Enter contents of the message.

If you want to insert date and time in the SMS body or in the subject, it must be enclosed in the braces {}. Like: {dd/mm/yyyy}.

For example the text:

```
Motion on {dd/mm/yyyy} at {hh:nn:ss}
```

will be displayed as:

```
Motion on 10/08/2001 at 22:13:30
```

Please refer to the **Wildcards and time** formatting macros topic (page 57) for more information.

7 Recording Video

You can use program to record all video and audio sources into a file on the surveillance computer hard disk.

To activate recording

- Click **Recording** from the **Program Options** menu.
- Select **Recording is Active All the Time** to have non-stop recording.
- Select the **Recording Activates by Events or by Scheduler** radio button to perform this action by motion or at desired time only. Click on the camera link to open a schedule window and select desired day and time. The program will start and stop task every week according to this schedule.

Customizing Recording

To customize video recording

- Click **Recording** from the **Program Options** menu.

Recording Frame Rate

Use the **Frame Rate** box to set the number of frames per second for the video record. How much you adjust this value should depend on the speed of computer's processor and the type of video (high movement versus low movement) the computer is encoding. More frames used per second means that there are smaller changes between frames, which equates to smoother-looking video. The lower the number of frames per second means that there are fewer frames per second to display action, which equates to less smooth or even jerky video. The more frames per second that your computer has to encode, the harder the processor has to work.

Space on Hard Drive

The program performs recording on the "Cyclic" manner. Because it's recyclable overriding the hard disk space the "disk full" situation never occurs.

Specify the size of recording file (in megabytes) in the **Allocate space for each camera** box. When recording reaches this size the program continues recording from the beginning of this file. For each camera allocates the same hard drive space.

Folder for Recording

Video recording from all cameras is performed into one folder. You can change this folder in the **Folder for Recording** box.

Encrypt Transmitted Data

Recording content can be encrypted for security reason. Select the encryption type from the **Use Encryption** list.

To turn off encryption select the **No Encryption** item.

Recording Sound

If the **Record Sound** check-box is selected, the recorded file will contain audio as well as video. This greatly increases the file size.

Playing back recorded video

The program shows synchronized video playback from multiple cameras simultaneously and you can query recorded data by date, time & events.

To play back recorded video

- Click the **Records** menu.
- Select **Playback by Date / Time** or select **Search Motion**.
- Select the play back period.
- Select cameras to playback.

To get a snapshot of recorded video

- Press the **Stop** playback button.
- Click on the picture of camera which snapshot will be taken
- Click the **Snapshot** menu.
- Click the **Print Image** button to print this snapshot.
- Click the **Save to File** button to write this snapshot on hard drive.
- Click the **Copy** button to place this snapshot to clipboard.

Backup recorded video

You can backup recorded video from the DVR directly to your PC via the network. The backup file can be played using Windows Media Player.

To play back recorded video

- Click the **Records** menu.
- Select **Convert Recorded Video to another Format**.
- Select the play back period.
- Select cameras to playback.
- Select file name and click **Convert** button.

8 Configuring Program

Start-Up / Shutdown Parameters

To change startup / shutdown parameters

- Click **Startup / Shutdown** from the **Program Options** menu.

Start-Up Layout

Information about cameras stores in a file. This file contains information about video and audio devices, compression, broadcasting, recording parameters, and so on of each camera. Every time the program started up it reads this file. You can customize the program to read or not to read this file.

To specify layout file

- Click to select the **Open a layout at start-up** check box and enter layout file name.

Starting on Windows Start-Up

Click to select **Start as service on Windows Startup** if you want the program to start every time the computer is turned on. The program executes even when no user is logged on to the system.

Protect the Program Start-Up with Password

If you want that to run the program user must enter valid user name and password click to select the **Ask for log-in to run the program** check box. To run the program user must have such permission. See more information in the **Users and Permissions** paragraph, page 47.

The default user name: **Administrator** and no password.

If the program starts with Windows it doesn't ask for user name and password.

Activating the Program Interface at Start-Up

When the program starts it displays in the notification area an icon that is used to activate the program interface. If you select the **Launch the preview window at start-up** check box the program interface will be activated every time the program starts.

Stealth Mode

The program displays an icon in the notification area at the bottom right corner of computer's screen. To have the program completely invisible, click to select the **Stealth Mode** check box. In this mode the program doesn't display any icon in the notification area and it is not presented in the task bar.

To get access to the program in "stealth" mode

- Open Internet browser and enter **http:// localhost:<HTTP port>** in the address box. Where the <HTTP port> value is described in the **Setting up Remote Access** paragraph, page 29. For example: **http:// localhost:8080**

To close the program in "stealth" mode

- Open Internet browser and enter **http:// localhost:<HTTP port>** in the address box. Where the <HTTP port> value is described in the **Setting up Remote Access** paragraph, page 29. For example: **http:// localhost:8080**
- Click **Close the Program** from the **Tools** menu.

Click to select **Protect from Opening from Task Tray or from "Stealth" mode with Password** if you want the program to ask for password when a user clicks icon in the sys tool tray.

Protect the Program from Shutting Down

If you want that to shut down the program user must enter valid user name and password click to select the **Ask for Login to close the program** check box. To close the program user must have such permission. See more information in the **Users and Permissions** paragraph, page 47.

The default user name: **Administrator** and no password.

Watchdog

Watchdog is small program that monitors and automatically reboots the program if it freezes.

To enable Watchdog:

- Click **Watchdog** from the **Program Options** menu.
- Click to select the **Watchdog Enabled** check box.

If the program does not respond for a specified number of consecutive polls, it can be restarted.

Monitor and Restart a Frozen Program

To monitor and restart a frozen program click to select the **Restart the program if no response** check box.

If Watchdog attempts to restart the program and it fails to restart for a specified number of consecutive attempts, the operating system can be restarted.

Restart Computer

To restart the computer if this frozen program cannot be restarted click to select the **Restart computer if program fails to restart after** check box.

Restart Computer Periodically

If computer works less stable in time the operating system can be restarted periodically by this watchdog.

To configure Watchdog to restart the computer periodically, click to select the **Restart the computer periodically** check box and select a period. The computer can be restarted **hourly**, **daily**, **weekly** or **monthly**.

If the program uses too much CPU time for a specified number of consecutive polls, it can be restarted.

Restart Computer if CPU Usage is High

To configure Watchdog to restart the computer if CPU usage is too high, click to select the **If CPU usage exceeds** check box and select maximum CPU usage value and time period specified in polls.

Remote Access to the Watchdog

Watchdog has own web interface that you can access it remotely with administration purposes.

To allow remote access to the watchdog

- Click to select the **Access to Watchdog by HTTP** check box.
- Enter HTTP port number in the **Port** box.
- To protect the program from unwanted usage enter **user name** and **password** in the appropriate fields.

To get remote access to the watchdog

- Open Internet browser and enter Internal IP Address of surveillance computer and watchdog HTTP port in the address box, for example: **http://192.168.1.147:10000**

If you don't know IP Address of surveillance computer you can get it by clicking **Tools** from top menu and then the **Surveillance Computer's IP Addresses**. Please see more information about this function at the page 46.

Dial-Up Internet Connection

You don't need to use dial-up connection if you have permanent Internet connection such as, Cable Modem, DSL, ISDN, etc.

If the Dial-Up service is enabled, the program establishes a dial-up connection every time when it needs to access internet.

To install dial-up networking on your computer (if it is not already installed), click **Start** | **Settings** | **Control Panel**, select **Add/Remove Programs**, choose **Windows Setup**, double-click **Communications**, and select **Dial-Up Networking**.

To activate Dial-Up service:

- Click **Dial-Up** from the **Program Options** menu.
- Click to select the **Use Dial Up Connection** check box.
- Select name of dial-up connection from the list. Click the **New Dial-Up Connection** link if you want to make a new dial-up connection.

Disconnect when Done

After using internet the program is able to hang up the dial-up connection. This can be useful, if you don't want to stay connected all this time. Click to select the **Disconnect when done** check box to hang up after uploading.

Authentication

If the **Use Default Dial-Up Authentication** check box is checked, the program uses saved by Windows user name, password, domain, and phone number. To specify your own user name, password, domain, and phone number, click to uncheck the **Use Default Dial-Up Authentication** check box and enter user name, password, domain, and phone number.

9 Additional Tools

Surveillance Computer's IP Addresses

The program has tool to resolve computer's internal and external IP addresses. Internal IP address can be used to connect to the computer inside local area network. External IP address is used to connect to the computer from Internet. Usually computer has different external and internal IP addresses, because external IP addresses is established by Internet service provider.

To see the internal and external IP addresses

- Click **Surveillance computer's IP addresses** from the **Tools** menu.

Testing Computer's Accessibility from Internet

This procedure helps you to find out the reason why the surveillance computer is not accessible from Internet.

The testing procedure performs the following tasks:

- Checks that the computer is connected to network and an Internet connection is enabled.
- Checks that the remote access is activated.
- Checks that the Dynamic IP Service is activated.
- Sends requests to the web2cam.com server. The server pings back the computer with a test request. If the server receives valid answer from your computer, the test is done successfully.

To test the computer's accessibility from Internet:

- Click **Check up that the surveillance computer can be directly accessed from outside** from the **Tools** menu.
- You will see the testing report.

10 Users and Permissions

The program allows you to create, edit, and delete user accounts. Each user can be assigned different privileges that limit their usage of surveillance system. Any user can be given administrator privileges.

Adding New User

- Click the **Users** menu.
- Click the **New User** button.
- Enter user name.
- Click the **Ok** button.

Delete a User

- Click the **Users** menu.
- Select user by clicking check box on the left.
- Click the **Delete Selected** button.

Changing User's Privileges

- Click the **Users** menu.
- Click to select appropriate privileges for desired user.
- Click the **Save Data** button.

To restrict access by users, the **Use Authorization** option must be activated on the **Remote Access** section. See the **Setting up Remote Access** paragraph, page 29.

Restrict Access to Particular Cameras

- Click the **Users** menu.
- Click the **Cameras** button.
- Click to select cameras that user will have access to.
- Click the **Ok** button.

Changing User's Password

- Click the **Users** menu.
- Click the **Change Password** button.
- Type new password two times and click the **Ok** button.

Just installed software comes with an administrative account – user name: **administrator** and no password. For applications where maximum security is essential, it is recommended to create other user with administrative privileges and delete administrative account.

11 Trouble-shooting

Questions and Answers

Question:

Why the camera screen is black?

Answer:

Make sure that your camera is turned on and properly connected. Also, try running other video applications to see if it is a problem with the camera. If so, contact the technical support of your camera vendor.

Question:

How can I make video screen brighter?

Answer:

Click **Manage Cameras** from top menu and click the **Configure** button near the camera picture. Change the brightness in percents in the **Brightness** box. See the **Adjusting Video Contrast, Brightness, Hue, Saturation, etc.** paragraph (page 23).

Question:

Does the program needs a fixed connection?

Answer:

No, the program can use dial-up networking to automatically connect only when needed.

Question:

Visitors of my Web page can only see 1-2 frames per minute. What the reason?

Answer:

Probably this is because of the narrow bandwidth of your or the visitor's network connection. Try to reduce the **Quality** in the **Compression** section. See the **Video and Audio Compression** paragraph (page 23).

Question:

The remote access stops after a long period of computer inactivity. What is wrong?

Answer:

This behaviour can occur if Advanced Power Management is enabled on the computer.

To work around this issue, turn off Advanced Power Management before you start the program. To do this, use the appropriate method for your operating system.

Microsoft Windows 98, Me, 2000, XP

To turn off Advanced Power Management:

Click **Start**, point to **Settings**, and then click **Control Panel**.

Double-click **Power Management or Power Options**.

On the **Power Schemes** tab, click **Always On** under **Power** schemes.

In the **Turn off hard disks** box (if available), click **Never**.

Click **OK**.

Question:

Captured image looks grainy or lacking color resolution.

Answer:

Make sure your system is set to display 24-bit or 32-bit color. 16-bit color is acceptable, although images won't show their true 24-bit color depth. 16-color (4-bit) and 256-color (8-bit) modes are unacceptable for image viewing and are not recommended.

To change color mode:

On the computer's screen click **Start**, point to **Settings**, and then click **Control Panel**.

Double-click **Display**.

Select **Settings** and change color depth.

Question:

I'm using firewall. Does the program upload images to FTP server through firewall?

Answer:

If you are using a firewall then you need to add an entry into the allowed programs list to allow the program connect to the Internet. If you are having problems uploading, then turn off the firewall and then try again, if the upload works, then you know that your firewall is blocking the connection some how. Read the firewalls documentation about adding a program to the allowed list.

Question:

Is there a way to incrementally name the image files, so that they can be saved as a series?

Answer:

The program can create archive of captured images. It can save an incrementally named copy of captured image in the **images** sub folder. See the **Creating Snapshots** paragraph (page 24).

Question:

I want to be able to set a limit on viewers.

Answer:

Number of viewers can be limited from the **Remote Access** section. See more info in the **Setting up Remote Access** topic (page 29).

Question:

Sometimes my connection at home to my provider fails and then my computer gets a new IP address and there's the problem, when I'm somewhere else I cannot see what the new IP address is and then I cannot look at my camera anymore. How can I deal with this problem?

Answer:

To get rid of this problem you can use **Dynamic IP Service**, which gives your surveillance system a permanent address on the internet. See more info in the **Use Tunnel Server** to Store the Surveillance Computer IP Address topic (page 31).

Question:

I can connect to surveillance computer only through my LAN, but on any other machine from Internet it will not connect. How to correct this problem?

Answer:

If your network doesn't allow accessing your surveillance computer outside, you can configure the program to stream video feed to WEB2CAM server and watch your camera from this web site. This method doesn't require that the streaming computer is accessibly from Internet, and, because this web server has broadband connection, this method provides high frame-rate broadcasting to the unlimited auditory. Please see the **Streaming Video through Tunnel Server** paragraph (page 31).

Question:

I have fast speed cable internet but the movie from my camera is moving very slowly, why?

Answer:

Sometimes cable internet providers reduce bandwidth for outgoing traffic. Mostly the upload bandwidth is 10 - 15KBps, which means you can broadcast 2-3 fps only. Ask your ISP about the outgoing bandwidth increasing.

Question:

I have set the Motion Detection to record video. I set post-event recording to 60 sec. However the recording does not stop at 60 seconds.

Answer:

If there was a motion during the recording time, the program continues recording. The recording stops if there was no motion during the post-event period.

Question:

How to reduce the CPU usage?

Answer:

To reduce CPU usage:

Set lover value in the Remote Access Frame Rate;

Set lover value in the Recording Frame Rate;

Make Captions disabled;

Configure camera to produce smaller images;

Make the Motion Detection disabled.

Question:

What computer I would need to run 6 cameras?

Answer:

According to our statistics one 320x240 frame takes about 100 Mhz of CPU. This 100 Mhz are spending on taking picture from camera, detecting motion, and drawing time stamp on it, after this compress picture, writing it to the file and broadcast it to remote viewers. That if we want process video from one camera with 5 fps - we need a 500 Mhz computer. If you want to record 5 fps video from 6 cameras you need a computer with 3Ghz processor.

Question:

I have capture card but the program does not see the card. What do I need to do?

Answer:

Please follow instructions at the **Installing Capture Card or Frame Grabber** topic (page 13) to properly install and configure your capture card.

Question:

I am using capture card and sometimes frame from one camera appearing on another camera momentarily. Is there an adjustment for this in the program?

Answer:

To get rid from the frames crossover please increase value in the **Drop the first** edit box in the Camera Settings section (paragraph **Configuring Camera**, page 21).

Question:

When I use authorization and when I access the website the authorization window only comes up the first time after which it does not ask for authorization again. Is there something that can be changed to not allow this to happen?

Answer:

The program remembers viewers' IP addresses that viewers need to enter password just one time per session, however if you want the program to prompt for login when viewer reconnects, enable a parameter called **Disconnect viewer after NN seconds of inactivity** in the remote access settings (paragraph **Setting up Remote Access,** page 29).

Question:

What is required to record my CTTV cameras?

Answer:

You need a capture card which has to be installed into your computer. This card has BNC connectors to connect cameras and it is performing digitalization of video which comes from cameras.

Router Configuration

Question:

How to broadcast through **LinkSys router**?

Answer:

Connect to the router through web browser.

Select "Advanced" and select "Filters".

Select the "Forwarding" tab.

Set the broadcasting port in the "Service Port Range".

Select the protocol: "Both".

Set the IP Address of your computer in the IP Address box.

Now your router will forward all client requests to the specified port on your computer.

Question:

How to broadcast through **D-Link router**?

Answer:

Connect to the router through web browser.

Select the "Virtual Server" tab.

Enter the broadcasting port in the "Service Ports".

Set the IP Address of your computer in the "Server IP" box.

Check the "Enable" box and click "Apply".

Now your router will forward all client requests to the specified port on your computer.

Question:

How to broadcast through **SMC router**?

Answer:

Connect to the router through web browser.

Select the "Virtual Server" page.

Set the IP Address of your computer in the "Private IP" box.

Enter the broadcasting port in the "Private Port".

If you broadcast using the Remote Access method, select the UDP type. If you broadcast using the HTTP Server, select the TCP type.

Click "Enter".

Now your router will forward all client requests to the specified port on your computer.

Question:

How to broadcast through **Microsoft router**?

Answer:

You need to configure persistent port forwarding on the Microsoft router.

Connect to the router through web browser to open the Base Station Management Tool.

Click "Security".

On the Security menu, click "Port Forwarding", and then click "Set up persistent port forwarding".

In the "Description" box, type a description of the server field. (This step is optional.)

In the "Inbound port" box, type the broadcasting port.

In the "Type" box, select the protocol (UDP or TCP) for the port. If you broadcast using the Remote Access method, select the UDP type. If you broadcast using the HTTP Server, select the TCP type.

In the "Private IP address" box, type the IP Address of your computer.

In the "Private port" box, type the broadcasting port.

Click Apply.

Now your router will forward all client requests to the specified port on your computer.

12 Appendix

Program's Folder Structure

The program's folder contains all the program files.

Do not move or rename the program folder or any sub-folders within it. If you need to relocate the program folder, it's good idea to uninstall and reinstall the program.

The sub folders organize files according to their use:

- **\Help** contains help files.
- **\Gallery** contains recorded files.
- **\Images** stores files necessaries for remote access.
- **\Logs** keeps event logs.
- **\NetCams Models** contains configuration files of Network cameras.

Connecting "Unknown" Network Camera (not presented in the network cameras list)

- Click **New Camera** from top menu.
- Click to select the **Network IP Camera** radio button and select **Unknown** from drop-down list.
- Click the **Ok** button.
- In the **String to request JPEG image** box type command to read image from camera. For example:

```
http://{USER_ID}:{PASSWORD}@{CAMERA_IP}/cgi-bin/video.jpg
```

The program uses the following abbreviation to replace parameters in the interface strings:

{CAMERA_IP}	Replaces camera's IP address and IP port, for example: 192.168.1.101:8080
{USER_ID}	Replaces user name entered in the **User ID** box.
{PASSWORD}	Replaces password entered in the **Password** box.
{<BASE64>USER_ID}	Encodes using "Base64" encoding and replaces user name entered in the **User ID** box.
{<BASE64>Password}	Encodes using "Base64" encoding and replaces password entered in the **Password** box.
{FPS}	Replaces with frame rate in frames per second
{FRAMEDURATION}	Replaces with frame duration in milliseconds

Wildcards and time formatting macros

You can use the following data/time placeholders to display current date and time in the text captions:

Placeholder:	**Displays:**
d	Displays the day as a number without a leading zero (1-31).
dd	Displays the day as a number with a leading zero (01-31).
ddd	Displays the day as an abbreviation (Sun-Sat).
dddd	Displays the day as a full name (Sunday-Saturday).
m	Displays the month as a number without a leading zero (1-12).
mm	Displays the month as a number with a leading zero (01-12).
mmm	Displays the month as an abbreviation (Jan-Dec).
mmmm	Displays the month as a full name (January-December).
yy	Displays the year as a two-digit number (00-99).

yyyy	Displays the year as a four-digit number (0000-9999).
h	Displays the hour without a leading zero (0-23).
hh	Displays the hour with a leading zero (00-23).
n	Displays the minute without a leading zero (0-59).
nn	Displays the minute with a leading zero (00-59).
s	Displays the second without a leading zero (0-59).
ss	Displays the second with a leading zero (00-59).
ts	Displays the tenth-second with a leading zero (00-09).
hs	Displays the hundredth-second with a leading zero (00-99).
ms	Displays the millisecond with a leading zero (000-999).
am/pm	Uses the 12-hour clock and displays 'am' for any hour before noon, and 'pm' for any hour after noon.

Special wildcards:

{CAMERA} - displays camera number.

{MOTION} - shows current value of motion.

{COUNTER} - a placeholder for counted value.

{VIDEODEVICE} - shows the video device name.

{IP_ADDR} - shows internal IP address of surveillance computer.

{EXTERNAL_IP_ADDR} - shows external IP address of surveillance computer. This is the address that the "outside world" sees.

Color Table

Hexadecimal RGB color codes:

	Black	000000

	White	FFFFFF
	Light Gray	B0B0B0
	Dark Gray	808080
	Red	FF0000
	Green	008000
	Blue	0000FF
	Dark Blue	000080
	Bright Green	00FF00
	Purple	800080
	Light Purple	FF00FF
	Brown	800000
	Cyan	00FFFF
	Yellow	FFFF00

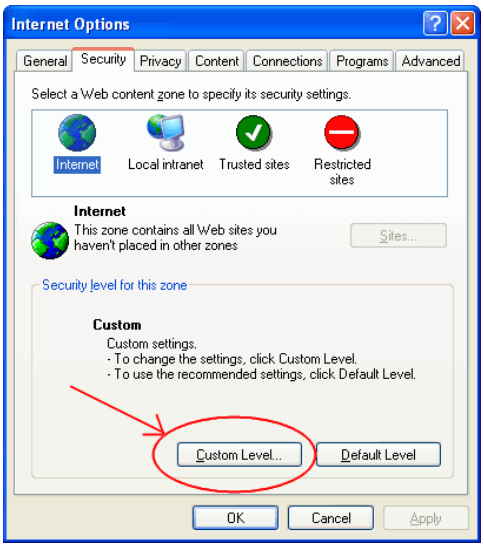
Setting up Internet Browser for Remote Connection

Because remote connection performs through Internet Browser it must be properly configured to allow using ActiveX controls.

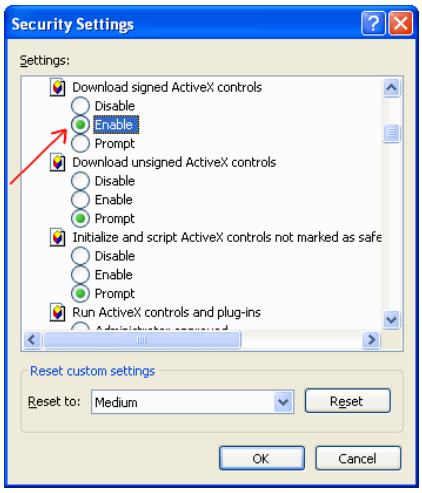
To allow using ActiveX control:

- Open Internet Browser.
- In Internet Browser click the **Tools** menu and select **Internet Options**.

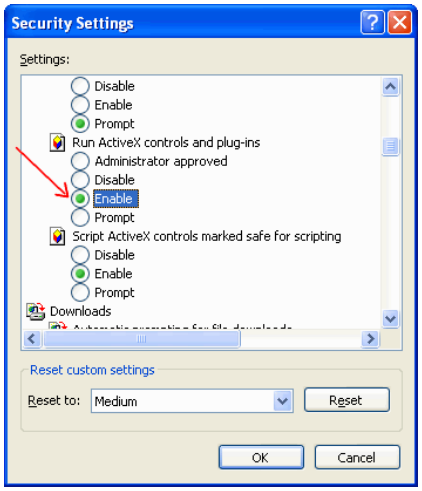
- Click the **Security** tab and click the **Custom Level** button.



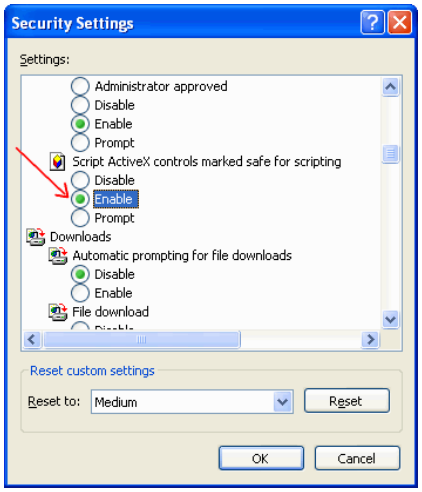
- Enable **Download signed ActiveX controls**.



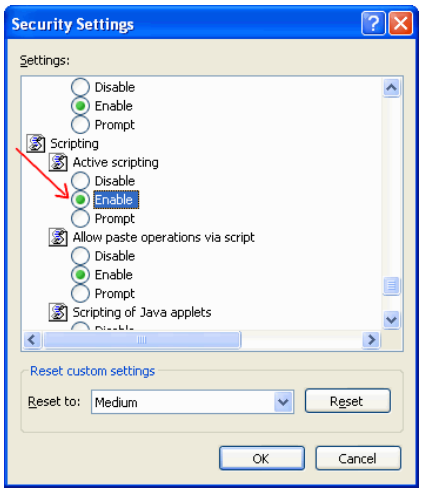
- Enable **Run ActiveX controls and plug-ins**.



- Enable "Script ActiveX controls marked safe for scripting".



- Enable **Active scripting**.



- Click the **Ok** button.
- In the Internet browser, click **Refresh** from the **View** menu to make ActiveX work.