

AVN80X
MEGAPIXEL
NETWORK CAMERA SERIES

OPERATION GUIDE

Please read instructions thoroughly before operation and retain it for future reference.

IMPORTANT SAFEGUARD



All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly "lead-free" and without the hazardous substances cited in the directive.



The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste. Contact your local dealer for procedures for recycling this equipment.



This apparatus is manufactured to comply with the radio interference requirements.

Federal Communications Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital service, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- All external cables connecting to this basic unit must be shielded.
For cables connecting to PCMCIA cards, see the option manual or installation instructions.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

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This product does not have a standby / off mode.

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The GPL Code used in this product is released without warranty and is subject to the copyright of the corresponding author.

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We are pleased to provide our modifications to the Linux Kernel, as well as a few new commands, and some tools to get you into the code. The codes are provided on the FTP site, and please download them from the following site or you can refer to your distributor:

http://download.dvrtw.com.tw/GPL/076D_Series/arm-linux-2.6.tar.gz

TABLE OF CONTENTS

1. OVERVIEW.....	1
1.1 Product Features.....	1
1.2 Package Content.....	1
1.3 Product Overview.....	1
1.4 Rear Panel.....	2
1.5 External I/O Port.....	2
1.6 Status Indicator.....	2
1.7 Micro SD Card.....	3
2. CAMERA ACCESS WITH INTERNET EXPLORER.....	4
2.1 Camera Login.....	4
2.2 Control Panel Overview.....	4
2.3 Digital PTZ (DPTZ) Operations.....	6
2.4 Event Record Search & Playback.....	7
3. CAMERA CONFIGURATIONS.....	8
3.1 System configuration menu.....	8
3.2 Network.....	9
3.2.1 Network.....	9
3.2.2 DDNS.....	9
3.2.3 SNTP.....	9
3.2.4 FTP.....	10
3.2.5 MAIL.....	10
3.2.6 Filter.....	11
3.2.7 UPnP.....	11
3.3 Camera.....	12
3.3.1 Camera.....	12
3.3.2 Preset.....	12
3.3.3 Cruise.....	13
3.3.4 Color.....	14
3.3.5 LED.....	14
3.3.6 Audio.....	15
3.4 Record Timer.....	15
3.4.1 Record.....	15
3.4.2 Record Timer.....	15
3.5 Storage.....	16
3.5.1 SD Card.....	16
3.6 Trigger.....	16
3.6.1 Trigger.....	16
3.6.2 Push Video.....	17
3.7 General.....	18
3.7.1 General.....	18
3.7.2 Time.....	18
3.7.3 Server Log.....	19
3.7.4 Online.....	19
3.7.5 Account.....	19
3.7.6 Upgrade.....	20
APPENDIX 1 PRODUCT SPECIFICATIONS.....	21
APPENDIX 2 BIT RATE TABLE FOR REFERENCE.....	22
APPENDIX 3 MICRO SD CARD COMPATIBLE LIST.....	24
APPENDIX 4 Q&A.....	25

1. OVERVIEW

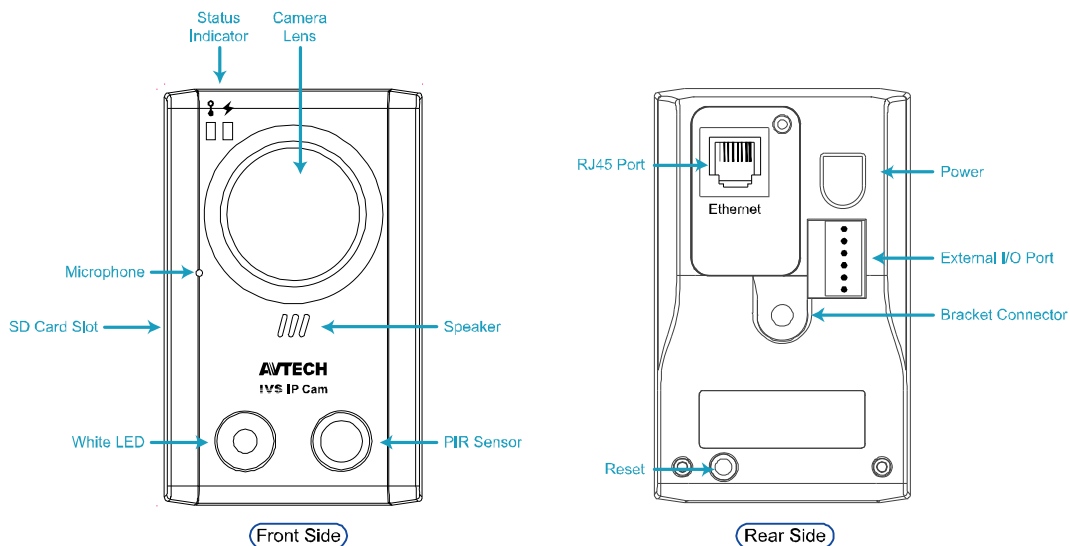
1.1 Product Features

- Easy network setup with your iPhone / iPad
- 1.3 Megapixel live MOS sensor with HDTV 720p quality, allowing users to notice minor details more easily
- SD card support for video storage
- Push Video support to send an event notification to your iPhone and Android phones immediately once the specified event type is triggered, and play video recording once you confirm the receipt.
- White LED built-in to illuminate the scene manually, scheduled by a timer, or triggered by a motion, an alarm, or an audio event
- External alarm I/O device connection
- Microphone & speaker built-in for two-way audio transmission
- Remote Surveillance
 - Fully compatibility on iPhone & iPad, and Internet Explorer® on Windows® operating system

1.2 Package Content

- | | |
|---------------------------------------------------------|-----------------------------------------|
| <input type="checkbox"/> Network camera | <input type="checkbox"/> Camera Bracket |
| <input type="checkbox"/> Quick Setup with iPhone / iPad | <input type="checkbox"/> Adapter |
| <input type="checkbox"/> Network Cable | |

1.3 Product Overview



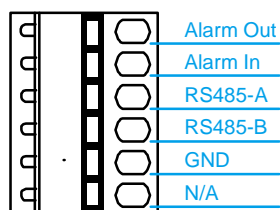
1.4 Rear Panel

Ethernet:	Connect your network cable.
DC 5V:	Connect the supplied regulated power supply.
Reset:	With the power connected, press to reset all parameters, including the IP address to factory default settings. The camera will reboot after default reset. Please do not disconnect your camera during the reset process.
External I/O Port	A 6-pin I/O terminal is supplied with the camera for external alarm device connection. For details, please refer to "1.5 External I/O Port" at page 2.

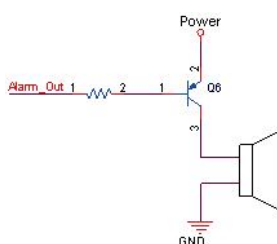
1.5 External I/O Port

This camera supports external I/O device connection, and a 6-pin I/O terminal is supplied with this camera for easy connection.

Below shows which input on the I/O terminal you should use for wiring when you want to connect an external device to this camera.





6-pin I/O Terminal



Alarm Out Connection

1.6 Status Indicator

ICON	 LAN connection status	 Internet connection status
System Status		
During powering on	Always on	Always on
Reset default	Blinking (on 250 ms, off 250 ms) ●○○●○○●○○○	Always off
Upgrade	Blinking (on 250 ms, off 250 ms) ●○○●○○●○○○	Blinking (on 250 ms, off 250 ms) ●○○●○○●○○○
Connection Status		
LAN connected	Always on	--
LAN disconnected	Blinking (on 100 ms, off 500 ms) ●○○●○○●○○○	--
Internet connected	--	Always on
Internet disconnected	--	Blinking (on 100 ms, off 500 ms) ●○○●○○●○○○
3G Connection Error on iPhone / iPad / Android Mobile Device		
3G Connection Setting Uncompleted	--	Blinking (on 5 sec, off 0.5 sec, on 0.5 sec, off 0.5 sec, on 5 sec) ●●●●○○●●●●
Micro SD Card Status		
Micro SD Card Error	Keep current status for 20 sec → Blinking for 3 sec → Return to current status	

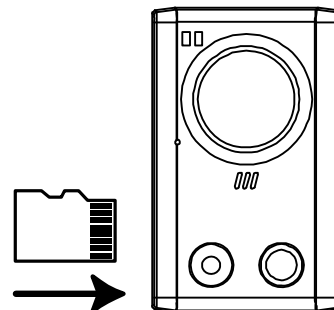
* LED blinking frequency - ●LED on / ○LED off

1.7 Micro SD Card

For local video recording, a micro SD card slot can be found on the side of the camera.

Note: Before inserting a micro SD card, make sure you've copied all important data saved in the card (if any) to other storage media, or the data will be removed after inserting it to the camera.

With the golden contact toward the slot, slightly push and insert the optional micro SD card to the slot, as indicated on the right.



Note: It's recommended to insert or remove the micro SD card with power disconnected, or the camera will reboot.

Note: For the compatible list of the micro SD card, please refer to "APPENDIX 3 MICRO SD CARD COMPATIBLE LIST" at page 24.

2. CAMERA ACCESS WITH INTERNET EXPLORER

This network camera can be accessed via Microsoft® Internet Explorer® and iPhone / iPad / Android mobile devices with our self-developed program “EagleEyes” installed depending on different using situations.

Note: For details about accessing network cameras via iPhone / iPad / Android mobile devices, please refer to <http://www.eagleeyescctv.com>.

Before using the camera, make sure you have configured the network settings, and the network connection is fine.

For network configurations, please refer to:

- “Quick Setup With iPhone / iPad” supplied with your camera if you’re using iPhone / iPad, and your network environment is wireless.
- “ADVANCED NETWORK SETUP” downloadable from www.surveillance-download.com/user/n80x.swf if your network environment is not wireless.

2.1 Camera Login

Step1: Open your web browser, and key in <http://ipaddress:portnum> in the URL address box.

For example, for the IP address 60.121.46.236 and port No. 888, please key in “<http://60.121.46.236:888>” into the URL address box, and press “Enter”.

Step2: In the login page, key in the user name and password, and enter the security code from the image below if any. Then, click “LOGIN”.

Step3: The wizard is then started.

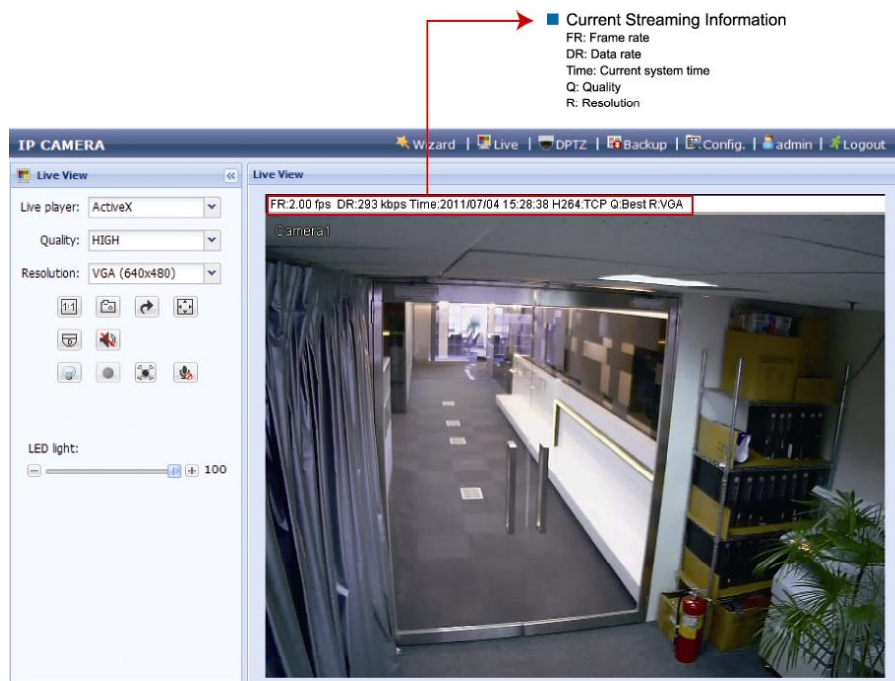
- To skip the wizard and directly access the camera live view, click “Close”.
- To directly access the camera live view without starting the wizard for the login next time, check “Do not start wizard at login”.



















Note: If you’re prompted to install “VLC player”, “Software” and “H264 Streaming Viewer”, please agree to proceed the installation.

Step5: When the login is successful, the live view is shown.

2.2 Control Panel Overview

Note: The buttons available depend on the user level used to log in.

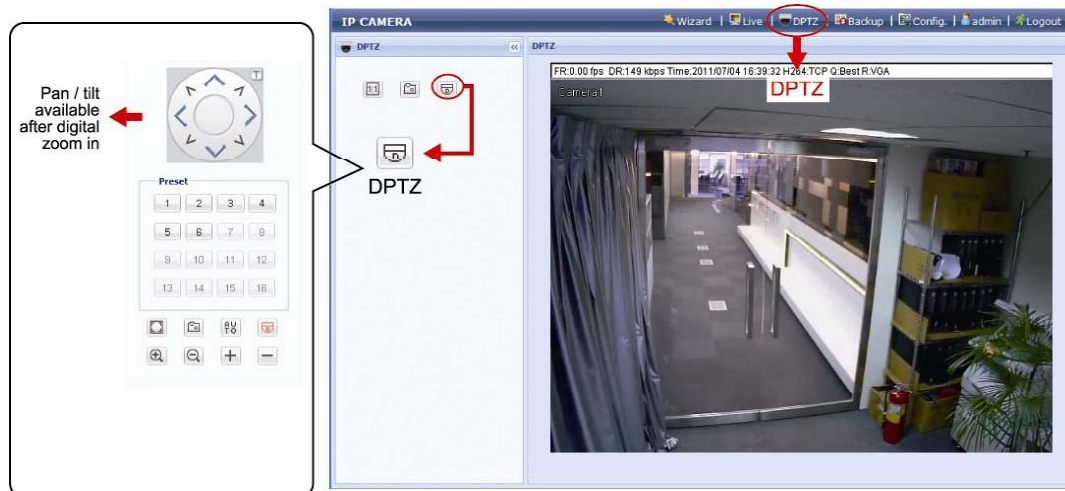


Function	Icon	User Level	Description
Live		Supervisor / Power User / Normal User / Guest	Switch to the live view page.
DPTZ		Supervisor / Power User / Normal User	Switch to the DPTZ configuration page. For details, please refer to "2.3 Digital PTZ (DPTZ) Operations" at page 6.
Backup		Supervisor / Power User	Enter the event record list for video playback. For details, please refer to "2.4 Event Record Search & Playback" at page 7. <i>A micro SD card must be inserted for local video recording.</i>
Config.		Supervisor / Power User	Switch to the system configuration page, and the functions available for "Supervisor" and "Power User" are different. For details, please refer to "3.1 System configuration menu" at page 8.
Live player	--	Supervisor / Power User / Normal User / Guest	Select the image player from the drop-down list: <ul style="list-style-type: none"> ■ ActiveX ■ QuickTime <p>QuickTime is Apple Inc.'s multimedia software. You need to have QuickTime installed in your operating system before selecting "QuickTime". When it is selected, you will be promoted to enter the user name and password to access the camera.</p> <ul style="list-style-type: none"> ■ VLC
Quality	--	Supervisor / Power User / Normal User	Click & drag the slider to select the video quality: BASIC / NORMAL / HIGH / BEST.
Resolution	--	Supervisor / Power User / Normal User	Select the image resolution from the drop list: <ul style="list-style-type: none"> <li style="width: 50%;">■ SXGA (1280 x 1024) <li style="width: 50%;">■ SXVGA (1280 x 960) <li style="width: 50%;">■ 720P (1280 x 720) <li style="width: 50%;">■ VGA (640 x 480) <li style="width: 50%;">■ QVGA (320 x 240) <p><i>When Push Video is on, the live resolution will be fixed to VGA.</i></p>
Live View Size:		Supervisor / Power User / Normal User	
Normal Size			The current live view size is the same as the selected resolution.
Fit to screen			The selected resolution is resized to fit into the current live view size. <i>This icon doesn't work when the selected resolution is VGA or QVGA.</i>
Scale			Click and hold the movable square on the left bottom corner of the live view to move <i>This icon appears only when the selected resolution is larger than the current live view size.</i>
CIF Resize			The QVGA resolution is resized to fit into the current live view size. <i>This icon appears only when the selected resolution is QVGA (CIF).</i>
Snapshot		Supervisor / Power User / Normal User	Click to take a snapshot of the current view, and save to the location specified in "Config." → "Camera" → "Camera" → "Snapshot Path".
Flip		Supervisor / Power User / Normal User	Click to rotate the image 180° when necessary.
Full Screen		Supervisor / Power User / Normal User	Click to display the image in full screen. To exit the full screen mode, press "Esc" on your keyboard.
DPTZ		Supervisor / Power User / Normal User	Click to enable digital PTZ functions.
Audio On / Off		Supervisor / Power User	Click to switch the audio-in on / off.
White LED		Supervisor / Power User / Normal User	Click to enable the white LED. Before enabling the white LED, make sure you've already adjusted the brightness of the light on the LED light control bar below. <i>The LED will also be enabled when you've scheduled it to be activated in "Config." → "Camera" → "LED".</i>
Record On / Off		Supervisor / Power User / Normal User	Click to start / stop video recording. <i>A micro SD card must be inserted for this function to work properly.</i>
Alarm Out		Supervisor / Power User / Normal User	Click to force your alarm-out device to work. For example, when your alarm device is a buzzer, click this button and your buzzer will start to sound even if there's no alarm event. <i>Before using this function, make sure your alarm-out device is connected properly to this camera and also configured well in "Trigger" → "Trigger".</i>
Microphone		Supervisor / Power User / Normal User	Click to switch the audio-out on / off.
LED light control		Supervisor / Power User / Normal User	Click and drag the slider to adjust the brightness of the LED light. <i>When the brightness level is adjusted to 100%, the system will enable the brightness of 100% for 3 minutes, reduce to 50% for 1 minute, and return to 100% for 3 minutes, etc. This is to protect and extend the lifetime of the white LED.</i>

2.3 Digital PTZ (DPTZ) Operations

This camera has PTZ capability, i.e. digital PTZ (hereafter called “DPTZ”), for wide area monitoring.

STEP1: Click “DPTZ” to show the DPTZ control panel.



STEP2: Select the functions when needed:

ICON	FUNCTION	DESCRIPTION
	Fit to screen / Original size	<p>There are several display resolutions available. When the selected resolution is out of your current live view support, a part of your surveillance area might get covered on the screen, and you need to manually move on the screen to check the covered part.</p> <p>: This shows the selected resolution is scaled to fit in the current live view size. Click to restore the scaled resolution to its original size.</p> <p>: This shows the live view resolution is in its original size.</p>
	Take snapshots	Click to take a snapshot of the current view, and save to the location specified in “Config.” → “Camera” → “Camera” → “Snapshot Path”.
	Enable Auto mode	<p>Click to activate the auto mode of the camera. The auto mode could be “Sequence” or “Auto Pan” specified in “Config.” → “Camera” → “Cruise” → “Active Mode”.</p> <p>Note: This function is available only when DPTZ is enabled.</p> <p>Sequence: Move to several preset points accordingly and regularly specified in “Config.” → “Camera” → “Cruise” → “Active Mode” → “Sequence”.</p> <p>Note: Preset points are set in “Config.” → “Camera” → “Preset”.</p> <p>Auto Pan: Pan automatically and horizontally.</p>
	Enable DPTZ	Click to activate the digital PTZ function. When this function is enabled, the following operations are available: <ul style="list-style-type: none"> Auto mode Move up / down / left / right after digital zoom-in.
	Zoom in / out	Click to zoom in / out the image.
	Max. zoom in / out	Click to zoom in / out the image.

2.4 Event Record Search & Playback

Note: This function is available only when a compatible micro SD card is inserted to this camera.

To know how and where to insert a micro SD card, please refer to “1.7 Micro SD Card” at page 3.

To know the compatible list of micro SD cards, please refer to “APPENDIX 3 MICRO SD CARD COMPATIBLE LIST” at page 24.

The screenshot displays the IP CAMERA backup interface. On the left, there are two search panels: 'Time Search' and 'Calendar Search'. The 'Time Search' panel includes fields for start and end times (2011/07/19 13:50:14 to 2011/07/19 14:50:14) and a 'Download' button. The 'Calendar Search' panel shows a calendar for July 2011 with the 15th selected and a 'Download' button. The main interface shows a 'Backup' window with a list of events: 2011/07/21 12:15:12 (Human Detection), 2011/07/20 19:45:40 (Human Detection), and 2011/07/20 14:43:48 (Alarm). Below the list are 'Reload', 'Prev', and 'Next' buttons. A large black video player is on the right, with a timeline at the bottom showing 00:00 to 01:00. At the bottom, there are icons for 'Event Icon': Manual (red circle with exclamation mark), Alarm (red circle with exclamation mark), and Human Detection (yellow figure icon).

	Previous / Next Hour	Click to jump to the next / previous time interval in an hour, for example, 11:00 ~ 12:00 or 14:00 ~ 15:00, and start playing the earliest event video clip recorded during this whole hour.
	Fast Forward	Increase the speed for fast forward. Click to get 2X, 4X, 8X and 16X speed forward eventually.
	Fast Rewind	Increase the speed for fast forward. Click to get 2X, 4X, 8X and 16X speed rewind eventually.
	Play	Click to play the current video clip.
	Pause	Click to pause the video playback.
	Stop	Click to stop the video playback.
	Step	In the pause mode, click to get one frame forward.
	Audio	Click to mute the playback if necessary, and click again to restore.
	Download	Click to download the current video clip to the specified path in your PC.

3. CAMERA CONFIGURATIONS

Users can further configure this network camera by accessing via Internet Explorer.

Note: You need to be “Supervisor” or “Power User” to enter the system configuration page. If not, please re-log into the camera with the supervisor user level.

3.1 System configuration menu

Click “Config.” to enter the configuration page.

Note: You need to be “Supervisor” or “Power User” to enter the system configuration page, and the functions available for these two user levels are different. If you’re not either of these two user levels, please re-log into the camera with one of them.

The functions are categorized into six menus: Network, Camera, Record Timer, Storage, Trigger and General.

- For details about “Network”, please refer to “3.2 Network” at page 9.
- For details about “Camera”, please refer to “3.3 Camera” at page 12.
- For details about “Record Timer”, please refer to “3.4 Record Timer” at page 15.
- For details about “Storage”, please refer to “3.5 Storage” at page 16.
- For details about “Trigger”, please refer to “3.6 Trigger” at page 16.
- For details about “General”, please refer to “3.7 General” at page 18.

Main Menu	Sub-Menu	Reference
Network	Network	Configure network settings.
	DDNS	Enter DDNS information when the network type is PPPOE or DHCP.
	Sntp	Synchronize your camera time with the networked computer systems.
	FTP	Enter the FTP information for event notifications when “FTP” is chosen in “Trigger” → “Trigger”.
	Mail	Enter Email information for event notifications when “Email” is chosen in “Trigger” → “Trigger”.
	Filter	Choose to permit or block the IP address(es) which can access this camera.
	UpnP	Allow this camera to be detected among devices within the same network area for easy and quick usage.
Camera	Camera	1. Set the camera title. 2. Specify the snapshot path. 3. Select the streaming settings based on your network environment.
	Preset	Set the preset points for the DPTZ function.
	Cruise	Set the cruise mode when the auto mode is enabled: Sequence or Auto Pan.
	Color	Adjust the color performance.
	LED	1. Set the activation of the LED to be manual or automatic by an alarm, a motion, or an audio event. 2. Adjust the activation sensitivity of white LED light. 3. Set the schedule to enable LED.
Audio	Adjust the audio volume of the microphone and speaker.	
Record Timer	Record	Configure the record function when a micro SD card is inserted.
	Record Timer	Schedule the PIR and external alarm recording.
Storage	SD Card	Check the current storage capacity and clear all recorded data when needed.
Trigger	Trigger	Configure how the camera reacts for any event.
	Push Video	Set Push Video rules.

Main Menu	Sub-Menu	Reference
General	General	1. Select the language of the web browser. 2. Check the MAC address of the camera. 3. Lock camera access after the specified time.
	Time	Set daylight saving time and the current time.
	Server Log	<i>Available for Supervisor only.</i> Check the system event logs.
	Online	<i>Available for Supervisor only.</i> Check the current online user(s).
	Account	<i>Available for Supervisor only.</i> 1. Create a new user account with different access privilege. 2. Modify or delete an existing user account.
	Upgrade	<i>Available for Supervisor only.</i> Check the current firmware version and upgrade.

3.2 Network

3.2.1 Network

You can set the network configuration of the network camera depending on your network type.

For details, please refer to “Advanced Network Setup” from www.surveillance-download.com/user/n80x.swf.

3.2.2 DDNS

Select “On” when the selected network type in “Network” is “PPPOE” or “DHCP”.

For details, please refer to “Advanced Network Setup” from www.surveillance-download.com/user/n80x.swf.

3.2.3 SNTP

SNTP (Simple Network Time Protocol) is used to synchronize your camera time with the networked computer systems.

Function	Description
GMT	Once users choose the time zone, the network camera will adjust the local area time of the system automatically.

Function	Description
NTP Server	Simply use the default SNTP server (For example, tock.stdtime.gov.tw) or change to another server with which users are familiar.
Sync	Click and the network camera will synchronize the time with the network time.

3.2.4 FTP

Enter the detailed FTP information and click “Save” to confirm. The information you set here will be applied when “FTP” is selected in “Trigger” → “Trigger”.

The screenshot shows the 'FTP Configuration' window with the following fields: Username: manager, Password: masked with asterisks, Server: 192.168.2.32, Port: 21, and Directory: upload. At the bottom, there are 'Save' and 'Reload' buttons.

3.2.5 MAIL

Enter the detailed e-mail information and click “Save” to confirm. The information you set here will be applied when “Email” is selected in “Trigger” → “Trigger”.

The screenshot shows the 'SMTP Configuration' window. Fields include: SMTP Server: ms.tech.com, Port: 25, Mail From: manager, Verify Password: Yes (selected), Username: manager, Password: masked. Below is an 'E-Mail Address List' table with one row: Receiver Name 'boss', E-Mail Address 'boss@tech.com'. At the bottom are 'Save' and 'Reload' buttons.

Function	Description
SMTP Server	Enter the SMTP server address provided from your e-mail system supplier.
Port	Enter the port number provided from your e-mail system supplier. If this column is left blank, the e-mail server will use port 25 to send e-mails.
Mail From	Enter the name of the sender.
Verify Password	Some mail servers are required to verify the password. Please enter the “user name” and “password”.
E-Mail Address List	Add the e-mail address(s) of the assigned recipient(s).

3.2.6 Filter

Choose to permit or block the IP address(es) which can access this camera, and click “Save” to confirm.

Function	Description
■ Filter Configuration	
Error Count	Set the maximum count for login failure. When the maximum count is reached, the IP address trying to access the network camera will be locked.
Error Lock Time	Set the lock time in minutes when the maximum count of error login for an IP address is reached.
Echo Request	Select “Non-Block” to allow other users to use the ping command to detect the IP address of your network camera, or “Block” to deny the ping command request.
■ IP/MAC Filter Configuration	
IP/MAC Filter	Choose to enable or disable the filter function.
IP/MAC Filter Policy	If “Enable” is selected, choose whether you want to permit (Allow) or block (Deny) the IP address list below.
■ IP/MAC Filter Rules	
Rule	<ul style="list-style-type: none"> To add an item to the IP address list, key in the IP address in “Rule”, and click “Add”. To remove an existing item in the IP address list, click the item you want to remove, and click “Delete”.

3.2.7 UPnP

“UPnP” stands for “Universal Plug and Play”, which allows devices to connect seamlessly in the home and corporate environments and simplify installation of computer components.

Check “Enable” to allow the network camera to be detected among devices within the same network area, and set the identification name of the camera in “Friendly name”.

When this function is activated, the other PC within the same domain as this camera will be able to search this camera in “Network Neighbor” with the identification name set in “Friendly name”. Double-click it to quickly open the web browser for camera access.

Port Mapping

This function can eliminate the need to additionally access the router for port forwarding.

For details, please refer to “Advanced Network Setup” from www.surveillance-download.com/user/n80x.swf.

Note: Before using this function, make sure your router supports UPnP, and this function is enabled. If not, please access your router additionally for port forwarding.

When “Port Mapping” is set to “Enable”, the system will automatically assign an IP address or port number for you if no IP address or port number is entered.

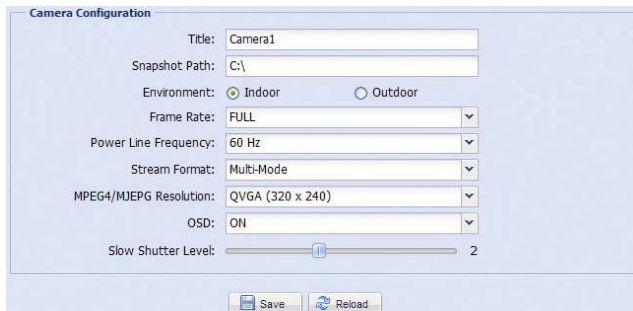


Note: When the configurations are saved successfully, you'll see a message indicating the IP address and port number assigned to this network camera.

3.3 Camera

3.3.1 Camera

Adjust the camera parameters if necessary.



Item	Description
Title	Enter the title for the camera with up to 15 alphabetic characters.
Snapshot Path	Specify the location to save the snapshot pictures.
Environment	Select the current environment for the camera to automatically adjust itself to produce the images suitable for the selected environment.
Frame Rate	The frame rate allowed to each viewer can be adjusted to adapt to the bandwidth on the network. Set the desired image frame rate to the maximum (FULL) or to a specified frame rate (1/2; 1/3; 1/4; 1/5; 1/10; 1/15). The actual frame rate depends on the actual network connection, and may be lower than the specified one.
Power Line Frequency	Select only when your camera video keeps flashing.
Stream Format	Select the stream format to Single H.264 / Single MPEG-4 / Single Motion JPEG / Multi-Mode. <i>Note: Motion detection is not supported when the stream format is set to Motion JPEG.</i>
MPEG4 / MJPEG Resolution	Select the video resolution when the stream format is set to "MPEG4" or "MJPEG". The options are: VGA (640 x 480), QVGA (320 x 240), and QCIF (176 x 144).
OSD	Select "ON" to show the camera title on the live view, or "OFF" to hide the camera title.
Slow Shutter Level	This function is used to extend the exposure time for clearer images when the light is not sufficient. Select 1 ~ 5 to extend the exposure time based on your current light condition. The larger the value, the longer the exposure time, and the less the fps. 0 means function off.

3.3.2 Preset

Note: Before using this function, make sure the DPTZ function is enabled.

You can set new preset points (up to 16) or check existing points here.

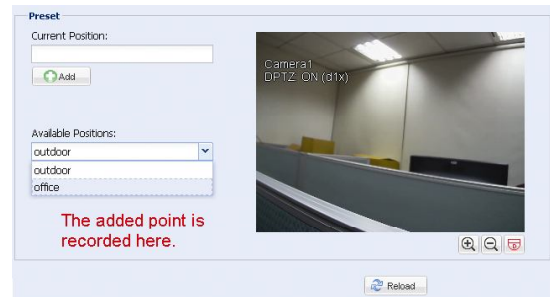
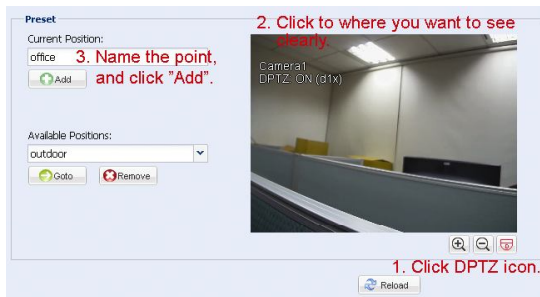
How to set a new preset point

Step1: Click DPTZ icon.

Step2: Move to the point with proper ratio that suits your need.

- To zoom in / out, you may:
 - Click (zoom in) / (zoom out).
 - Move the cursor to the preview screen, and roll the mouse wheel up (zoom-in) and down (zoom-out).
 - Click any point on the preview screen to get a 5X image.
 - Draw a square from the top left to bottom right or bottom right to top left to switch among 1x, 3x and 5x images.

Step3: In "Current Position", give a name to this point, and click "Add".



How to check an existing preset point


In “Available Positions”, select the name of the point you want to check from the drop-down list, and click “Goto”. You will see the camera view on the right side moving to the point it’s recorded.

How to delete an existing preset point


In “Available Positions”, select the name of the point you want to check from the drop-down list, and click “Remove”.

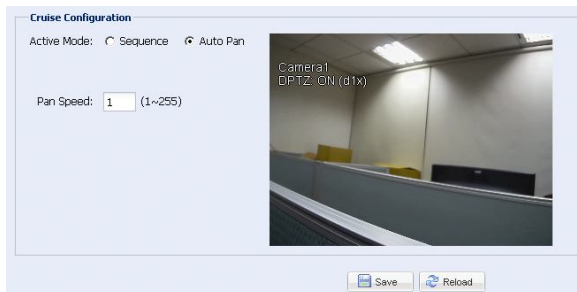
3.3.3 Cruise

Note: Before using this function, make sure you have finished setting several preset points.


Here defines how the auto mode of the camera is going to work when  is selected: Sequence or Auto Pan.

Auto Pan

When “Auto Pan” is selected here and  is clicked on the DPTZ page, the camera will start panning in the 5x zoom-in ratio.

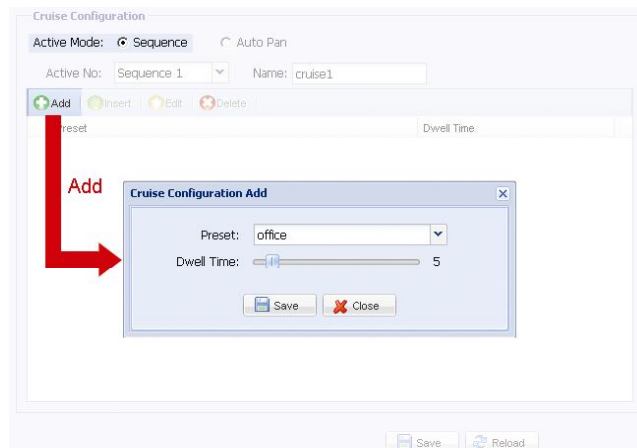


Sequence

When “Sequence” is selected here and  is clicked on the live view page, the camera will start patrolling each preset point defined in “Sequence”.

Step1: Click “Add” to choose a preset point from the drop-down list, and select the duration to stay at this point from 1 ~ 60 seconds.

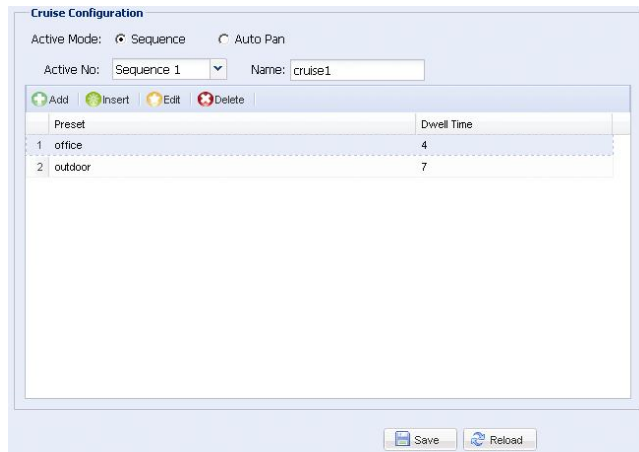
Then, click “Save” to confirm.



Step2: Click “Add” again to add more preset points.

To modify the existing preset point setting, click “Edit”. To insert a preset point before the selected point, click “Insert”. To remove the added preset point, click “Delete”.

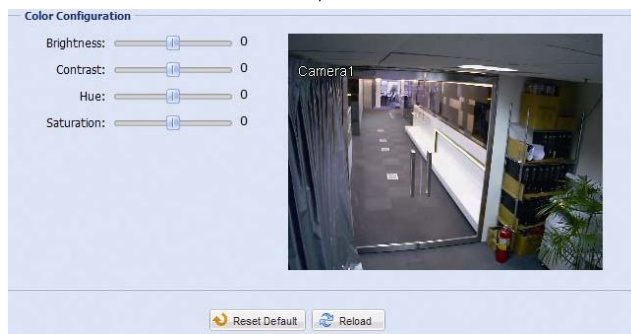
Step3: When all the points are added, click “Save” to confirm.



3.3.4 Color

Adjust the color performance from Brightness, Contrast, Hue and Saturation. Click and drag the slider to preview the color change on the right side of this page and adjust the image color.

To restore the default values, click “Back to Default”.



3.3.5 LED

In “LED Configuration”:

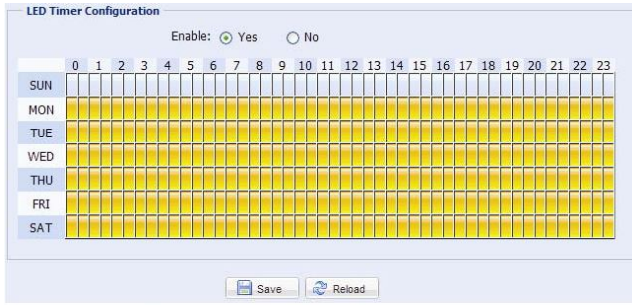
- To allow the LED light to be activated manually, select “Yes” in “Manual Enable”.
- To set the LED light to be activated automatically when the light condition gets dark, select “Yes” in “Auto Enable”, and set the sensitivity for the camera to determine how dark the LED light should be activated.

There are three options: HIGH / MEDIUM / LOW.



In “LED Timer Configuration”:

To schedule the white LED light to be enabled, go to “LED Timer Configuration”, select “Yes” in “Enable”, and set the time to enable the LED light. Each square equals 30 minutes.



3.3.6 Audio

Drag the slider to adjust the volume of the microphone and speaker.



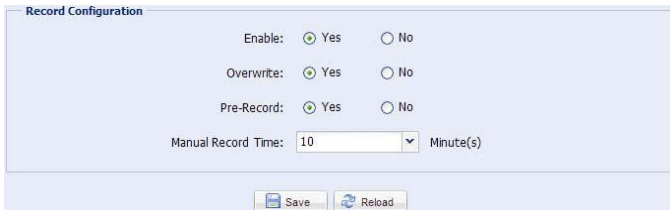
3.4 Record Timer

3.4.1 Record

Note: Before configuring this function, make sure a micro SD card is inserted into your camera for video data saving. For details, please refer to “1.7 Micro SD Card” at page 3.

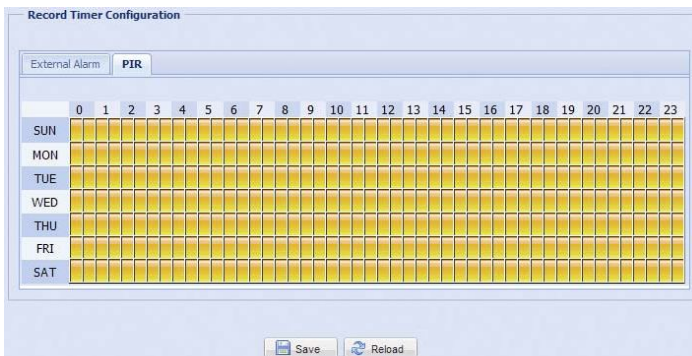
In “Record Configuration”, you can:

- Enable or disable all the record functions, such as manual record, motion record and alarm record. When “Enable” is set to “No”, all record functions are disabled even if you enable any of them in other configuration pages.
- Select if the data should be overwritten when the storage of a micro SD card is full.
- Enable or disable the pre-record function when any event occurs.
- Set the manual record time in minutes (1 / 5 / 10 / 30 / 60) when you click the manual record icon (📹) on the live page.



3.4.2 Record Timer

To schedule alarm or human detection recording, click “External Alarm” or “PIR”, and select the time for recording.



3.5 Storage

3.5.1 SD Card

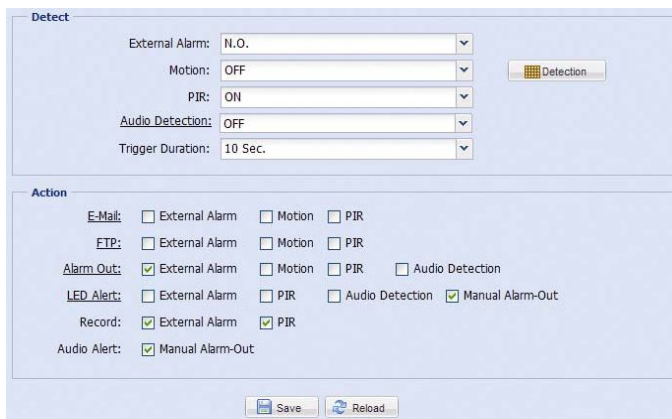
In “SD Card”, you can check the current status of your micro SD card, and clear all recorded data saved in the card if needed.



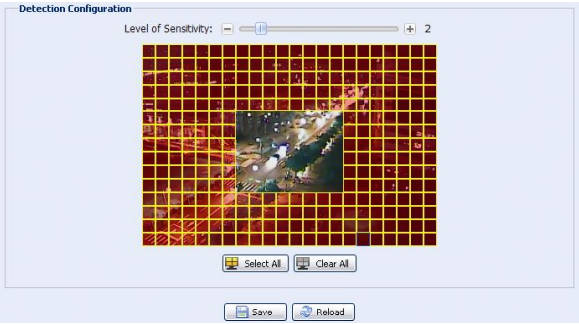
3.6 Trigger

3.6.1 Trigger

You can configure how this camera reacts when there's an alarm, motion, PIR and audio event.



◆ Detect

Item	Description
External Alarm	Set “N.O.” or “N.C.” depending on the configuration of your alarm-in device.
Motion	<p>Enable (ON) or disable (OFF) motion detection. <i>Motion detection is not supported when the stream format is Motion JPEG.</i></p> <p>When “Enable” is selected, click “Detection” to enter the motion detection area setting page as follows:</p>  <p>Level of Sensitivity: Set the detection sensitivity from 1 ~ 10.</p> <p>Area Setting: Set the motion detection area by selecting the area grids with your mouse. Pink grids represent the area that is not being detected while the transparent grids are the area under detection. You can set multiple areas under detection. Click “Clear All” to set the whole area undetected. Click “Select All” to set the whole area under detection.</p>
PIR	<p>Enable (ON) or disable (OFF) PIR detection. <i>For Push Video to work properly, make sure this function is enabled.</i></p>

Item	Description
Audio Detection	Enable (ON) or disable (OFF) audio detection. This function allows the camera to be sensitive to any sound made around the surveillance area if your area is supposed to be a quiet place and no one is allowed to access. When this function is enabled, click the title "Audio Detection" underlined to configure its sensitivity from 0 ~ 50.
Trigger Duration	Set the duration time for trigger recording (5 / 10 / 20 / 40 seconds).

◆ Action

Here defines how the camera delivers alerts to you for any event.

Item	Description
E-Mail	Select the event type you want to receive E-mail notifications when it occurs. Then, click the title "E-Mail" underlined to configure the record time from 1 ~ 5 seconds. The camera will send the captured video clip to the E-mail address(s) assigned in "Network" → "Mail" once the selected event type occurs.
FTP	Select the event type you want to receive FTP notifications when it occurs. Then, click the title "FTP" underlined to configure the record time from 1 ~ 5 seconds. The camera will upload the captured video clip to the FTP site assigned in "Network" → "Mail" once the selected event type occurs.
Alarm Out	Select the event type you want to trigger the alarm-out device to work when it occurs. Then, click the title "Alarm Out" underlined to configure the trigger rule.
LED Alert	Select the event type you want to enable the LED light when it occurs. Then, click the title "LED Alert" underlined to configure its activation time from 1 ~ 3600 seconds.
Record	Select the event type you want to enable event recording when it occurs.
Audio Alert	Select the event type you want to enable audio alert when it occurs.

3.6.2 Push Video

"Push Video" is an active notification system, different from traditional FTP and Email notification methods.

It functions as a key to your surveillance area. When it's enabled, your surveillance area is considered to be locked on, and some functions or parameters will be fixed by default to ensure "Push Video" gets the optimized event images.

Note: Before using this function, make sure you've inserted a micro SD card to this camera for event recording. For details, please refer to "APPENDIX 3 MICRO SD CARD COMPATIBLE LIST" at page 24.

Item	Description
Guard	Select to enable or disable Push Video. This function can also be enabled from your iPhone or Android mobile devices. <i>When this function is enabled, the image resolution is fixed to "VGA".</i>
LED Lock	Select to fix the LED light mode to auto (Enable) or remain the current LED light mode (Disable) when Push Video is enabled. When this function is enabled, it could ensure Push Video recording to get enough light when the environment is dark. This function is set to "Enable" by default.
Slow Shutter Lock	Select to fix the slow shutter level to level 2 (Enable) or remain the current slow shutter level (Disable) when Push Video is enabled. When this function is enabled, it could ensure Push Video recording to get clear images when the environment is dark. This function is set to "Enable" by default.
Guard Rule	Select the rule to enable Push Video from "External Alarm", "Internal Alarm", or "Internal Alarm OR External Alarm". <ul style="list-style-type: none"> ■ External Alarm – The alarm device additionally connected to your camera ■ Internal Alarm – The human detection function built in this camera This function is set to "Internal Alarm OR External Alarm" by default.
Record Frame Rate	Select the frame rate for Push Video recording.

Item	Description
SMS Text	Define the context when you receive the Push Video message on your iPhone or Android mobile device. Up to 28 characters are allowed.

3.7 General

3.7.1 General

In “General”, you can select the UI language, and check the MAC address of your camera.

To allow the status LED indicators to show the status as indicated in “1.6 Status Indicator” at page 2, select “ON” in “Status LED Mode”; to hide the status, select “OFF”; to only show the error status, select “Temporary OFF”.

Note: The status LED mode will be restored to “ON” after camera reboot when “Temporary OFF” is selected.

To lock camera access when it’s not used after the specified time, select “5 MIN”, “15 MIN” or “30 MIN” from the drop-down list of “Auto Lock Time”, or select “NEVER” to disable this function.

Note: When the camera access is locked after the specified time, to resume camera access, please enter the password.

3.7.2 Time

Set daylight saving time and the current time, and click “Save” to confirm.

Function	Description
■ Time Configuration	
Date	Set the current date.
Time	Set the current time.
■ Daylight Saving Time Configuration	
Daylight Saving Time	Specify whether to use daylight saving time (Enable / Disable).
	If this function is enabled, set the time period (Start Time / End Time), and adjust the daylight saving time in hours (Adjust Time).

3.7.3 Server Log

Note: This function is available only for "Supervisor".

To quickly search the system logs you want by event type, click "Prev. Page" or "Next Page" to find the logs you want, or check the event type(s) and click "Reload" to start searching.

To clear all system event logs, click "Clear All".

No.	Event	Time	Result
1	Remote Login	2011/03/31 17:54:36	admin
2	Remote Login	2011/03/31 17:54:04	normal
3	Remote Login	2011/03/31 17:35:01	admin
4	Remote Login	2011/03/31 17:26:11	normal
5	Remote Login	2011/03/31 17:25:25	power
6	Remote Login	2011/03/31 17:21:00	admin
7	SNTP Update	2011/03/31 17:20:55	Failed
8	Power On	2011/03/31 17:20:21	ON
9	SNTP Update	2011/03/31 17:17:37	Failed
10	Power On	2011/03/31 17:17:04	ON
11	Remote Login	2011/03/31 16:48:56	admin
12	Remote Login	2011/03/31 16:42:17	admin

3.7.4 Online

Note: This function is available only for "Supervisor".

You can check the current online user(s) with respective online information. To refresh the list, click "Reload".

- To allow anonymous login, select "Enable" in "Anonymous Viewer Login".
- To disable image code verification at login, select "No" in "Login with CAPTCHA Image".

Username	IP Address	User Level	Media Type
admin	211.75.64.96	SUPERVISOR	H264
admin	60.248.97.4	SUPERVISOR	H264

3.7.5 Account

Note: This function is available only for "Supervisor".

You can create a new account with different user access privilege, or delete or modify an existing account setting.

How to create a new account

Step1: Click "New", and fill in the following columns.



Column	Description
User Name	Set a user name that will be used for camera access. The user name allows up to 16 alphanumeric characters.
Password	Set the password that will be used for remote login. The password allows up to 16 alphanumeric characters.
Confirm Password	Enter the password again to confirm.
User Level	Set the security level of an account to give the permission to control different functions. There are four user levels: SUPERVISOR, POWER USER, NORMAL USER and GUEST.
Life Time	Select how long this account is allowed to stay online (1 MIN / 5 MIN / 10 MIN / 1 HOUR / 1 DAY / INFINITE)

Step2: Then, click “Save” to save your setting and create a new account.

How to modify or delete an existing account

Step1: Select the account you want to modify or delete.

Step2: To modify the account, click “Edit” to change the settings, and click “Save”.

To remove the account, click “Delete”.

Note: It’s not allowed to remove an account when there’s only one account in the account list.

3.7.6 Upgrade

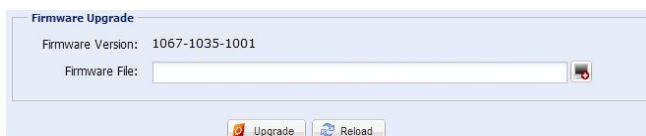
Note: This function is available only for “Supervisor”.

This function is used when users need to upgrade the camera for function scalability.

Note: Before using this function, make sure you have the correct upgrade files provided by your installer or distributor.

Note: For system upgrade, you can only upgrade one file at a time. To upgrade all files, you need to start from Step1 again when one file is upgraded.

Step1: Click “” to browse to where you save the upgrade files, and select one of them.



Step2: Click “Upgrade” to start system upgrading.

Note: It takes a few minutes to finish the upgrade process. Do not disconnect the power during firmware upgrade, or the upgrade may be failed. The camera will reboot after the upgrade.

APPENDIX 1 PRODUCT SPECIFICATIONS

AVN80X	
■ Network	
Network Compression	H.264 / MPEG4 / MJPEG
Multiple Video Streaming (Encode Modes, IPS, Resolution)	3 (H.264, MJPEG, MPEG4)
LAN Port	YES
LAN Speed	10/100 Based-T Ethernet
Supported Protocols	DDNS, PPPoE, DHCP, NTP, SNTP, TCP/IP, ICMP, SMTP, FTP, HTTP, RTP, RTSP, UPnP
Frame Rate	NTSC:30, PAL:25
Number of Online Users	10
Security	Multiple user access levels with password
Web management	Internet Explorer on Windows operating system
■ Camera	
Image Sensor	1/3" Live MOS image sensor
Video Resolution	SXGA, SXVGA, 720P, VGA, QVGA
Min Illumination	0.1 Lux / F1.5, 0 Lux (LED ON)
Shutter Speed	1 / 60 (1/50) to 1 / 100,000 sec.
S/N Ratio	More than 48dB (AGC off)
Lens	f3.8mm / F1.5
Viewing Angle	75°
White LED	YES (1W, 10 meters)
White Balance	ATW
AGC	Auto
IRIS Mode	AES
PIR Sensor	Detection Range 76° wide angle with up to 6m long distance at 2m height (under 30°C)
Micro SD Card Slot	YES
External Alarm I/O	YES
Microphone	YES
Speaker	YES
Power Source (±10%)	5V / 2A
Operating Temperature	-0°C~40°C
■ Others	
Mobile Surveillance	iPad, iPhone & Android
Audio Detection	YES
RTC (real-time clock)	YES
Motion Detection	YES
Digital Pan / Tilt / Zoom	YES
Event Notification	Push Video / FTP / Email
Minimum Web Browsing Requirements	<ul style="list-style-type: none"> • Pentium 4 CPU 1.3 GHz or higher, or equivalent AMD • 256 MB RAM • AGP graphics card, Direct Draw, 32MB RAM • Windows 7, Vista & XP, DirectX 9.0 or later • Internet Explorer 7.x or later

** The specifications are subject to change without notice.

** Dimensional tolerance: ± 5mm

APPENDIX 2 BIT RATE TABLE FOR REFERENCE

The data below is for reference only.

The bit rates listed here may vary depending on the resolution, image quality & frame rate you choose, the complexity of your monitoring area, and how often the moving objects show in your monitoring area.

Testing Environment

- Place: Office Entrance
- Network translation: H.264
- Camera type: Megapixel camera



Static: No one coming in and out



Dynamic: One or two people coming in and out

Resolution	Quality	Frame Rate	(Dynamic) kbps	(Static) kbps	
SXGA	Best	FULL	3253	3216	
	High		2375	2160	
	Normal		1571	1266	
	Basic		1465	873	
VGA	Best		2010	1261	
	High		1042	1034	
	Normal		685	572	
	Basic		457	350	
QVGA	Best		646	366	
	High		482	350	
	Normal		302	286	
	Basic		168	161	
SXGA	Best		1/4	1163	1076
	High			989	715
	Normal			855	534
	Basic			719	443
VGA	Best	789		571	
	High	451		447	
	Normal	349		237	
	Basic	217		165	
QVGA	Best	269		147	
	High	182		131	
	Normal	164		113	
	Basic	97		71	


Resolution	Quality	Frame Rate	(Dynamic) kbps	(Static) kbps
SXGA	Best	1/15	581	374
	High		405	342
	Normal		487	248
	Basic		337	141
VGA	Best		358	79
	High		201	63
	Normal		180	28
	Basic		92	15
QVGA	Best		111	84
	High		99	68
	Normal		97	54
	Basic		58	42

APPENDIX 3 MICRO SD CARD COMPATIBLE LIST

Manufacturer	Capacity	Class	Manufacturer	Capacity	Class
ADATA	2GB	--	Transcend	2GB	--
	4GB	Class 6		4GB	Class 2
Apacer	2GB	--		4GB	Class 4
	4GB	Class 4		4GB	Class 6
SanDisk	2GB	--		8GB	Class 6
	4GB	Class 4		16GB	Class 10
	8GB	Class 4	Kingston	2GB	--
	16GB	Class 4		4GB	Class 4
	32GB	Class 4		8GB	Class 4
Verico	2GB	--		32GB	Class 4
	4GB	Class 4	TOSHIBA	16GB	Class 4
	16GB	Class 10	TOPRAM	32GB	Class 10

APPENDIX 4 Q&A

For more details about AVN80X Q&A, please visit our official website: www.eagleeyesccctv.com/supp_QnA.aspx.

Question	Answer
<p>I can connect to this camera in my house or office where it's installed with wireless network.</p> <p>But when I leave my house or office, I can't connect to it from my mobile phone (with 3G network), or other PC (connected to Internet). Why?</p>	<p>You didn't configure this camera to Internet, but only in LAN.</p> <p>Please follow the steps in the advanced network setup guide downloadable from www.surveillance-download.com/user/n80x.swf to complete network configurations, or it's recommended for you to check with your local installer or reseller for this service because it's usually hard for a person who doesn't have network knowledge to set network configurations.</p>
<p>My live images are not fluent. Why?</p>	<p>Image fluency could be affected by the local network upload bandwidth, router efficiency, client network download bandwidth, complexity of live view, and more. ^L</p> <p>(Recommended) To have the best image fluency, select QVGA; to have the best image quality, select "SXVGA"; to have normal image fluency and quality, select "VGA".</p>
<p>What's "Push Video"? I don't get playback video clip but live images when I select "View" for Push Video message.</p>	<p>"Push Video" is an active notification system, different from traditional FTP & Email notification methods. For this function to work normally, you need to install a micro SD card to AVN80X before this function is enabled. Or, you'll get live images when you select "View" for Push Video message. For more details about "Push Video", please refer to "ADVANCED NETWORK SETUP".</p>
<p>The detection range of the built-in human detection sensor seems too short and the sensor is not sensitive enough. Did I do anything wrong on installation?</p>	<p>The human detection sensor might be influenced by the temperature of ambient environment and human beings, and the applicable working temperature is up to 30°C. To get more accurate and precise detection, you may connect external alarm devices, such as magnetic contacts.</p> <p>There're some tips for installation. For details, please go to www.eagleeyesccctv.com/supp_QnA.aspx.</p>
<p>The live video keeps flickering. Why?</p>	<p>Please try adjusting the power line frequency to "60 Hz" or "50 Hz" for the camera.</p> <p>For iPhone users, access the camera, and select  on the top right corner to enter IPCAM Configuration page. Then, go to "Advance Setup" → "Camera" to change setting.</p> <p>For access from Internet Explorer, log into the camera, and select "Config." → "Camera" → "Camera".</p>