

White Light LEDs	If the checkbox is enabled, the white light LEDs will be turned on when the surrounding light is below 0.5 lux and <i>Trigger Event</i> option in the event trigger screen is enabled.
-------------------------	--

Video Access Screen

This screen is displayed when the *Video Access* option on the *Video & Audio* menu is clicked.

The screenshot shows the 'Video Access' configuration page for a network camera. The page has a light blue background and a navigation menu on the left. The menu includes sections for 'Setup', 'Video & Audio', 'Event', and 'Administration'. The 'Video & Audio' section is expanded, showing options like 'Video & Audio', 'Video Access', 'User Database', and 'Pan/Tilt'. The 'Video Access' option is selected. The main content area contains the following elements:

- User Access:** A checkbox labeled 'Enable Security Checking'.
- Video Access:** A checkbox labeled 'Enable Scheduled Video Access'.
- Access Schedule:** A table with one empty row and a 'Delete' button below it.
- Add New Schedule:** A form with the following fields:
 - Day:** A dropdown menu currently set to 'Every day'.
 - Start Time:** Two dropdown menus for hours and minutes, both set to '00', followed by '(hh:mm)'.
 - End Time:** Two dropdown menus for hours and minutes, both set to '00', followed by '(hh:mm)'.
- Buttons:** 'Add', 'Clear', 'Save', 'Cancel', and 'Help' buttons are located at the bottom of the form.

Figure 34: Video Access Screen

Data - Video Access Screen

User Access	
Enable Security Checking	<ul style="list-style-type: none"> If disabled (default) - No login required. Users do not have to provide a username and password when they connect to the camera for viewing video. If enabled - Require login. Users will be prompted for a username and password when they connect to the camera for viewing video. The camera administrator must use the "User Database" menu option to create the desired users.
Video Access	
Enable Scheduled Video Access	<ul style="list-style-type: none"> If enabled - Viewing video is available during the scheduled periods, and unavailable at other times. If this option is selected, you need to define a schedule. If no schedule is defined, this option is always disabled. If disabled - The option will remain disabled until you enable it. <p>Note that regardless of which setting is chosen, the Administrator can ALWAYS access the camera and view live video.</p>
Access Schedule	
Scheduled Periods	This displays all periods you have entered into the database. If you have not entered any periods, this list will be empty.

Delete	Use the Delete button to delete the selected item in the list.
Add New Schedule	
Day	Choose the desired option for the period.
Start Time	Enter the start time using a 24 hr clock.
End Time	Enter the end time using a 24 hr clock.
Add	Click this button to add a new period.
Clear	Use this button to clear the input fields.

User Database Screen

This screen is displayed when the *User Database* option is clicked.

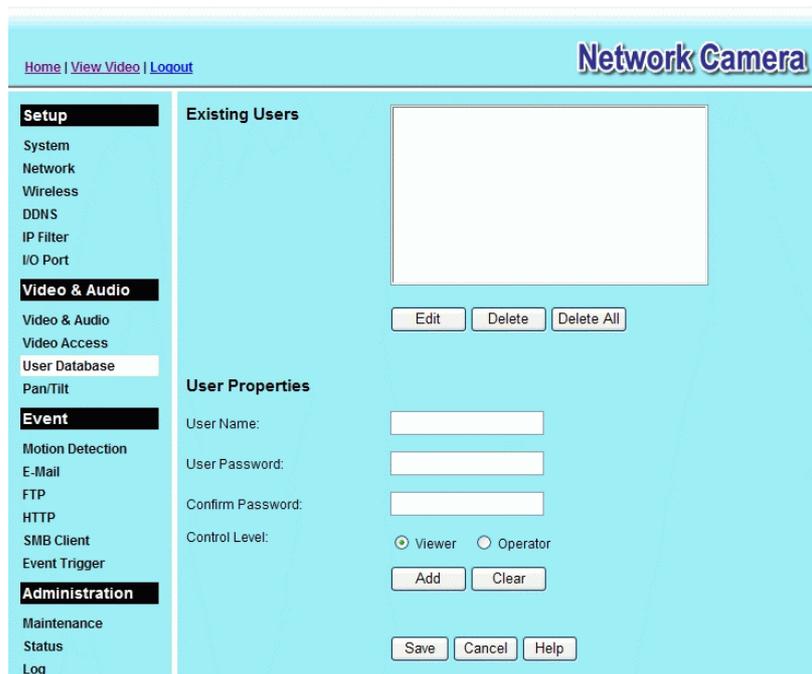


Figure 35: User Database Screen

Data - User Database Screen

Existing Users	
User List	This displays all users you have entered into the User database. If you have not entered any users, this list will be empty. The maximum number of users is 20.
Edit, Delete, Delete All	Use these buttons to manage the user database.
User Properties	
User Name	Enter the name for the user here. <ul style="list-style-type: none"> Spaces, punctuation, and special characters must NOT be used in the name. The name is case insensitive (case is ignored), so you can not have 2 names which differ only by case.
User Password	The password for this user.
Confirm Password	Re-enter the password for the user, to ensure it is correct.
Control Level	Select either <i>Viewer</i> or <i>Operator</i> for the user you plan to add. (Operator level allows user to control Pan/Tilt)
Add Button	Click this button to add a new user, using the data shown on screen.
Clear Button	Use this button to clear the input fields, ready to add a new user.

Pan/Tilt Screen

This screen is displayed when the *Pan/Tilt* option on the *Video & Audio* menu is clicked.

Figure 36: Pan/Tilt Screen

Data - Pan/Tilt Screen

Pan/Tilt	
Enable Pan/Tilt Control	Enable the checkbox in order to use the Pan/Tilt function.
Motor Speed	Select the desired motor speed for the Pan/Tilt control. The default value is Normal.
Preset Point Position	Click this button to define the preset point position.

Set Patrol Sequence	
Set Patrol Sequence	<p>This feature determines how the camera will move when it is set to either "Once" or "Always" rotate. You can set a number of Preset Positions; the camera will go to the first position, then move through the list of present positions until it is finished. The camera will stop at the last position in the list.</p> <p>To create the Preset Sequence, select the desired Preset Position in the left column, and click the "Add >>" button. Repeat until the desired sequence is complete. Note that you can add the same Preset Position more than once; this can be used to make the camera stay longer at one position.</p> <p>To delete a position from the Sequence, select the desired position and click the "Remove" button.</p>
Time	This determines how long the camera will stay at each position while executing the sequence. Set this to the desired value.

Set Preset Position Screen

This screen is displayed when the *Preset Point Position* button on the *Pan/Tilt* screen is clicked.

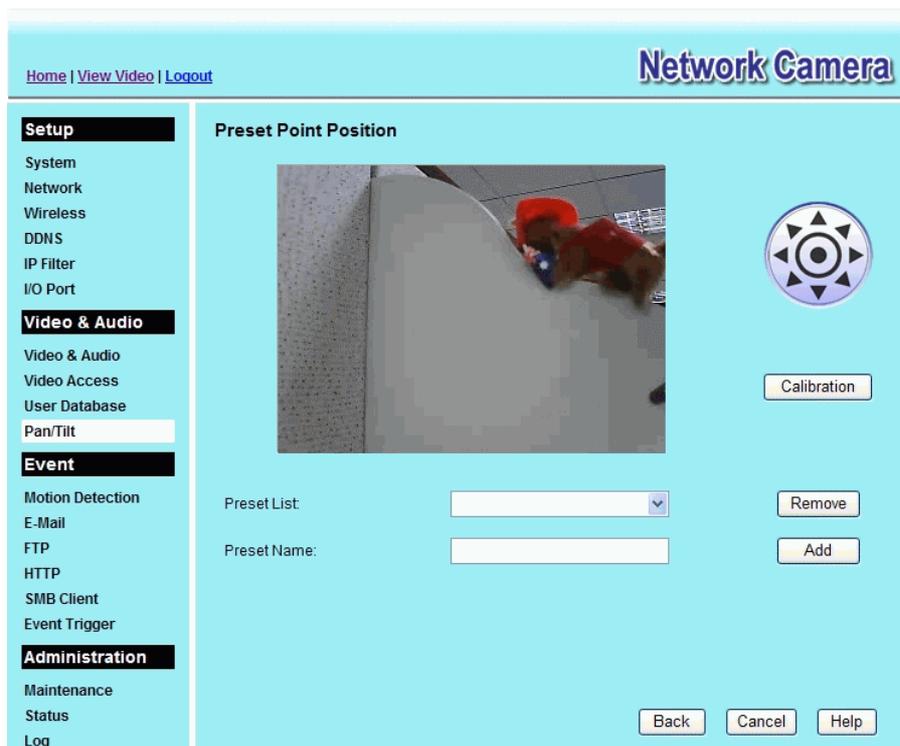


Figure 37: Preset Point Position Screen

Data - Preset Point Position

Calibration	Click this button to reset the calibration of Pan/Tilt area.
--------------------	--

Preset List	Select the desired Preset. The screen will update with the current data for the selected Preset Position.
Preset Name	Enter a suitable name for the Preset Position. If no name is entered, the preset will have a number only.

Motion Detection Screen

This screen is displayed when the *Motion Detection* option on the *Event* menu is clicked.

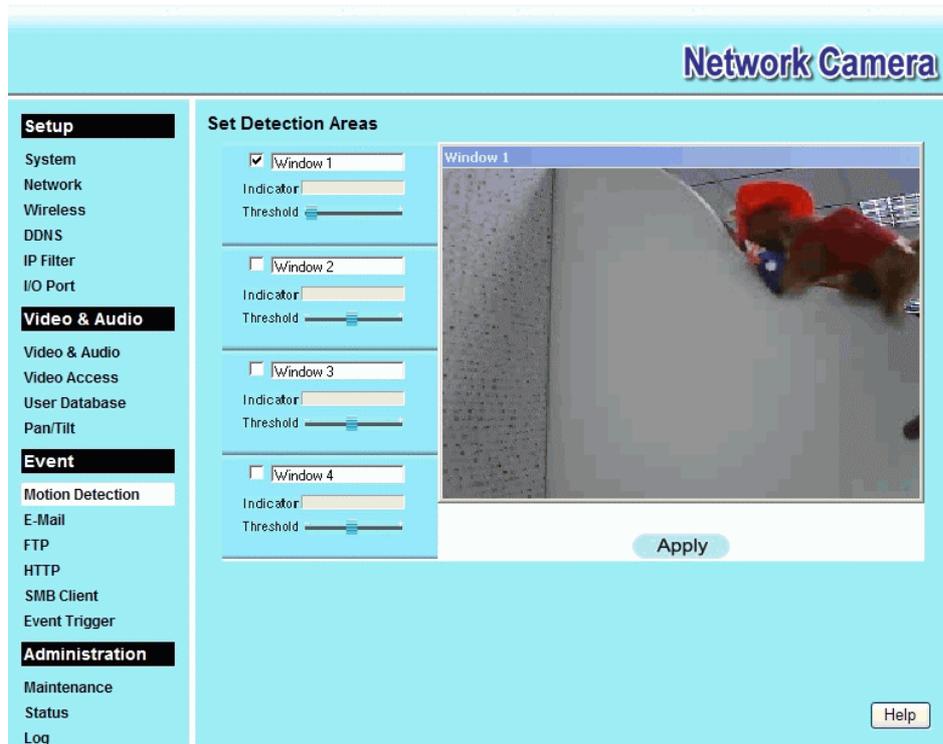


Figure 38: Motion Detection Screen

Data - Motion Detection Screen

Motion Detection	
Set Detection Areas	You can set the full screen or selected areas of the video image to be examined. Note: Motion detection can be triggered by rapid changes in lighting condition, as well as by moving objects. For this reason, it should only be used indoors.
Indicator/Threshold	Administrator needs to adjust the relation between indicator and threshold for each area.

E-Mail Screen

This screen is displayed when the *E-Mail* option on the *Event* menu is clicked.

The screenshot shows the 'E-Mail Screen' for a Network Camera. The interface is light blue with a navigation menu on the left. The main content area is divided into three sections: Primary SMTP Server, Secondary SMTP Server, and E-Mail Setup. Each section contains input fields for SMTP Server Address, Authentication, SMTP Login name, SMTP Password, POP server name, and Show "From" as. The E-Mail Setup section includes checkboxes for E-Mail Address #1, #2, and #3, and a Subject field. Buttons for Save, Cancel, and Help are at the bottom.

Figure 39: E-Mail Screen

Data - E-Mail Screen

Primary/Secondary SMTP Server	
SMTP Server Address	Enter the address and port number of the SMTP (Simple Mail Transport Protocol) Server to be used to send E-Mail.
Authentication	Select the desired Authentication type for the SMTP Server.
SMTP Login name	Enter your login name for the SMTP Server.
SMTP Password	Enter your password for the SMTP Server.
POP server name	Enter the name for the POP Server.
Show "From" as	Enter the E-Mail address to be shown in the "From" field when the E-Mail is received.
Secondary SMTP	Check the box to upload to the Secondary SMTP if the camera can not connect to the primary SMTP.

E-Mail Setup	
E-mail Address	Enter at least one (1) E-Mail address; the 2nd and 3rd addresses are optional. The E-Mail alert will be sent to the E-Mail address or addresses specified here.
Subject	Enter the desired text to be shown as the "Subject" for the E-Mail when it is received. Subject can not exceed 48 alphanumeric characters.

FTP Screen

This screen is displayed when the *FTP* option on the *Event* menu is clicked.

Figure 40: FTP Screen

Data - FTP Screen

Primary/Secondary FTP	
FTP Server	Enter the address of the FTP Server.
Port	Enter the Port of the FTP Server to be connected.
Login name	Enter your login name for the FTP Server.
Password	Enter your password for the FTP Server.
Enable Passive Mode	Check the box to enable the Passive mode feature of the FTP.
File Path Name	Enter the file path/name of the FTP.
Secondary FTP	Check the box to upload to the Secondary FTP if the camera can not connect to the primary FTP.

HTTP Screen

This screen is displayed when the *HTTP* option on the *Event* menu is clicked.

Figure 41: HTTP Screen

Data - HTTP Screen

HTTP Notification	
Enable	Enable this checkbox to use the HTTP Notification.
URL	Enter the URL of your HTTP notification server.
Proxy Server Name	Specify the proxy server name in the provided field if the camera needs to pass through a Proxy Server to do the HTTP notification.
Port Number	Enter the port number for the proxy server.
Method	<p>Select the desired method of form data encoding.</p> <ul style="list-style-type: none"> Get - It should be used if and only if the form processing is independent, which typically means a pure query form. Generally it is advisable to do so. Post - If there are problems related to long URLs and non-ASCII character repertoires, which can make it necessary to use "POST" even for independent processing.

SMB Client Screen

This screen is displayed when the *SMB Client* option on the *Event* menu is clicked.

The screenshot shows a web interface for a Network Camera. At the top, there are navigation links: Home | View Video | Logout. The title 'Network Camera' is displayed in the top right. A left sidebar contains a menu with categories: Setup, Video & Audio, Event, and Administration. Under 'Setup', there are links for System, Network, Wireless, DDNS, IP Filter, and I/O Port. Under 'Video & Audio', there are links for Video & Audio, Video Access, User Database, and Pan/Tilt. Under 'Event', there are links for Motion Detection, E-Mail, FTP, HTTP, SMB Client (which is highlighted), and Event Trigger. Under 'Administration', there are links for Maintenance, Status, and Log. The main content area is titled 'SMB Client' and contains an 'Enable' checkbox, followed by input fields for 'Server Name:', 'File Path:', 'User Name:', and 'Password:'. At the bottom right of the main area are three buttons: 'Save', 'Cancel', and 'Help'.

Figure 42: SMB Client Screen

Data - SMB Client Screen

SMB Client	
SMB Client	Enable this checkbox to use the SMB Protocol, which is a client server, request-response protocol used for read, create, and update files on the remote server.
File Path	Enter the file path of your SMB server.
User Name	Enter the user name for the SMB client account.
Password	Enter the password for the SMB client account.

Event Trigger Screen

This screen is displayed when the *Event Trigger* option on the *Event* menu is clicked.

Figure 43: Event Trigger Screen

Data - Event Trigger Screen

Event Schedule	
Schedule List	The Event Schedule shows all of the event types currently configured in the Network Camera.
Delete Button	Click this button to delete the selected schedule in the list above.
New Schedule	
Effective Time Frame	Choose the desired option for the period.
Start Time	Choose the desired start time using a 24 hr clock.
End Time	Choose the desired end time using a 24 hr clock.

Trigger Event	
Trigger Event	Check to perform all of the event(s) that were configured and scheduled.
Interval	Select the desired option for the events interval. (* "0" = No Delay)
Enable Motion Detection..	If enabled, movement in a motion detection window can be used to trigger events.
Disable Pan/Tilt..	This option is only available if your camera is fitted with a Pan/Tilt control. If available, select the desired option to resolve conflict between the Pan/Tilt and Motion Detection features.
Disable Motion Detection while..	If the checkbox is enabled, wrong movement in a motion detection window can not be used to trigger events. But if you enable the checkbox of <i>Go to Motion Detection position if idle</i> and select the idle time, it will be used to trigger events.
Trigger by	<ul style="list-style-type: none"> • Input - This describes the states that the input must be in for an event to be triggered. Only one input can be used, also note that the states for the input used must first be reached before the event will be triggered. • PIR - If the PIR sensor detects a human body, it will be used to trigger events. • Motion Detection - Movement in a motion detection window can be used to trigger events.
Actions	<ul style="list-style-type: none"> • E-Mail - If checked, an E-Mail (with "Attachment") will be delivered to the SMTP server. (SMTP Server must be configured on the E-Mail page.) • FTP - If checked, an FTP upload will be activated to the FTP server. (FTP servers must be configured on the FTP page.) • Output Port - If checked, the output port state will be activated as configured. (Output port must first be configured on the I/O Port page.) • HTTP - If checked, an Instant Messaging (IM) will be delivered to the Jabber server. (Jabber server must be configured on the Instant Messaging page.) • White LED - If checked, the white LEDs will only be turned on for certain period of time when the surrounding light is under 0.5 lux. You can configure the time in the <i>White LED Delay Time</i> field below. • SMB - If checked, JPEG image(s) or video files will be uploaded to the SMB server. (SMB must first be enabled and configured on the SMB Client page.)

Attachment Type	<ul style="list-style-type: none"> • JPEG Image: Frame Rate - Select the desired capture rate (1~5) for the JPEG image(s) here. Pre/Post Capture - Select the desired length. The snapshot(s) of the JPEG image depends on this setting, and also the file size and degree of compression. • Video: Video Format - Select the desired type for the video file. Pre/Post Capture - Select the desired length. The size of the file depends on this setting, and also the Video size and degree of compression. <p>Note: The total length of Pre/Post Capture is 5 seconds that is limited by the flash size.</p>
White LED Delay Time	If the <i>White LED</i> is checked in the <i>Action(s)</i> section, select the desired time option from the list.

Maintenance Screen

Figure 44: Maintenance Screen

Data - Maintenance Screen

Administrator Login	
Administrator ID	Enter the name for the Administrator here. Spaces, punctuation, and special characters must NOT be used in the name.
Administrator Password	The password for the Administrator.
Verify Password	Re-enter the password for the Administrator, to ensure it is correct.
Firmware Upgrade	
Upgrade File	Click the "Browse" button and browse to the location on your PC where you stored the Firmware file. Select this file.
Start	Click this button to start the Firmware. When the upgrade is finished, the Network Camera will restart, and this management connection will be unavailable during the restart.
Clear File Name	This does NOT stop the Upgrade process if it has started. It only clears the input for the "Upgrade File" field.

Backup & Restore	
Backup Configuration File	Click <i>Backup</i> button to save the current configuration information to a text file. It is suggested to backup the configuration file, in order to restore the camera easily.
Restore Configuration File	Click <i>Restore</i> button to reinitialize the camera to load the new updated software. Do this after loading the upgrade file.
Clear File Name	This does NOT stop the Restore process if it has started. It only clears the input for the "Restore Configuration File" field.
Restore Factory Defaults	Click <i>Defaults</i> button to reloads all default settings on the camera.
Restart Camera	Click <i>Restart</i> button to restarts the camera.

Status Screen

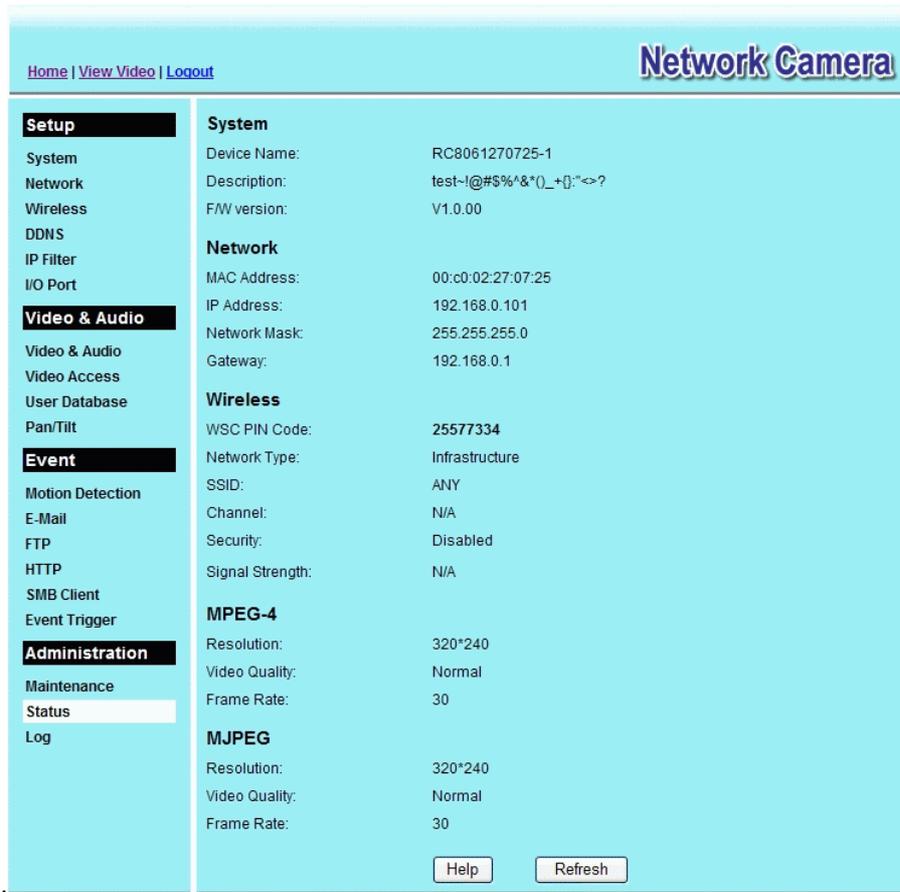


Figure 45: Status Screen

Data - Status Screen

System	
Device Name	This shows the name of the Network Camera.
Description	This shows the description of the Network Camera, such as location.
F/W version	The version of the current firmware installed.
Network	
MAC Address	The current IP address of the Network Camera.
IP Address	The IP Address of the Network Camera.
Network Mask	The network mask associated with the IP address above.
Gateway	The IP Address of the remote Gateway associated with the IP Address above.
Wireless (Wireless Model Only)	
WSC PIN Dode	It displays the current WSC PIN code.

Network Type	This shows the Network Type currently in use (Ad-hoc or Infrastructure).
SSID	This displays the wireless SSID.
Channel	This shows the wireless channel currently used.
Security	The current security setting for Wireless connections.
Signal Strength	This shows the strength of the signal.
MPEG-4/MJPEG	
Resolution	The image size of the video stream.
Video Quality	This displays the image quality of the video stream.
Frame Rate	This displays the frame rate of the video stream.
Buttons	
Refresh	Update the log and any other data on screen.

Log Screen

This screen displays a log of system activity.

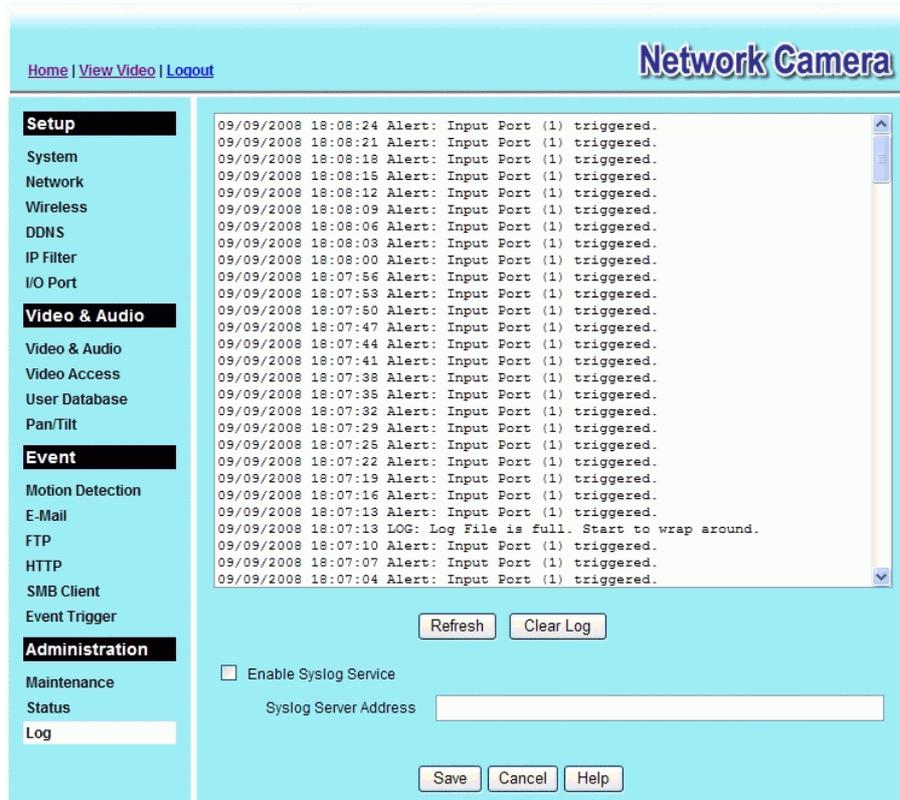


Figure 46: Log Screen

Data - Log Screen

Log	
System Log	This is a log of system activity.
Refresh Button	Click this to update the data shown on screen.
Clear Log	Click this button to restart the log.
Enable Syslog Service	Check the box to enable the System Log Server feature.
Syslog Server Address	Enter the address of the Syslog Server.

Windows

Viewing/Recording Utility

This Chapter describes how to use the supplied Utilities package to view and listen the live streams generated by the Network Camera.

Overview

The Utilities package includes following four functions:

- Monitor - to view/listen the live streams.
- Recorder - to record the live streams.
- Playback - to view the previous recordings.
- Configuration - to configure the Utilities such as adding camera, making recording schedules and setting required parameters, etc..

The Utilities must be installed in the Windows before they can be configured.

Installation

1. Insert the supplied CD-ROM into your drive. If the setup program does not start automatically, run **NetworkCamera.exe** in the root folder. You will see the *Welcome* screen shown below.



Figure 47: Welcome Screen

2. Click the *Install Utility* button to start the installation of the Utilities package.
3. Follow the prompts to complete the installation.

4. After the installation, double click the Monitor icon on the desktop or click Monitor menu item in the Windows main program menu to launch the Utilities.

System Tray Icon

When started, the program will create an icon in the Windows system tray on the taskbar, as shown below.



Figure 48: System Tray Icon

You can right click the icon and it will provides a menu which allows you to launch Playback program, view the recording schedule details or even exit the Utilities package.

Main Screen

When Utilities launched, the Monitor Manager screen like the example below will be displayed.



Figure 49: Main Screen

If no cameras have been defined and added to the Utilities, no video will be displayed. Utilities should be configured first to view the camera streams. See the following section for information on defining a camera. Note that each Camera is given a number (Channel Number).

Camera Setup

To define a camera and associate it with a *Channel Number*.

1. Click the *Setup* button on the main screen. You will see a screen like the example below.

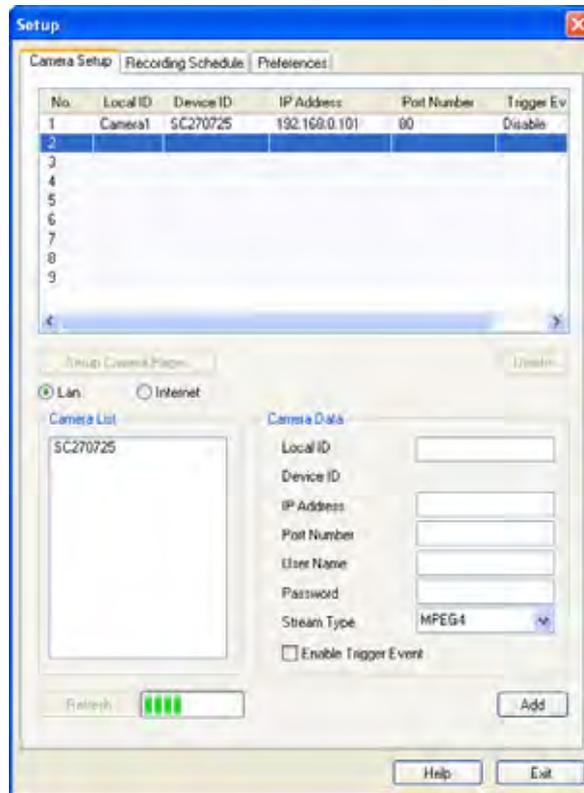


Figure 50: Camera Setup Screen

2. Select the desired *Channel* number in the left (*No.*) column.
3. There are 2 radio buttons, for *LAN* or *Internet*. The default is *LAN*. See the following section for details of the *Internet* option.
 - The *LAN* panel, on the left, displays all available Network Cameras found on your LAN automatically. This list can be updated by clicking the *Refresh* button. The progress bar appears for initial use or clicking the *Refresh* button.
 - The *Camera Data* panel, on the right, displays the data for the selected camera.
4. To associate a camera with the current *Channel*:
 - Select a camera in the list on the left.
 - It is required to enter the unique value of *Local ID*.
 - Check that the *Camera Data* shown on the right is correct. Enter associated User Name and Password.
Note: The **IP Address**, **Port Number**, **User Name** and **Password** can only be modified in the WEB UI instead of Camera Setup screen. You can click the *Setup Camera Pages* button to the WEB UI screens.
 - Click the *Add* button. The camera will now appear in the *Channel List*.

Camera Data - LAN

Local ID	This is the name you gave to this camera. This field must be entered.
Device ID	This is the default name for the Wireless Network Camera, and cannot be changed.
IP Address	The current IP address of the Wireless Network Camera.
Port Number	This will normally display "80". Only change this if requested to do so by the Wireless Network Camera Administrator.
Login	The camera Administrator can require that users provide a username and password before being allowed to view the live video. <ul style="list-style-type: none">• If the Administrator has not enabled this option, the <i>Login</i> fields can be left blank.• Otherwise, you must enter the username and password allocated to your by Administrator.
Stream Type	Select the desired type from the drop-down list.
Setup Camera Pages	Click this button to connect the Web-based interface of the Camera.
Enable Trigger Event	Check this if you want the Utilities to enable event triggered recording. Note: Event trigger setting in the camera must also be enabled to let the event triggered recording of Utilities take effect.



Note!

You can add the same Camera twice, once for the LAN (using the LAN IP address), and again for the Internet (using the Internet IP address). This will allow viewing the camera whether you are on the same LAN as the camera or in a remote location.

Adding Cameras on the Internet

If the Wireless Network Camera you wish to add is not on your LAN, but is available via the Internet, click the *Internet* button. You will see a screen like the example below.

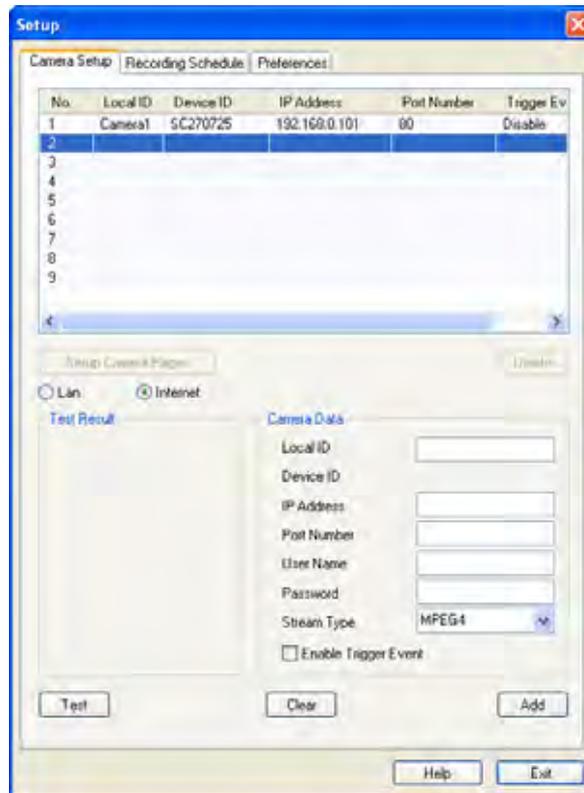


Figure 51: Add Camera from Internet

To associate a camera with the current *Channel*:

1. Enter the Local ID, IP Address, Port Number, User Name and Password in the *Camera Data* section manually.
2. Click the *Test* button to check that a connection and login can be performed successfully. Note that if the remote LAN does not currently have an Internet connection, or the remote camera is not on-line, the test will fail because no connection is possible.
3. Click the *Add* button. The camera will now appear in the *Channel List*.

Camera Data - Internet

Local ID	This is the name you gave to this camera. This field must be entered.
Device ID	This is the default name for the Wireless Network Camera, and cannot be changed. This field will be displayed automatically once a connection to the Wireless Network Camera has been established.
IP Address	Enter the Domain Name or Internet IP address of the desired Wireless Network Camera.

Port Number	Enter the port number used by the Wireless Network Camera for connections via the Internet. The Camera Administrator can advise you of the port to use. The default value is 1024.
Login	The camera Administrator can require that users provide a username and password before being allowed to view the live video. <ul style="list-style-type: none"> • If the Camera Administrator has not enabled this option, the <i>Login</i> fields can be left blank. • Otherwise, you must enter the username and password allocated to you by the Camera Administrator.
Stream Type	Select the desired type from the drop-down list.
Setup Camera Pages	Click this button to connect the Web-based interface of the Camera
Enable Trigger Event	Check this if you want the Utilities to enable event triggered recording. Note: Event trigger setting in the camera must also be enabled to let the event triggered recording of Utilities take effect.



Note!

You can add the same Camera twice, once for the LAN, and again for the Internet. This will allow viewing the camera whether you are on the same LAN as the camera or in a remote location.

Monitor Program - for Streams Live Viewing

You can view live video in the Monitor screen. The built-in software can let you view up to 9 cameras on a single computer screen at one central location.

The following table lists the icons displayed on the Monitor screen:



Channel (Camera) Selection.

Use this to select the desired Channel (Camera) by clicking on the top row. This panel also indicates the status of the camera.

- The **First column** indicates if the associated channel number has a configured camera or not.
Blue indicates a camera has been configured for the channel.
Gray indicates no camera is configured for the channel.
User can drag a blue button to a desired viewport to let the camera stream be displayed in the desired viewport.
- The **View** column indicates if the camera stream is being viewed.
Green indicates the configured camera is being viewed.
Gray indicates that no camera is configured or the configured camera is not connected to the Monitor.
- The **Instant Record** column indicates if a recording is in progress.
Gray indicates no recording.
Red indicates recording is in progress.
- The **Motion Detection** column indicates if Motion event detected in the associated channel.
Yellow indicates Motion Detection is in progress.
Gray indicates this feature is not enabled.
- The **I/O** columns indicate if there is any I/O type triggered event detected in the port 1/2.
Yellow indicates there is an I/O type trigger event detected.
Gray indicates there is no new I/O type trigger event detected.
When user clicks on the Alert Log List, all the trigger event indicators such as motion, I/O for the associated focused channel will turn to gray.
- The **PIR** column indicates if there is any PIR triggered event detected.
Yellow indicates there is a PIR trigger event detected.
Gray indicates there is no new PIR trigger event detected.



Alert Log List.

It displays the list of triggered events, if any, for the focused viewport.



Preset Position. Select the desired Preset position.



Refresh. Update the Preset position list. This has no effect unless during the viewing session, another user or the Camera Administrator has renamed one or more of the Preset positions.



Create Preset Points. Define (or re-define) a Preset position. The Camera Administrator can choose whether or not this option is available.



Patrol. Move through the Preset positions in the sequence defined by the Camera Administrator.



Setup. Click this button to open the Utilities configuration program.



Playback. Click this button to launch the Playback program, which allows you to browse through the previously saved recordings. Please see the "Playback Program - for Streams Playback" section for details.



Move Control. Use this to move the camera to the desired position. There may be a short delay after clicking the desired icon. You should wait a couple of seconds rather than click again.



Channel Indicator. This indicates the current channel (camera).



White Light. Click the button to turn on/off the white light LEDs.



Port 1. Click the buttons to set the I/O port 1 to ON or OFF mode.



Port 2. Click the buttons to set the I/O port 2 to ON or OFF mode.



Play. Use this to re-start viewing, after using the *Stop* or *Pause* button.



Pause. Use this to temporarily stop the playing of focused viewport.



Stop. This will terminate the connection to the camera, halting both the viewing and the instant recording (if in progress).



Record. Click this to start recording the current stream. While recording, this button will be red. To stop recording, click the Stop button. To pause the playing, press Pause button.



Snapshot. Click this to take a still image of the current video stream. The image format could be BMP or JPEG depending on user's selection.



Zoom Camera. A digital zoom-in feature is available. To zoom in a viewport:

1. Click this icon. Then move the mouse to the area to be magnified.
2. Left click the mouse to magnify the viewport to x2 rate.
3. Repeat steps 1) and 2) to magnify the viewport to x4 rate.
4. Click the icon again to back to normal viewport display rate.



Flip Video. Click this to have the image swapped top-to-bottom.



Mirror Video. Click this to have the image swapped left-to-right.



Direct Pan/Tilt. Use this to move the camera to the Pan/Tilt position directly.



Sound On/Off. To turn On/Off the audio volume for the camera in focused viewport.



Microphone On/Off. To turn On/Off the audio upload function for the camera in the focused viewport.



Volume. If Sound/Microphone is enabled, you can right click the icon(s), then drag and drop to raise or lower the volume.



Screen Layout. Use this to select the number of Channels (Cameras) to be displayed on screen. Up to 9 cameras can be displayed.

Recorder Program - for Streams Recording

You can record the streams from camera by pressing the Record button in the Monitor program as mentioned in the "Monitor Program - for Streams Live viewing" section or by making schedules to let the recording happen on the arranged time period.

All the recorded streams are stored in files with a proprietary format and can be viewed via Playback program in the Utilities package.

If you want to change the default settings of recording parameters before doing any recording, please see the "Preferences" section for details.

Recording Schedule

To make recording schedules, click the Recording Schedule tab on the Setup screen. You will see a screen like the example below.

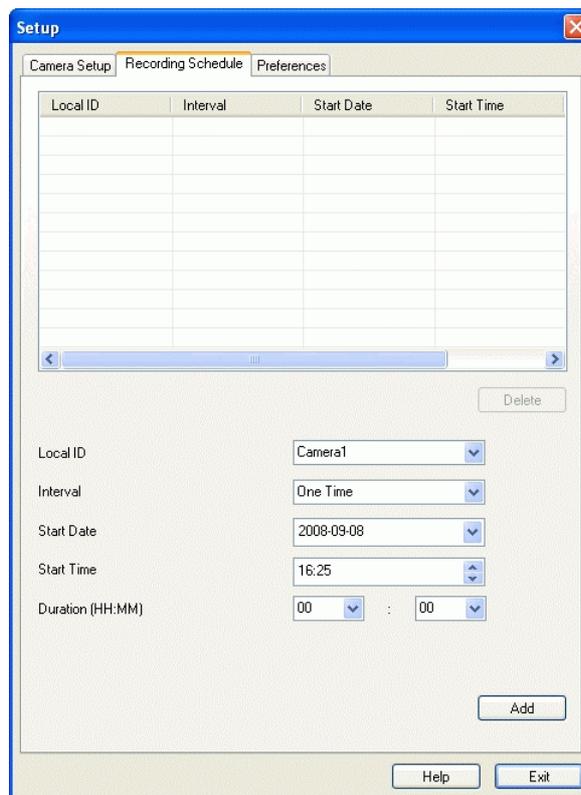


Figure 52: Recording Schedule

If necessary, change these settings to suit your environment. Please follow the steps below to make a schedule for recording:

1. Select a camera from the available camera list labeled Local ID.
2. Select a recording type from the Interval list box.
3. Select the recording time range from Start Date, Start Time and Duration list boxes.
4. Press Add button to add the schedule. There are up to ten schedules could be added for each camera.

You will see all the schedules in the recording list.

Preferences

Clicking the *Preferences* tab on the Configuration program to make change of default Utilities parameter settings.

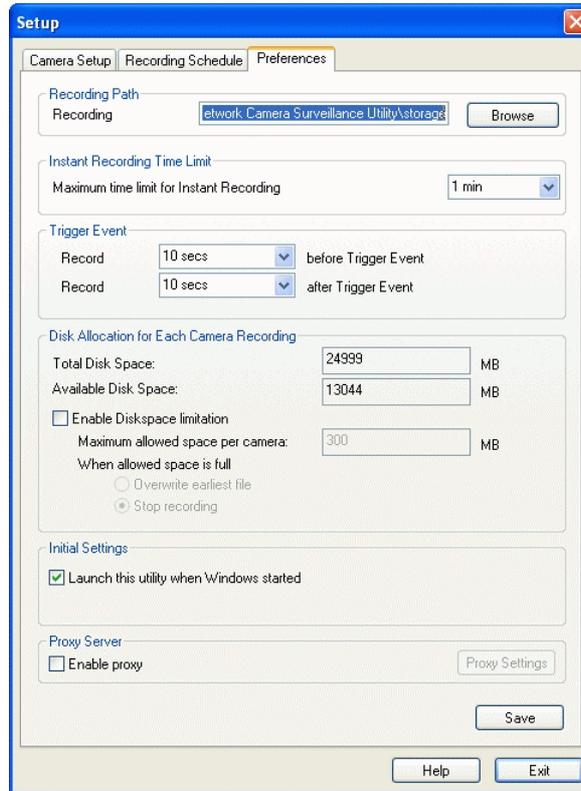


Figure 53: Preferences Screen

Data - Preferences

Recording Paths	
Recording	This is the Drive and Folder on your PC/Notebook where recorded files will be placed. You need a drive which has large amounts (Gigabytes) of free space. Click the Browse button to select the drive and folder if you want to change the default path. Note that file names for the recordings are automatically assigned, using an internal date-time coding rule.
Instant Recording Time Limit	
Maximum time limit for Instant Recording	This sets the maximum time period of a recording which is started by clicking the Record button on the Monitor main screen. If the recording is not stopped manually before the arranged time period elapsed, it will be terminated automatically when the end time hit.
Trigger Event	
Record before Trigger Event	Set the time so that the Recorder will make a pre-recording for at most the specified time range while a triggered event detected.

Record after Trigger Event	Set the time so that the Recorder will make a post-recording for at most the specified time range while a detected triggered event ends.
Disk Allocation for Each Camera Recording	
Total Disk Space	This displays the total size of the selected disk.
Available Disk Space	This displays the available space of the selected disk for storing recordings.
Enable Disk space limitation	Enable this if you wish to limit the disk space used by video recordings.
Maximum Allowed Space	Enter the maximum amount of disk space assigned to each camera for stream recordings.
When allowed space is full.	Select the desired option for the behavior when the disk space limit is reached. <ul style="list-style-type: none"> • Overwrite earliest file. The Recorder will overwrite the oldest file if the space is not enough for further recording. • Stop Recording. If the disk space limit is reached, no further recording is done.
Initial Settings	
Launch this utility when Windows started	Check this to have this utility start when Windows starts.
Proxy Server	
Enable proxy	If enabled, click the <i>Proxy Settings</i> button to configure the proxy server/exception list settings. Enter the address and port number for the proxy server in the proxy sub-screen.

Playback Program - for Recordings Playback

To access the saved recordings of the Cameras, click Playback button in the Monitor main screen, then you will see a screen like following.

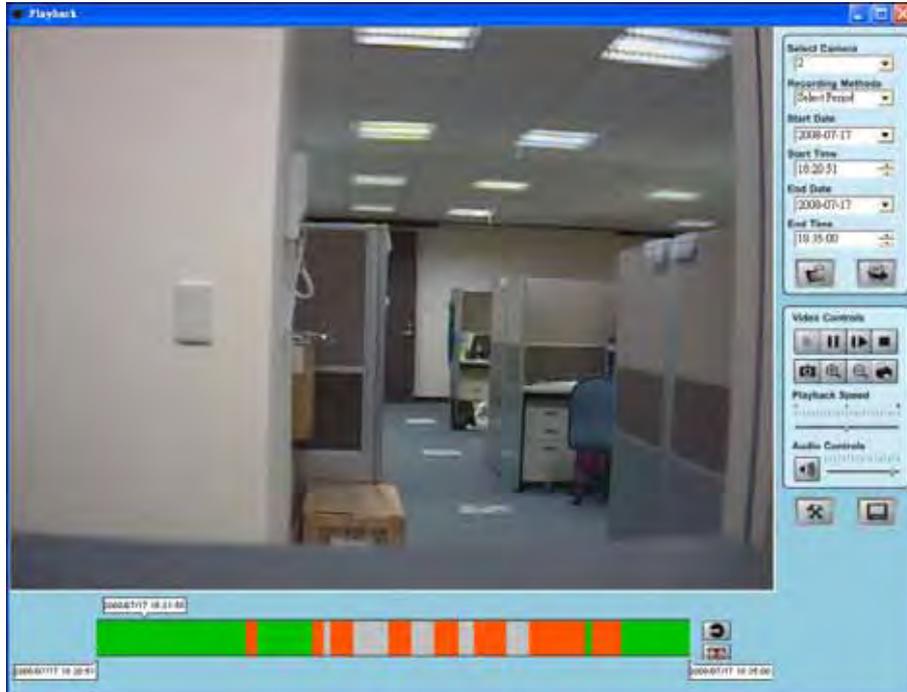


Figure 54: Playback Screen

Searching Recorded Streams Files

Select Camera. Select the desired camera from the list.

Recording Methods. Select the type of the recorded file from the drop-down list that you wish to view.

Start Date/Time. The start date and time the recordings will be searched.

End Date/Time. The end date and time the recordings will be searched.

Load other Cameras. Click this button to load other recordings made from cameras outside of the current folder where the Utilities was installed.

Submit. Click this button to confirm the file searching criteria then the Playback will display a list of files matched with the search criteria on the recording bar.

Play. Use this to re-start viewing, after using the Stop or Pause button.

Pause. Use this to temporarily stop playing.

Frame by Frame. Playback will display the video stream in a one-frame per mouse clicking mode.

Stop. This will stop playing the recording.

Snapshot. Click this to take a still image of the current video.

Zoom In. To zoom in on a section of the window, click this icon.

Zoom Out. To zoom out on a section of the window, click this icon.

Print. Click this to print the current video stream.

Playback Speed. To play a recorded file, select the desired speed.

Audio Control. To play a recorded file, select the desired volume.

Delete Video. To delete a recorded file, select the file and click this button.

Recording Bar. It displays the recordings that match your requests.

- Green color indicates the schedule and instant recordings.
- Orange color indicates Motion triggered recordings.
- Blue color indicates I/O triggered recordings.
- Red color indicates PIR triggered recordings.
- Gray color indicates no recording found.

Available Operation on Recording Bar.

It is possible to drag an area on the Recording Bar to narrow the time range selection.

Chapter 7



Troubleshooting

This chapter covers the most likely problems and their solutions.

Overview

This chapter covers some common problems that may be encountered while using the Network Camera and some possible solutions to them. If you follow the suggested steps and the Network Camera still does not function properly, contact your dealer for further advice.

Problems

Problem 1: **I can't connect to the Network Camera with my Web Browser to configure it.**

Solution 1: It is possible that your PC's IP address is not compatible with the IP address of the Network Camera.
Use the Windows utility to configure the Network Camera with a valid IP address.

Problem 2: **The Windows utility doesn't list any Network Cameras.**

Solution 2: Check the following:

- The Network Camera is installed, LAN connections are OK, it is powered ON and startup is complete.
- Ensure that your PC and the Network Camera are on the same network segment. (If you don't have a router, this must be the case.)
- Ensure that your PC has the TCP/IP network protocol loaded. In Windows, this is done by using *Control Panel-Network*.
 - If an entry for TCP/IP -> Network card is not listed, use *Add - Protocol - Microsoft - TCP/IP* to add it.
 - You then need to select the new entry (TCP/IP -> Network card), click *Properties*, and configure the *IP Address* tab.
 - If your LAN has a DHCP Server, you can select "Obtain an IP Address automatically". Otherwise, you must select "Specify an IP Address", and enter values for *IP Address*, *Subnet Mask*, and *Gateway*. All devices on your LAN must use compatible values. Remember that each device needs a **unique** IP Address, and the **same** Subnet Mask.

Problem 3 **When I try to connect to the Network Camera, I get prompted for a user name and password.**

Solution 3 You SHOULD be prompted for a user name and password if trying to access the *Administration* menu.
Enter the *Administrator ID* and *Password* set on the *Maintenance* screen.

If you are just trying to view Video, the User Name/Password prompt

indicates that the Administrator has restricted access to specified users. Ask the Administrator for your User Name and Password.

Problem 4 **I can't connect to the Network Camera using a Wireless connection.**

Solution 4

- 1) If a LAN cable is connected to the LAN port, the Wireless interface is disabled. Only one interface can be active.
- 2) Check that your PC and the Network Camera have compatible Wireless settings.
 - Mode (Infrastructure or Ad-hoc) must be correct.
 - ESSID must match.
 - WEP settings must match.
 - In Ad-hoc mode, the Channel should match, although this is often not required.

Problem 5 **Video quality may suddenly deteriorate.**

Solution 5 This can happen when an additional viewer connects to the Network Camera, overloading the camera or the available bandwidth. The image size and quality can be adjusted to cater for the required number of viewers and the available bandwidth.

Problem 6 **The motion detection feature doesn't send me any E-Mails.**

Solution 6 It may be that the SMTP (Simple Mail Transport Protocol) server used by the camera to send the E-Mail will not accept mail. (This is to prevent spam being sent from the server.). Try using a different SMTP server, or contact your ISP to see if SMTP access is being blocked.

Problem 7 **Using the motion detection feature, I receive E-Mails which don't show any moving objects.**

Solution 7 The motion detection feature doesn't actually detect motion. It compares frames to see if they are different. Major differences between frames are assumed to be caused by moving objects.

But the motion detector can also be triggered by:

- Sudden changes in the level of available light
- Movement of the camera itself.

Try to avoid these situations. The motion detection feature works best in locations where there is good steady illumination, and the camera is mounted securely. This feature can NOT be used if the camera is outdoors.

Problem 8 **The image is blurry.**

Solution 8 Try cleaning the lens, or adjusting the *Video Quality Control* setting on the *Video & Audio* screen. Video created with the lower settings will contain less detail; this is the trade-off for using less bandwidth.

Appendix A

Specifications



Network Camera

Model	Network Camera
Dimensions	90mm (W) * 35mm (H) * 90mm (D)
Built-in Speaker	8 ohm, 0.5W
Built-in Microphone	6mm, -40 dB+3db, >55dB
Light Sensor	Min low lux trigger value: 0.5 lux
PIR Sensor	Sensitivity distance: 5 meters Angle degree: 100° (cone) Focus distance: 6~9 meters
Pan & Tilt	<ul style="list-style-type: none"> Pan (320° / 4 seconds): left 160°, right 160° Tilt (120° / 0.8 second); up 90°, down 30°
Image Sensor	Omni Vision OV7725 1/4 CMOS Sensor,
Lens	F4.6mm @F1.89 Fixed Focus lens (board lens, 1P2G)
Operating Temperature	0° C to 40° C
Storage Temperature	0° C to 40° C
Network Protocols	TCP/IP, DHCP, SMTP, NTP, HTTP, FTP, RTP, RTSP, UPnP (Discovery/Traversal)
Network Interface	1 Ethernet 10/100BaseT (RJ45) LAN connection
Wireless interface (Wireless Model Only)	IEEE 802.11b/802.11g compatible, Infrastructure/Ad-hoc mode, WEP/WPA Personal/WPA2 Personal security support, roaming support
LEDs	Ready (green) Active (green) Network (green)
Power adapter	5V/2A DC External

Regulatory Approvals

CE Approvals

The Network Camera and the Ethernet Network Camera meet the guidelines of the European Union and comply with the 99/5/EEC and RTTE 99/5EG directives, including the following standards:

- EN60950
- EN300 328-2
- EN301 489-1
- EN301 489-17

This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Network Camera copyright information

Package source codes	License
bootloader	GPL
arm-linux 2.6.5	GPL
arm-linux-gcc 3.4.1 library	LGPL
DM9000 lan driver	GPL
Busy-box	GPL
boa-0.94.13a	GPL
ez-ipupdate	GPL
dhcpcd-1.3.22	GPL
boa-0.94-13e11	GPL
WPA_supplicant	GPL
cron	Public domain (BSD & Lineo http://www.lineo.com/)
ntp-4.1.71	Public domain (http://www.ntp.org/)
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FCC RF Radiation Exposure Statement:

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REMARK

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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Appendix B



Streaming Video/Audio Solution

Overview

Streaming video is a sequence of "moving images" that are sent in compressed form over the Internet and displayed by the viewer as they arrive. With streaming, a Web user does not have to wait to download a large file before seeing the video or hearing the sound. Instead, the media is sent in a continuous stream and is played as it arrives.

Streaming Video/Audio through Internet Camera

To snapshot a JPEG image from the Internet Camera with specified resolution and quality:

[http://<ip>/img/snapshot.cgi?\[size=<value>\]\[&quality=<value>\]](http://<ip>/img/snapshot.cgi?[size=<value>][&quality=<value>])

Size = 1(160*128)

2(320*240)

3(640*480)

Quality = 1(Very high)

2(High)

3(Normal)

4(Low)

5(Very low)

To stream M-JPEG video from the Internet Camera (M-JPEG mode only)

<http://<ip>/img/mjpeg.cgi> or <http://<ip>/img/mjpeg.htm>

To stream video through the RTP/RTSP protocol from Internet Camera (MPEG-4 mode only)

<rtsp://<ip>/img/media.sav>

Note: Users need to specify the desired protocol in the players.

To snapshot a JPEG image (160*128, very low quality) through a mobile phone:

<http://<ip>/img/mobile.cgi>