

NetCamCenter

User Manual

Webcam Corp.

Digital Video Surveillance Technology for Network Cameras

Basic Edition

Ver. 2.70

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<http://www.webcamssoft.com>

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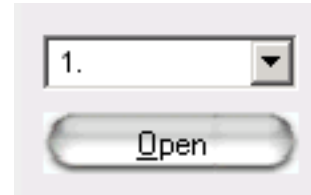
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Getting started

Adding a camera

Double click on NetCamCenter icon on the desktop to start NetCamCenter. To add a camera or video server, select an empty slot from the **camera list** and click on **Open** button on CamCenter. You will see the Setup camera dialog box, which allows you to add a device.



Camera list

- Select a **camera maker**
- Select a **camera model**
- Enter the IP address or domain name, such as cam1.webcam123.com.
- Enter the port number of your camera. (Please refer to the user manual of your camera.)
- If you are connecting to a video server, you can enter the channel number in the **Channel** field. You can also enter 1 or 2 to select the stream for Vivotek device.
- Enter the **username** and **password** if it is needed.

Maker: Model:
 IP address: IP Domain name
 Port: HTTP RTSP Protocol: Codec:
 Username: JPEG path:
 Password: Parameters:
 frames/sec Channel:
 1 frame every seconds Enable audio
 Disable JPEG optimization for Intel CPU

■ Enable audio

You can check this box to record audio from a camera or video server. To check if the audio of your camera or video server is supported, refer to **Hardware supported by NetCamCenter**. (If the audio of the device is not supported, this option will be grayed out.)

To record Axis camera with audio, select **4.4 dual codec firmware** or **5.x dual codec firmware** from the **Model** list. Then, select **Native camera's compression** or **Webcam Corp NVC2** on the **Compression** tab.

To test the audio, you can click on Video adjustment button.
Click on **Speaker** button to listen to the audio.



Video adjustment

■ Disable JPEG optimization for Intel CPU

NetCamCenter software is optimized for Intel CPUs. This option disables JPEG optimization. You may need to turn this option on if you encounter problems with the camera. This option will be turned on automatically for cameras known not to work with the optimization. The software consumes more CPU when this option is on.

■ Frame rate

The frame rate for display. (Please note that the actual frame rate depends on the camera and network performance.)

■ Parameters

To change the resolution of a camera, you can enter the parameter in the Parameters field. For example, to change the resolution of AXIS's camera (firmware 4.x) to 640x480 enter resolution=640x480

To add another camera, select an empty slot in the camera list and click **Open**.

IMPORTANT!

1. The network camera or device must have a static IP address. Do not run the camera as DHCP client.
2. It is recommended to set your MPEG4 camera to CBR (constant bit rate) instead of VBR (variable bit rate).
3. If you are connecting to ACTi camera, disable RTP B2 Frame will improve the video quality.

4. For Panasonic camera, if you set **Permit access from guest users** on the **General Authentication** page, you need to enter guest in the username and password fields.
5. **For MPEG4 cameras, always use UDP protocol whenever possible.** This reduces delay, jitters and has the best performance compare to HTTP and TCP.

Generic network camera

If you have a RTSP MPEG4 or H.264 camera that is not in the Model list, you may want to try this option. Select **Generic RTSP camera** as camera maker.

- Enter the **IP address** of your camera.
- Select the **protocol** of your camera. E.g. HTTP, UDP, or TCP.

The screenshot shows the configuration interface for a Generic RTSP camera. The 'Maker' dropdown is set to 'Generic network camera' and the 'Model' dropdown is set to 'Generic RTSP camera'. Under 'IP address', the 'IP' radio button is selected with the value '68.1.1.1', and the 'Domain name' field is empty. The 'Port' section shows 'HTTP' at '1087' and 'RTSP' at '554'. The 'Protocol' dropdown is set to 'UDP' and the 'Codec' dropdown is set to 'Auto'. The 'Username' field contains 'root' and the 'Password' field is masked with asterisks. The 'RTSP path' field contains 'axis-media/media.amp?audio=0' and the 'Parameters' field contains 'videomaxbitrate=384'.

Note this MAY OR MAY NOT work with your RTSP MPEG4 cameras. E.g. RTSP protocol at this moment (2007) can't go thru firewall, hence the cameras adopt different ways to tunnel thru firewall, which may or may not be supported by NetCamCenter.

Generic Motion JPEG camera

Most of the network cameras provide single frame access. If you can't find your network camera in the selection box, but you found your camera provides generic JPEG frame access on the documentation, you can select **Generic Motion JPEG camera mode**. E.g. Axis network cameras provide

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http://camera_ip_address:port_number/jpg/image.jpg to access the most recent image frame. You can input the IP address and port number, and in **JPEG Path** field, put in "jpg/image.jpg" (without quotation).

Using CamCenter

After starting NetCamCenter you will see the following **CamCenter** screen.

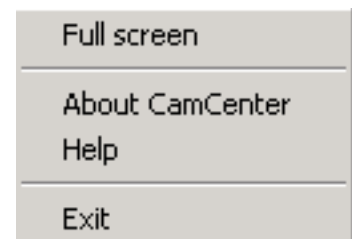
- The upper left of the **CamCenter** screen displays current date and time, IP address, and the available hard disk space.
- The middle section of the **CamCenter** screen includes number pad and **On** button to turn VCR, schedule, motion detection on or off.



CamCenter menu

You can right-click an empty area on **CamCenter** and then select **Full screen** to hide CamCenter. To redisplay CamCenter, point to the area of your screen where CamCenter is located.










Select **Full Screen** again to display CamCenter.



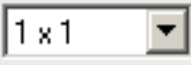

Note: It takes about 15 seconds to display all cameras in full screen.

You can find out the version number of NetCamCenter by selecting **About CamCenter**.

The Function Buttons





	The Web button starts NetCamCenter web server for viewing camera remotely and for searching local video files.
	The Open button to open Windows Explorer in the HTML document folder.
	The Setup button for configuring NetCamCenter general settings, including Web server, video file maintenances and etc.
	The View button allows you to preview and search for recorded video in a web browser.
	The Lock button to lock and unlock the keyboard.
	Click on Generate HTML page button to have NetCamCenter update the web pages.
	The OSD (On Screen Display) button to display the camera number, and status of motion detection and timer on each video window.
	The Scan button to switch video windows if there are more camera inputs than available video windows on the screen.
	The Exit button closes NetCamCenter program.

Display modes

	Select 1x1, 2x2, 3x3, 4x3, 4x4, 5x5, 6x6, 7x7, 8x8, 9x9, or 10x10 viewing mode. NetCamCenter removes display modes that are not needed based on the number of camera licenses.
	The Next View button to display the next camera page.

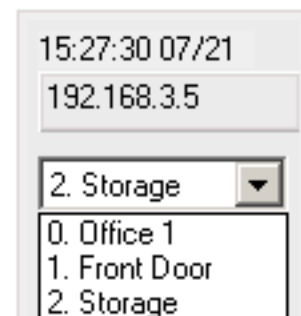
Action buttons

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	The VCR button to start and stop video recording
	The Alarm button to start or stop motion detection.
	The Schedule button to start or stop schedule.
	The PTZ button allows you to control PTZ function of your camera.

Camera List

You can click **Camera List** to select a desired camera or “**All cameras**”. After you select the desired camera, simply click **Open** to have NetCamCenter bring up the video window.



NetCamCenter displays the hard disk usage based on your selection.

Administrator Settings

NetCamCenter allows you to setup a password to control the permission to configure NetCamCenter. To setup a password, click on **Setup** on CamCenter and then go to **Admin** tab.

- Select **Administrator**
- Enter desired password. (**Please remember the password you have entered.**)
- Click on **Set password**.
- **Max retries allowed**
Enter the amount of times you would like to allow a user to retry to logon. If the max number of retries exceeds, NetCamCenter will play alarm sound.

After setting up a password, you will be prompted for the password when you click on Setup on CamCenter. You will also be prompted for a password when you unlock the keyboard.

To remove a password, delete ** in the **Password** and **Confirm Password** fields. Click **Set password**.

Administrator Settings dialog box:

Password

User type: Administrator

Password: ****

Confirm Password: ****

Set password

Your password is encrypted. The number of * does not reflect to the actual number of characters in your password.

Warning! Please make sure you remembered the password before setting the password.

Upon password fails

Max retries allowed: 3

Play alarm sound

Sound file: SchoolBell.wav

Browse Play

Viewing cameras on the screen

NetCamCenter provides 2 display modes. **Application mode** for easy operation and **Kiosk mode** mostly for display. When you start NetCamCenter for the first time, the **Application mode** is displayed.

Application mode

In Application mode, you can see title bar, status bar and toolbar allowing you to setup camera by clicking on **Setup** on each video window.

Kiosk mode

In Kiosk mode, title bar and toolbar will not be displayed. You can see the camera description and connection status on the top of the video.



Kiosk Mode

You can right-click an empty area on **CamCenter** and then select **Full screen** to hide CamCenter. Select **Full Screen** again to display CamCenter.

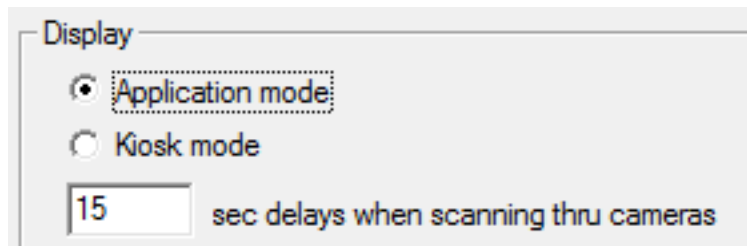
Note: It takes about 15 seconds to display all cameras in full screen.

Display a camera in full screen

You can double-click on the center of a video window to display the camera in full screen and double-click again to restore down. If the camera is a PTZ network camera, you can click on a position to move the camera view to center. (This feature does not apply to Canon's PTZ camera.)

Changing the display mode

To change the display mode, click on **Setup** on **CamCenter**, select **Misc** tab, select either Application or Kiosk mode.



x sec delays when scanning thru cameras

If the **Scan** button on CamCenter is pressed, NetCamCenter switches video windows if there are more cameras than available video windows on the screen. You can set the time interval for rotating cameras. For example, in 2x2 mode, 4 windows are displayed at a time. NetCamCenter will display the remaining cameras after 5 seconds.






Operating in Kiosk mode

To enable recording, alarm, timer or adjusting PTZ camera in Kiosk mode, you can right-click on a video window and enable it from the **right-click menu**.

Or use the camera number buttons to enable the action. For example, to record camera 1 and 2,

- Click on button 1 and 2, click **On** (the button turns to blue). You can see white frame around the selected video window.
- Click **VCR**. When VCR started, you will see red frame around the video screen.

To turn off VCR, timer or motion detection, click on the camera button to select camera first. Then, click **On** (the button turns white). Click VCR, timer or motion detection.

	The On button to apply on or off action
	The VCR button to start and stop video recording
	The Alarm button to start and stop motion detection.
	The Timer button to enable or disable schedule.
	The PTZ button allows you to control PTZ function of your camera.

OSD on video screen

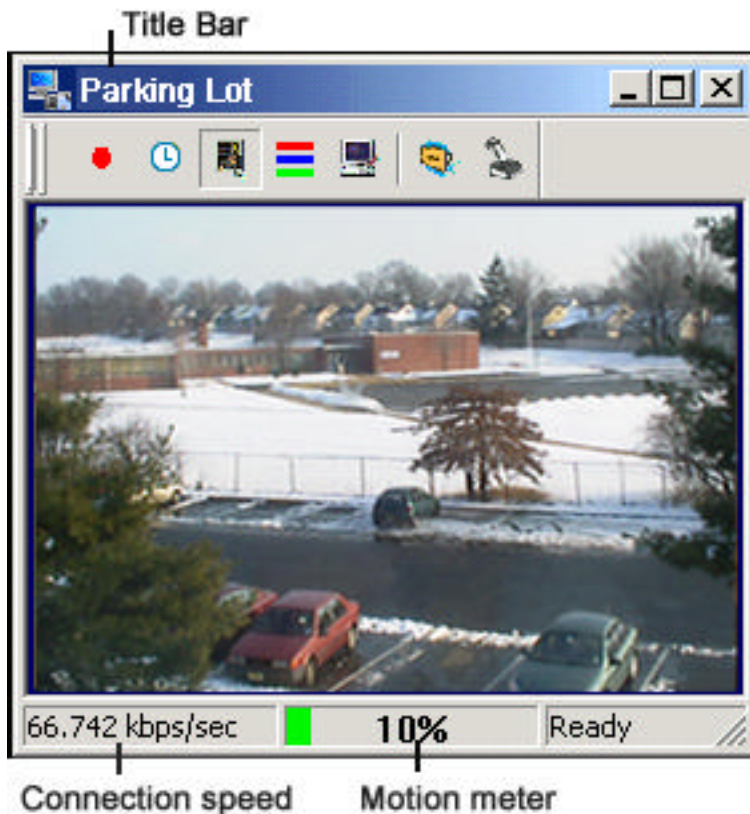
NetCamCenter can display the following information on each video screen.

- Camera number
- The status of connection, VCR, Timer and Alarm.

To enable this feature, click **OSD** on CamCenter. You can disable it by clicking **OSD** again.

Video Window

In Application mode, you can see the toolbar on a video window allowing you to configure the device. Note: if the video window is closed in Application and Kiosk mode, recording and broadcasting are also stopped.





Red frame - When VCR starts, you will see red frame around the video screen.











Green frame - When motion is detected and VCR is not on, NetCamCenter will show green frame around the video screen.

Orange frame - motion detection has been triggered and the recorder is on.

Connection speed - You can calculate the bandwidth used based on the connection speed.

	<p>This minimizes the video window but NetCamCenter continues to run the camera. You can minimize the window if you want to continue to run (record video, remote viewing ... etc.) the camera but don't want to see the camera on screen. (after 266) You can also minimize all the video windows to reduce resource usage required to render the video. You may also want to do this if you are running NetCamCenter on a PC with a slow display card (e.g. a rack mounted server with 4M/8M onboard VGA)</p>
	<p>Click on Maximize button to enlarge the window so that it fills the entire screen.</p>

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	This appears only when a window is maximized. To change the window back to its previous size, click on the Restore button.
	Close the video window. NetCamCenter will close the video window and stop all tasks related to this camera.
 VCR	The VCR button to start or stop video recording
 Timer	The Timer button to enable or disable timer.
 Open	The Open button to open Windows Explorer in the video directory.
 FTP	The FTP button to have NetCamCenter upload captured images to your web site.
 Alarm	The Alarm button to enable or disable motion detection.
 Setup	The Setup button to configure the camera settings, including caption, motion detection, recording and etc.
	The Video and audio adjustment button allows you to adjust brightness and contrast of your camera.
	The PTZ button allows you to control PTZ function of your camera.

When **VCR** is started, you will see red frame around the video screen. When motion is detected and **VCR** is not on, NetCamCenter will show green frame around the video screen. Orange frame means the motion detection has been triggered and the recorder is on.

Customize a video window's view

You can select to display or hide Toolbar text label, Toolbar, or Status Bar. To change the window's view

- Click **View** on the video window's menu.
- Select to display the desired item.

Naming cameras

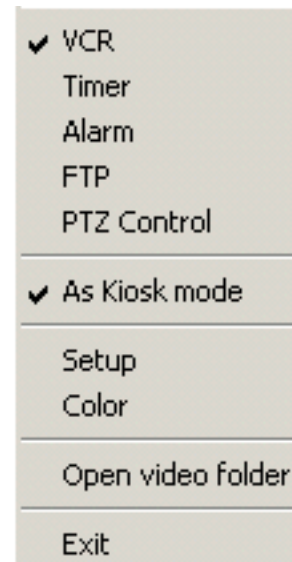
NetCamCenter enables you to set a desired name for each camera to help you distinguish each camera easily. The camera name is displayed on the title bar of the window. To set a camera name

- Select a video window and then click **Setup**.
- Click **Caption** tab and type in the name in the **Description** field for this camera.
- Click **OK**

Right-click menu

You can right click on a video window to

- Change the view and window size, or to zoom in.
- Start VCR, Timer, FTP or alarm



Right-click menu

Tips:

Area of interest

You can click and drag a rectangle on a video window to zoom in. Click on the center of the video again to restore.

Configuring NetCamCenter

Basic Settings

Click **Setup** on CamCenter and select **Misc** tab. The **Misc** tab allows you to setup the following features:

- Run at Windows start up
- Customize a video window's view
- Auto generates HTML pages upon changes
- Change display mode

The screenshot shows the 'Misc' settings window with the following configurations:

- Display:** Application mode, Kiosk mode, 15 sec delays when scanning thru cameras, Render video by DirectX 9
- System:** Run at Windows start up, Hide system taskbar, Do not attempt to recover from system errors
- Apply to all video windows:**
- Video windows:** Show toolbar, Show status bar, Hide menu (right click on video window to pop up the menu)
- HTML pages:** Auto generates HTML pages upon changes, Max camera applet per page: 2

Run at Windows start up

Check this box if you wish to run NetCamCenter automatically each time Windows starts.

Hide system taskbar

Check this box if you wish NetCamCenter to hide Windows taskbar.

Apply to all video windows

Check this box if you wish to use same settings for all video windows. Uncheck this box allows you to have different settings for each video window.

You can check or uncheck the following boxes to have NetCamCenter display or hide the items.

- Show toolbar
- Show status bar
- Hide menu

Auto generates HTML pages upon changes

Check this box if you wish NetCamCenter to update web pages each time you change frame rate or video size. Note all the HTML pages are stored on your local computer.

Max camera applet per page

Set the number of camera view in a single page. For example, if you wish to see 4 cameras on a page, please enter 4. Note the more cameras you put on the same page, the more bandwidth is needed to view the cameras.

Render video by DirectX 9

NetCamCenter will utilize DirectX 9 when DirectX 9 option is selected and both DirectX 9 hardware and driver are available. DirectX 9 provides faster rendering and better video rendering quality. When using remote connect software (e.g. XP Remote Desktop), you may not be able to see video if DirectX 9 option is selected since the remote connect software may not be able to read DirectX 9 video frame buffer. You will need to restart NetCamCenter after you change the setting.

* If the camera window becomes black after enabling this feature, please turn it off and then restart NetCamCenter.

Do not attempt to recover from system errors

If enabled, NetCamCenter will not attempt to detect and recover from problems that may come from device drivers, system memory or other known potential errors. Note this feature helps in many situations but can't recovery from all types of system errors. (e.g. a faulty memory module)

Web Server

To configure Web server, click **Setup** on CamCenter, and then click the **Server** tab.

The screenshot shows the 'Server' configuration window with the following settings:

- Port: 80
- Enable logging:
- Web page folder: I:\video\htdocs (with a 'Browse' button)
- HTML filename: default.htm
- Access control: Authorization required
- User ID: [Empty field]
- Password: [Empty field]

■ Port

The default port used by NetCamCenter is 80. You may choose other port, such as 90 or 8888 if the default is used by other software. If you setup port other than 80, you will need to add port number to your web address. For example, if your IP address is 24.5.66.1, your web address is http://24.5.66.1:90

■ Enable logging

NetCamCenter creates log file for you to track who accesses your web site. You can enable this feature by checking **Enable logging** box.

A log file will be created in " C:\Documents and Settings\All Users\Documents\NetCamCenter ". You can find the file by using Windows Explorer and open Your-Computer-Name_Date.log file with Notepad to view the log. The log file records the time, date and IP address in which NetCamCenter are accessed from.

■ Web page folder

The folder contains the web pages created by NetCamCenter.

■ **HTML filename**

The filename for NetCamCenter generated HTML page.

■ **Authorization required**

You can setup username and password to control the access.

1. On the **Server** tab, type your desired username and password.
2. Check the **Authorization required** box.
3. Click **OK**.

Web access

You can control web access for each camera. To disable web access to a camera,

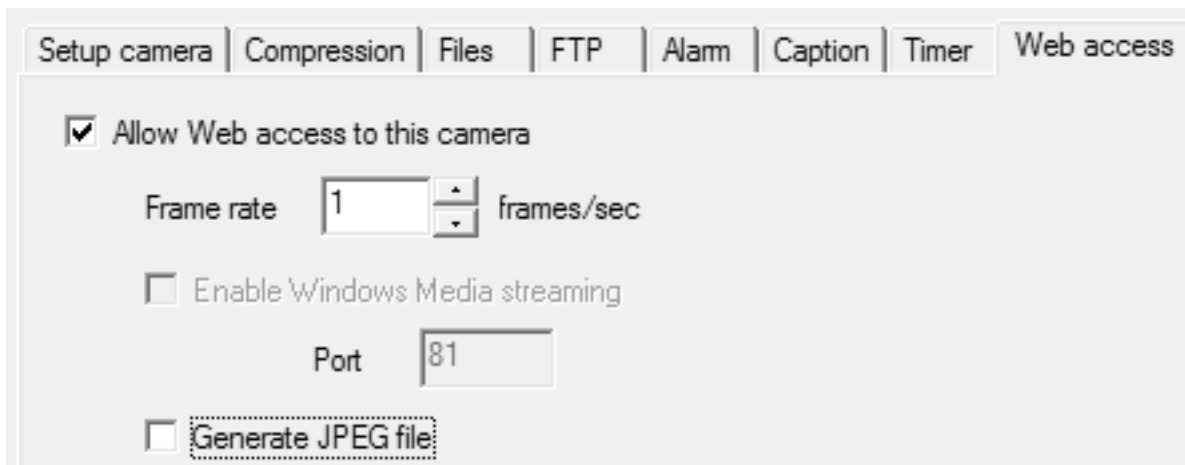
- Select a video window and then go to **Web access** tab.
- Uncheck **Allow web access** to this camera box.

To change the frame rate of a camera when viewing by ActiveX,

- Select a video window and then go to **Web access** tab.
- Enter a number in the **Frame rate** field.

Generate JPEG file

Enable this feature if you need to monitor remotely by Java applet.



Note: Windows Media streaming is not supported by Basic edition.

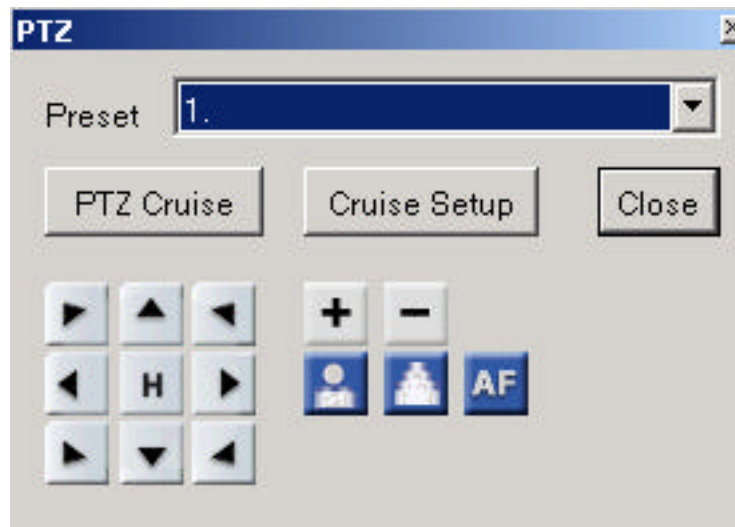
Controlling PTZ

To control a PTZ camera, select its video window and then click the **PTZ** button. The dialog box allows you to control the pan/tilt/zoom functions of the camera by clicking the buttons.



PTZ button

To control PTZ camera in Kiosk mode, use the number pad to select the camera, click on On button. Click on PTZ button on CamCenter. (If you do not see the PTZ window, hold down the **ALT** key, and press **TAB** until the window you want is active.)

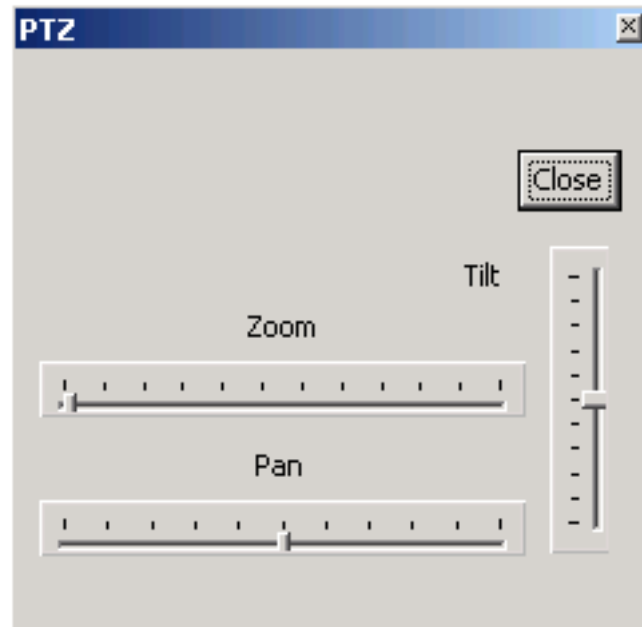


If your camera supports PTZ preset and you have setup the preset position with your camera, you can select a preset to adjust to the position quickly.

Canon's PTZ camera supports absolute position. You will see different PTZ interface when clicking the PTZ button for a Canon camera.

Tips:

You can also click on a position of a camera window to move the camera view to center. (This feature does not apply to Canon's PTZ camera.)



PTZ control tab for Canon PTZ camera

Using keyboard to control the camera

You can use the keyboard to control the camera in Application mode. (This does not apply to Canon camera.)

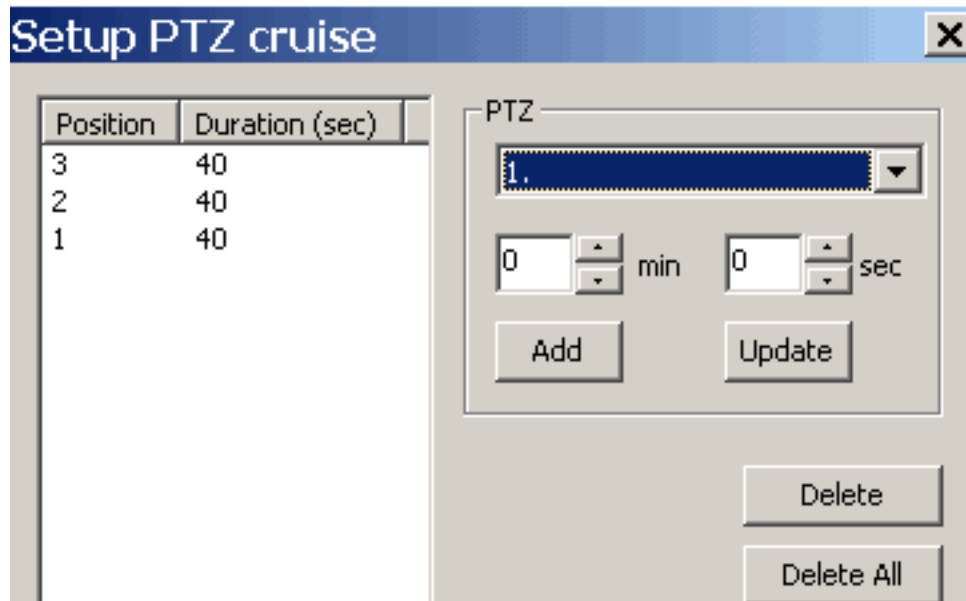
Left	← , 4
Right	→ , 6
Up	↑ , 8
Down	↓ , 2
Up right	9

Up left	7
Down right	3
Down left	1
Zoom In	+
Zoom out	-

PTZ cruise control

NetCamCenter supports PTZ cruise that allows you to program the preset positions to be called in a set of sequence. To configure PTZ cruise,

- Click **PTZ** button.
- Click **Cruise Setup**.



■ **Adding a track**

To add a track, select a number from the **Preset** list. Enter the duration that the camera should stay in that position. Click **Add**.

■ **Editing a track**

Click a position on the left pane. To change the position, select a number from the **Preset** list. Set the duration. Click **Update**.

■ **Deleting a track**

To delete a track, click a position on the left pane. Click **Delete**


Once you' ve finished, click **OK**. To enable **PTZ Cruise**, click on **PTZ Cruise** button.

Note: NetCamCenter accepts PTZ range from

- Pan -180 to 180 degree
- Tilt -90 to 90 degree
- Zoom 1-100

The actual action depends on the camera hardware. If the camera hardware can only turn between -100 to 100 degree, entering 120 won't make the camera to turn 120 degree.

Adjusting video and audio

Click on  button to adjust video.

Convert to black and white image

Check this box to convert the video to black and white. Click **Apply**.

Flip vertical

This function is used to flips the video upside-down.

Flip horizontal

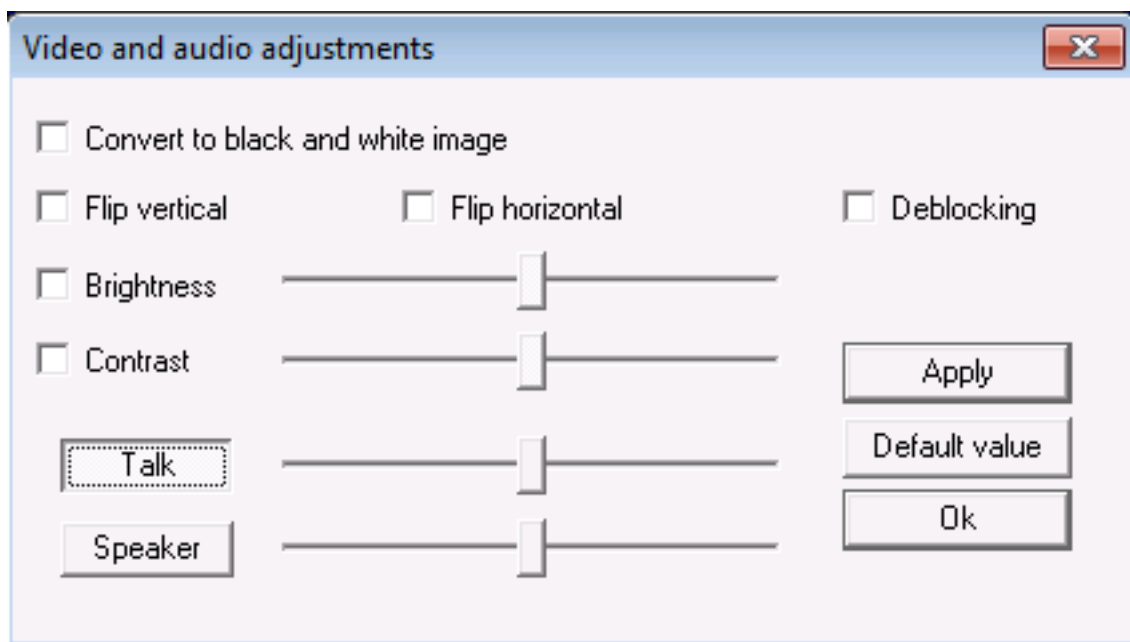
This function is used to flips the video from left to right.

Brightness

Check this box to adjust the brightness.

Contrast

Check this box to adjust the contrast.



Talk

If your network camera supports two way audio communication, you can have NetCamCenter transmit audio to your camera's external speaker.

Simply click **Talk** to enable this feature.

Note Please refer to the supported hardware list to check if your camera is supported.

Speaker

To listen to the audio transmitted from the camera or video server, click on the **Speaker** button. To record audio from the camera, check **Enable audio** on the **Setup camera** tab.

Note Please refer to the supported hardware list to check if your camera is supported.

Default Value

Click **Default value** to save the current settings as default settings.

Caption

NetCamCenter allows you to set caption on the recorded video of each camera. To set caption for a camera

- Select the video window and then click on **Setup**.
- Select **Caption** tab.
- Check **Enable caption** box to enable caption on the video. (Note: if **Native camera's compression** is selected on **Compression** tab, caption will be disabled.)

Description

- To set a camera name, you can type in a desired name in the **Description** field. The camera name is displayed on the title bar of the window.

The screenshot shows the 'Caption' settings dialog box. At the top, there is a 'Description' text box containing 'Cam 6'. Below it is a checked checkbox labeled 'Enable caption:' with a note: 'Important: Enable caption consumes more system resources. Use camera's built-in caption/timestamp feature whenever possible.' Underneath is a 'Text string' text box containing '%X %x'. The bottom half of the dialog features five rows, each with a descriptive instruction and a corresponding button: 'Click on the Time code button to add time code to the text string.' with a 'Time code' button; 'Click on the Bounding box button to set the caption box position.' with a 'Text box' button; 'Click on the Text color button to set the text color.' with a 'Text color' button; 'Click on the Font button to select the font.' with a 'Font' button; and a checked checkbox 'Transparent text background' with a 'Background color' button.

Text string

To display text caption on your video, simply type the text in the Text string field or click on **Time Code** button to put up a timestamp. You can also enter desired text after or before the time code.

Text box

To change the position of the caption, click **Text box**. Click and draw the area on **Text Box window** to set the position of your caption.

Font

Click on **Font** button to change the font type, size or color of the caption.

Transparent text background

Check this box if you wish to have transparent text background. To set background color of the text string,

- Uncheck **Transparent text background** box.
- Click **Background color**. Select a color and then click OK.

Note:

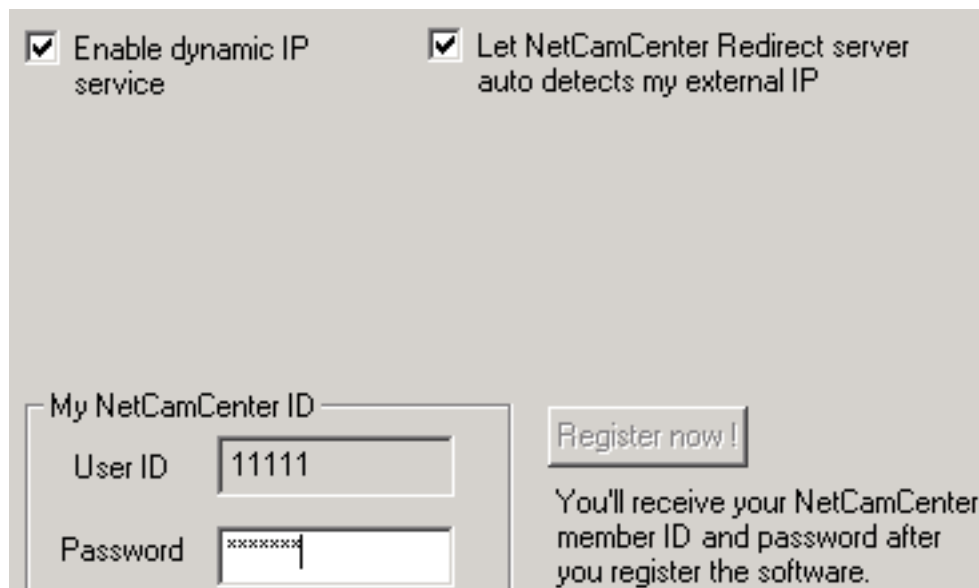
If you select Native camera's compression as recording format, NetCamCenter will disable caption function. For better performance it is highly recommended that you use your IP camera's caption function to add timestamp and text.

Dynamic IP

If you do not have a static IP address, you can register to get a member URL which is easy to remember. For example, if your username is 12345, your URL will be "http://www.webcamsoft.com/icast.asp?user=12345". Note member URL only helps you find your NetCamCenter's current IP address. If you have a router or firewall, you still need to manually configure the device to allow incoming access.

To register NetCamCenter

- Click **Setup** on CamCenter and click **Dynamic IP**.
- Click **Register now!** and register NetCamCenter to get a User ID and password for redirect service. After registering, download and install the registration key. You will also see your User ID and password on the web page. After installing the registration key, you can see your User ID on the **Dynamic IP** tab.



The screenshot shows a registration window with the following elements:

- Two checked checkboxes at the top: Enable dynamic IP service and Let NetCamCenter Redirect server auto detects my external IP.
- A section titled "My NetCamCenter ID" containing:
 - A "User ID" field with the value "11111".
 - A "Password" field with masked characters "xxxxxxx".
- A "Register now!" button.
- Text below the button: "You'll receive your NetCamCenter member ID and password after you register the software."

Enable dynamic IP service

Check **Enable dynamic IP service** box. Enter your password. Click OK.

Let NetCamCenter Redirect server auto detects my external IP

Check this box if you wish to let NetCamCenter Redirect server auto detects your external IP address.

Digital video recording

Configuring digital video recording

The video files are saved in the video directories (C:\Documents and Settings\All Users\Documents\NetCamCenter\htdoc). Each video file is named with date and time for you to manage them easily. (Note: the storage limit of NetCamCenter Basic 16 camera version is 800 GB.)

Recording settings

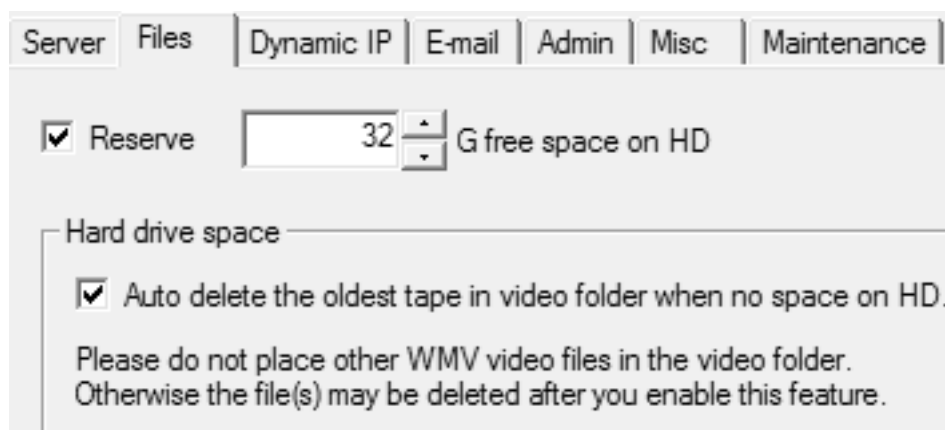
To configure video recording file settings, click on Setup on **CamCenter** and then Files tab.

■ Reserve x G free space on HD

Input a number here to limit hard disk space being used by NetCamCenter. If you enter 40 in the box, NetCamCenter will reserve 40GB free space on your HD. Note: NetCamCenter reserves at least 20GB free space for the operating system

■ Auto delete the oldest tape in video folder when no space on HD

You may want to turn this feature on if you want NetCamCenter to delete the oldest video recording in your video folder to recycle the hard drive space. Please be careful with this option. Your video files in the video folder may be deleted if you check this box.



■ Video recording folder

Setting video folder for each camera is not supported by NetCamCenter Basic

edition. If you wish to change video folder, run **nccbf.exe** from the software CD. You can also download the tool at <http://www.webcamssoft.com>

The screenshot shows a dialog box titled "Video recording folder". At the top, there is a text input field containing the path "I:\video\htdoc\video.0" and a "Browse" button to its right. Below this, there are several options with checkboxes and input fields:

- Limit the tape to MBytes
- Reserve MBytes free space on HD
- Auto delete the oldest tape in video folder when no space on HD.
- Keep only video files with motion detection events associate with them (to save hard drive space)
- Watermark video files

- **Limit the tape to x MB**

This feature is not supported by Basic edition.

- **Keep only video files with motion detection events associate with them**

Check this box if you enable Auto delete the oldest tape in video folder and wish to keep video files captured when motion is detected. NetCamCenter will remove regular recording video files to save hard disk space. This allows you to save more hard disk space.

- **Watermark video files**

You can have NetCamCenter to generate watermark on every video file, or you can manually generate it only when it is needed. The later is preferred as it reduces your system loading. However, be aware it takes several minutes (depends on the data size) to watermark a video file if you choose to manually generate it.

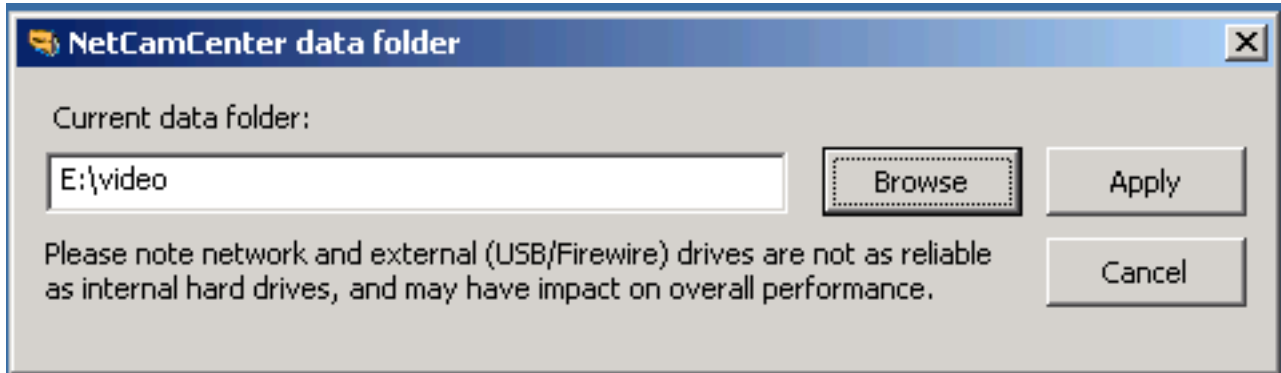
- To enable watermark on all recordings, click on Setup button, and then

select **Files** tab.

- Check **Watermark video files** and then click on OK.

- **Change video folder**

Exit NetCamCenter first. Run nccbf.exe. Click **Browse** to select a folder and then click **Apply**.



Compression

To setup recording data rate, click **Setup** and then **Compression** tab.

Video Codec

Please use the codec comparison table to select the codec. In general, if you favor low CPU usage, need to run a large number of cameras (e.g. 16 or higher) **Native camera's compression** and **NVC2** could be your choices. When using **NVC2**, you'll need to set the encoding bit rate higher in order to get similar video quality compare to other codecs. (3 to 10 times higher)

The screenshot shows the 'Compression' settings dialog box. The 'Codec and data rate' section has a 'Video Codec' dropdown menu set to 'Webcam Corp NVC2'. Below it, there are two radio button options for data rate: the first is selected and shows '2000 kbps (15 MB/min, 895 MB/hour, 21 GB/day)', and the second is 'Video 248 kbps'. A note below these options states: 'Note: Lower data rate makes the file size smaller, but lowers the video/audio quality. Higher data rate produce high quality video/audio but increases the file size.' Below the note, there is a checkbox for 'Desired recording and broadcasting frame rate: Same as capture' which is unchecked, and a spin box set to '5' frames/sec. At the bottom, there is a 'Webcam Corp NVC2 quality' slider ranging from 'Low' to 'High', with the slider positioned slightly past the midpoint. An 'Advanced' button is located at the bottom right of the dialog.

Note:

1. **Native camera's compression** is available when connecting to MPEG4 and H.264 camera. If NetCamCenter detects that the camera is not using MPEG4 or H.264 codec, NetCamCenter will not display this option. (Note: Audio is not supported for MPEG4 and H.264 Windows Media streaming.)
2. If the video is recorded with Webcam Corp NVC2, H.264 or MPEG4 codecs, to playback the video or view the live streaming video, you need to install the codec.

Codec Comparison Table

	Video quality	Storage and network usage	Frame rate under same data rate	CPU usage	Installation
Windows Media Video 9	Highest	Low	Highest	Highest	Windows Media Player codec auto download and installation available.
Windows Media Video 8	High	Low	High	High	Windows Media Player codec auto download and installation available.
Windows Media Video 7	High	Low	High	High	Windows Media Player codec auto download and installation available.
Webcam Corp NVCC2	Fair	Highest	Low	Low	Required to install the codec manually. **1*
Native camera's compression	Highest	Depends on the camera	Highest	Low	Required to install the codec manually.

- Available for PC with system requirement as NetCamCenter only.
- Current draw backs of recording with MPEG4 and H.264 are
 - poor fast forwarding and back forwarding
 - players are not widely available, DirectShow MPEG4/H264 codec is required
 - poor remote/network playback
 - audio is not supported for MPEG4 and H.264 Windows Media streaming. However, you can still record MPEG4 and H.264 compressed video with audio.
 - players are not widely available. DirectShow MPEG4 and H.264 decoder is required to view recorded file. A valid MPEG4 and H.264 license is required for every MPEG4 and H.264 decoder/player.
 - Can't be playback with Windows Media Player due to the lack of decoder. Use video player that supports DirectShow, or VLC player.

Compression Data Rate

The quality of your recordings can be affected by the amount of motion that occurs during the recording process. For high-motion content or 640x480 resolution you can select higher data rate to have better video quality. (Customizing recording data rate is not available for NetCamCenter Basic edition.)

Note:

1. If **Native camera's compression** is selected, this option is disabled.
2. Native camera's compression is not available if Sony MPEG4 mode is selected.

You can calculate video file size by referring to the following table. The video file produced by NetCamCenter is highly optimized for streaming. Your connection speed will influence the smoothness of your video if you view the video from the Internet. (* Note: The following table is for reference only. The actual file size may vary depending on the video content and frame rate.)

64 kbps	360 KB/min, 22MB/hour, 506MB/day
90 kbps	540 KB/min, 33MB/hour, 607MB/day
128 kbps	720 KB/min, 43MB/hour, 1GB/day
160 kbps	960 KB/min, 56MB/hour, 1.35GB/day
256 kbps	1440 KB/min, 86MB/hour, 2GB/day
384 kbps	2 MB/min, 129MB/hour, 3GB/day
512 kbps	4 MB/min, 229MB/hour, 6GB/day
768 kbps	6 MB/min, 337MB/hour, 8GB/day
1000 kbps	8 MB/min, 632MB/hour, 15GB/day
2000 kbps	11 MB/min, 895 MB/hour, 21GB/day
3000 kbps	22 MB/min, 1.3 GB/hour, 32GB/day
4000 kbps	30 MB/min, 1.7 GB/hr, 41 GB/day
5000 kbps	38 MB/min, 2.1 GB/hr, 51 GB/day
6000 kbps	45 MB/min, 2.6 GB/hr, 62 GB/day
7000 kbps	51 MB/min, 3.0 GB/hr, 72 GB/day

8000 kbps	59 MB/min, 3.4 GB/hr, 82 GB/day
12 Mbps	89 MB/min, 5.1GB/hour, 123 GB/day
16 Mbps	118 MB/min, 6.8GB/hour, 164 GB/day

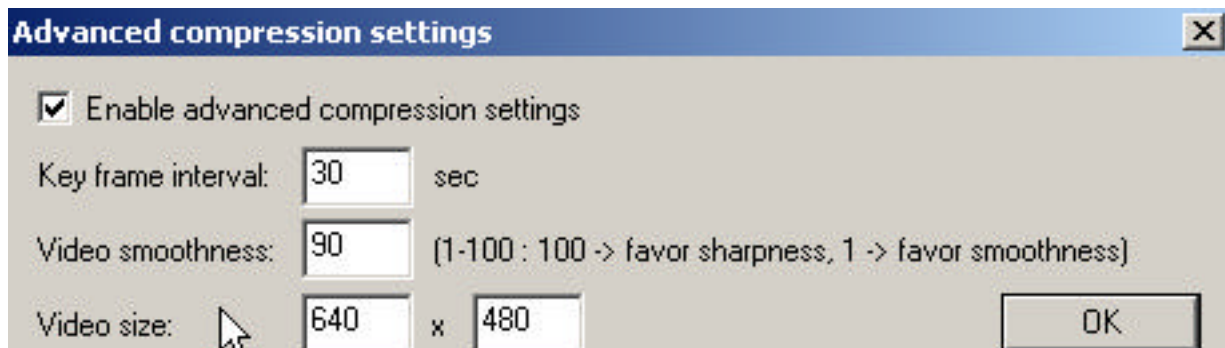
Desired recording and broadcasting frame rate

Enter a desired frame rate for recording.

Advanced compression settings

Advanced compression settings only available when you select Windows Media video as video codec. To enable this function, check **Enable advanced compression settings**. (This feature doesn't apply to pre-alarm recordings.)

- **Key frame interval**
Set the key frame interval.
- **Video smoothness**
Enter 1 to 100 to set the video smoothness.
- **Video size**
You can set the video size here. For example, enter 640x480 or 704x480.



Starting VCR

To start video recording

- In the video window, click on **VCR** button to start video recording. You'll see a red frame around the video screen when recording starts.
- Click on **VCR** button again to stop recording.



VCR button

NetCamCenter Basic

To record a camera in Kiosk mode, click on camera button first. Make sure the **On** button is highlighted (click on **On** button if not). Click VCR on CamCenter. To turn off **VCR**, click on camera button and make sure the **On** button is not highlighted. Click VCR.

Motion Detection

Configuring motion detection

You can instruct NetCamCenter to record video, sound an alarm or notify you by phone or email when motion is detected. Motion detection compares the change of pixels between image frames. To set up motion detection, select a video window. Click on **Setup** button, and then select the **Alarm** tab.

The screenshot shows the 'Alarm' configuration tab in NetCamCenter. It includes several sections: 'Activate alarm after' with a spinner set to 0 minutes; 'Enable pre-alarm, buffer for' with a spinner set to 0 seconds and 'Reset alarm status after' with a spinner set to 30 seconds; 'Activate alarm when' with checkboxes for 'Motion detected' (checked) and 'GPIO input is triggered' (unchecked), each with a 'Setup' button, and an unchecked option for 'Unable to connect to camera (send email only)'; 'When alarm is triggered' with checkboxes for 'Start video recording' (checked) and 'Open video folder' (unchecked), an 'Email me' checkbox with a 5-second notice spinner and an empty text field, a 'Set external I/O to' section with 'On' selected, and a 'Launch external process' checkbox with an empty text field; and a 'Sound' section with 'Play the sound file' checked, a text field containing 'CarAlarm.wav', and 'Browse' and 'Play' buttons.

(GPIO input and output controls are not supported by NetCamCenter Basic edition.)

Alarm Settings

■ Activate alarm after x minutes

You may want to set up the delay time to avoid alarm being activated when you

leave.

■ **Enable pre-alarm, buffer for x seconds**

Check this box to enable pre-alarm. Enter how many seconds of video should be kept in buffer for prealarm. (Note: audio is not supported with pre-alarm recording.)

Please note pre-alarm does not come for free. Software has to temporary store the images on the hard drive and this consumes other computer resources as well. The longer the pre-alarm time you set, the more hard drive space is needed.

■ **Reset alarm status after no motion for x seconds**

The software will be set to non-triggered status after no motion for x seconds.

Activate alarm when

You can select to activate the alarm when motion is detected.

Motion detected

If you wish to activate alarm when motion is detected check this box to enable motion detection. To configure motion detection, click **Setup**.

■ **Trigger the alarm if there're over x % changes**

The software triggers the alarm actions if the percentage of changes between the scenes (pixel changes) exceeds the value. You can use the percentage change indicator in the software as a reference to adjust this setting.

■ **Mark motion detected areas**

Check this box if you wish NetCamCenter to mark the motion detected areas.

■ **Ignore light switch or camera shift**

NetCamCenter won't see light switching as an intruding event if you turn this on.

■ **Do motion detection at x frame/sec**

Adjust motion detection speed. The faster the better response, but higher CPU load.

■ **Sensitivity**

Use sensitivity settings to tell NetCamCenter how it should decide if a pixel on the video has changed. If set to high, the software decides the pixel has changed even with a slight change on the pixel reading from the video device. Adjust the value based on camera quality and the scene.

■ Motion detection areas

You can select multiple areas where NetCamCenter should watch for motion detection. To add a motion detection area, click **Add area**. Click and drag the mouse to draw around the area you wish to enable motion detection.

To remove the last added area, click **Clear last added area**. To erase all areas, click **Clear all areas**.

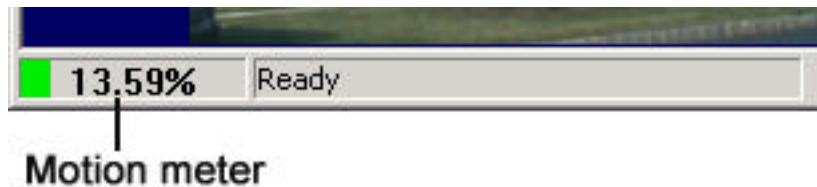
Show masks

You can set a privacy mask for a camera. If you select show masks, only the selected areas will be displayed and recorded in the video.

Exclusive mode

Use this instead of **Add area** if you want to enable motion detection on the whole image except some small areas. E.g. to block the window.

After activating motion detection, you can see the motion meter changes on status bar of the video window. When alarm is triggered, you can see the motion meter turns red.



Unable to connect to camera (send email only)

Check this box if you wish to receive an email alert when NetCamCenter cannot connect to this camera.

GPIO input is triggered

Check this box if you wish to activate alarm when GPIO input is triggered. (Note: this feature is not supported by NetCamCenter Basic edition.)

When alarm is triggered

You can instruct NetCamCenter to do the following when motion is detected.

■ **Record video**

Enable to have NetCamCenter records video when motion is detected.

■ **Email notification**

When motion is detected or NetCamCenter cannot connect to the camera, NetCamCenter can alert you by emailing you the captured images. To enable email notification, simply check the box and type your email address correctly.

You need to set up MAPI compatible email software like Microsoft Outlook Express or Microsoft Outlook to have NetCamCenter send the email. You can also configure NetCamCenter's SMTP function to have NetCamCenter send email.

■ **Set external I/O to**

You can instruct NetCamCenter to turn on or off external output device when alarm is activated. (Note: this feature is available only on NetCamCenter Professional.)

■ **Play a sound**

If you want a sound played when motion is detected, check the Play a sound box. Click on the **Browse** button to select a sound file. Two sample .wav files are included for your convenience.

■ **Launch external process**

If you would like NetCamCenter to launch other program when motion is detected, click **Browse** and select the program.

Note:

It is not recommended using motion detection for outdoors or areas that constantly have objects moving (e.g. convenient stores). The sudden change of sunlight may generate false alarm. Avoid using motion detection around window, with bad cameras or wireless cameras, dark area, or places that the lighting changes constantly. You may get false alarm when using motion detection in these areas.

Enabling alarm

- Click on **Alarm** button on video window to enable motion detection.
- To disable motion detection, click on **Alarm** again.



Alarm button

When motion is detected, you can see green frame around the video screen. Orange frame means motion is detected and video recording is on.

Email setting

To have NetCamCenter send email to you without setting up MAPI compatible email software

- Click **Setup** on CamCenter. Select **E-mail** tab.
- Check **Use SMTP** box.
- Enter your name and email address in the User Information section.

Server

1. Enter the SMTP server. If you don't know the SMTP server, please contact your ISP to get the information.
2. If your SMTP server requires authentication, please select Yes in Authentication method and enter your username and password.
3. Check **Auto Connect to the Internet** box to have NetCamCenter connect to Internet and send the email automatically.
4. Click **OK**. You may need to restart NetCamCenter to have the settings take effect.

The screenshot shows the 'Email setting' dialog box in NetCamCenter. At the top, the 'Use SMTP' checkbox is checked. Below it, a note says 'Uncheck this to use your default mail program by MAPI.' The dialog is divided into three sections: 'User Information', 'Server', and 'Misc'. In the 'User Information' section, the 'Name' field contains 'mark' and the 'E-mail address' field contains 'markgould09@yahoo.com'. In the 'Server' section, the 'SMTP server' field contains 'server1.mailserver.com', the 'Port Number' field contains '25', and the 'Authentication Method' dropdown menu is set to 'None'. Below the 'Authentication Method' are empty fields for 'Username' and 'Password'. In the 'Misc' section, the 'Auto Connect to the Internet' checkbox is unchecked.

Timer

NetCamCenter allows you to schedule recordings or alarm on a daily base. If you wish to record video or enable motion detection for a certain time, you can enable Timer. To add a schedule for a camera

- Click on **Setup** on the video window.
- Select **Timer** tab. Enter Start and End time.
- Select the time and day you want to run the task.
- Select **Turn on VCR** or **alarm**.
- Click **Add**.

To remove a schedule

- Select a schedule from the list.
- Click **Remove** to remove the schedule

To enable timer

To enable **Timer**, click on **Timer** button on a video window. Click again to disable Timer.



Timer button

