H.264 NETWORK CAMERA

PixelPro SERIES

ZN-CM2 / ZN-CM1 / ZN-C1

User's Manual

Before installing, operating or adjusting this product
read this instruction booklet carefully and completely

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Contents

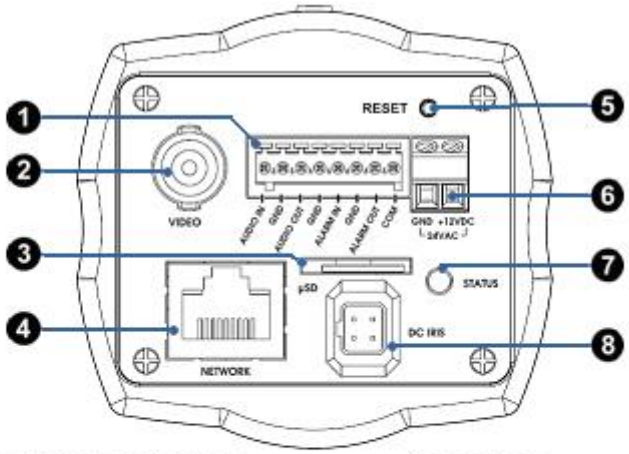
1. Product Features

The GANZ ZN-C Series camera (ZN-Cx) is a high performance H.264 network camera, designed for demanding security installations. It delivers crisp, clear images, disclosing every detail, thanks to its top quality 5.0 Megapixel progressive CMOS sensor, Megapixel lens and advanced image processing. GANZ ZN-Cx features a removable infrared cut filter, which enables color video in high and low light conditions, as well as IR sensitive black/white video at night.

Supported by the industry's largest base of video management software, the GANZ ZN-Cx provides the perfect solution for securing bank offices, airports and other facilities, and for traffic surveillance, over IP based networks.

The optimal Power over Ethernet (IEEE 802.3af) supports power to the camera to be delivered via the network, eliminating the need for a power outlet and reducing installation costs. Steady power could be guaranteed with a central Uninterruptible Power Supply (UPS).

The GANZ ZN-Cx offers a comprehensive set of network security and management features.
This includes support for port based network control (IEEE802.1X), which allows the camera to be connected to a network secured with this control and HTTPS encryption, which provides a secure channel between camera and application. It also enables authentication of the video source. GANZ video products are efficiently managed with the powerful GANZ Camera Management tool provided with the GANZ ZN-Cx.



1. Alarm / Audio IO (8 pin Terminal connector)

Audio in

Audio in (line level), for line-in mono signal (only the left channel is used from a stereo signal)

Audio out

The Audio output (line level), which could be connected to a public address (PA) system or an active speaker with a built-in amplifier. A pair of headphones could also be attached.

Alarm in

One digital photo-coupled input

Alarm out

One digital photo-coupled output (200mA)

2. VIDEO OUT

Analog video output

3. MICRO SD CARD

Save still shot on Micro SD card.

4. Network connector

The GANZ ZN-Cx connects to the network via a standard network cable, and automatically detects the speed of the local network segment (10BaseT/100BaseTX Ethernet). This socket could also be used to power the GANZ ZN-Cx via Power over Ethernet (PoE). The camera also negotiates the correct power level while using PoE. (Class 2)

5. Factory default/Control button

Press this button to install the camera using the GANZ Internet Dynamic DNS (DDNS) Service, or to restore the camera to its factory default settings, as described.

6. Power connector

DC IRIS12Vdc or 24Vac power connector

7. LED indicator

LED	Color	Description
Network	Green	Steady for connection to 10/100 Mbit/s network.
	Amber	Flashes for network activity.
	Unlit	No network connection.
Status	Green	On if network connection is established Flashes during boot process
	Red	Flashes one per second during F/W upload.

8.

DC Auto Iris connection

2. Accessing the Camera

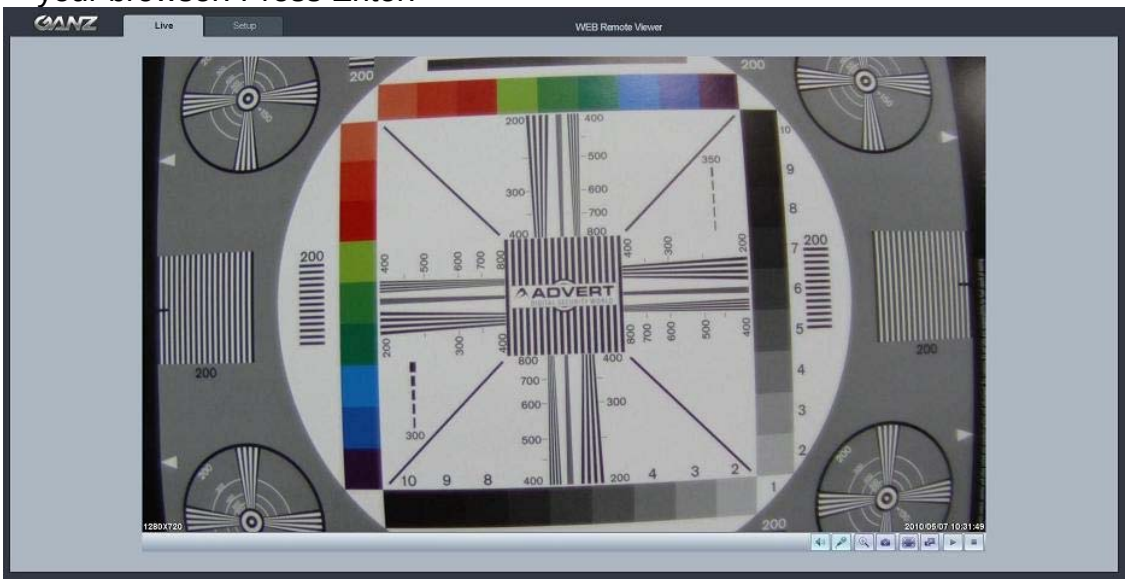
Follow the instructions in the GANZ ZN-Cx Installation Guide to install the camera.

The GANZ ZN-Cx can be accessed with most standard operating systems and browsers. The recommended browser is Internet Explorer for Windows.

2.1 Access from a browser

1. Launch a browser (Internet Explorer)

2. Enter the IP address or host name of the camera in the Location/Address field of your browser. Press Enter.



3. Login dialog will appear when the camera is accessed for the first time. The default user name is **ADMIN** and password is **1234**.

4. The camera's Live View page is now displayed in your browser.

Note: The layout of the live view page in the camera may have been customized to meet specific requirements. Consequently, some of the examples and functions featured here may differ from those displayed on your own Live View page.

2.2 Accessing the camera from the Internet

Once installed, the camera is accessible on the local network (LAN). Configure the router/firewall to allow incoming data traffic to access the camera from the Internet. For security reasons this is usually done on a specific port. Please refer to the documentation for router/firewall for further instructions.

2.3 Adjusting the image and focus

To adjust the position of the lens:
1. Open the Live View page in your web browser.
 - Select **Setup** tab, and open the **Installation** page.
- Set “Installation Mode” ON and select the “Video Format”.
2. Connect analog monitor to VIDEO OUT on rear panel of camera.
- Unscrew the zoom puller on the lens by turning it anti-clockwise.
Adjust the zoom setting and re-tighten the zoom puller.
- Unscrew the focus puller on the lens to adjust the focus, and re-tighten the focus puller.
3. Check the image in the Live View page in your web browser,
 and set “Installation Mode” OFF In **Installation** page in **Setup** tab.

Note: The DC-Iris should always be disabled while focusing the camera. This opens the iris to its maximum, which gives the smallest depth of field, thus the best conditions for correct focusing. When the focus is set with this method, it will then be maintained in any light conditions.

2.4 Back focus adjustment

When the lens is changed to a non-standard lens or when the focus achieved using the instructions above is not satisfactory, perform back focus adjustment as follows:

1. Loosen the flange back locking screw that holds the C/CS-mount ring. CS-mount is standard on GANZ ZN-XXX. In case your lens is C-mount type, please mount C-mount adaptor ring already given in the box.
2. Direct the camera towards an object at least 3 meters away, set the zoom puller to wide-end
 and adjust back focus by rotating C/CS-mount ring.
3. Set the zoom puller to tele-end and ensure that it is still in focus.
4. Direct the camera towards a close object, about 30cm away,
 set the zoom puller to wide-end and ensure that it is still in focus.
5. Set the zoom puller to tele-end and again ensure that it is still in focus.
6. Tighten the screw that holds the C/CS-ring again.
7. After making the back focus adjustment as explained above, adjust the zoom and focus position.

2.5 The Live View page

Not all the buttons described below will be visible unless the Live View page has been customized to display them.

 PC(Client) Speaker

 PC(Client) Mic

 Digital Zoom

 Snap Shot

The Snapshot button saves a still image which is currently displayed.

 Full Screen

 Stream change: First stream ⇔ Second stream

 Play: Click this button to start the stream

 Stop: Click this button to stop streaming

2.6 Video stream types

Motion JPEG

This format uses standard JPEG still images in the video stream. These images are then displayed and updated at a rate sufficient to create a stream that shows constantly updated motion.

The Motion JPEG stream uses considerable amounts of bandwidth, but also provides excellent image quality and access to every individual image contained in the stream.

H.264 protocols and communication methods

- RTP (**R**ealtime **T**ransport **P**rotocol) is a protocol that allows programs to manage the real-time transmission of multimedia data, via unicast or multicast.

- RTSP (**R**eal **T**ime **S**treaming **P**rotocol) serves as a control protocol, to negotiate the type of transport protocol used for the stream. RTSP is used by a viewing client to start a unicast session

- UDP (**U**ser **D**atagram **P**rotocol) is a communications protocol that offers limited

service for exchanging data in a network which uses the Internet Protocol (IP). UDP is an alternative to the Transmission Control Protocol (TCP). The advantage of UDP is that it is not required to deliver all data and may drop network packets when there is network congestion. This is suitable for live video, as there is no point in re-transmitting old information that will not be displayed anyway.

- Unicasting is communication between a single sender and a single receiver over a network. This means that the video stream goes independently to each user, and each user gets their own stream. A benefit of unicasting is in case one stream fails, it only affects one user.

- Multicast is bandwidth-conserving technology that reduces bandwidth usage by simultaneously delivering a single stream of information to multiple network recipients. This technology is used primarily on delimited networks (intranets), as each user needs an uninterrupted data flow and should not rely on network routers.

2.7 How to stream H.264

Deciding on the combination of protocols and methods to use depends on your viewing requirements and on the properties of your network. Setting the preferred method(s) is done in the control applet for AMC, which is found in the Windows Control Panel. When this has been set, AMC will test all the selected methods in the specified order, until the first functioning one is found.

RTP+RTSP
This method (actually RTP over UDP and RTSP over TCP) should be your first consideration for live video, especially when it is important to always have an up-to-date video stream, even if some images are lost due to network problems. This could be configured as multicast or unicast.

Multicasting provides the most efficient usage of bandwidth, especially when there are large numbers of clients viewing simultaneously. Note however, that a multicast broadcast could not pass a network router unless the router is configured to allow this. For example, it is not possible to multicast over the Internet.

Unicasting should be used for video-on-demand broadcasting, so that there is no video traffic on the network until a client connects and requests the stream. However, as more and more unicast clients get connected, the traffic on the network will increase and may cause congestion. Although there is a maximum of 20 unicast viewers, note that all multicast users combined count as 1 unicast viewer.

RTP/RTSP
This unicast method is RTP tunneled over RTSP. This could be used to exploit the fact that it is relatively simple to configure firewalls to allow RTSP traffic.

RTP/RTSP/HTTP or RTP/RTSP/HTTPS
These two methods could also be used to traverse firewalls. Firewalls are commonly configured to allow the HTTP protocol, allowing RTP to be tunneled.

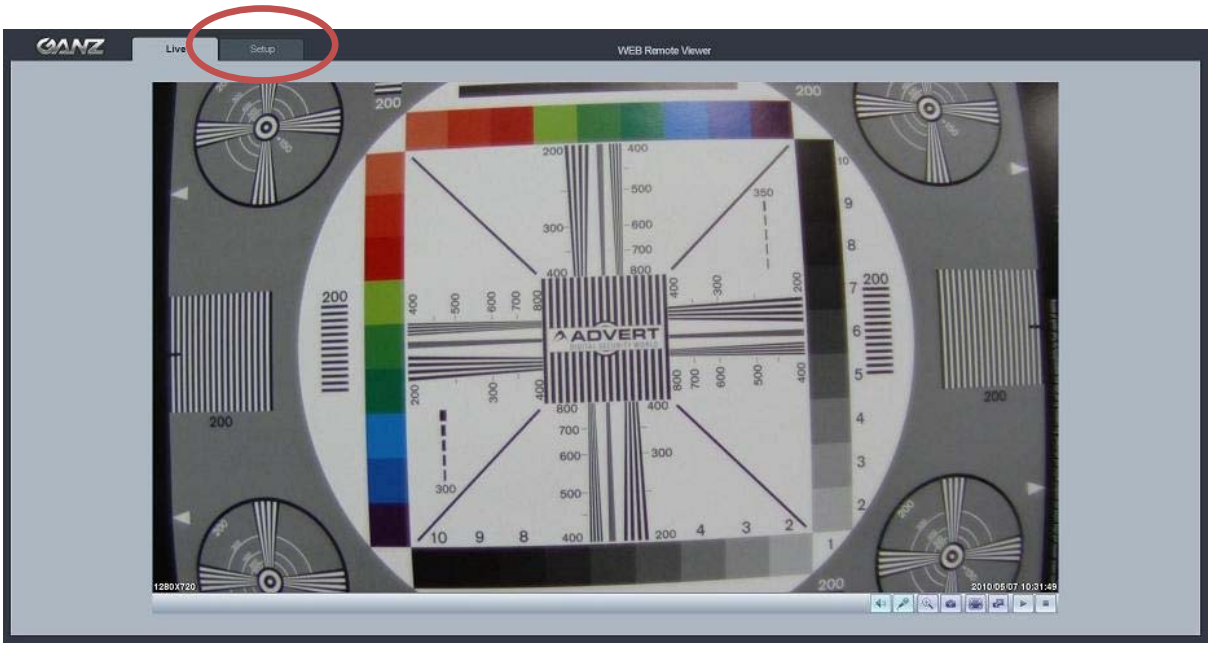
3. The Setup

The GANZ ZN-Cx is configured from the Setup tab, which is available on the top left hand side in the web interface. This configuration could be done by:

• Administrators, who have unrestricted access to all settings under the Setup link
• User, who have access to the Video & Image, Live View Config and Event Configuration settings.

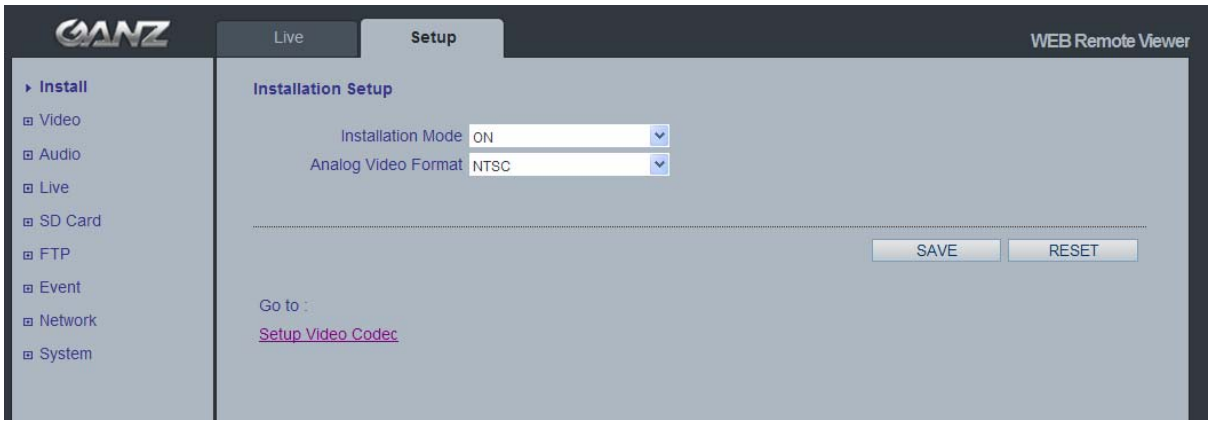
Accessing the Setup link from a browser

1. Start your browser and enter the IP address or host name of the camera in the location/address field.
2. The Live View page is now displayed. Click Setup to see options.



4. Installation

The following descriptions show examples of some of the features available in the GANZ ZN-Cx.



4.1 Installation Setup

Installation mode is for using the analog output to set the lens focus.
After connecting the analog monitor output, User can set the focus easily.

Please refer to Chapter 2.3.

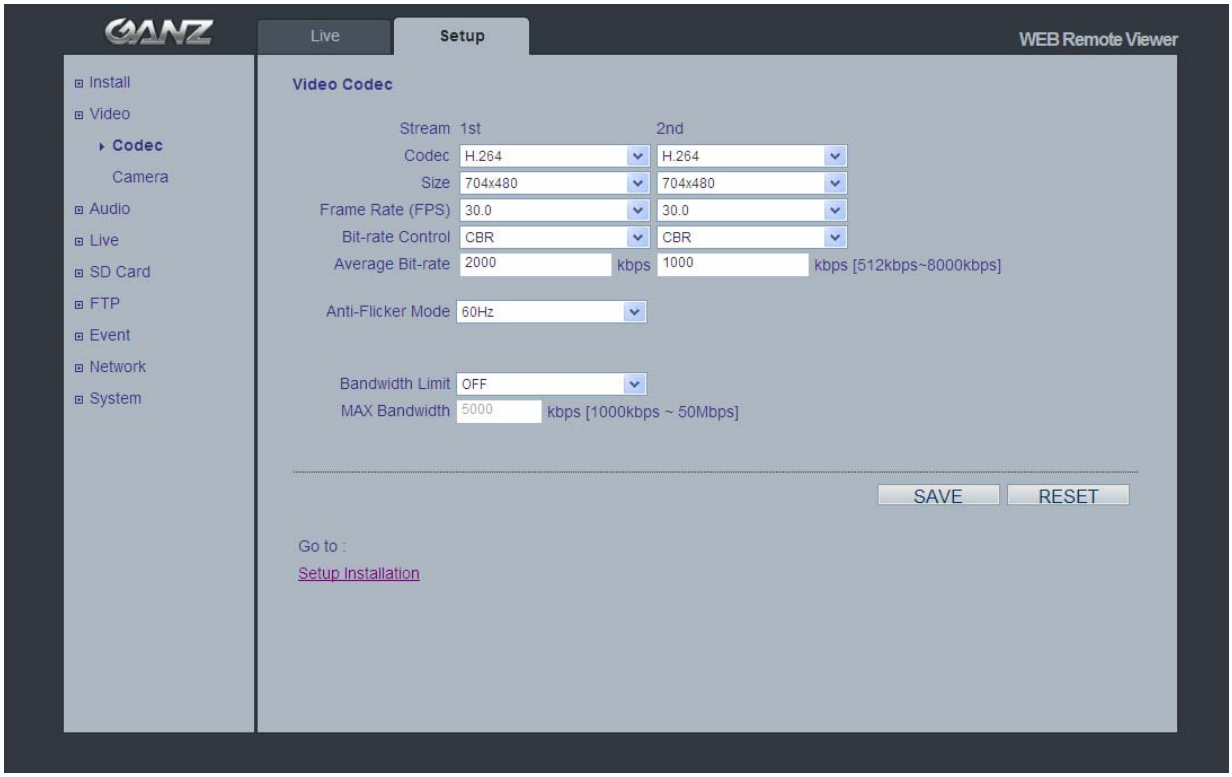
ON : Analog Output is enabled.
OFF : Analog output will be disabled. Please turn installation mode off to use 720p or 1080p streaming.

5. Camera and Image

The following descriptions show examples of some of the features available in the GANZ ZN-Cx.

5.1 Codec

These are the tools for adjusting the H.264, MJPEG settings and controlling the video bit rate.



Motion JPEG

This format uses standard JPEG still images in the video stream. These images then are displayed and updated at a rate sufficient to create a stream that shows constantly updated motion.

The Motion JPEG stream uses considerable amounts of bandwidth, but also provides excellent image quality and access to every individual image contained in the stream.

Note also that multiple clients accessing Motion JPEG streams could use different image settings.

H.264

This is a video compression standard that makes good use of bandwidth and could provide high-quality video streams at less than 1 Mbit/s.

The H.264 standard provides the scope for a large range of different coding tools for use by various applications in different situations, and the GANZ ZN-Cx provides certain subsets of these tools.

Using H.264, it is also possible to control the bit rate, which in turn allows the amount of bandwidth usage to be controlled. CBR (Constant Bit Rate) is used to achieve a specific bit rate by varying the quality of the H.264 stream. While using VBR (Variable Bit Rate), the quality of the video stream is kept as constant as possible, at the cost of a varying bit rate.

Codec

H.264 or MJPEG

Size

Output resolution. See the next page for the output resolution table.

Frame rate

2.5~30fps in normal mode.
1~30fps in slow shutter mode.

If the slow shutter mode is turned on and the low light condition is met, the frame rate automatically goes down. In this case, the frame is half of the normal mode.

Bit-rate control

CBR/VBR

For H.264, if there is only limited bandwidth available, and if this is more important than the image quality, using a constant bit rate (CBR) is recommended. Use a variable bit rate (VBR) when the image quality needs to be maintained at a higher level. In case it is supported on the network; consider also using H.264 multicasting, as the bandwidth consumption will be much lower.

Average Bit-rate

512Kbps ~ 8Mbps

Recommended bit rate for VGA (640x480): 800Kbps ~ 1Mbps
Recommended bit rate for 720p (1280x720): 3Mbps ~ 4Mbps
Recommended bit rate for 1080p (1920x1080): 6Mbps ~ 8Mbps

Anti-Flicker mode (Flicker less mode)

60Hz: NTSC
50Hz: PAL or flicker-free mode.

To use the camera in locations lit by fluorescent lighting, try adjusting the Flicker-free exposure setting so the Exposure control is set to **Flicker-free**.

Bandwidth Limit

Limit the bandwidth that the GANZ ZN-Cx can use during a network connection.

MAX Bandwidth

Specify the maximum bandwidth that the GANZ ZN-Cx can use during a network connection.

< Output resolution table for Full HD model >

First Stream	Second Stream	
1920x1080	-	-
1280x1024	-	-
1280x720	-	-
1280x720(wide)	640x480(A)	320x240(A)
1024x768	-	-
704x576	704x576	352x288
704x480	704x480	352x240
640x480	640x480	320x240
352x288	352x288	-
352x240	352x240	-
320x240	320x240	-

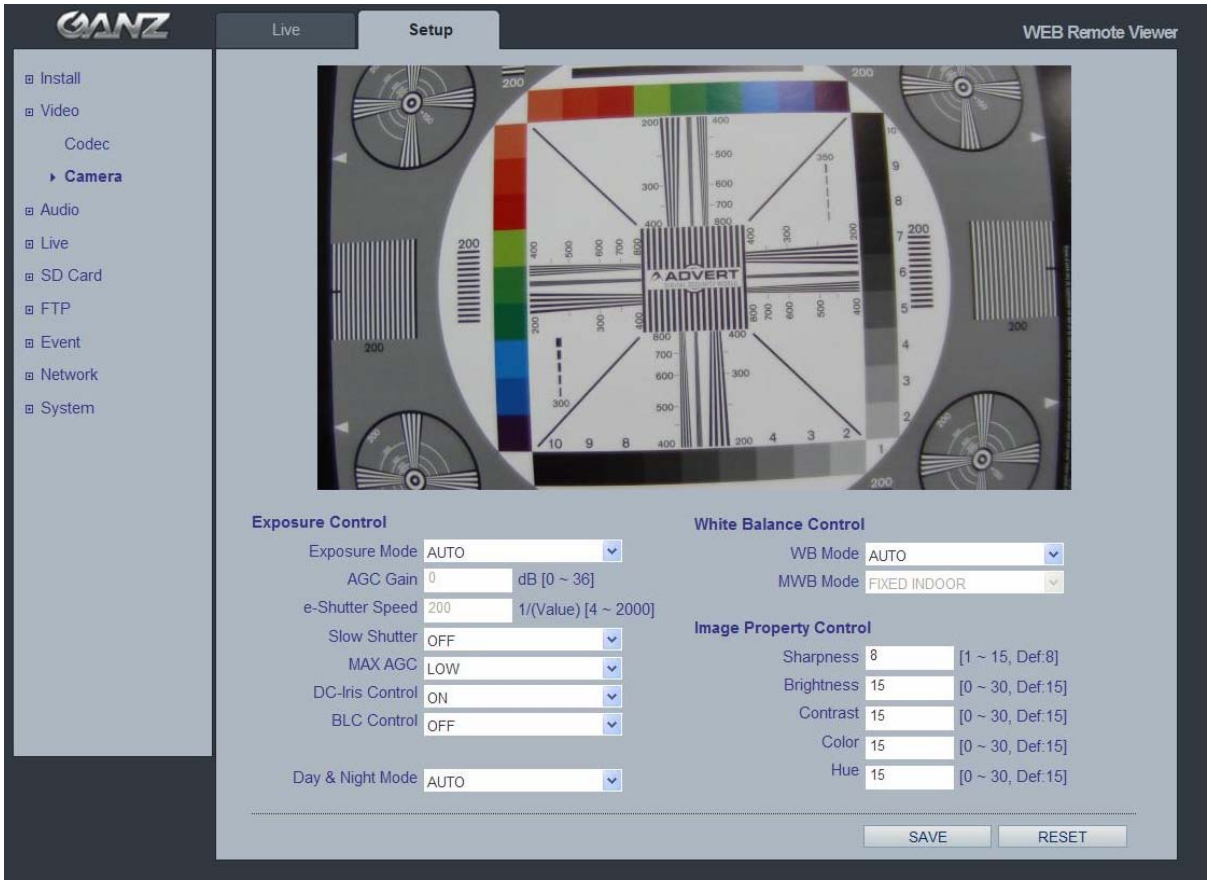
< Output resolution table for HD model >

First Stream	Second Stream	
1280x1024	-	-
1280x720	-	-
1280x720(wide)	640x480(A)	320x240(A)
1024x768	-	-
704x576	704x576	352x288
704x480	704x480	352x240
640x480	640x480	320x240
352x288	352x288	-
352x240	352x240	-
320x240	320x240	-

< Output resolution table for VGA model >

First Stream	Second Stream	
704x576	704x576	352x288
704x480	704x480	352x240
640x480	640x480	320x240
352x288	352x288	-
352x240	352x240	-
320x240	320x240	-

5.2 Camera picture needs to fit on page properly



5.2.1 Exposure Control

Enable AE (Auto Exposure)

ON: Use these settings to control full automatic exposure control. Some sub menus (AGC Gain, e-Shutter Speed) will be disabled.

OFF: Use these settings to control exposure manually. To compensate for poor lighting conditions, you could adjust the Color level, Brightness, Sharpness, Contrast, Exposure control, and DC-Iris. DC-Iris should always be enabled, except when focusing, or using a non-DC-Iris lens.

Slow shutter mode

For **low light conditions**, turn on slow shutter mode.

Max AGC Gain

For **low light conditions**, set this value to a higher value such as 30dB.

DC-Iris Control

Disable the DC-Iris lens setting when focusing the lens.. Follow the instructions in Chapter 2.3, and enable the DC-Iris when finished.

BLC Control (Back Light Compensation)

The BLC compensates the exposure of scenes with strong back light in the central bottom part of the image.

When the image background is too bright, or the subject too dark, backlight compensation makes the subject appear clearer. The settings for **low light behavior** determine how the camera behaves at low light levels. These settings affect video image quality and it basically measures how much noise is allowed in the video images.

5.2.2 Day & Night Control

Day & Night Mode

Auto/On/Off- Set this filter to OFF to allow the camera to 'see' infrared light, removing the IR cut filter, when using an infrared lamp. This makes the image clearer. If set to Auto, the camera will automatically switch between IR cut filter On and Off, according to the current lighting conditions.

5.2.3 White Balance Control

WB Mode

ON: ATW (Automatic White balance)
OFF: MWB (Manual White balance)

The White balance adjustment setting is used to make the colors in the image appear consistent, compensating for the different colors present in different light sources.

The GANZ ZN-Cx Network Camera could be set automatically to identify the light source used and compensate for its color. If necessary, the type of light source could be set manually.

The configuration of the video image would affect the camera's overall performance, depending on how it is used and on the available bandwidth. Setting a higher resolution and lower compression improves video image quality but increases the amount of bandwidth used.

5.2.4 Image Property Control

These functions control the video signal parameters such as Brightness, Sharpness,

Contrast, Color, and Hue.

Sharpness (Def: 8, Range: 1~15)

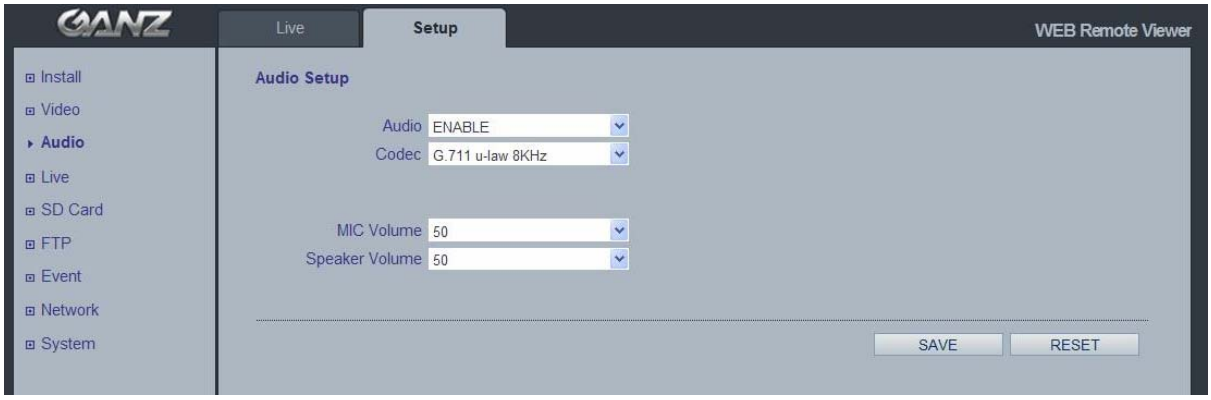
Brightness (Def: 15, Range: 0~30)

Contrast (Def: 15, Range: 0~30)

Color (Def: 15, Range: 0~30)

Hue (Def: 15, Range: 0~30)

6. Audio



The GANZ ZN-Cx could transmit audio to other clients, using an external microphone and could play audio received from other clients via connected speakers. This section describes how to configure the basic audio settings for the GANZ ZN-Cx, such as setting the communication mode, adjusting the sound levels in the microphone and speakers connected to the camera.

Note: The speakers connected to the audio output must have a built-in amplifier, such as PC speakers.

Enable Audio

ON/OFF
Check this to enable audio in the GANZ ZN-Cx.

Codec

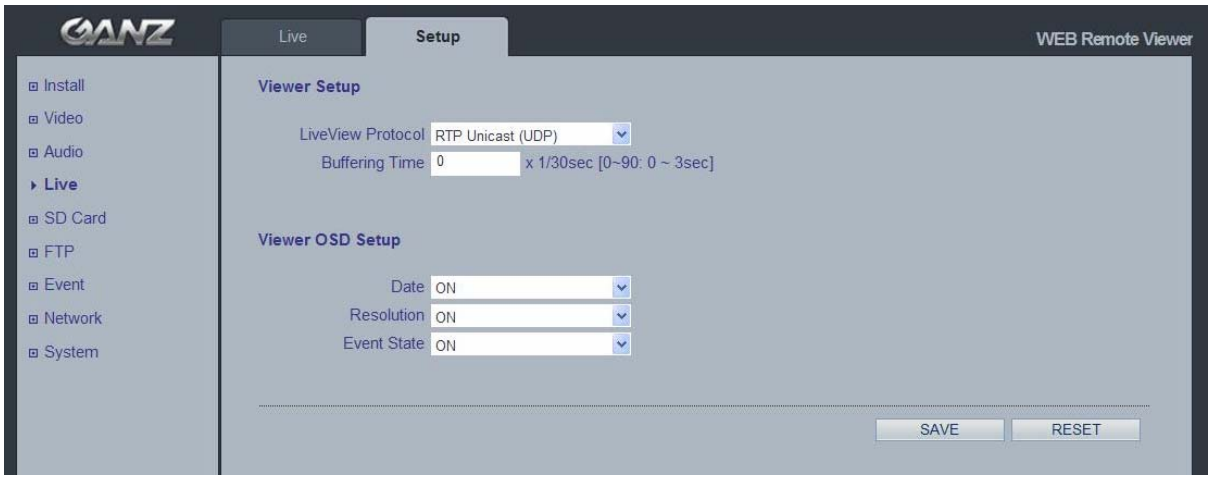
G.711 u-law

Audio Input

Audio from a connected in line source could be connected to the Audio in connector of the GANZ ZN-Cx. If there are problems with the sound input being too low or high, adjust the **input gain** for the microphone connected to the GANZ ZN-Cx.

Select the desired audio **Encoding** format to G.711.

7. Live



GANZ ZN-Cx could support 10 simultaneous users. In case of multicast, GANZ ZN-Cx could support an unlimited number of users. If supported on the network, consider using the multicast function, as the bandwidth consumption will be much lower.

Viewer Setup

LiveView Protocol
RTP Unicast (UDP) / RTP Multicast (UDP) / RTP over RTSP (TCP)

Buffering Time (frame based)
Determines (0 ~ 90) x 1/30 sec (0 ~ 3sec)

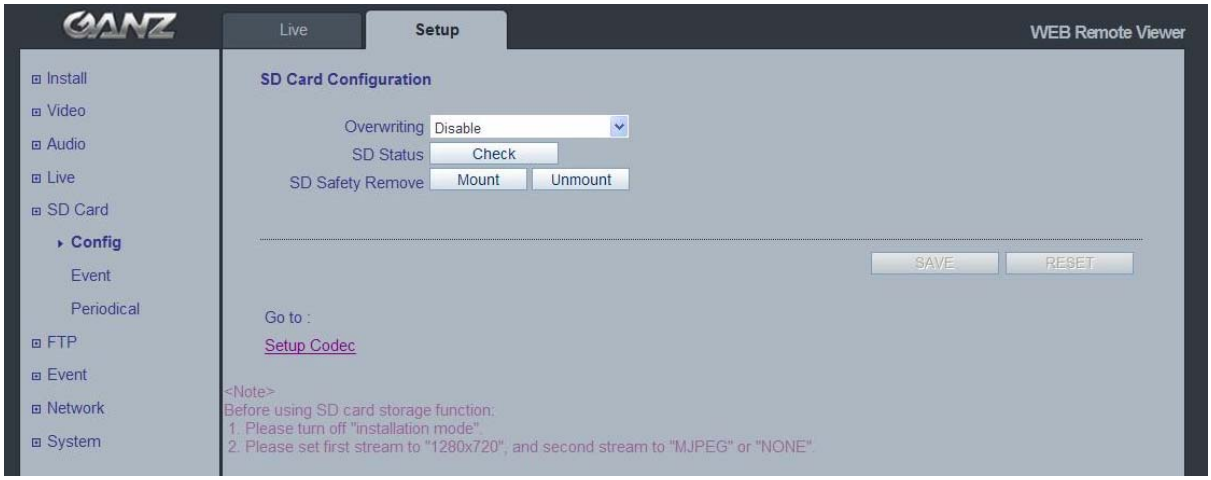
Viewer OSD Setup

Date : Determines whether the date is displayed.
Resolution : Determines whether the camera resolution is displayed.
Event State : Determines whether the event state is shown on display window.

Event State on Live Screen.

AI : Alarm in
AO : Alarm Out
M : Motion

8. SD Card
8.1 SD Card > Config



SD Card Configuration

This configuration page allows you to save still images to the Micro SD card. This function cannot be used when Installation mode is on. Please set the first stream 1280x720 or 1280x720(wide) in Video-> Codec setting and second stream to MJPEG or None.

Overwriting

The system will overwrite the oldest data on the SD card to continually record the newest data.

SD Status

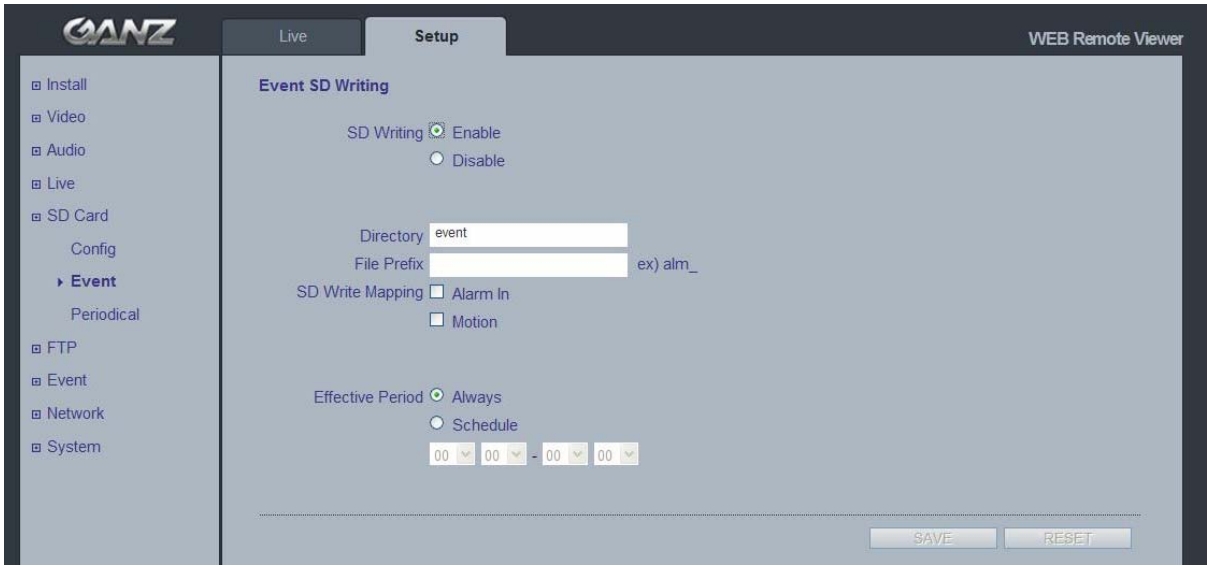
Shows present SD card status. It also shows whether the SD card is present and the capacity left on it in Kbytes.

Mount /Unmount

The Mount button notifies the system after the SD card is inserted. The **Unmount** button is to notify the system before the SD card is removed.
This is a similar function to the 'remove the hardware safely before taking out the USB' from Windows OS.

Note) The user can download the images from the SD card using the FTP function. Turn FTP server on and connect to the camera. Please see the chapter 9.1 for details.

8.2 SD Card > Event



Event SD Writing

You can configure the camera to store still images based on events such as Alarm In and Motion detection. This feature cannot be used when the camera is in Installation mode. Please set the first stream to 1280x720 or 1280x720(wide) in Video-> Codec setting and second stream to MJPEG or None.

SD Writing

SD Writing will Enable /Disable event recording to the SD card. When it is set to **Disable**, all remaining menus will be deactivated.

Directory

Directory category is a sub-directory name where the still images will be stored. when an Event occurs. .

File Prefix

File Prefix category allows you to add a file name prefix to the stored image.
Ex: if set as ‘alm’, the still image would be saved as alm_date_time.jpg.

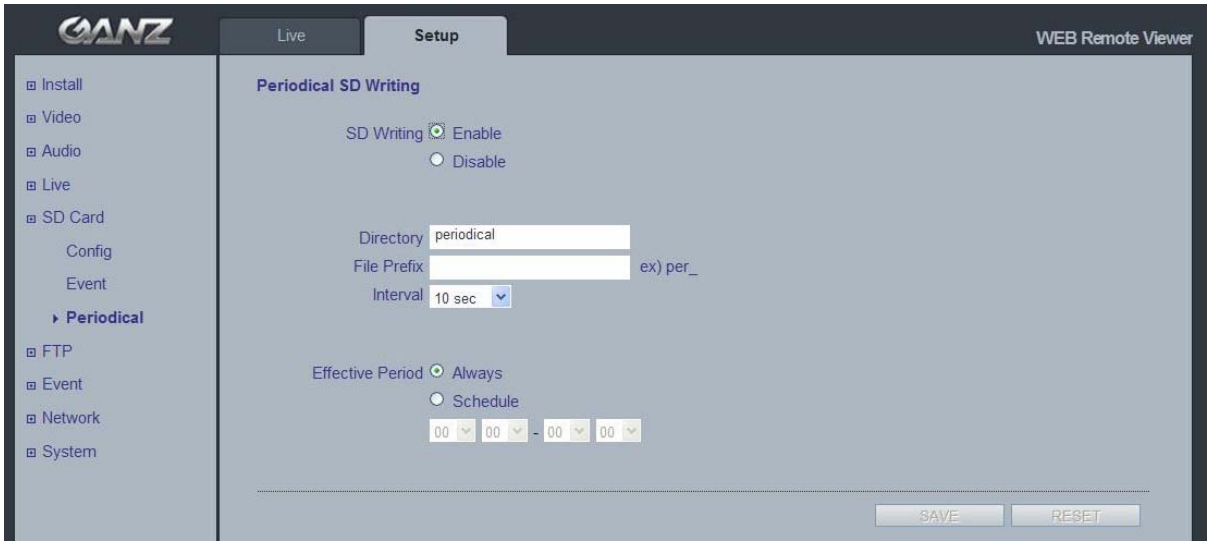
SD Write Mapping

It lets you choose what events will be recorded to the SD card by by checking the desired event.

Effective Period

It lets you decide to save all the events that are happening all the time or only a certain time. . The Schedule method is used to save events on the SD card during a specific time range. The start time and the end time can be set using the drop-down list.

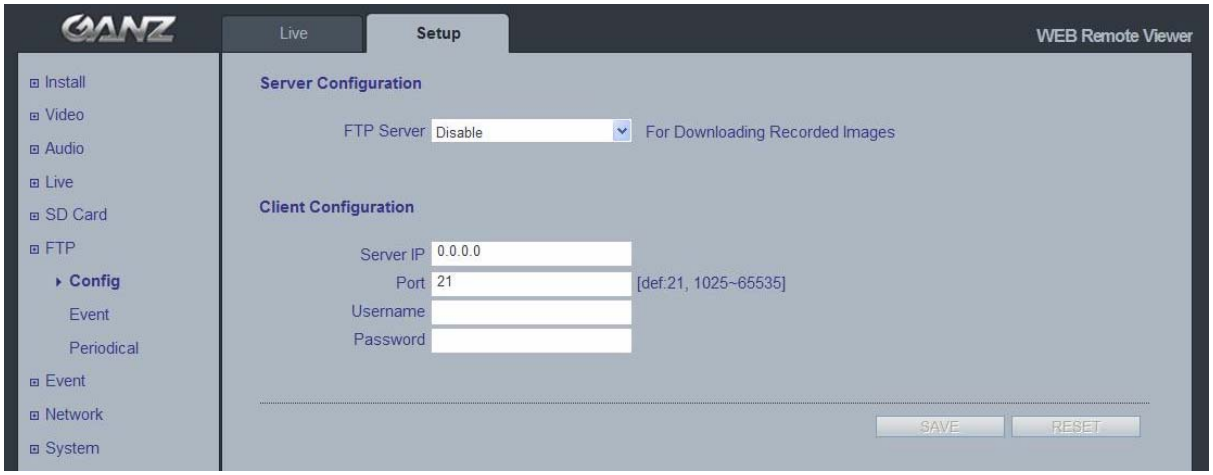
8.3 SD Card > Periodical



Periodical SD Writing

It is setting page to save the still shot in the Micro SD card periodically.This feature cannot be used when the camera is in installation mode. Please set the first stream to 1280x720 or 1280x720(wide) in Video-> Codec setting and second stream to MJPEG or None.
Directory and File Prefix category are same as the content on the SD Card-> Event page.
Interval is the setting to save a still image based on frequency (ex. 1 image every 10 sec). Use the drop-down control to set from 10 seconds to 1 hour.
Effective Period is also same as the content on the SD card->Event page. Periodically, it saves the still image during a specific time range only.

9. FTP
9.1 FTP > Config



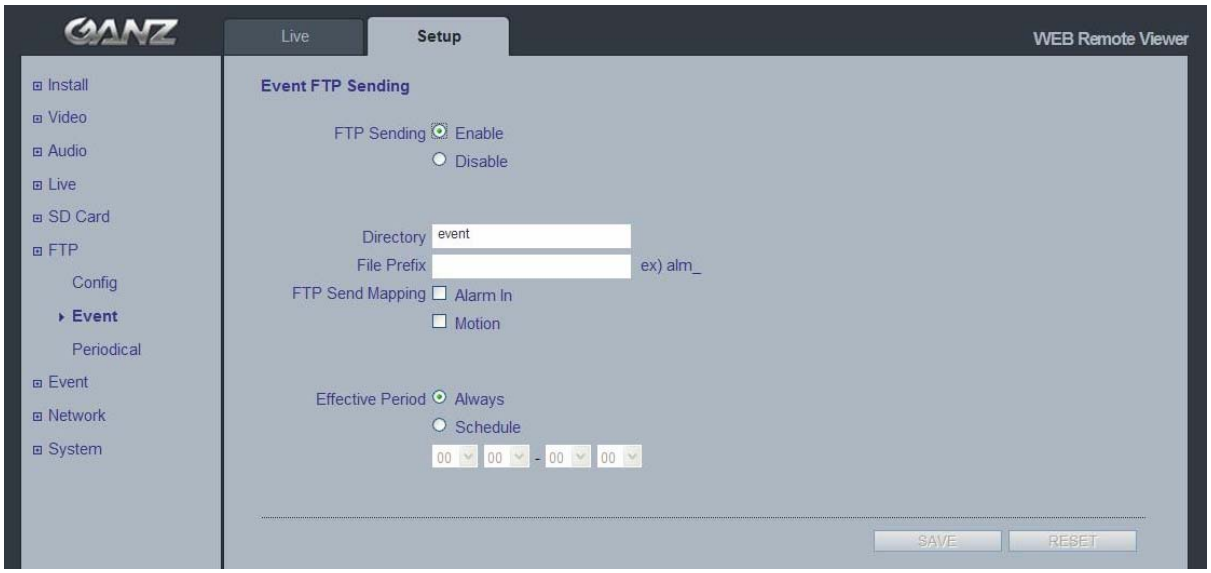
Server Configuration

This allows you to Enable/Disable the FTP function to download the configuration set on the **SD Card** menu remotely. When it is set as Enable, the FTP client can download the saved content without getting the SD Card.

Client Configuration

This is the settings page used to transmit the still images to remote sites, using the FTP server.
This feature cannot be used when the camera is in installation mode. Please set the first stream to 1280x720 or 1280x720(wide) in Video-> Codec setting and second stream to MJPEG or None.
Set the information for FTP transmission by inserting the IP address, Username and Password of the remote FTP Server.

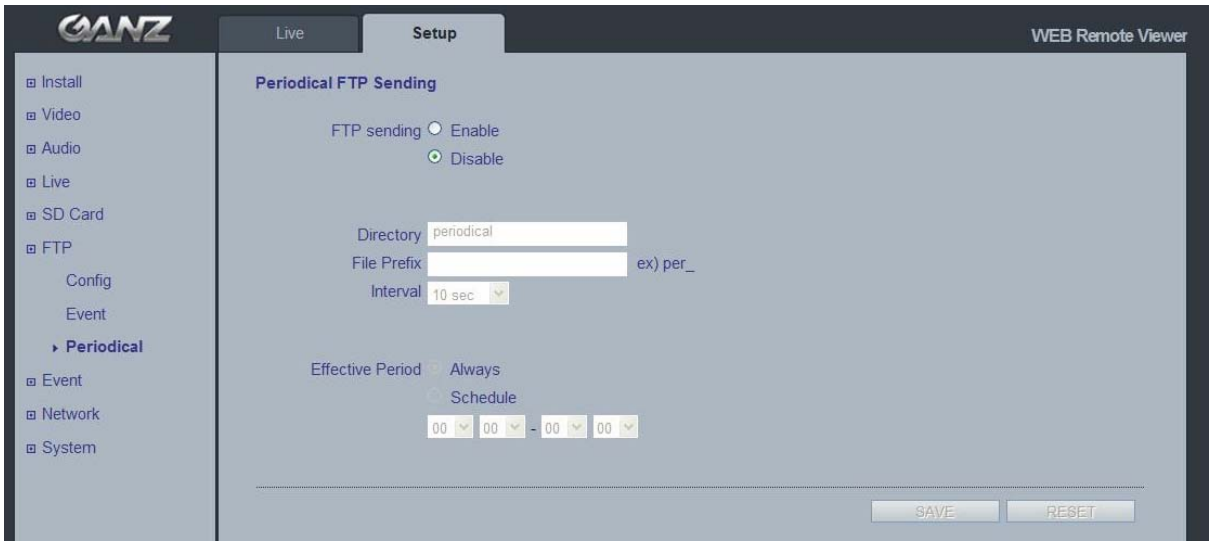
9.2 FTP > Event



Event FTP Sending

It is setting page to transmit the still shot to the FTP server at remote sites when event such as Alarm In and Motion detection happens. This feature cannot be used when the camera is in installation mode. Please set the first stream to 1280x720 or 1280x720(wide) in Video-> Codec setting and second stream to MJPEG or None.
The overall menu structure is same as menu structure on SD Card->Event. Difference is that instead of saving the still image to the SD card on Alarm In or Motion event, it transmits to the Ftp server set on the Client Configuration of FTP->Config.

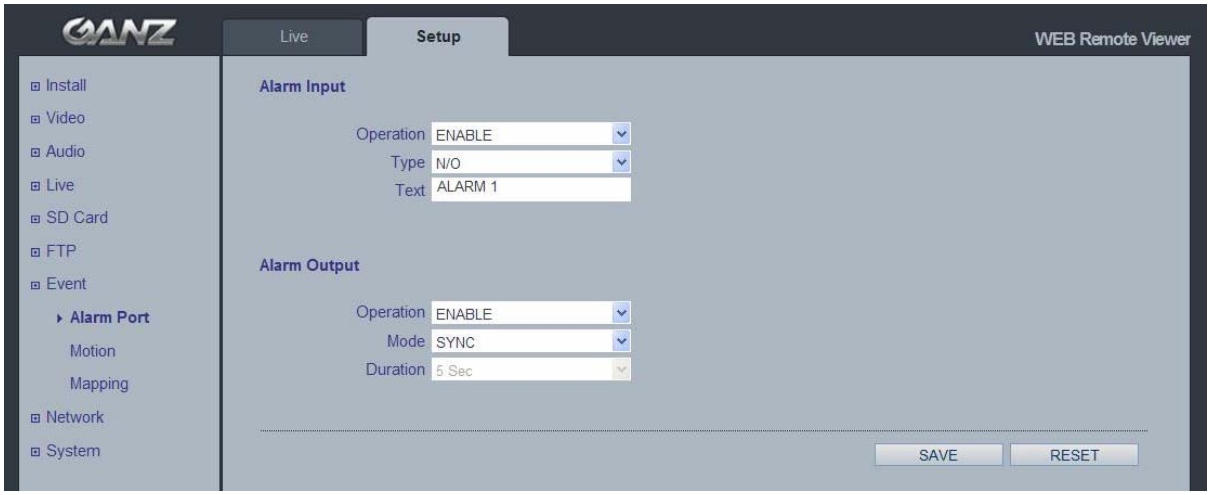
9.3 FTP > Periodical



Periodical FTP Sending

It is setting page to transmit the still shots periodically to the FTP server of remote sites. This feature cannot be used if te camera is in installation mode. Please set the first stream to 1280x720 or 1280x720(wide) in Video-> Codec setting and second stream to MJPEG or None.
The overall menu configuration is same as SD Card->Periodical. Difference is that instead of saving the still image to the SD card on Alarm In or Motion event, it transmits to the Ftp server set on the Client Configuration of FTP->Config.

10. Event
10.1 Event > Alarm Port



Alarm Input

Used for connecting external alarm devices and triggering images for specific alarm-based events. The input is typically connected to a motion detector or any other external security device, and images could be uploaded whenever the detector is activated. Maximum 5VDC is allowed on the input.

Alarm Output

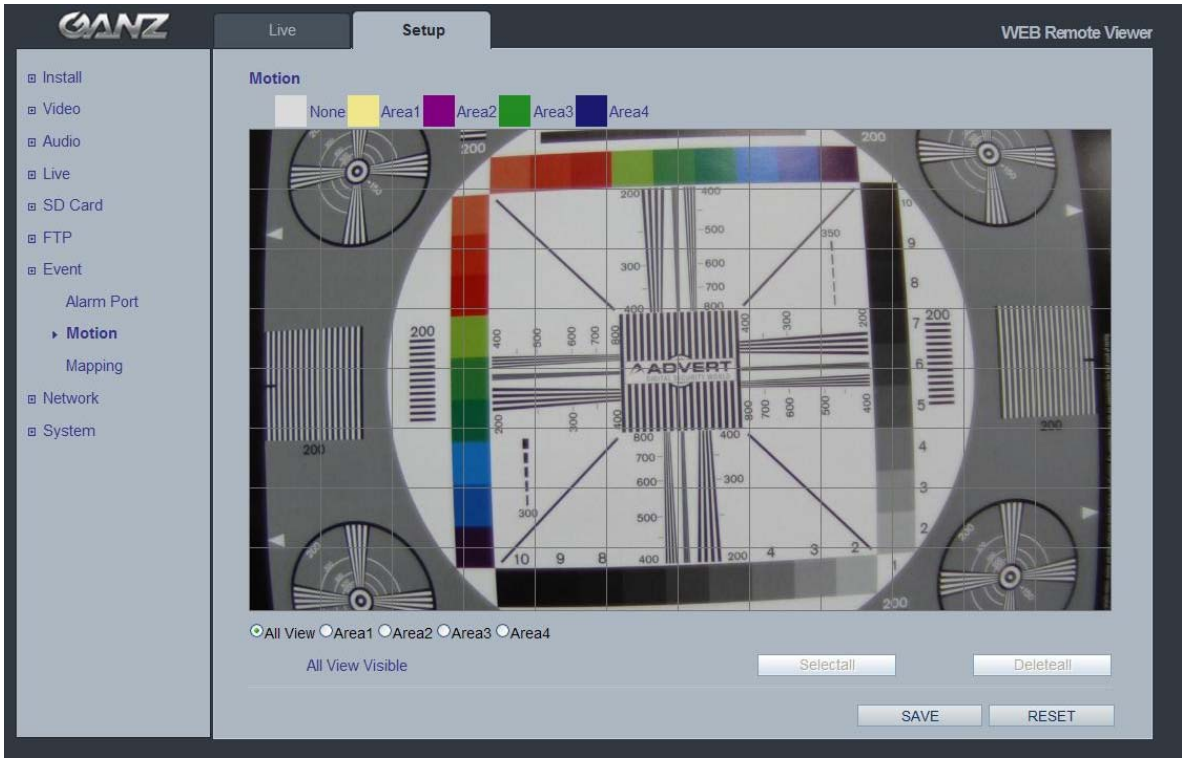
This could drive a maximum load of 50VDC or 35VAC at 110mA directly or heavier loads by connecting additional relay circuitry. If the output is used with an external relay, a diode must be connected in parallel with the load for protection against any voltage transients.

Duration

This parameter sets the minimum period before the alarm reset. Another alarm will not be triggered until this period has lapsed, even if the tampering conditions are otherwise met. This could help to prevent false alarms for known conditions that affect the image.

Caution! Connecting AC to the inputs/outputs will damage the unit.

10.2 Event > Motion



Motion Detection

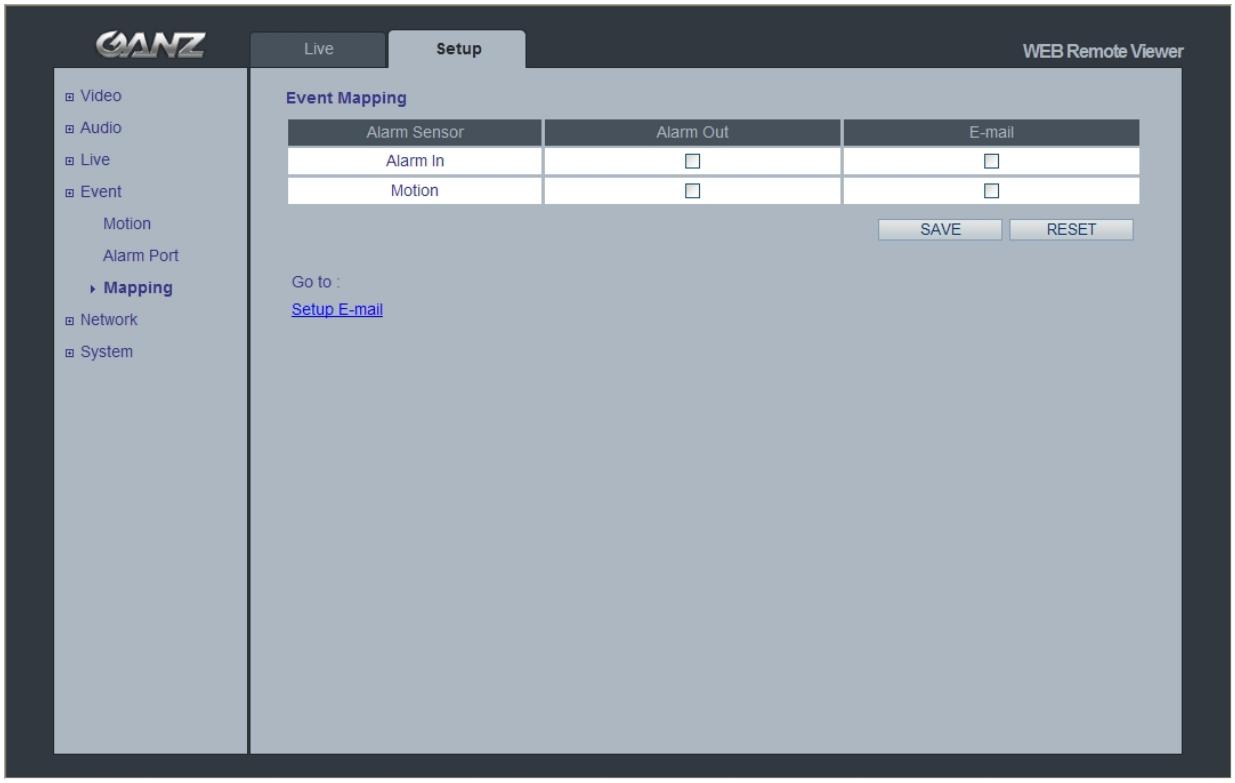
Motion detection is used to generate an alarm whenever movementoccurs in the video image. A total of ???(how many windows) 4 windows could be configured.

Configuring Motion Detection

1. Click **Motion Detection** in the **Event Config** menu.
2. Click Add Window, and choose to select an area for motion detection by checking the relevant box.
3. Enter a descriptive name for the window.
4. Adjust the size (drag the bottom right-hand corner) and position (click on the text at the top and drag to the desired position).
5. Adjust the Object size, History and Sensitivity profile sliders (see table below for details).(Where is the table?) Any detected motion within an active window is then indicated by red peaks in the **Activity** window (the active window has a red frame).
6. Click **Save**.

Note: Using the motion detection feature may decrease the camera's overall performance.

10.3 Event > Mapping

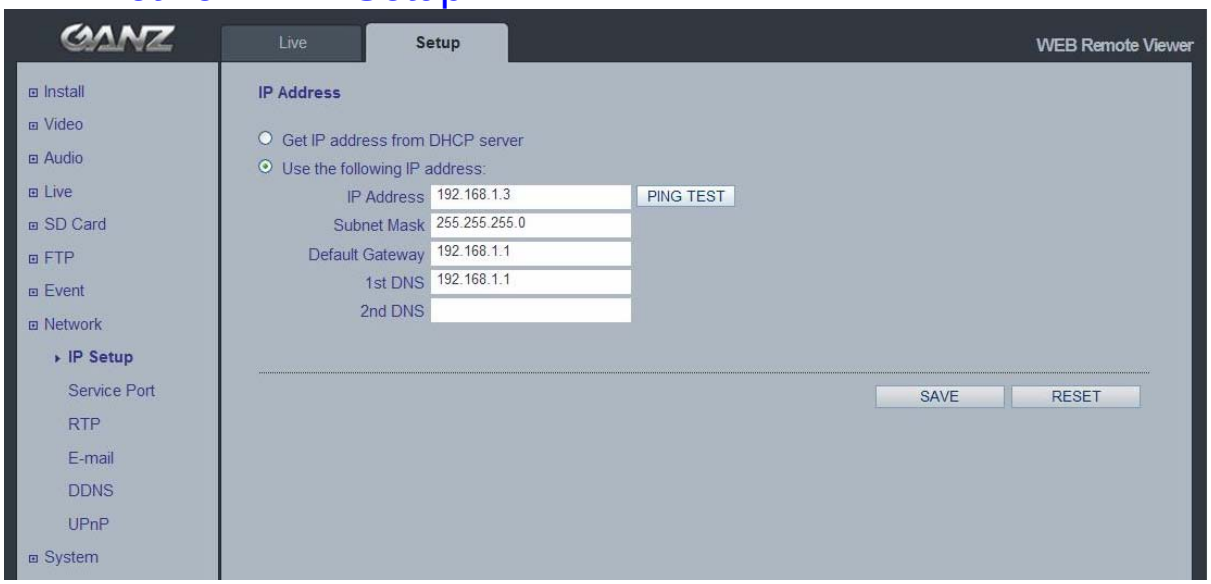


It is possible to define conditions that would cause the camera to respond with certain actions. A triggered event happens as a result of a trigger, which could be motion detection or an external alarm input.

For example,

Alarm out events could be triggered by video motion detection or alarm in.
E-mail could be sent by video motion detection or alarm in.

11. Network
11.1 Network > IP Setup



Network Settings

Click the **Setup > Network > IP Setup** to see the current network settings.

IP Address Configuration

The GANZ ZN-Cx supports both IP version 4 and IP version 6 **(IPv6 will be supported in V3.00)**. Both versions may be enabled simultaneously, and at least one version should be always enabled.

When using IPv4, the IP address could be set automatically via DHCP, or a static IP address could be set manually.

If IPv6 is enabled, your camera receives an IP address according to the configuration in the network router.

There are also options for setting up notification of changes in the IP address, and for using a Dynamic DNS Service

Notes: • To receive notification whenever the camera's IP address changes (via e.g. DHCP), configure the options for notification of IP address change. See Services below. • If your DHCP server could update a DNS server, you could access the GANZ ZN-Cx by a host name which is always the same, regardless of the IP address.

Options for notification of IP address change - DHCP is a protocol for automatic IP address assignment on a network. IP address assignment via DHCP may lead to the situation where the IP address changes and you lose contact with the camera. Configure the options for notification of IP address change (under Services) to receive notification from the camera when the IP address changes.

DNS Configuration

DNS (Domain Name Service) provides the translation of host names to IP addresses on your network.

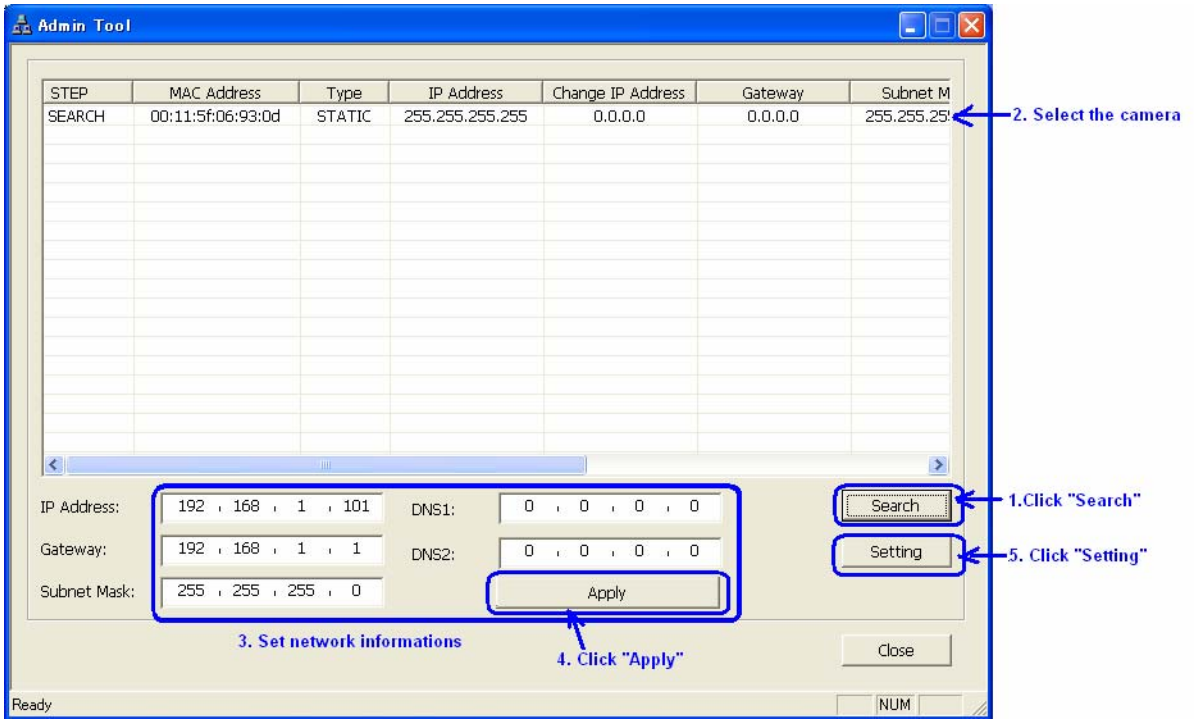
- **Primary DNS server** - enter the IP address of the primary DNS server.
- **Secondary DNS server** - will be used if the primary DNS server is unavailable.

How to assign IP address

Default setting of network is set to “DHCP” and “UPnP” function is set to ON. So if yo ur network has a DHCP server and UPnP function is enabled on your PC, you can find the network camera in “My network”.

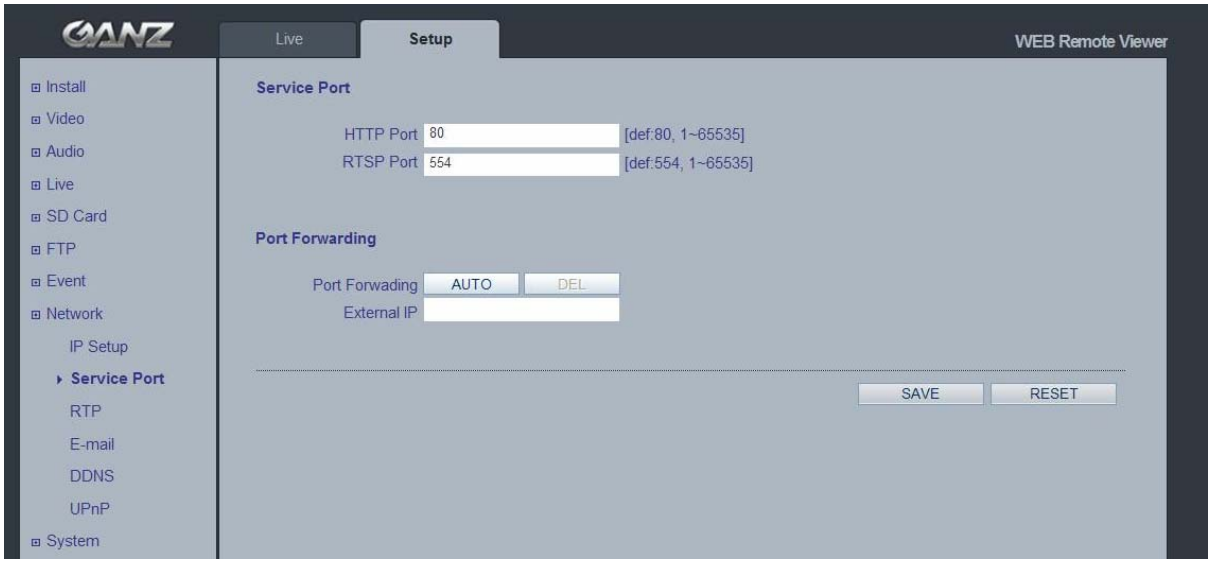
If a DHCP server is not available on your network, please assign an IP address as fo llows.

1) Execute ZR-DS Admintool.exe and click “Search” button.
2) After the camera is listed in camera list, select the camera.
3) Type in the all network information.
4) Click “Apply” button, the setting will be showed in the list.
5) Click “Setting” Button to set network information to the camera.



Then double click the camera in the list and Internet explorer will open and Automatically connect to the camera.

11.2 Network > Service Port



Service Port

HTTP port- The default HTTP port number **(80)** could be changed to any port within the range 1-65535. This is useful for simple port mapping.

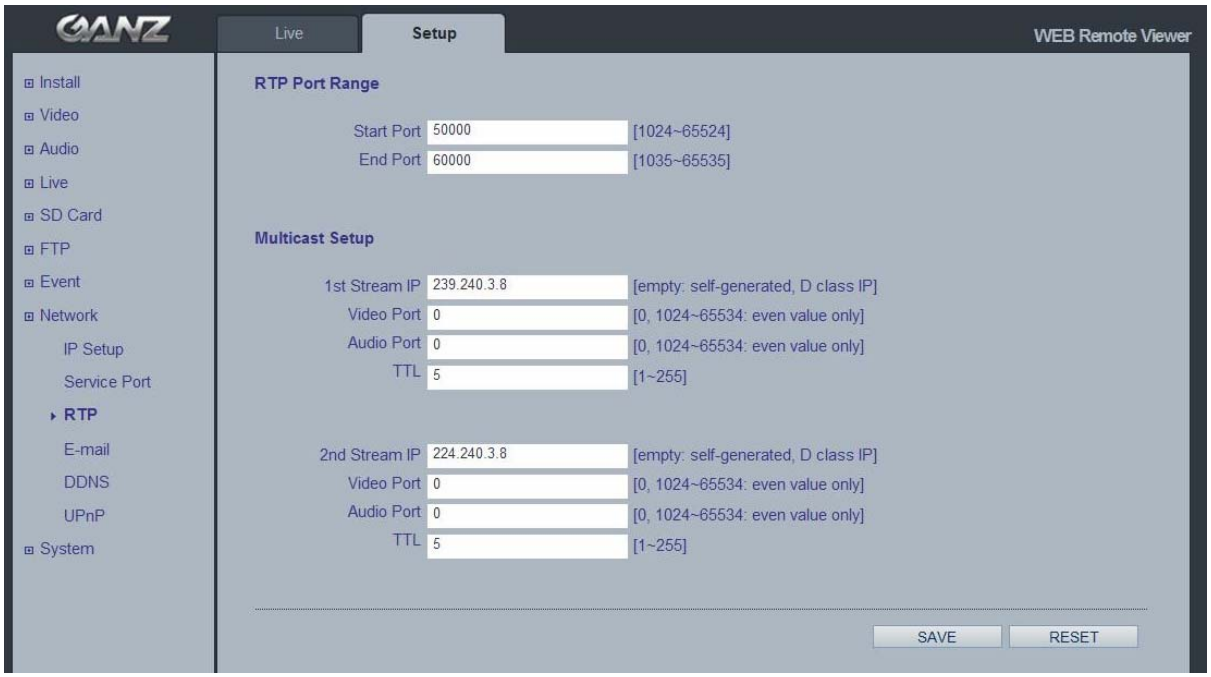
RTSP port- The RTSP protocol allows a connecting client to start an H.264 stream. Enter the RTSP port number to use. The default setting is 554.

HTTPS port (HTTPS will be supported in V3.00) - The default HTTPS port number **(443)** could be changed to any port within the range 1024-65535. HTTPS is used to provide encrypted web browsing.

RTP port range - These settings are the IP address, port number, and Time-To-Live value to use for the video stream(s) in multicast H.264 format. Only certain IP addresses and port numbers should be used for multicast streams.

Note: After changing the default port the user can use the "ADMIN Tool" to search and connect automatically if they forget the ports they used.

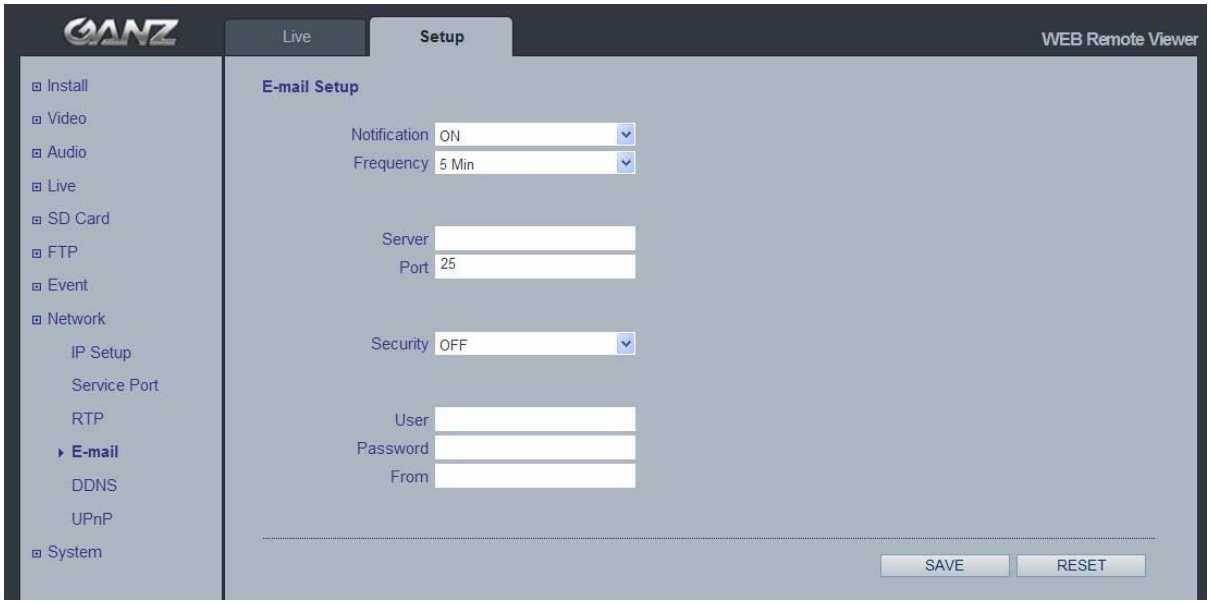
11.3 Network > RTP



RTP port range

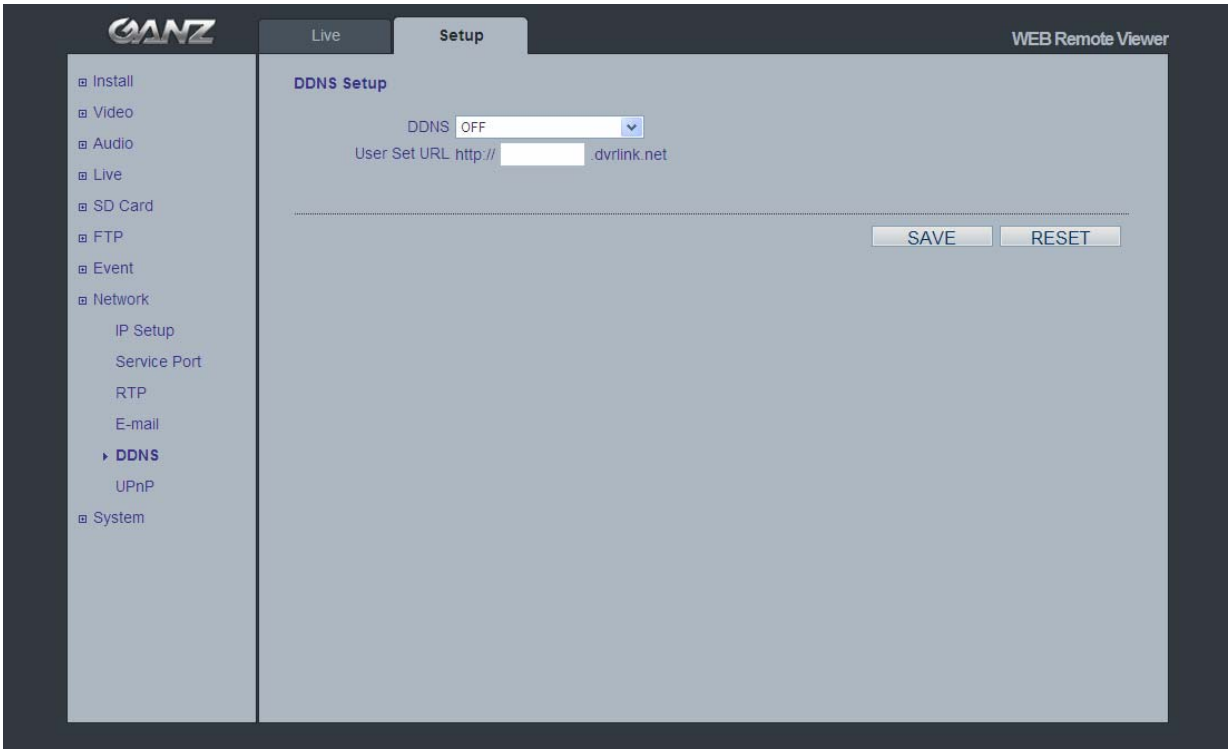
These settings are the IP address, port number, and Time-To-Live value to use for the video stream(s) in multicast H.264 format. Only certain IP addresses and port numbers should be used for multicast streams.

11.4 Network > E-mail



You must turn notification to ‘On’ and then enter the host names or addresses for your mail servers in the fields provided, to enable the sending of event and error email messages from the camera to predefined addresses via SMTP.

11.5 Network > DDNS



The GANZ Internet Dynamic DNS Service can provide your GANZ product with its own URL (web address), which can then be used to access it over the Internet. The product can be unregistered from the service at any time. To do this click Network > DDNS and turn the DDNS off.

How to setup the DDNS

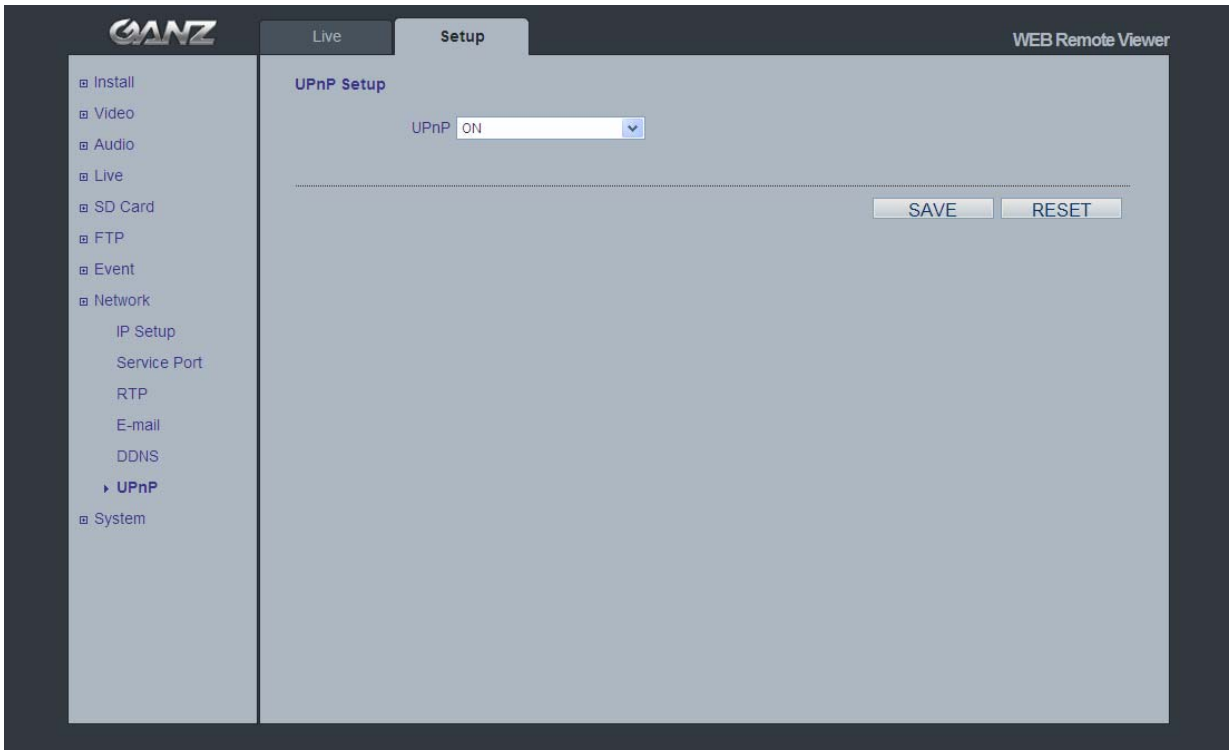
1) DDNS set to ON
   - “Mac address.dvrlink.net” is registered to the DDNS server.
     User can connect to the camera with “http://Mac address.dvrlink.net”.

2) DDNS set to ON and user inputs “User Set URL”
   - “Mac address.dvrlink.net” and “User Set URL.dvrlink.net” are registered to the DDNS server together.
     So User can connect to the camera using “http://Mac address.dvrlink.net”.and “http://User Set URL.dvrlink.net”.

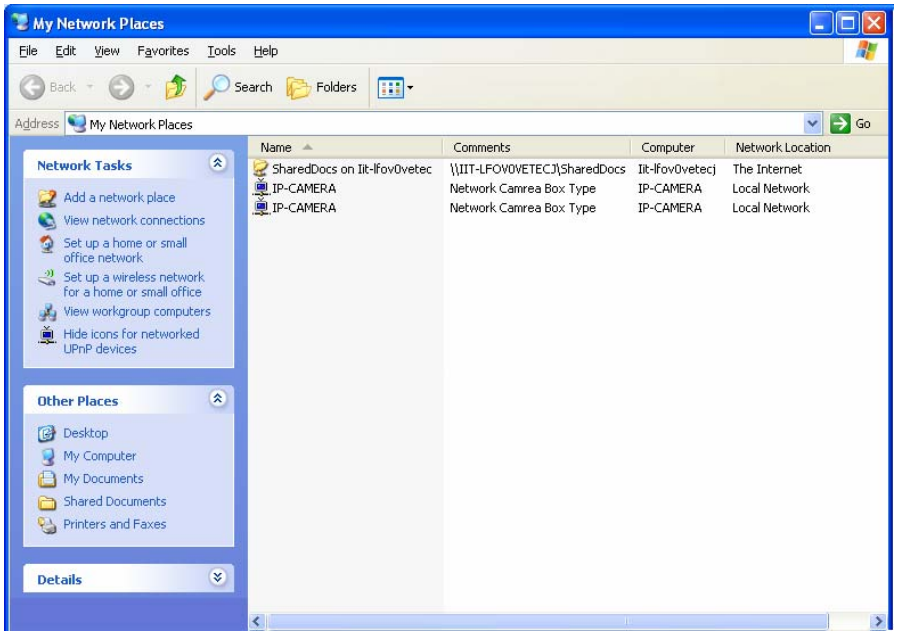
     If “User Set URL” is already registered by someone an error message is shown. At that time, try a different name.

3) DDNS set to OFF
   - DDNS server is not used.

11.6 Network > UPnP

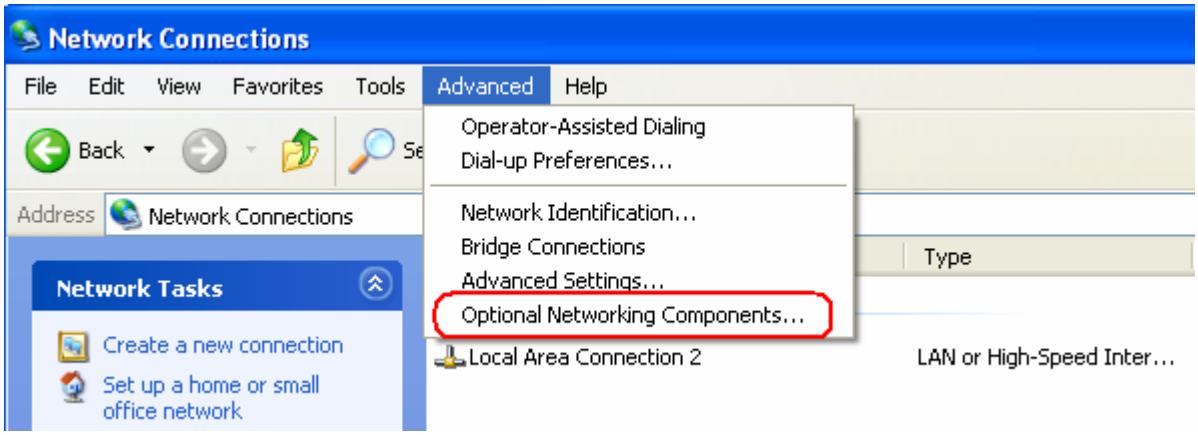


UPnP function enable you to find the IP camera automatically on your network.

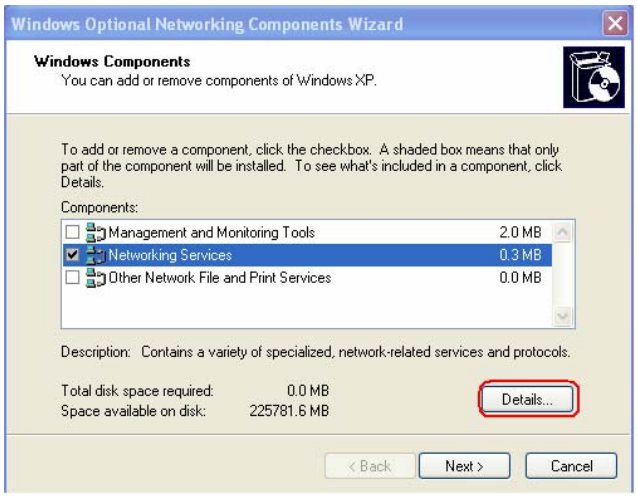


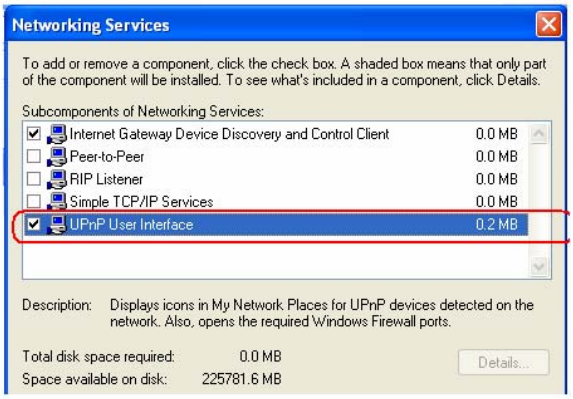
In order to detect the camera automatically, enable both UPnP function on both the camera and your PC.

Camera : Select UPnP to “ON”
PC : Open “Control Panel” =>”Nertwork Connection”
Select “Advanced”=>”Optional Networking Components…”

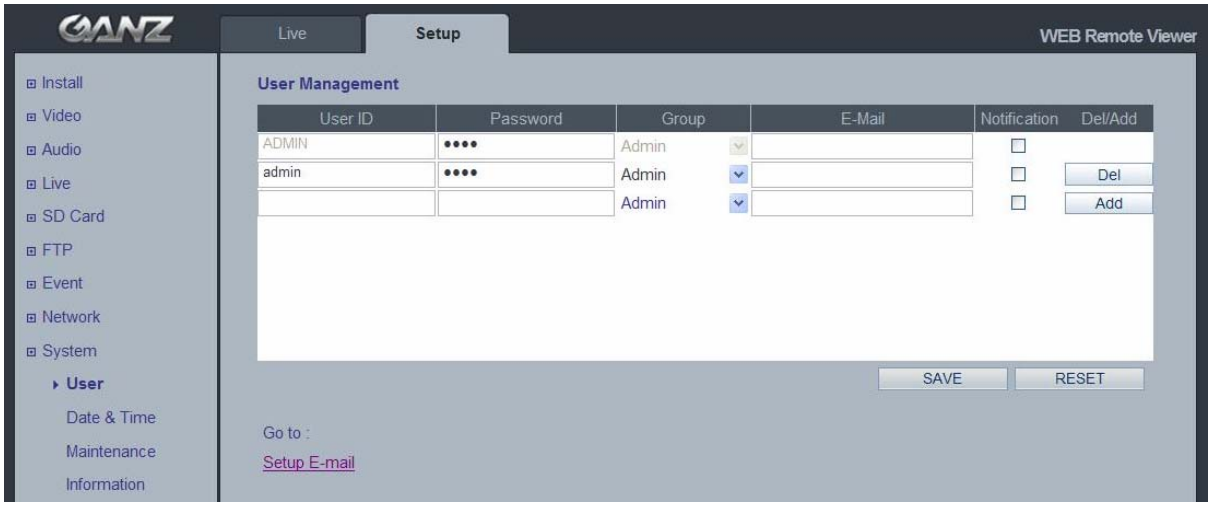


Select “Network Services” and click “Detailes”.
Then select “UPnP user Interface”





12. System
12.1 System > User

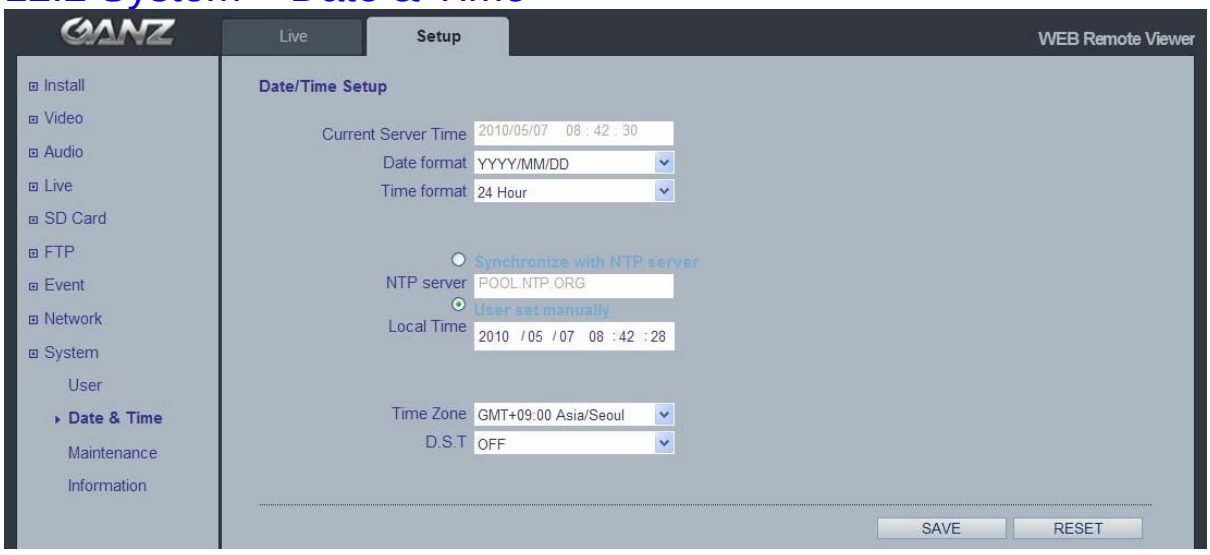


Access the camera and the **Configure Root Password** dialog appears.
Enter the User name: **ADMIN** and password is 1234 to log in.

To change the password or add a user, click SETUP > SYSTEM > USER. Fill in the User ID, Password and E-mail server. Select the Group. Then press the ADD button and click SAVE.

Note: *The default administrator user name* ***ADMIN*** *is permanent and cannot be deleted or altered.*

12.2 System > Date & Time



Date & Time Format - specify the formats for the date and time (12h or 24h) displayed in the Live View video streams.

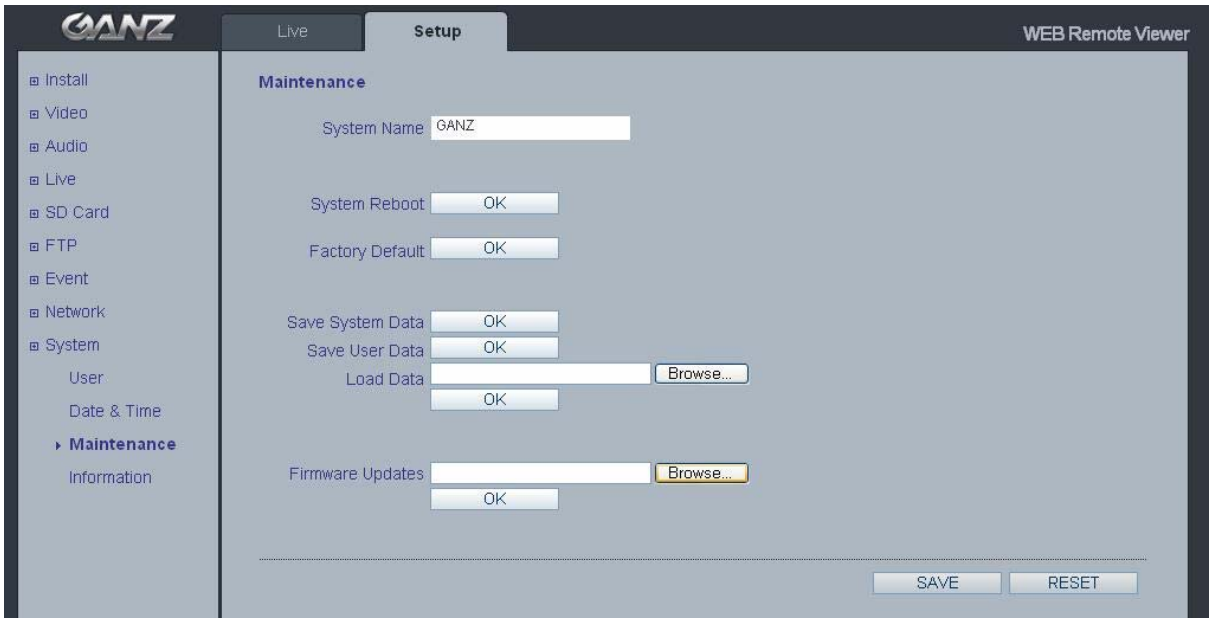
Network Time Server - the camera will obtain the time from an NTP server every 60

minutes. Specify the **NTP server**'s IP address or host name.

Time zone setup – Select your time zone from the drop-down list.

D.S.T (Daylight Saving Time) - ON/OFF

12.3 System > Maintenance



System name- add in a system name

System Reboot - reboots the camera

Factory default- To reset the camera to the original factory default settings.

Save User Data- System settings can be saved to a PC.

Load User Data- The system settings can be reloaded in case of accidental factory reset or can be transferred to another camera if multiple units need to be installed with the same settings.

Firmware Update -When you upgrade the firmware with a file from GANZ, your camera will receive the latest available features. Always read the upgrade instructions and release notes available with each new release, before updating the firmware.

Note: Preconfigured and customized settings should be saved before the firmware is upgraded (provided the same features are available in the new firmware) .

Firmware Update procedure:

1. Save the firmware file to your computer.
2. Go to Setup > System > Maintenance in the camera's Web page.
3. In the Firmware Update section, browse to the desired firmware file on your computer. C lick O.K.
   Do not disconnect power to the unit during the upgrade. The unit will restart automatically after the upgrade has completed. (1~5 minutes)
4. If you suspect the firmware upgrade for the camera has failed, always wait at least 5-10 minutes before restarting the upgrade process.
5. Dealer reserves the right to charge for any repair attributable to faulty upgrading by the user.
6. Always read the upgrade instructions available with each new release, before updating the firmw are.

System Reset (Factory Default Reset)

There are two way to reset the acmera as factory default.

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Using the Web Page

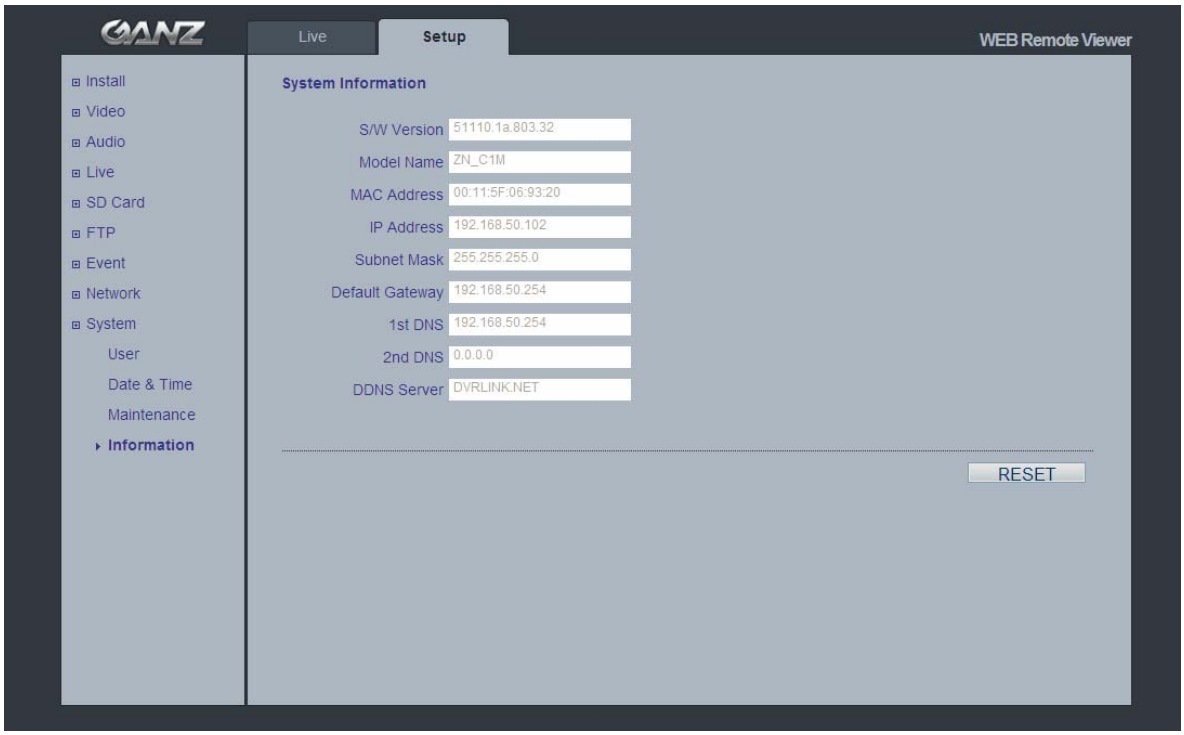
1. Go to SETUP > System > Maintenance.
2. Click Factory Default button and wait 1 minute.

Using the Reset Button on rear panel of the camera

To reset the camera to the factory default settings using the Reset Button:

1. Disconnect the power adapter or the network cable if PoE is used.
2. Press and hold the Reset button while reconnecting power.
3. Keep the Reset button pressed until the **Status Indicator** color changes to **RED** and start blinking (which may take up to 15 seconds).
4. Release the Reset button.
5. When the Status Indicator changes to **Green** (which may take up to 1 minute), the process is complete and the camera has been reset. **The unit will now have the default IP address from a DHCP server. Use the "ADMIN tool" to find and connect the camera .**

12.4 System > Information



System information: After updating firmware, you can confirm the F/W version here.

Français/French

Élimination de votre ancien appareil

1. Ce symbole, représentant une poubelle sur roulettes barrée d'une croix, signifie que le produit est couvert par la directive européenne 2002/96/EC.
2. Tous les produits électriques et électroniques doivent être éliminés séparément de la chaîne de collecte municipale des ordures, par l' intermédiaire des installations de collecte prescrites et désignées par le gouvernement ou les autorités locales.
3. Une élimination conforme aux instructions aidera à réduire les conséquences négatives et risques éventuels pour l'environnement et la santé humaine.
4. Pour plus d'informations concernant l'élimination de votre ancien appareil, veuillez contacter votre mairie, le service des ordures ménagères ou encore le magasin où vous avez acheté ce produit.

English

Disposal of your old appliance

1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

Deutsch/German

Entsorgung von Altgeräten

1. Wenn dieses Symbol eines durchgestrichenen Abfalleimers auf einem Produkt angebracht ist, unterliegt dieses Produkt der europäischen Richtlinie 2002/96/EC.
2. Alle Elektro- und Elektronik-Altgeräte müssen getrennt vom Hausmüll über die dafür staatlich vorgesehenen Stellen entsorgt werden.
3. Mit der ordnungsgemäßen Entsorgung des alten Geräts vermeiden Sie Umweltschäden und eine Gefährdung der persönlichen Gesundheit.
4. Weitere Informationen zur Entsorgung des alten Geräts erhalten Sie bei der Stadtverwaltung, beim Entsorgungsamt oder in dem Geschäft, wo Sie das Produkt erworben haben.

Italiano/Italian

RAEE: SMALTIMENTO DELLE VOSTRE VECCHIE APPARECCHIATURE

1. Quando il simbolo del "Cassonetto Barrato" è apposto su un prodotto, significa che lo stesso può ricadere nei termini previsti dalla Direttiva Europea nr. 2002/96/EC in funzione dell'attuazione definita dalla Legislazione dei singoli stati membri dell'Unione Europea.
2. Tutti i prodotti elettrici ed elettronici dovrebbero essere smaltiti separatamente dai rifiuti municipali, tramite appositi contenitori, approvati dall'Amministrazione Comunale o dalle Autorità Locali.
3. Il corretto smaltimento delle vostre vecchie apparecchiature, contribuirà a prevenire possibili conseguenze di impatto negativo sull' ambiente e per la salute dell'uomo.
4. Per maggiori informazioni circa lo smaltimento delle vostre vecchie apparecchiature, siete pregati di contattare l'ufficio municipale della vostra città, il servizio di smaltimento rifiuti o il punto vendita nel quale avete acquistato il prodotto.

Polski/Polish

Utylizacja starych urządzeń

1. Kiedy do produktu dołączony jest niniejszy przekreślony symbol kołowego pojemnika na śmieci, oznacza to, że produkt jest objęty europejską dyrektywą 2002/96/EC.
2. Wszystkie elektryczne i elektroniczne produkty powinny być utylizowane niezależnie od odpadów miejskich, z wykorzystaniem przeznaczonych do tego miejsc składowania wskazanych przez rząd lub miejscowe władze.
3. Właściwy sposób utylizacji starego urządzenia pomoże zapobiec potencjalnie negatywnemu wpływowi na zdrowie i środowisko.
4. Aby uzyskać więcej informacji o sposobach utylizacji starych urządzeń, należy skontaktować się z władzami lokalnymi, przedsiębiorstwem zajmującym się utylizacją odpadów lub sklepem, w którym produkt został kupiony.

Português/Portuguese

Eliminação do seu antigo aparelho

1. Quando este símbolo de latão cruzado estiver afixado a um produto, significa que o produto é abrangido pela Directiva Europeia 2002/96/EC.
2. Todos os produtos eléctricos e electrónicos devem ser eliminados separadamente da coleta de lixo municipal através de pontos de recolha designados, facilitados pelo governo ou autoridades locais.
3. A eliminação correcta do seu aparelho antigo ajuda a evitar potenciais consequências negativas para o ambiente e para a saúde humana.
4. Para obter informaçõs mais detalhadas acerca da eliminação do seu aparelho antigo, contacte as autoridades locais, um serviço de eliminação de resíduos ou a loja onde comprou o produto.

Español/Spanish

Cómo deshacerse de aparatos eléctricos y electrónicos viejos

1. Si en un producto aparece el símbolo de un contenedor de basura tachado, significa que éste se acoge a la Directiva 2002/96/EC.
2. Todos los aparatos eléctricos o electrónicos se deben desechar de forma distinta del servicio municipal de recogida de basura, a través de puntos de recogida designados por el gobierno o las autoridades locales.
3. La correcta recogida y tratamiento de los dispositivos inservibles contribuye a evitar riesgos potenciales para el medio ambiente y la salud pública.
4. Para obtener más información sobre cómo deshacerse de sus aparatos eléctricos y electrónicos viejos, póngase en contacto con su ayuntamiento, el servicio de recogida de basuras o el establecimiento donde adquirió el producto.

AMERICA

CBC (AMERICA) CORP.
New York／California
http://www.cbcamerica.com

EUROPE

CBC (EUROPE) LTD.
London
http://www.cbceurope.com

CBC (EUROPE) LTD.
Milan
http://www.cbceurope.it/cctv
info@cbc-europe.it

CBC (DEUTSCHLAND) GmbH
Dusseldorf
http://www.cbc-de.com

CBC (POLAND) Sp.zo.o
Warszawa
http://www.cbcpoland.pl

CBC Co., Ltd. MOSCOW REP OFFICE
Moscow
http://www.cbc.ru

CHINA

CBC(Beijing) Trading CO.,LTD.
Beijing
http://www.cbc-china.cn/10/

CBC (SHANGHAI) TRADING CO., LTD.
Shanghai
http://www.cbc-china.cn/10/

CBC SHANGHAI CO., LTD. GUANGZHOU OFFICE
Guangzhou
http://www.cbc-china.cn/10/

CBC (H.K.) CO., LTD.
Hong Kong
http://www.cbc-china.cn/10/

ASIA

CBC. S PTE LTD.
Singapore

CBC(THAILAND) CO., LTD.
Bangkok

CBC CO., LTD. MUMBAI REP OFFICE
Mumbai

CBC CO., LTD. JAKARTA REP OFFICE
Jakarta

CBC (TAIWAN) CO., LTD.
Taipei
http://www.computar.com.tw/

CBC Co. Middle East Branch Office
Dubai
http://www.cbceurope.com

CBC Co.,Ltd.
www.GANZ.jp