

IP VIDEO SERVER

# ZV-S306

USER'S MANUAL



**GANZ®**



Product name:	Video Server (ZV-S306)
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Release Date:	2007/10/01
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Manual Revision:	1.00
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## Before You Use This Product

The use of surveillance devices may be prohibited by law in your country. The Video Server is not only a high-performance web-ready Video Server but also can be part of a flexible surveillance system. It is the user's responsibility to ensure that the operation of such devices is legal before installing this unit for its intended use.

It is important to first verify that all contents received are complete according to the list in the "Package Contents" chapter. Take notice of the warnings in "Quick installation guide" before the Video Server is installed, then carefully read and follow the instructions in the "Installation" chapter to avoid damages due to faulty assembly and installation. This also ensures the product is used properly as intended.

The Video Server is a network device and its use should be straightforward for those who have basic network knowledge. The "Troubleshooting" chapter in the Appendix provides remedies to the most common errors in set up and configuration. You should consult this chapter first if you run into a system error.

The Video Server is designed for various applications including video sharing, general security/surveillance, etc. The "How to Use" chapter suggests ways to best utilize the Video Server and ensure proper operations. For the creative and professional developers, the "URL Commands of The Video Server" chapter serves to be a helpful reference to customize existing homepages or integrating with the current web server.

For paragraphs preceded by  the reader should use caution to understand completely the warnings. Ignoring the warnings may result in serious hazards or injuries.

# Table of Contents

Before You Use This Product.....	2
Table of Contents Package Contents .....	3
Package Contents .....	4
Installation .....	5
Hardware installation.....	5
Software installation.....	8
Initial Access to the Video Server .....	9
How to Use.....	9
Installing plug-in .....	10
Primary user's capability .....	12
Administrator's capability .....	18
Definitions in Configuration .....	24
System parameters .....	25
Security settings .....	26
Network settings .....	28
DDNS .....	32
Access List .....	33
Audio and Video .....	34
Motion detection .....	39
Camera control .....	42
Application .....	47
Recording .....	52
System log .....	53
Maintenance .....	54
Appendix .....	56
A. Troubleshooting .....	56
B. URL commands of the Video Server .....	57
C. Technical specifications .....	95



## Package Contents

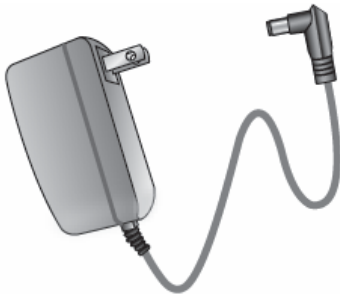
ZV-S306



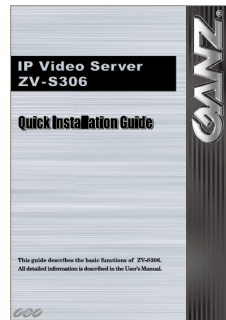
Software CD



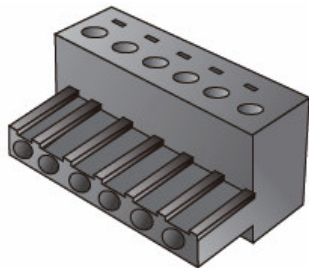
Power adapter



Quick installation guide



I/O Connector



Warranty card

### HARDWARE LIMITED WARRANTY

CBC Co., Ltd. ("CBC") warrants to the original purchaser ("Purchaser") of an IP camera that the Product will be free from defects in material or workmanship for one year from the date of purchase. If a product fails during the Warranty Period due to a defect in material or workmanship, CBC, at its sole responsibility and Purchaser's risk and without warranty, will, at its option, either repair the Product or replace it with the same or later version that performs substantially the same function as the unit being replaced. The Limited Warranty is contingent upon proper use of the Product and does not cover any Product that has been damaged by accident or accident, misuse or environmental conditions including, but not limited to, electrical surge, water damage and heat exposure, or abuse or any Product that has been altered, modified, repaired or replaced by anyone other than CBC.

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Any Product requiring service during the Warranty period should be returned to CBC in accordance with the Return Material Authorization Process set forth in the documentation for the Product and in the current CBC Products and Services Guide.

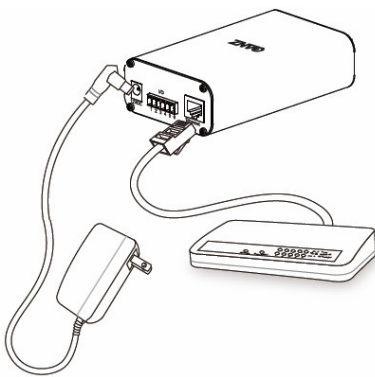
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## Installation

In this manual, "User" refers to whoever has access to the Video Server, and "Administrator" refers to the person who can configure the Video Server and grant user access to the camera.

### Hardware installation



Please verify that your product package contains all the accessories listed in the foregoing Package Contents. Depending on the user's application, an Ethernet cable may be needed. The Ethernet cable should meet the specs of UTP Category 5 and not exceed 100 meters in length.

If you would like to fix the Video Server on the rack, the screw type M3\*5mm is suggested to use for fix.

**!** Connect the power adapter jack to the Video Server before plugging in to the power socket. This will reduce the risk of accidental electric shock.

Upon powering up, the green LED will blink twice and then the red LED will be steady lighted. While executing startup scripts, both the LEDs will be lighted. After setting up network, the LED will blink green every second and the red-color is always on.

The Video Server will first detect Ethernet. Operating in ether network mode, the LED will blink green-color as heartbeat to indicate alive.

#### ***To install in Ethernet***

Make sure the Ethernet is firmly connected to a switch hub. After attaching the Ethernet cable plug in the power adapter. If the LED turns out to blink green-color, go to next paragraph "Software installation".

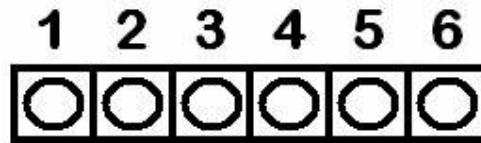
This Video Server provides a general I/O terminal block with one digital input and one



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digital output device control. The pin definition is as below.

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- 1: Power
- 2: Ground
- 3: Digital input
- 4: Digital Output
- 5: RS485\_A
- 6: RS485\_B

## Software installation

At the end of the hardware installation, users can use GANZ Installation Tool program included in the product CDROM to find the location of the Video Server. There may be many Video Servers in the local network. Users can differentiate the Video Server with the MAC. The MAC is printed on the labels on the back of the Video Server body. Please refer to the user's manual of GANZ Installation Tool for detail.

**Once installation is complete, the Administrator should proceed to the next section "Initial access to the Video Server" for necessary checks and configurations.**



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## Initial Access to the Video Server

### Check Network Settings

The Video Server can be connected either before or immediately after software installation onto the Local Area Network. The Administrator should complete the network settings on the configuration page, including the correct subnet mask and IP address of gateway and DNS. Ask your network administrator or Internet service provider for the detail information. By default the Video Server requires the Administrator to run GANZ Installation Tool every time it reboots. If the network settings are to remain unchanged, disable the Install option. Refer to "Network settings" on the System Configuration page for details. If any setting is entered incorrectly and cannot proceed to setting up the Video Server, restore the factory settings following the steps in the "Troubleshooting" chapter of the Appendix.

### Add Password to prevent Unauthorized Access

The default Administrator's password is blank and the Video Server initially will not ask for any password. The Administrator should immediately implement a new password as a matter of prudent security practice. Once the Administrator's password is saved, the Video Server will ask for the user's name and password before each access. The Administrator can set up a maximum of twenty (20) user accounts. Each user can access the Video Server except to perform system configuration. Some critical functions are exclusive for the Administrator, such as system configuration, user administration, and software upgrades. The user name for the Administrator is permanently assigned as "root". Once the password is changed, the browser will display an authentication window to ask for the new password.

**Once the password is set, there is no provision to recover the Administrator's password. The only option is to restore to the original factory default settings.**

## How to Use

A PC with Windows operating system can use the Internet Explorer to connect to the Video Server. A plug-in will be installed into the IE when it is connected for the first

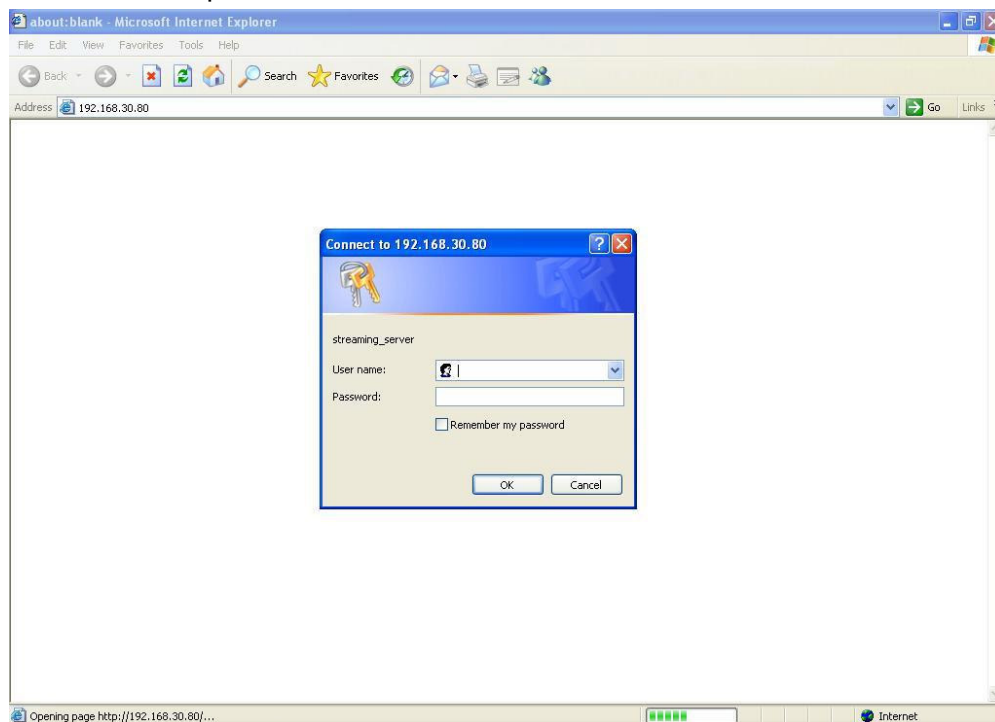


time. A PC with Linux operating system can connect to the Video Server using a browser like Firefox. It needs to install QuickTime first to view streaming.

## Authentication

After opening the Web browser and typing in the URL of the Video Server, a dialogue window pops up to request a username and password. Upon successful authentication, the following figure is displayed.

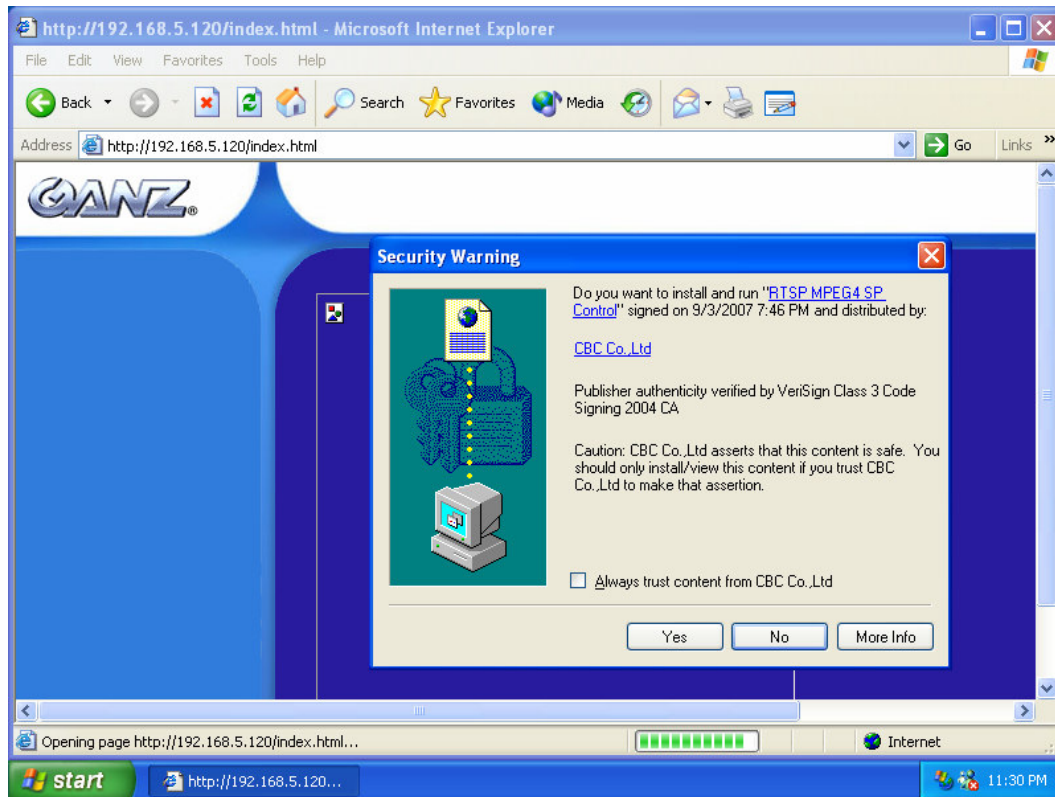
The foreground is the login window and the background shows the message if authentication fails. The user may check the option box to save the password for future convenience. This option is not available to the Administrator for obvious reason.



## Installing plug-in

For the initial access to the Video Server in Windows, the web browser may prompt for permission to install a new plug-in for the Video Server when the Internet Explorer. Permission request depends on the Internet security settings of the user's PC or notebook. If the highest security level is set, the computer may prohibit any installation and execution attempt. This plug-in has been registered for certificate and is used to display the video in the browser. Users may click on  to proceed. If the web browser does not allow the user to continue to install, check the Internet security

option and lower the security levels or contact your IT or networking supervisor for help.



## Primary user's capability

### Main Screen with Camera View

Basic functions are displayed in the homepage of Video Server.

Click on the configuration link which on the left of the image window to access the configuration page. Here is the layout in IE when it is MPEG-4 streaming.



Users can control the motorized camera in pan and tilt direction as well as zoom and focus. The home button can return the camera to the center position if the camera supports this command. Besides the near and far control in focus, a "Focus" button is provided for setting auto focus mode. To move the motorized camera more precisely, speed control of pan and tilt allows users to fine tune the aiming position.


The plugin function will be a little different when it is in Motion JPEG streaming. Only digital zoom and record button are supported.







Here is the layout in Firefox when it is MPEG-4 streaming. It uses QuickTime for streaming.




Here is the layout in Firefox when it is JPEG streaming.

**Video Server**

 Snapshot  
 Configuration  
 Client Settings  
 Digital Output  

ON OFF



Zoom

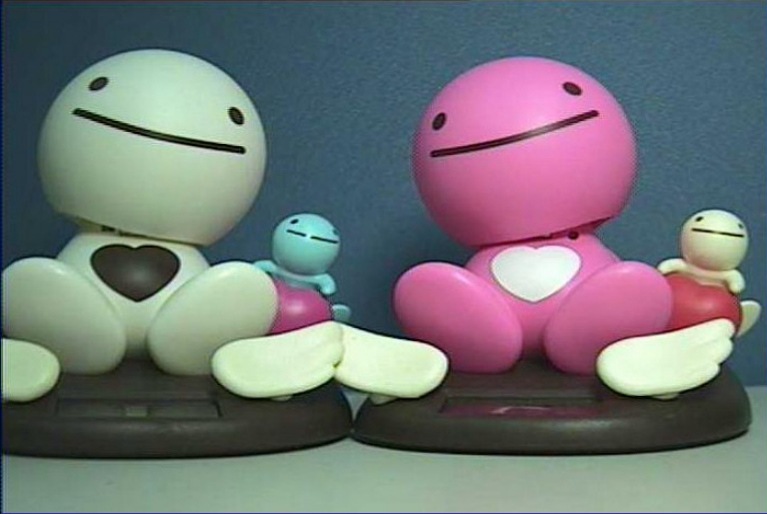
Focus

Pan speed: 0

Tilt speed: 0

Zoom speed: 0

Go to:  
-- Select one --



Move Up Move Down Move Home Zoom In Zoom Out

- 14 -




## Digital Zoom

Click on the magnifier icon under the camera view then the digital zoom control panel will be shown. Uncheck "Disable digital zoom" and use the slider control to change the zoom factors.

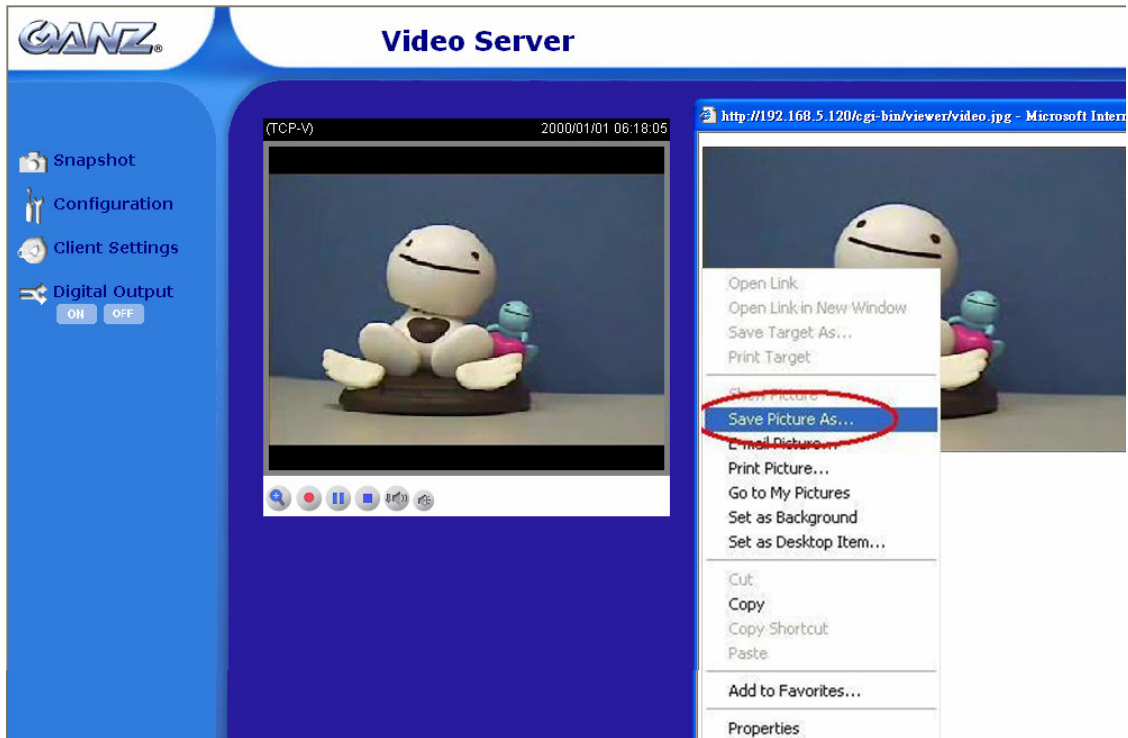


## MP4 Recording

Click on the red circle button  on the plugin to start MP4 recording. You can set the related options in client setting page.

## Snapshot

Click on "**Snapshot**", web browser will pop up a new window to show the snapshot. Users can point at the snapshot and click the right button of mouse to save it.



## Client settings

GANZ® Configuration

Home

**Client Settings**

**Stream Options**

☒ Stream 1  
☐ Stream 2

**Media Options**

☐ Video and Audio  
☒ Video Only  
☐ Audio Only

☒ Enable Deinterlace

**Protocol Options**

☐ UDP unicast  
☐ UDP multicast  
☒ TCP  
☐ HTTP

**Save Options**

Folder:

File Name Prefix:

☒ Add date and time suffix to file name

There are four settings for the client side in IE. The first one is “**Stream Options**” for users to determine which stream to be streaming. This product supports dual-stream. Therefore, there are two streams to choose. The second one is “**Media Options**”. for users to determine which media to be streaming under MPEG-4 mode. The third one is “**Protocol Options**” which allows choices on connection protocol between client and server. There are four protocols choices to optimize your usage – UDP unicast, UDP multicast, TCP and HTTP.

The **UDP unicast** protocol allows for more real-time audio and video streams. However, some packets may be lost due to network burst traffic and images may be obscured. The **UDP multicast** protocol allows to save the bandwidth of server while serving multiple clients at the same time.

The **TCP** protocol allows for less packet loss and produces a more accurate video display. The downside with this protocol is that the real-time effect is worse than that with the UDP protocol.

The **HTTP** protocol allows the same quality as TCP protocol and the user don’t need to

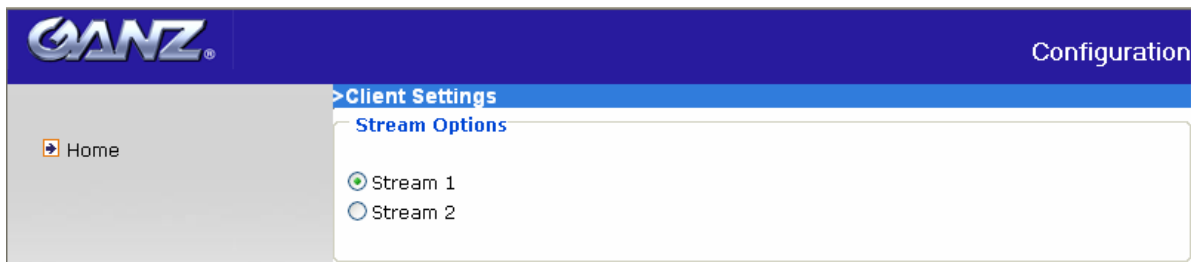


open specific port to streaming under some network environment.

If no special need is required, UDP unicast protocol is recommended. Generally speaking, the client's choice will be in the order of UDP multicast → UDP unicast → TCP → HTTP. After the Video Server is connected successfully, "Protocol Option" will indicate the selected protocol. The selected protocol will be recorded in the user's PC and will be used for the next connection. If the network environment is changed, or the user wants to let the web browser to detect again, manually select the UDP protocol, save, and return HOME to re-connect.

The fourth one is "**Save Options**". User can specify the recording folder, file name prefix and suffix here.

There is only one setting "**Stream Options**" for the client side in Firefox. User can choose to view stream1 and stream2.



<url> http://<Video Server>/clientset.html

<Video Server> is the domain name or the original IP address of the Video Server.


## Digital output

Click on "**ON**", the digital output of the Video Server will be triggered. Or, Clicking on "**OFF**" can let the digital output turn into normal state.

## Administrator's capability

### Fine-tuning for Best Performance

Best performance generally equates to the fastest image refresh rate with the best video quality, and at the lowest network bandwidth as possible. The three factors, "Maximum frame rate", "Constant bit rate", and "Fix quality" for MPEG-4 mode and "Maximum frame rate" and "Fix quality" for JPEG mode on the Audio and Video Configuration page, are correlative to allow for achieving the best performance possible.


Configuration

- ▶ Home
- ▶ System
- ▶ Security
- ▶ Network
- ▶ DDNS
- ▶ Access list
- ▶ Audio and video
- ▶ Motion detection
- ▶ Camera control
- ▶ Application
- ▶ Recording
- ▶ System log
- ▶ Maintenance

▶ Audio and video

**Video settings**

Video title:

Color: Color ▾

Video orientation: ☐ Flip ☐ Mirror

Modulation: Auto ▾

☐ Overlay title and time stamp on video

Image Settings
Privacy Mask

Video quality settings for stream 1

☐ Frame mode

Mode: MPEG-4 ▾

Frame size: 352x240/352x288 ▾

Maximum frame rate: 30 fps ▾

Intra frame period: 1 S ▾

Video quality

☐ Constant bit rate: 512 Kbps ▾

☒ Fixed quality: Good ▾

Video quality settings for stream 2

☐ Frame mode

Mode: MPEG-4 ▾

Frame size: 176x120/176x144 ▾

Maximum frame rate: 5 fps ▾

Intra frame period: 1 S ▾

Video quality

☒ Constant bit rate: 40 Kbps ▾

☐ Fixed quality: Good ▾

**Audio settings**

☐ Mute

Input gain: -10.5 dB ▾

Audio type ☐ AAC ☒ GSM-AMR

AAC bit rate: 128 Kbps ▾

GSM-AMR bit rate: 12.2 Kbps ▾

Save

Version: 0100a

### ***For Best Real-time Video Images***

To achieve good real-time visual effect, the network bandwidth should be large enough to allow a transmission rate of greater than 20 image frames per second. If the broadband network is over 1 Mbps, set the "Fix bit rate" to 1000Kbps or 1200Kbps, or set "Fix quality" at the highest quality. The maximum frame rate is 30. If your network bandwidth is more than 512Kbps, you can fix the bit rate according to your bandwidth and set the maximum frame rate to 30 fps. If the images vary dramatically in your environment, you may want to slow the maximum frame rate down to 20 fps in order to lower the rate of data transmission. This allows for better video quality and the human eyes cannot readily detect the differences between those of 20, 25, or 30 frames per second. If your network bandwidth is below 512 Kbps, set the "Fix bit rate" according to your bandwidth and try to get the best performance by fine-tuning with



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the "Maximum frame rate". In a slow network, greater frame rate results in blur images. Video quality performance will vary somewhat due to the number of users viewing on the network; even when the parameters have initially been finely tuned. Performance will also suffer due to poor connectivity because of the network's burst constraint.

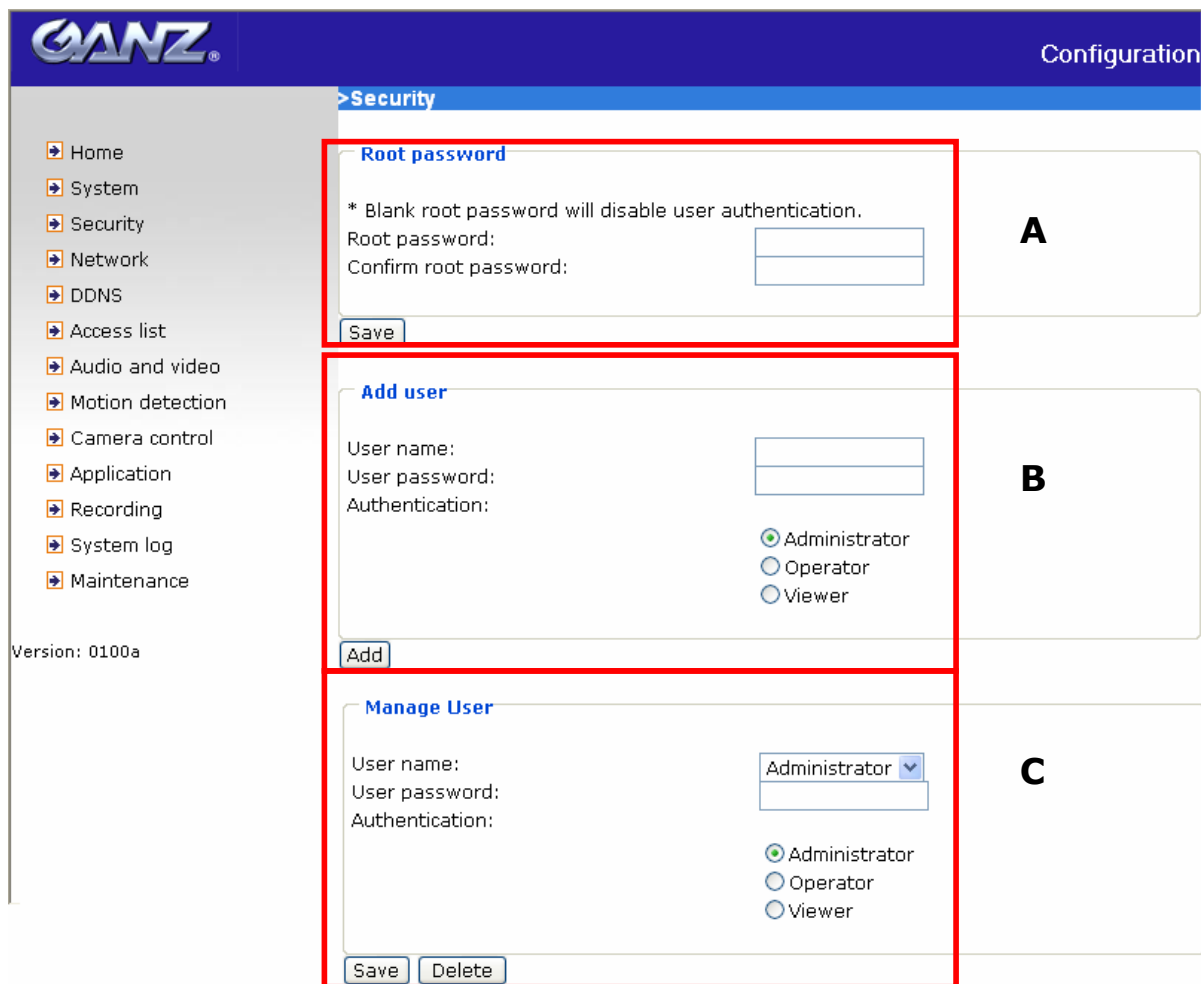
### ***Only Quality Images Will Do***

To have the best video quality, you should set "Fix quality" at "Detailed" or "Excellent" and adjust the "Maximum frame rate" to match your network's bandwidth. If your network is slow and you receive "broken" pictures, go to the TCP or HTTP protocol in "Protocol Options" and choose a more appropriate mode of transmission. The images may suffer a time delay due to a slower connection. The delay will also increase with added number of users.

### ***Somewhere between Real-time and Clear Images***

If you have a broadband network, set "Fix quality" at "Normal" or better, rather than setting "Constant bit rate". You can also fix the bandwidth according to your actual network speed and adjust the frame rate. Start from 30 fps down for best results but not below 15 fps. If the image qualities are not improved, select a lower bandwidth setting.

## Create accounts for new users



The screenshot shows the GANZ Configuration interface. The left sidebar contains a menu with options: Home, System, Security, Network, DDNS, Access list, Audio and video, Motion detection, Camera control, Application, Recording, System log, and Maintenance. The main content area is titled 'Security' and contains three sections:

- A: Root password**  
\* Blank root password will disable user authentication.  
Root password:   
Confirm root password:   
Save
- B: Add user**  
User name:   
User password:   
Authentication:  
☒ Administrator  
☐ Operator  
☐ Viewer  
Add
- C: Manage User**  
User name:   
User password:   
Authentication:  
☒ Administrator  
☐ Operator  
☐ Viewer  
Save Delete

Version: 0100a

### ***Protect Video Server by passwords***

The Video Server is shipped without any password by default. That means everyone can access the Video Server including the configuration as long as the IP address is known. It is necessary to assign a password if the Video Server is intended to be accessed by others. Type a new password twice in A to enable protection. This password is used to identify the administrator. Then add an account with user name, password and authentication for your friends in B. You can edit or delete users from C.

### **Build a security application**

The Administrator can use the built-in motion detection to monitor any movement to perform many useful security applications. To upload the snapshots, users can choose



either email, FTP, HTTP, or Network storage according to user's needs. All servers setting are in Server section on Application page. Refer to the definition section for detail configuration.

1. Click on "**Configuration**" on homepage,
2. Click on "**Motion detection**" at the left column,
3. Check "Enable motion detection",
4. Click on new to have a new window to monitor video,
5. Type in a name to identify the new window,
6. Use the mouse to click, hold, and drag the window corner to resize or the title bar to move,
7. Fine-tune using the "Sensitivity" and "Percentage" fields to best suit the camera's environment. Higher "Sensitivity" detects the slighter motion. Higher "Percentage" discriminates smaller objects,
8. Clicking on "Save" enables the activity display. Green means the motion in the window is under the watermark set by Administrator and red means it is over the watermark,
9. Click on "**Application**" at the left column,
10. Add a server in server section. ZV-S306 provides four server types, Email, FTP, HTTP, and Network storage.
11. Add a media with snapshot type in media section. And Set the number of pre-event and post-event images to be uploaded
12. Add an event in event section
  - Enter one event name and enable this event.
  - Check the weekdays as you need and give the time interval to monitor the motion detection every day,
  - Select the Trigger on Motion detection and Check the window name set in step 5
  - Set the appropriate delay time to avoid continuous false alarms following the original event
  - Check the server name set in Step 10 and select the media name set in Step 11.
13. Click on save to validate.

## Software revision upgrade

An easy-to-use GANZ Installation Tool is provided to upgrade the Video Server with



just a few clicks. The upgrade function is opened to the Administrator only. To upgrade the system, follow the procedures below.

1. Download the firmware file named "xxx.pkg" from the appropriate product folder.
2. Run the GANZ Installation Tool and proceed following the prompts. Refer to the instructions of the GANZ Installation Tool for details.
3. Or upgrade firmware from HTTP web page directly
4. The whole process will finish in a few minutes and it will automatically restart the system.



If power fails during the writing process of Flash memory, the program in the memory of the Video Server may be destroyed permanently. If the Video Server cannot restart properly, ask your dealer for technical service.

## Definitions in Configuration

Only the Administrator can access system configuration. Each category in the left column will be explained in the following pages. The bold texts are the specific phrases on the Option pages. The Administrator may type the URL below the figure to directly enter the frame page of configuration. If the Administrator also wants to set certain options through the URL, read the reference appendix for details.

The screenshot shows the GANZ Configuration interface. On the left is a navigation menu with options: Home, System, Security, Network, DDNS, Access list, Audio and video, Motion detection, Camera control, Application, Recording, System log, and Maintenance. The main content area is titled 'Configuration' and has a sub-header '> System'. Below this, there are three sections: 'System', 'System Time', and 'DI and DO'. The 'System' section includes a 'Host name' field set to 'Video Server' and a checkbox for 'Turn off the LED indicator'. The 'System Time' section includes a checkbox for 'Enable Daylight Saving Time' with a note, a 'Time zone' dropdown set to 'GMT+09:00 Osaka, Sapporo, Tokyo, Seoul, Yakutsk', and radio buttons for 'Keep current date and time', 'Sync with computer time', and 'Manual'. The 'Manual' option is selected, showing 'Date: 2000/01/01' and 'Time: 06:41:40'. There are also fields for 'PC date: 2007/09/11' and 'PC time: 16:29:05'. The 'Automatic' option has an 'NTP server' field and an 'Update interval' dropdown set to 'One hour'. The 'DI and DO' section includes 'Digital input: normal status is High' and 'Digital output: normal status is Open'. A 'Save' button is at the bottom.

Version: 0100a

<url> http://<Video Server>/setup/system.html

<Video Server> is the domain name or original IP address of the Video Server.

## System parameters

**"Host name"** The text displays the title at the top of the main page.

**"Turn off the LED indicator"** Check this option to shut off the LED on the front. It can prevent the Video Server's operation being noticed.

**"Time zone"** Adjust the time with that of the time-servers for local settings.

**"Keep current date and time"** Click on this to reserve the current date and time of the Video Server. An internal real-time clock maintains the date and time even when the power of the system is turned off.

**"Sync with computer time"** Synchronizes the date and time of the Video Server with the local computer. The read-only date and time of the PC is displayed as updated.

**"Manual"** Adjust the date and time according to what is entered by the Administrator. Notice the format in the related fields while doing the entry.


**"Automatic"** Synchronize with the NTP server over the Internet whenever the Video Server starts up. It will fail if the assigned time-server cannot be reached.

**"NTP server"** Assign the IP address or domain name of the time-server. Leaving the text box blank connects the Video Server to the default time-servers.

**"Update interval"** Select hourly, daily, weekly, or monthly update with the time on the NTP server.

**"Digital input"** Select High or Low to define normal status of the digital input. The current status is shown, too.

**"Digital output"** Select Grounded or Open to define normal status of the digital output. The current status is shown, too.

Remember to click on  to immediately validate the changes. Otherwise, the correct time will not be synchronized.



## Security settings

**“Root password”** Change the Administrator’s password by typing in the new password identically in both text boxes. The typed entries will be displayed as asterisks for security purposes. After pressing **Save**, the web browser will ask the Administrator for the new password for access.

**“Add user”** Type the new user's name and password and press **Add** to insert the new entry(“user” this name is reserved for maintenance). The new user will be displayed in the user name list. There is a maximum of twenty user accounts. There are three kinds of authentication: Administrator, Operator and Viewer. Administrator can fully control the camera operation. Operator’s access right can modify most of camera’s parameters except some privilege and network options. Viewer can view, listen and talk to camera; control dido, ptz of camera. Video Server can provide twenty accounts for your valuable customers or friends.

**“Manage user”** Pull down the user list to find the user’s name and press **Delete** to delete the selected user. Or edit the password or authentication of the selected user and press **Save** to take effect.

GANZ Configuration

>Security

Home  
System  
Security  
Network  
DDNS  
Access list  
Audio and video  
Motion detection  
Camera control  
Application  
Recording  
System log  
Maintenance

Version: 0100a

**Root password**

\* Blank root password will disable user authentication.

Root password:

Confirm root password:

Save

**Add user**

User name:

User password:

Authentication:

☒ Administrator  
☐ Operator  
☐ Viewer

Add

**Manage User**

User name: Administrator

User password:

Authentication:

☒ Administrator  
☐ Operator  
☐ Viewer

Save Delete



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<url> http://<Video Server>/setup/security.html

<Video Server> is the domain name or original IP address of the Video Server.

## Network settings

Any changes made on the Network type section will restart the system in order to validate the changes. Make sure every field is entered correctly before clicking on



### Network type

#### **"LAN" & "PPPoE"**

The default type is LAN. Select PPPoE if using ADSL

#### **"Get IP address automatically" & "Use fixed IP address"**

The default status is **"Get IP address automatically"**. This can be tedious having to perform software installation whenever the Video Server starts. Therefore, once the network settings, especially the IP address, have been entered correctly, select **"Use fixed IP address"** then the Video Server will skip installation at the next boot. The Video Server can automatically restart and operate normally after a power outage.

**"Subnet mask"** This is used to determine if the destination is in the same subnet. The default value is "255.255.255.0".

**"Default router"** This is the gateway used to forward frames to destinations in a different subnet. Invalid router setting will fail the transmission to destinations in different subnet.

**"Primary DNS"** The primary domain name server that translates hostnames into IP addresses.

**"Secondary DNS"** Secondary domain name server that backups the Primary DNS.

**"Primary WINS server"** The primary WINS server that maintains the database of computer name and IP address.

**"Secondary WINS server"** The secondary WINS server that maintains the database of computer name and IP address.

**"PPPoE"** If using the PPPoE interface, fill the following settings from ISP

**"User name"** The login name of PPPoE account

**"Password"** The password of PPPoE account

**"Confirm password"** Input password again for confirmation

### HTTP

**"Authentication"** It supports basic and digest modes.



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**"Http port"** This can be other than the default Port 80. Once the port is changed, the users must be notified the change for the connection to be successful. For instance, when the Administrator changes the HTTP port of the Video Server whose IP address is 192.168.0.100 from 80 to 8888, the users must type in the web browser "http://192.168.0.100:8888" instead of "http://192.168.0.100".

**"Secondary Http port"** It support alternate port to access HTTP server.

**"Access name for stream 1"** This is the access URL of stream 1 for making connection from client software when its codec type is JPEG.

**"Access name for stream 2"** This is the access URL of stream 2 for making connection from client software when its codec type is JPEG.

Using http://<ip address>:<http port>/<access name> to make connection.

## FTP

**"FTP port"** This can be other than the default port 21. The user can change this value from 1025 to 65535. After the changed, the external FTP client program must change the server port of connection accordingly.

## RTSP Streaming

**"Authentication"** It supports disable, basic and digest modes.

**"Access name for stream 1"** This is the access URL of stream 1 for making connection from client software when the codec type is MPEG-4.

**"Access name for stream 2"** This is the access URL of stream 2 for making connection from client software when the codec type is MPEG-4.

Using rtsp://<ip address>/<access name> to make connection

**"RTSP port"** This can be other than the default Port 554

**"RTP port for video"** The video channel port for RTP. It must be even number.

**"RTCP port for video"** The video channel port for RTCP. It must be the port number of video RTP plus 1.

**"RTP port for audio"** The audio channel port for RTP. It must be even number.

**"RTCP port for audio"** The video channel port for RTCP. It must be the port number of video RTP plus 1.

User can modify Multicast setting for stream1 and stream2.

**"Always multicast"** Select it to enable multicast always.

**"Multicast group address"** It is used by sources and the receivers to send and receive content.

**"Multicast video port"** The video channel port for multicast. It must be even number.



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**"Multicast RTCP video port"** The video channel port for multicast RTCP. It must be the port number of multicast video port plus 1.

**"Multicast audio port"** The audio channel port for multicast. It must be even number.

**"Multicast RTCP audio port"** The audio channel port for multicast RTCP. It must be the port number of multicast audio port plus 1.

**"Multicast TTL"** It specifies the number of routers (hops) that multicast traffic is permitted to pass through before expiring on the network.

**GANZ**
Configuration

- Home
- System
- Security
- Network
- DDNS
- Access list
- Audio and video
- Motion detection
- Camera control
- Application
- Recording
- System log
- Maintenance

> Network

**Network type**

☒ LAN

☒ Get IP address automatically  
☐ Use fixed IP address

IP address

Subnet mask

Default router

Primary DNS

Secondary DNS

Primary WINS server

Secondary WINS server

☐ PPPoE

User name

Password

Confirm password

**HTTP**

Authentication:

HTTP port

Secondary HTTP port

Access name for stream 1

Access name for stream 2

**FTP**

FTP port

**RTSP streaming**

Authentication:

Access name for stream 1

Access name for stream 2

RTSP port

RTP port for video

RTCP port for video

RTP port for audio

RTCP port for audio

Multicast settings for stream 1

☐ Always multicast

Multicast group address

Multicast video port

Multicast RTCP video port

Multicast audio port

Multicast RTCP audio port

Multicast TTL [1~255]

Multicast settings for stream 2

☐ Always multicast

Multicast group address

Multicast video port

Multicast RTCP video port

Multicast audio port

Multicast RTCP audio port

Multicast TTL [1~255]

<url> http://<Video Server>/setup/network.html

<Video Server> is the domain name or original IP address of the Video Server.

## DDNS

**"Enable DDNS"** This option turns on the DDNS function.

**"Provider"** The provider list contains four hosts that provide DDNS services. Please connect to the service provider's website to make sure the service charges.

**"Host Name"** If the User wants to use DDNS service, this field must be filled. Please input the hostname that is registered in the DDNS server.

**"Username/E-mail"** The Username or E-mail field is necessary for logging in the DDNS server or notify the User of the new IP address. Note: when this field is input as "Username" the following field must be input as "Password".

**"Password/Key"** Please input the password or key to get the DDNS service.

**"Save"** Click on this button to save current settings for the DDNS service.

The screenshot shows the GANZ Configuration interface. On the left is a navigation menu with options: Home, System, Security, Network, DDNS, Access list, Audio and video, Motion detection, Camera control, Application, Recording, System log, and Maintenance. The main content area is titled 'Configuration' and 'DDNS'. Below this, it says 'DDNS: Dynamic domain name service'. There is a checkbox for 'Enable DDNS'. Below it, the 'Provider' is set to 'Dyndns.org(Dynamic)' via a dropdown menu. There are three input fields for 'Host name', 'User name', and 'Password'. A 'Save' button is located at the bottom left of the configuration area. At the bottom left of the page, it says 'Version: 0100a'.

<url> http://<Video Server>/setup/ddns.html

<Video Server> is the domain name or original IP address of the Video Server.

## Access List

The access list is to control the access permission of clients by checking the client IP address.

There are two lists for permission control: **Allow List** and **Deny List**. Only those clients whose IP address is in the **Allow List** and not in the **Deny List** can connect to the Video Server for receiving the audio/video streaming.

Both **Allow List** and **Deny List** consist of a list of IP ranges. If you want to add a new IP address range, type the **Start IP Address** and **End IP Address** in the text boxes and click on the **Add** button. If you want to remove an existing IP address range, just select from the pull-down menu and click on the **Delete** button.

Both the Allow List and Deny List can have 10 entries.

Version: 0100a

<url> <http://<Video Server>/setup/accesslist.html>

<Video Server> is the domain name or original IP address of the Video Server.



## Audio and Video

This product supports dual-stream. It provides two settings for video streams, but only one setting for audio.

### Video Settings

**"Video title"** The text string can be displayed on video

**"Color"** Select either for color or monochrome video display.

**"Video orientation"** Check "Flip" to vertically rotate the video and "Mirror" to horizontally rotate the video. Check options both if the camera is installed upside down.

**"Modulation"** Select the video input modulation types, NTSC, PAL, and Auto. After Change the modulation type, please reboot the video server to make the change take effect.

**"Overlay title and time stamp on video"** Check it the title is shown on video.

There are different video quality settings for stream1 and stream2:

**"Frame mode"** When frame mode is checked, ZV-S306 converts interlaced pictures to progressive pictures.

**"Mode"** It can be MPEG-4 or JPEG. If MPEG-4 is selected, it is streamed in RTSP protocol. If JPEG is selected, it is streamed in server push mode.

**"Frame Size"** Both MPEG-4 and JPEG have three options, including **"QCIF (176x120 NTSC and 176x144 PAL)"**, **"CIF (352x240 NTSC and 352x288 PAL)"**, and **"4CIF (704x480 NTSC and 704x576 PAL)"**.

**"Max frame rate"** User can select the maximal refresh frame rate. ZV-S306 now supports up to 30 fps.

There are two dependent parameters provided in MPEG-4 mode for video performance adjustment.

**"Intra frame period"** The interval of intra frame.

**"Video quality"** ZV-S306 allows users to adjust the video quality for speed or smoothness. The performance is also a subject to the network bandwidth and the number of users. Choose **"Constant bit rate"** if the user wants to fix the bandwidth utilization regardless of the video quality, choose **"Fixed quality"** and select the desired bandwidth from **"Medium"** to **"Excellent"**. **"Medium"** quality means the picture has the quickest refresh rate but the worst image quality and **"Excellent"** quality means the picture has the slowest refresh rate but the best image quality. The



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video quality may be poor due to the sending of maximal frame rate within the limited bandwidth when images are moving rapidly. Consequently, to ensure detailed video quality (quantization rate) regardless of the network, it will utilize more bandwidth to send the maximal frames when images change drastically.


In JPEG mode, user can only set **"Fixed quality"** to adjust the video performance.

## **Audio settings**

**"Mute"** To turn off audio.

**"Input gain"** Modify the gain of the audio input.

**"Audio type"** Select audio codec **"AAC"** or **"GSM-AMR"** and the corresponding bit rate.


Configuration

- Home
- System
- Security
- Network
- DDNS
- Access list
- Audio and video
- Motion detection
- Camera control
- Application
- Recording
- System log
- Maintenance

Version: 0100a

➤ Audio and video

### Video settings

Video title:

Color: Color ▾

Video orientation: ☐ Flip ☐ Mirror

Modulation: Auto ▾

☐ Overlay title and time stamp on video

Image Settings
Privacy Mask

Video quality settings for stream 1

☐ Frame mode

Mode: MPEG-4 ▾

Frame size: 352x240/352x288 ▾

Maximum frame rate: 30 fps ▾

Intra frame period: 1 S ▾

Video quality

☐ Constant bit rate: 512 Kbps ▾

☒ Fixed quality: Good ▾

Video quality settings for stream 2

☐ Frame mode

Mode: MPEG-4 ▾

Frame size: 176x120/176x144 ▾

Maximum frame rate: 5 fps ▾

Intra frame period: 1 S ▾

Video quality

☒ Constant bit rate: 40 Kbps ▾

☐ Fixed quality: Good ▾

### Audio settings

☐ Mute

Input gain: -10.5 dB ▾

Audio type: ☐ AAC ☒ GSM-AMR

AAC bit rate: 128 Kbps ▾

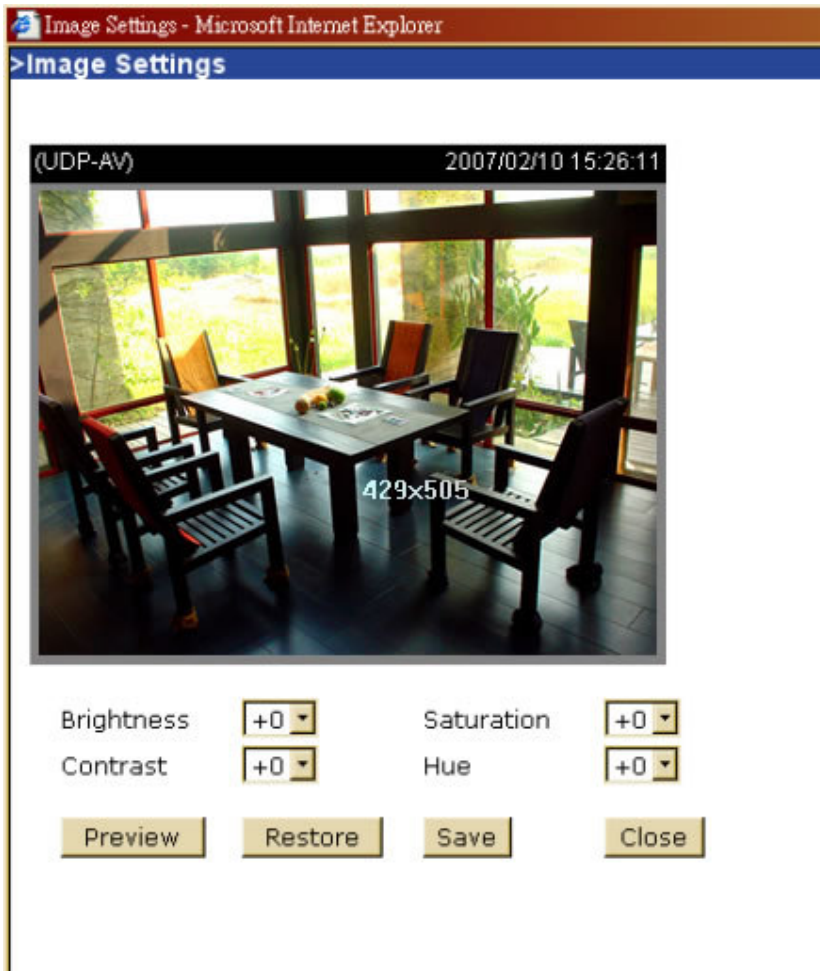
GSM-AMR bit rate: 12.2 Kbps ▾

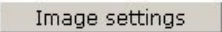
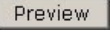


Save

<url> <http://<Video Server>/setup/audiovideo.html>

<Video Server> is the domain name or original IP address of the Video Server.

## Image Settings

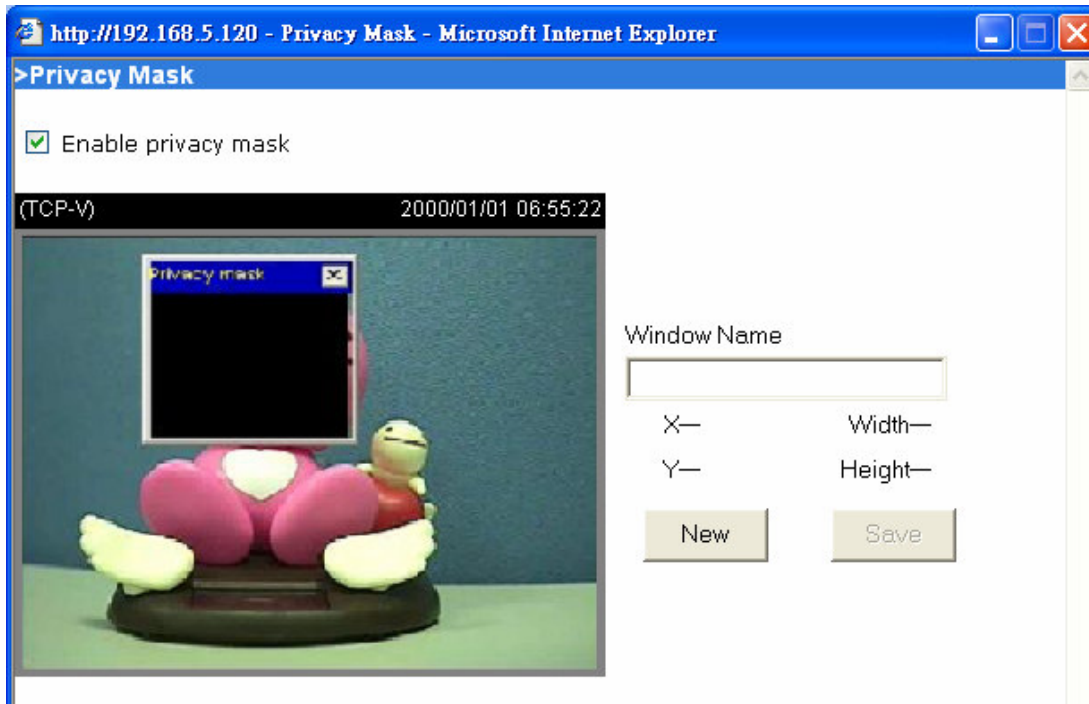


 Click on this button to pop up another window to tune **"Brightness"**, **"Contrast"**, **"Hue"** and **"Saturation"** for video compensation. Each field has eleven levels ranged from -5 to +5. In **"Brightness"** and **"Contrast"** fields the value 0 indicates auto tuning. The user may press  to fine-tune the image. When the image is O.K., press  to set the image settings.  Click on this to recall the original settings without incorporating the changes.

<url> <http://<Video Server>/setup/image.html>

<Video Server> is the domain name or original IP address of the Video Server.

## Privacy Mask



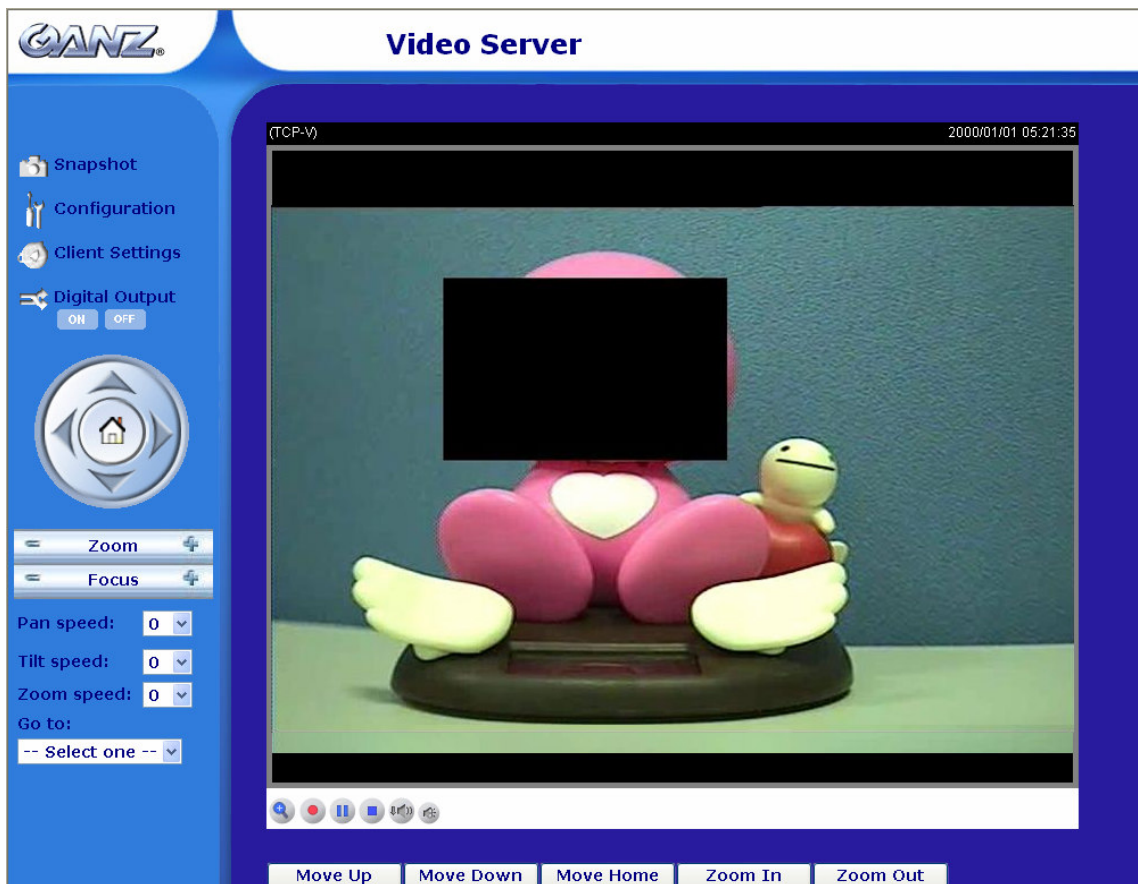
**Privacy Mask** Click on the button to pop up another window to set privacy mask window.

**"Enable privacy mask"** Check this option to turn on privacy mask.

**New** Click on this button to add a new window. At most five windows can exist simultaneously. Use the mouse to click, hold, and drag the window frame to resize or the title bar to move. Clicking on the 'x' at the upper right-hand corner of the window to delete the window. Remember to save in order to validate the changes. The base of window axis is eight. You can see the X, Y, width and height of the window.

**Save** Click on this button to save the related window settings.

**"Window Name"** The text will show at the top of the window.



No one can view the block under privacy mask window.

<url> <http://<Video Server>/setup/privacy.html>

<Video Server> is the domain name or original IP address of the Video Server.

## Motion detection

**“Enable motion detection”** Check this option to turn on motion detection.

**New** Click on this button to add a new window. At most three windows can exist simultaneously. Use the mouse to click, hold, and drag the window frame to resize or the title bar to move. Clicking on the 'x' at the upper right-hand corner of the window to delete the window. Remember to save in order to validate the changes.

**Save** Click on this button to save the related window settings. A graphic bar will rise or fall depending on the image variation. A green bar means the image variation is under monitoring level and a red bar means the image variation is over monitoring level. When the bar goes red, the detected window will also be outlined in red. Going back to the homepage, the monitored window is hidden but the red frame shows when motion is detected.

**"Window Name"** The text will show at the top of the window.

**"Sensitivity"** This sets the endurable difference between two sequential images.

**"Percentage"** This sets the space ratio of moving objects in the monitoring window.

Higher sensitivity and small percentage will allow easier motion detection.

Remember to right click **Save** to save motion detection settings.

The screenshot displays the GANZ Configuration web interface. On the left is a navigation menu with options: Home, System, Security, Network, DDNS, Access list, Audio and video, Motion detection (highlighted), Camera control, Application, Recording, System log, and Maintenance. The main content area is titled 'Motion detection' and includes a checkbox for 'Enable motion detection' which is checked. Below this is a video feed window labeled '(TCP-V)' with a timestamp '2000/01/01 07:02:00'. The video shows a pink, round, cartoonish object on a black base, with a red rectangular box labeled 'Motion' overlaid on it. To the right of the video feed are configuration controls: a 'Window Name' text field containing 'Motion', a 'Sensitivity' slider set to 88% with a red arrow pointing to it and the text 'Decide the motion', a 'Percentage' slider set to 13% with a red arrow pointing to it and the text 'The moving object size', and a 'Monitoring level' section with a vertical stack of eight empty checkboxes and a red arrow pointing to it with the text 'Monitoring level'. At the bottom of the configuration area are 'New' and 'Save' buttons. The bottom left corner of the interface shows 'Version: 0100a'.



The monitoring window has been outlined in red when object is moving. Notice that if the pre-defined motion detection area is under privacy mask block, the monitoring window won't be triggered anymore.

<url> <http://<Video Server>/setup/motion.html>

<Video Server> is the domain name or original IP address of the Video Server.



## Camera control

In camera control page, if user configures “**RS485 Settings**” as “**Disable**”, it means the camera is fixed or doesn’t support Pan/Tilt/Zoom features. If user selects “**RS485 Settings**” as “**PTZ camera**” or “**Transparent HTTP Tunnel**”, the camera control setting functions will be enabled and the control panel will appear on permitted users’ main page. Users can configure their PTZ camera driver and control their camera in pan and tilt direction as well as zoom and focus. Please refer to the section “**Main Screen with Camera View**” for the layout in IE when pan, tilt, zoom, and focus functions are enabled.

> Camera control

**RS485 Settings**  
☒ Disable   ← When selecting 'Disable', the camera control function will not appear  
☐ PTZ camera  
☐ Transparent HTTP Tunnel

Save

The figure below is the layout when “**PTZ camera**” is checked. Users can configure the camera driver and RS485 port settings. Please notice that when **PTZ tunnel** feature is enabled, the default CGI commands for camera control will be disabled and the camera will be controlled through HTTP tunnel.

**>Camera control**

**RS485 Settings**

☐ Disable  
☒ PTZ camera  
☐ Transparent HTTP Tunnel

☐ Enable PTZ tunnel ← Turn on/off PTZ

PTZ camera configurations

Camera ID: 1

PTZ driver: None

Port settings:

Baud rate: 9600

Data bits: 8

Stop bits: 1

Parity bit: none

Preset Position Custom Command

Save

If **"Transparent HTTP Tunnel"** is checked, users can only configure the RS485 port settings. Transparent HTTP Tunnel is enabled when user wants the video server to forward UART commands generated by user. The UART commands will be sent through HTTP tunnel established between user and video server and transmitted to the device connected to video server.

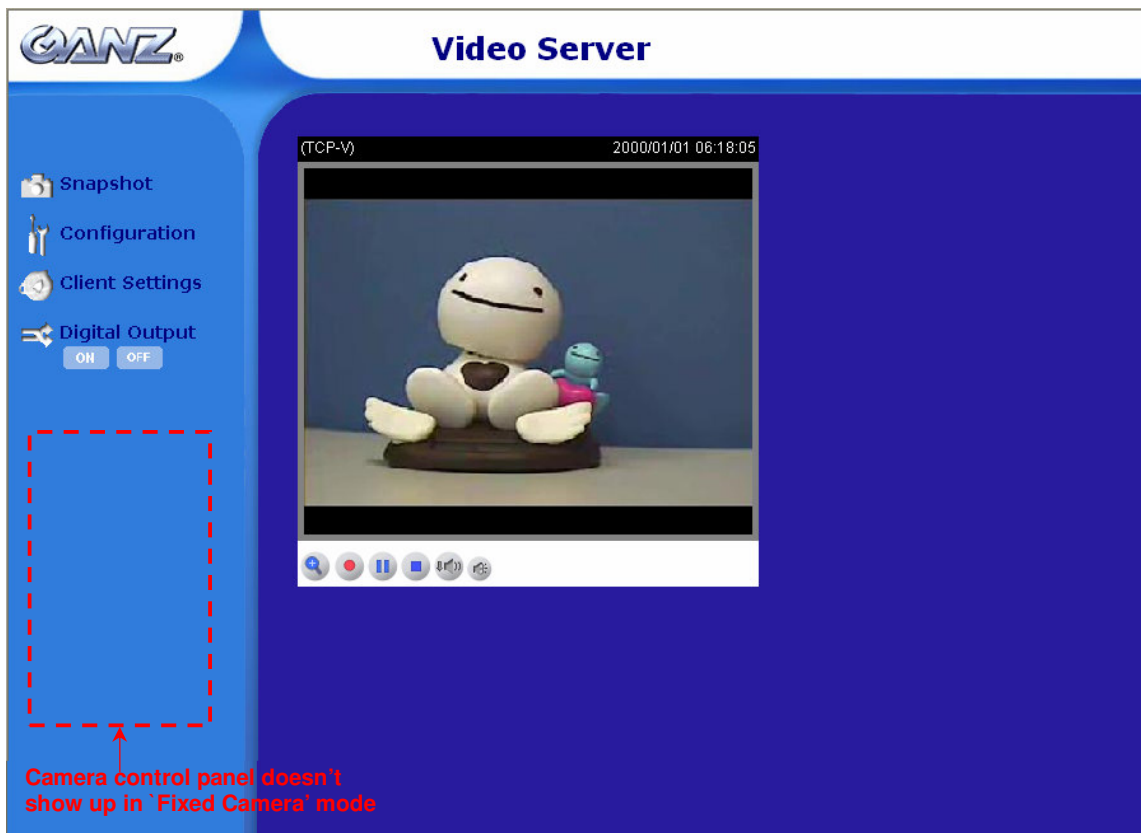
**>Camera control**

**RS485 Settings**

☐ Disable  
☐ PTZ camera  
☒ Transparent HTTP Tunnel

Port settings:

Baud rate:	9600
Data bits:	8
Stop bits:	1
Parity bit:	none



If there is any PTZ camera attached, users should select the **"RS485 Settings"** as **"PTZ camera"** or **"Transparent HTTP Tunnel"**. Users have to configure the camera id, PTZ driver, and ports settings correctly. The ID is specific to the camera and necessary for multiple camera control. Please refer to the PTZ camera's user manual for ID settings. The ZV-S306 Video Server has three built-in PTZ camera drivers, including DynaDome/SmartDOME, Lilin PIH-7x00, and Pelco D protocol. For user's convenience, users can upload their alternative PTZ driver to the Video Server. Please refer to the maintenance page for more information about how to upload your PTZ driver file. Note that ZV-S306 Video Server can support multiple protocols to PTZ cameras. If there are PTZ camera functions can't work, please see your PTZ camera's user manual to check if your camera supports these functions.

## Preset position

The screenshot displays the PTZ control interface. On the left is a live video feed of a yellow robot. To the right of the feed are control buttons: 'Left', 'Up', 'Home', 'Down', and 'Right'. These are grouped under a red box labeled 'Pan and Tilt'. Below these are 'Zoom' and 'Auto Focus' buttons, each with '-' and '+' sub-buttons, grouped under a red box labeled 'Zoom' and 'Focus functions'. At the bottom, there is a 'Current position:' label, a text input field, and an 'Add' button (grouped under a red box with a note: 'Newly added preset position will appear in this list. User can manage this list through adding and deleting'). Below that is a 'Preset Position:' label, a dropdown menu showing 'Center', and a 'Delete' button. A 'Close' button is at the bottom left.

Users can define a list of preset locations up to 20 through pan/tilt functions and zoom/focus functions. After setting up a preset location, users should give it a proper name, and those pre-defined locations will save into the preset location list and also show up in the homepage. In homepage, users can pull down the list of preset locations to choose any one to move the camera to the preset location that is defined. ZV-S306 provides up to twenty preset locations for users.

## Custom command

ZV-S306 Video Server provides five more custom commands other than general pan, tilt, zoom and preset functions. Users can click on **"Custom commands"** and refer to the instruction manual of the attached device to setup frequently used functions.

	Display string	Command
Command 1:	Pan Speed	8101A9C2EF
Command 2:		
Command 3:		
Command 4:		
Command 5:		

Save Close

Please note that if "Custom camera" is selected as PTZ driver, user must configure the custom pan, tilt, zoom, and focus functions via "Custom Command" page.

### RS485 Settings

☐ Disable  
☒ PTZ camera  
☐ Transparent HTTP Tunnel

☐ Enable PTZ tunnel

Camera ID:   
 PTZ driver:   
 Port settings:  
 Baud rate:   
 Data bits:   
 Stop bits:   
 Parity bit:

**1. Select Custom camera**

**3. Configure the PTZF functions**

**2. Left click on "Custom Command"**

http://192.168.5.120 - Custom Command - Microsoft Internet Explorer

**Control settings:**

Up	
Down	
Left	
Right	
Home	
Zoom in	
Zoom out	
Focus near	
Focus far	
Auto Focus	

Leaving "Display string" blank will hide the command button in homepage.

	Display string	Command
Command 1:	<input type="text"/>	<input type="text"/>
Command 2:	<input type="text"/>	<input type="text"/>
Command 3:	<input type="text"/>	<input type="text"/>
Command 4:	<input type="text"/>	<input type="text"/>
Command 5:	<input type="text"/>	<input type="text"/>

## Application

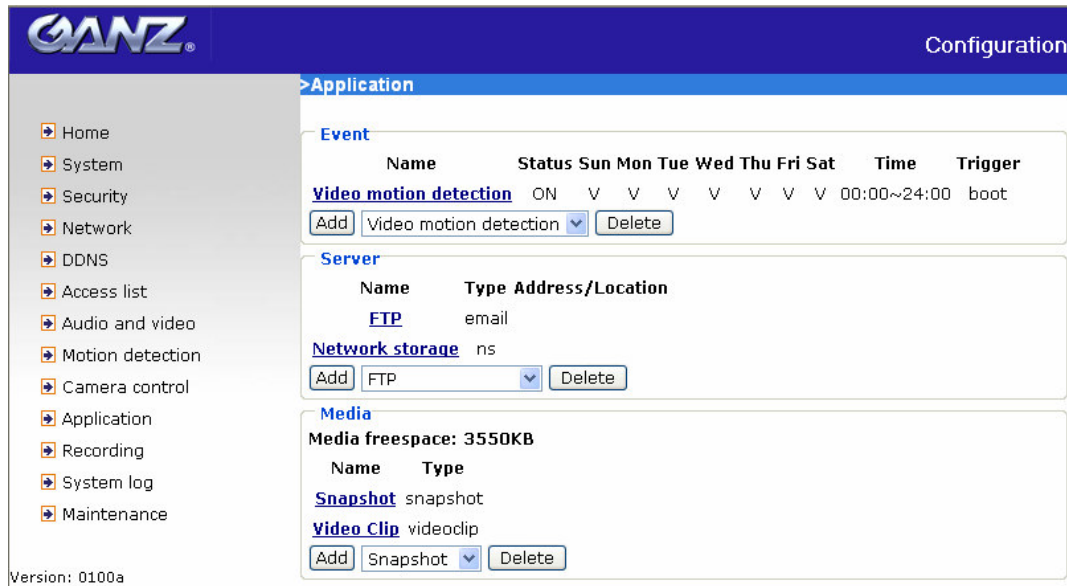
There are three sections in application page. They are **"Event"**, **"Server"** and **"Media"**. Click  to pop a window to add a new item of Event, Server or Media. Click  to delete the selected item from Event, Server or Media. Click on the item name to pop a window to edit it.

There can be at most three events. There can be at most five servers and five media configurations.

User can know the event name, status, weekly and time schedule and trigger type in event section. The server name, type and address/location are shown in server section. The current media free space, media name and type are shown in media section. After adding a new media, the value of free space will be updated. User cannot add media which size is larger than free space.

Suggest to set server and media first before setting event. The servers and medias selected in event list are not modified or deleted. Please remove them first from the

event if you want to delete or modify them. Recommend that using different media in different event to make use all medias be produced and received correctly. If using the same media in different events and the events trigger almost simultaneously, the servers in the second triggered event will not receive any media; there would be only notifications.



<url> http://<Video Server>/setup/application.html

<Video Server> is the domain name or original IP address of the Video Server.

## Event

**"Event name"** The unique name for event

**"Enable this event"** Check it to enable this event.

**"Priority"** The event with higher priority will be executed first.

**"Delay second(s) before detecting next event"** The delay to check next event. It is used in motion detection and digital input trigger type.

ZV-S306 Video Server supports five trigger types.

**"Video motion detection"** Select the windows which need to be monitored.

**"Periodic"** The event is triggered in specified intervals. The unit of trigger interval is minute.

**"Digital input"** To monitor digital input

**"System boot"** The event is triggered when the system bootup.

**"Video loss alarm"** The event is triggered when Video Server loses video signal in the condition of from having video signal to no video signal.

The weekly and time schedules are provided.

**"Sun" ~ "Sat"** Select the days of the week to perform the event.

**"Time"** show **"Always"** or input the time interval.

Triggering DO output is enabled by default. If there are servers configured, the user can select them from **"Server name"**, too.

**"Trigger DO"** Check it to trigger digital output for specific seconds when event is triggered.

**"Server name"** Check it to sending the selected media when event is triggered.

**>Event**

Event name:

☐ Enable this event

Priority:

Delay for  seconds before detecting next event [For motion detection and digital input]

**Trigger**

☐ Video motion detection  
Detect motion in  
Note: Please configure [Motion detection](#) first

☐ Periodic  
Trigger every  minutes

☐ Digital input

☒ System boot

☐ Video loss alarm

**Event schedule**

☒ Sun ☒ Mon ☒ Tue ☒ Wed ☒ Thu ☒ Fri ☒ Sat

**Time**

☒ Always

☐ From  to  [hh:mm]

**Action**

☐ Trigger D/O for  seconds

☐ FTP  
Attached media:

☐ Network storage  
Attached media:

## Server

**"Server name"** The unique name for server

There are four kinds of servers supported. They are email server, FTP server, HTTP server and network storage.

Here is setting for email server.





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**"Sender email address"** The email address of the sender

**"Recipient email address"** The email address of the recipient

**"Server address"** The domain name or IP address of the external email server.

**"User name"** This granted user name on the external email server.

**"Password"** This granted password on the external email server.

Here is setting for FTP server.

**"Server address"** The domain name or IP address of the external FTP server.

**"Server port"** This can be other than the default port 21. The user can change this value from 1025 to 65535.

**"User name"** This granted user name on the external FTP server.

**"Password"** This granted password on the external FTP server.

**"Remote folder name"** Granted folder on the external FTP server. The string must conform to that of the external FTP server. Some FTP servers cannot accept preceding slash symbol before the path without virtual path mapping. Refer to the instructions for the external FTP server for details. The folder privilege must be open for upload.

**"Passive Mode"** Check it to enable passive mode in transmission.

Here is setting for HTTP server.

**"URL"** The URL to upload the media.

**"User name"** This granted user name on the external HTTP server.

**"Password"** This granted password on the external HTTP server.


Here is setting for network storage. Only one network storage is supported.

**"Network storage location"** The path to upload the media

**"Workgroup"** The workgroup for network storage.

**"User name"** This granted user name on the network storage.

**"Password"** This granted password on the network storage.

After input the setting of server, user can click on  to test whether the setting is correct. The testing result will be shown in a pop-up window.

>Server

Server name:

Server type

☐ Email

Sender email address

Recipient email address

Server address

User name

Password

☒ FTP

Server address

Server port

User name

Password

Remote folder name

☒ Passive mode

☐ HTTP

URL

User name

Password

☐ Network storage

Network storage location  
(for example: \\my\_nas\disk\folder)

Workgroup

User name

Password

Test

Save

Close

## Media

**"Media name"** The unique name for media

There are three kinds of media. They are snapshot, video clip and system log.

Here is setting for snapshot.

**"Source"** The source of stream, stream1 or stream2.

**"Send pre-event images"** The number of pre-event images

**"Send post-event images"** The number of post-event images

**"File Name Prefix"** The prefix name will be added on the file name of the snapshot images.

**"Add date and time suffix to file name"** Check it to add timing information as file name suffix.

Here is setting for video clip

**"Source"** The source of stream, stream1 or stream2.

**"Pre-event recording"** The interval of pre-event recording in seconds

There are two limitations for video clip file.

**"Maximum duration"** The maximal recording file duration in seconds

**"Maximum file size"** The maximal file size would be generated.

**"File name prefix"** The prefix name will be added on the file name of the video clip.

Media

Media name:

Media type

☐ Snapshot

Source: 
Send  pre-event image(s) [0~7]
Send  post-event image(s) [0~7]
File Name Prefix: 
☐ Add date and time suffix to file name

☐ Video Clip

Source: 
Pre-event recording:  seconds [0~9]
Maximum duration:  seconds [1~10]
Maximum file size:  Kbytes [50~800]
File Name Prefix:

☒ System log

Save Close

## Recording

The Video Server supports recording on network storage. The operation of editing recording item is the same as the one in application page. User can know the recording name, status, weekly and time schedule, stream source and destination of recording. There can be at most two recording entries. To do recording on network storage, please add network storage server in application page first.

GANZ
Configuration

Recording

Recording entry

Name	Status	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Time	Source	Destination
<a href="#">Recording - Door</a>	ON	V	V	V	V	V	V	V	00:00~24:00	stream1	<a href="#">Network storage</a>

Add
Recording - Door
Delete

Version: 0100a

<url> http://<Video Server>/setup/recording.html

<Video Server> is the domain name or original IP address of the Video Server.



**"Recording entry name"** The unique name for recording entry

**"Enable this recording"** Check it to enable this event.

**"Priority"** The recording with higher priority will be executed first.

**"Source"** The source of stream, stream1 or stream2.

The weekly and time schedules are provided.

**"Sun" ~ "Sat"** Select the days of the week to perform the event.

**"Time"** shows **"Always"** or input the time interval.

**"Destination"** Network storage server user added.

**"Total cycling recording size"** The total size for cycle recording in Kbytes

**"Size of each file for recording"** The single file size in Kbytes

**"File Name Prefix"** The prefix name will be added on the file name of the recording.

**>Recording**

Recording entry name:

☐ Enable this recording

Priority:

Source:

**Recording schedule**

☒ Sun ☒ Mon ☒ Tue ☒ Wed ☒ Thu ☒ Fri ☒ Sat

**Time**

☒ Always

☐ From  to  [hh:mm]

**Destination**

Server :

Total cycling recording size:  Kbytes

Size of each file for recording:  Kbytes [200~6000]

File Name Prefix:

When click on the destination, a page appears listing all .mp4 files in that destination.

User can select some files to delete or delete all files.

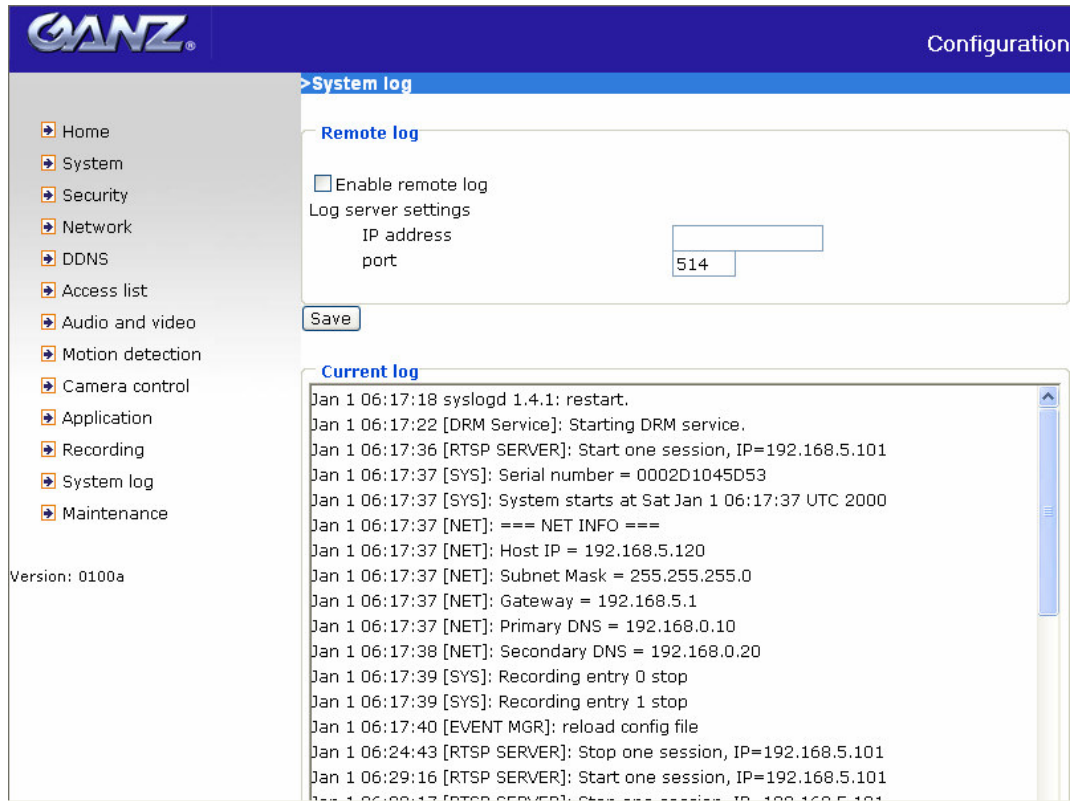
## System log

The Video Server supports log the system messages on remote server. The protocol is compliant to RFC 3164. If you have external Linux server with syslogd service, use "-r" option to turn on the facility for receiving log from remote machine. Or you can use some software on Windows which is compliant to RFC 3164.

Check **"Enable remote log"** and input the **"IP address"** and **"port"** number of the

log server to enable the remote log facility.

In the **"Current log"**, it displays the current system log file. The content of the log provides useful information about configuration and connection after system boot- up.



<url> <http://<Video Server>/setup/syslog.html>

<Video Server> is the domain name or original IP address of the Video Server.

## Maintenance

Five actions can be selected.

**"Reboot system"** Click the reboot button to restart system.

**"Restore"** Click it to restore all setting to factory default except setting in "Network type" in network page.

**"Factory default"** Click on Factory default button to restore the factory default settings. Any changes made so far will be lost and the system will be reset to the initial factory settings. The system will restart and require the installer program to set up the network again.

**“Upgrade firmware”** Select the firmware file and click upgrade button.

**“PTZ driver upload”** Select the PTZ driver file and click upload button. The uploaded PTZ driver will show up as “User uploaded driver” in the PTZ driver list in Camera control page.

The screenshot shows the GANZ Configuration interface. On the left is a sidebar with a menu: Home, System, Security, Network, DDNS, Access list, Audio and video, Motion detection, Camera control, Application, Recording, System log, and Maintenance. The 'Maintenance' option is selected. Below the menu, it says 'Version: 0100a'. The main content area is titled 'Maintenance' and contains several sections: 'Reboot system' with a 'Reboot' button; 'Restore' with a description 'Restore all settings to factory default except settings in' and two checkboxes for 'Daylight Saving Time' and 'Network type', followed by a 'Restore' button; 'Upload' with two checkboxes for 'Update Daylight Saving Time Rules' and 'Select PTZ driver file', each with a text input field and a 'Browse' button, followed by an 'Upload' button; 'Export Daylight Saving Time Configuration File' with a description 'Get Daylight Saving Time Configuration File.' and an 'Export' button; and 'Upgrade firmware' with a description 'Select firmware file', a text input field, a 'Browse' button, and an 'Upgrade' button.

<url> <http://<Video Server>/setup/maintain.html>

<Video Server> is the domain name or original IP address of the Video Server.

## Appendix

### A. Troubleshooting

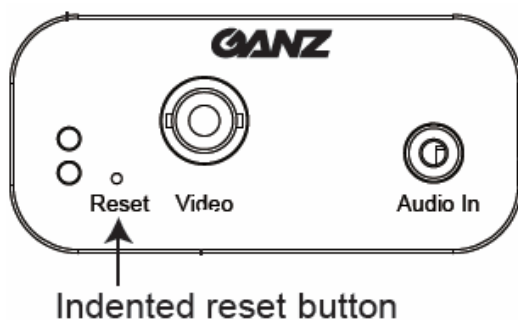
#### Status LED

The following table lists the LED patterns in general.

Condition	LED color
Loading system after power on	Blink green twice and steady red
During booting procedure	Steady green and red
After network is setup (system up)	Blink green every second and steady red
During the upgrade firmware process	Fast blink green and blink green every second

#### Reset and restore

There is a button in the front of the Video Server. It is used to reset the system or restore the factory default settings. Sometimes resetting the system sets the system back to normal state. If the system problems remain after reset, restore the factory settings and install again.



**RESET:** Click on the "RESET" button once will reboot the system and the software installation may be necessary if the IP address is not fixed. This procedure is the same as removing the power and attaching it again.

**RESTORE:**

1. Press on the button firmly.
2. Wait for self-diagnostic to run.

3. Free the button fast blink green and red.



Restoring the factory defaults  
will erase any previous settings.

## B. URL commands of the Video Server

### Overview

For some customers who already have their own web site or web control application, Network Camera/Video Server can be easily integrated through convenient URLs. This section specifies the external HTTP based application programming interface. The HTTP based camera interface provides the functionality to request a single image, to control camera functions (PTZ, output relay etc.) and to get and set internal parameter values. The image and CGI-requests are handled by the built in Web server.

### Style convention

In URL syntax and in descriptions of CGI parameters, a text within angle brackets denotes a content that is to be replaced with either a value or a string. When replacing the text string also the angle brackets shall be replaced. An example of this is the description of the name for the server, denoted with <servername> in the URL syntax description below, that is replaced with the string myserver in the URL syntax example, also below.

URL syntax' are written with the "**Syntax:**" word written in bold face followed by a box with the referred syntax as seen below. The name of the server is written as <servername>. This is intended to be replaced with the name of the actual server. This can either be a name, e.g., "mywebcam" or "thecam.adomain.net" or the associated IP number for the server, e.g., 192.168.0.220.

Syntax:

http://<servername>/cgi-bin/viewer/video.jpg
--

Description of returned data is written with "**Return:**" in bold face followed by the

---





returned data in a box. All data returned as HTTP formatted, i.e., starting with the string HTTP is line separated with a Carriage Return and Line Feed (CRLF) printed as \r\n.

Return:

```
HTTP/1.0 <HTTP code> <HTTP text>\r\n
```

URL syntax examples are written with "**Example:**" in bold face followed by a short description and a light grey box with the example.

**Example:** request a single snapshot image

```
http://mywebserver/cgi-bin/viewer/video.jpg
```

## General CGI URL syntax and parameters

CGI parameters are written in lower-case and as one word without any underscores or other separators. When the CGI request includes internal camera parameters, the internal parameters must be written exactly as they are named in the camera or Video Server. The CGIs are organized in function related directories under the cgi-bin directory. The file extension of the CGI is required.

Syntax:

```
http://<servername>/cgi-bin/<subdir>[/<subdir>...]/<cgi>.<ext>  
[?<parameter>=<value>[&<parameter>=<value>...]]
```

**Example:** Setting digital output #0 to active

```
http://mywebserver/cgi-bin/dido/setdo.cgi?do0=1
```

## Security level

SECURITY LEVEL	SUB-DIRECTORY	DESCRIPTION
0	anonymous	Unprotected.
1 [view]	anonymous, viewer, dido, camctrl	1. Can view, listen, talk to camera 2. Can control dido, ptz of camera
4 [operator]	anonymous, viewer, dido, camctrl, operator	Operator's access right can modify most of camera's parameters except some privilege and network options
6 [admin]	anonymous, viewer, dido, camctrl,	Administrator's access right can fully control the camera's operation.



	operator, admin	
7	N/A	Internal parameters. Unable to be changed by any external interface.

## Get server parameter values

**Note:** The access right depends on the URL directory.

**Method:** GET/POST

Syntax:

```
http://<servername>/cgi-bin/anonymous/getparam.cgi?[<parameter>]  
[&<parameter>...]
```

```
http://<servername>/cgi-bin/viewer/getparam.cgi?[<parameter>]  
[&<parameter>...]
```

```
http://<servername>/cgi-bin/operator/getparam.cgi?[<parameter>]  
[&<parameter>...]
```

```
http://<servername>/cgi-bin/admin/getparam.cgi?[<parameter>]  
[&<parameter>...]
```

where the *<parameter>* should be *<group>[\_<name>]* or *<group>[.<name>]* If you do not specify the any parameters, all the parameters on the server will be returned. If you specify only *<group>*, the parameters of related group will be returned.

When query parameter values, the current parameter value are returned.

Successful control request returns paramter pairs as follows.

Return:

```
HTTP/1.0 200 OK\r\n  
Content-Type: text/html\r\n  
Context-Length: <length>\r\n  
\r\n  
<parameter pair>
```

where *<parameter pair>* is

*<parameter>=<value>\r\n*

*[<parameter pair>]*

<length> is the actual length of content.

**Example:** request IP address and it's response

Request:

```
http://192.168.0.123/cgi-bin/admin/getparam.cgi?network_ipaddress
```

Response:

```
HTTP/1.0 200 OK\r\n
```

```
Content-Type: text/html\r\n
```

```
Context-Length: 33\r\n
```

```
\r\n
```

```
network.ipaddress=192.168.0.123\r\n
```

## Set server parameter values

**Note:** The access right depends on the URL directory.

**Method:** GET/POST

Syntax:

```
http://<servername>/cgi-bin/anonymous/setparam.cgi? <parameter>=<value>  
[&<parameter>=<value>...][&update=<value>][&return=<return page>]
```

```
http://<servername>/cgi-bin/viewer/setparam.cgi? <parameter>=<value>  
[&<parameter>=<value>...][&update=<value>] [&return=<return page>]
```

```
http://<servername>/cgi-bin/operator/setparam.cgi? <parameter>=<value>  
[&<parameter>=<value>...][&update=<value>] [&return=<return page>]
```

```
http://<servername>/cgi-bin/admin/setparam.cgi? <parameter>=<value>  
[&<parameter>=<value>...][&update=<value>] [&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
<group>_<name>	value to assigned	Assign <value> to the parameter <group>_<name>
update	<boolean>	set to 1 to actually update all fields (no need to use update parameter in each group)



<b>return</b>	<code>&lt;return page&gt;</code>	Redirect to the page <code>&lt;return page&gt;</code> after the parameter is assigned. The <code>&lt;return page&gt;</code> can be a full URL path or relative path according the current path. If you omit this parameter, it will redirect to an empty page.  (note: The return page can be a general HTML file(.htm, .html) or a CBC server script executable (.vspx) file. It can not be a CGI command. It can not have any extra parameters. This parameter must be put at end of parameter list)
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Return:

```
HTTP/1.0 200 OK\r\n
Content-Type: text/html\r\n
Context-Length: <length>\r\n
\r\n
<parameter pair>
```

where `<parameter pair>` is

`<parameter>=<value>\r\n`

`[<parameter pair>]`

Only the parameters that you set and readable will be returned.

**Example:** Set the IP address of server to 192.168.0.123

Request:

[http://myserver/cgi-bin/admin/setparam.cgi?network\\_ipaddress=192.168.0.123](http://myserver/cgi-bin/admin/setparam.cgi?network_ipaddress=192.168.0.123)

Response:

```
HTTP/1.0 200 OK\r\n
Content-Type: text/html\r\n
Context-Length: 33\r\n
\r\n
network.ipaddress=192.168.0.123\r\n
```

## Available parameters on the server

Valid values:

VALID VALUES	DESCRIPTION
string[<n>]	Text string shorter than 'n' characters
password[<n>]	The same as string but display '*' instead
integer	Any number between $(-2^{31} - 1)$ and $(2^{31} - 1)$
positive integer	Any number between 0 and $(2^{32} - 1)$
<m> ~ <n>	Any number between 'm' and 'n'
domain name[<n>]	A string limited to contain a domain name shorter than 'n' characters (eg. www.ibm.com)
email address [<n>]	A string limited to contain a email address shorter than 'n' characters (eg. joe@www.ibm.com)
ip address	A string limited to contain an ip address (eg. 192.168.1.1)
mac address	A string limited to contain mac address without hyphen or colon connected
boolean	A boolean value 1 or 0 represents [Yes or No], [True or False], [Enable or Disable].
<value1>, <value2>, <value3>, ...	Enumeration. Only given values are valid.
blank	A blank string
everything inside <>	As description

NOTE: The camera should prevent to restart when parameter changed.

Group: **system**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
hostname	string[40]	1/6	host name of server
ledoff	<boolean>	6/6	turn on(0) or turn off(1) all led indicators
date	<yyyy/mm/dd>, keep, auto	6/6	Current date of system. Set to 'keep' keeping date unchanged. Set to 'auto' to use NTP to synchronize date.

time	<hh:mm:ss>, keep, auto	6/6	Current time of system. Set to 'keep' keeping time unchanged. Set to 'auto' to use NTP to synchronize time.
ntp	<domain name>, <ip address>, <blank>	6/6	<b>NTP server</b>
timezoneindex	<b>-489 ~ 529</b>	6/6	Indicate timezone and area -480: GMT-12:00 Eniwetok, Kwajalein -440: GMT-11:00 Midway Island, Samoa -400: GMT-10:00 Hawaii -360: GMT-09:00 Alaska -320: GMT-08:00 Las Vegas, San_Francisco, Vancouver -280: GMT-07:00 Mountain Time, Denver -281: GMT-07:00 Arizona -240: GMT-06:00 Central America, Central Time, Mexico City, Saskatchewan -200: GMT-05:00 Eastern Time, New York, Toronto -201: GMT-05:00 Bogota, Lima, Quito, Indiana -160: GMT-04:00 Atlantic Time, Canada, Caracas, La Paz, Santiago -140: GMT-03:30 Newfoundland -120: GMT-03:00 Brasilia, Buenos Aires, Georgetown, Greenland -80: GMT-02:00 Mid-Atlantic -40: GMT-01:00 Azores,

		<p>Cape_Verde_IS.</p> <p>0: GMT Casablanca, Greenwich Mean Time:Dublin, Edinburgh, Lisbon, London</p> <p>40: GMT 01:00 Amsterdam, Berlin, Rome, Stockholm, Vienna, Madrid, Paris</p> <p>41: GMT 01:00 Warsaw, Budapest, Bern</p> <p>80: GMT 02:00 Athens, Helsinki, Istanbul, Riga</p> <p>81: GMT 02:00 Cairo</p> <p>82: GMT 02:00 Lebanon, Minsk</p> <p>83: GMT 02:00 Israel</p> <p>120: GMT 03:00 Baghdad, Kuwait, Riyadh, Moscow, St. Petersburg, Nairobi</p> <p>121: GMT 03:00 Iraq</p> <p>140: GMT 03:30 Tehran</p> <p>160: GMT 04:00 Abu Dhabi, Muscat, Baku, Tbilisi, Yerevan</p> <p>180: GMT 04:30 Kabul</p> <p>200: GMT 05:00 Ekaterinburg, Islamabad, Karachi, Tashkent</p> <p>220: GMT 05:30 Calcutta, Chennai, Mumbai, New Delhi</p> <p>230: GMT 05:45 Kathmandu</p> <p>240: GMT 06:00 Almaty, Novosibirsk, Astana, Dhaka, Sri Jayawardenepura</p> <p>260: GMT 06:30 Rangoon</p> <p>280: GMT 07:00 Bangkok, Hanoi, Jakarta,</p>
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			<p>Krasnoyarsk</p> <p>320: GMT 08:00 Beijing, Chongqing, Hong Kong, Kuala Lumpur, Singapore, Taipei</p> <p>360: GMT 09:00 Osaka, Sapporo, Tokyo, Seoul, Yakutsk</p> <p>380: GMT 09:30 Adelaide, Darwin</p> <p>400: GMT 10:00 Brisbane, Canberra, Melbourne, Sydney, Guam, Vladivostok</p> <p>440: GMT 11:00 Magadan, Solomon Is., New Caledonia</p> <p>480: GMT 12:00 Auckland, Wellington, Fiji, Kamchatka, Marshall Is.</p> <p>520: GMT 13:00 Nuku'Alofa</p>
updateinterval	0, 3600, 86400, 604800, 2592000	6/6	0 to Disable automatic time adjustment, otherwise, it means the seconds between NTP automatic update interval.
restore	0, <positive integer>	7/6	Restore the system parameters to default value. Restart the server after <value> seconds.
reset	0, <positive integer>	7/6	Restart the server after <value> seconds.
restoreexceptnet	0, <positive integer>	7/6	Restore the system parameters to default value except (ipaddress, subnet, router, dns1, dns2, ddns settings). Restart the server after <value> seconds.





SubGroup of **system: info** (The fields in this group are unchangeable.)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
modelName	string[40]	0/7	model name of server
serialnumber	<mac address>	0/7	12 characters mac address without hyphen connected
firmwareversion	string[40]	0/7	The version of firmware, including model, company, and version number in the format <MODEL-BRAND-VERSION>
language_default	string[16]	0/7	Default webpage language.
language_count	<b>&lt;integer&gt;</b>	0/7	number of webpage language available on the server
language_i<0~(count-1)>	string[16]	0/7	Available language lists

Group: **status**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
videoactualmodulation	ntsc, pal	4/7	The actual modulation type (videoin.type=0)
di_i<0~(ndi-1)>	<boolean>	1/7	0 => Inactive, normal 1 => Active, triggered
do_i<0~ndi-1)>	<boolean>	1/1	0 => Inactive, normal 1 => Active, triggered
onlinenum_rtsp	integer	6/7	current RTSP connection numbers
onlinenum_httppush	integer	6/7	current HTTP push server connection numbers

Group: **di\_i<0~(ndi-1)>**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
normalstate	high, low	1/1	indicate whether open circuit or closed circuit represents inactive status

Group: **do\_i<0~(ndo-1)>**



NAME	VALUE	SECURITY (get/set)	DESCRIPTION
normalstate	open, grounded	1/1	indicate whether open circuit or closed circuit represents inactive status

Group: security

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
user_i0_name	string[64]	6/7	User's name of root
user_i<1~20>_name	string[64]	6/7	User's name
user_i0_pass	string [64]	6/6	Root's password
user_i<1~20>_pass	string [64]	7/6	User's password
user_i0_privilege	admin	6/7	Root's privilege
user_i<1~20>_ privilege	viewer, operator, admin	6/6	User's privilege.

Group: **network**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
type	lan, pppoe	6/6	Network connection type
resetip	<boolean>	6/6	1 => get ipaddress, subnet, router, dns1, dns2 from DHCP server at next reboot 0 => use preset ipaddress, subnet, router, dns1, and dns2
ipaddress	<ip address>	6/6	IP address of server
subnet	<ip address>	6/6	subnet mask
router	<ip address>	6/6	default gateway
dns1	<ip address>	6/6	primary DNS server
dns2	<ip address>	6/6	secondary DNS server
wins1	<ip address>	6/6	primary WINS server



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wins2	<ip address>	6/6	secondary WINS server
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Subgroup of **network: ftp**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
port	21, 1025~65535	6/6	local ftp server port

Subgroup of **network: http**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
port	80, 1025 ~ 65535	6/6	HTTP port
alternateport	1025~65535	6/6	Alternative HTTP port
authmode	basic, digest	1/6	HTTP authentication mode
s0_accessname	string[32]	1/6	Http server push access name for stream 1
s1_accessname	string[32]	1/6	Http server push access name for stream 2

Subgroup of **network: rtsp**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
port	554, 1025 ~ 65535	6/6	RTSP port
authmode	disable, basic, digest	1/6	RTSP authentication mode
s0_accessname	string[32]	1/6	RTSP access name for stream1
s1_accessname	string[32]	1/6	RTSP access name for stream2

Subgroup of **rtsp\_s<0~(n-1)>: multicast**, n is stream count

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
alwaysmulticast	<boolean>	4/4	Enable always multicast
ipaddress	<ip address>	4/4	Multicast IP address

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videoport	1025 ~ 65535	4/4	Multicast video port
audioport	1025 ~ 65535	4/4	Multicast audio port
ttl	1 ~ 255	4/4	Mutlicast time to live value

Subgroup of **network: rtp**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
videoport	1025 ~ 65535	6/6	video channel port for RTP
audioport	1025 ~ 65535	6/6	audio channel port for RTP

Subgroup of **network: pppoe**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
user	string[128]	6/6	PPPoE account user name
pass	password[64]	6/6	PPPoE account password

Group: **ipfilter**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
allow_i<0~9>_start	1.0.0.0 ~ 255.255.255.255	6/6	Allowed starting IP address for RTSP connection
allow_i<0~9>_end	1.0.0.0 ~ 255.255.255.255	6/6	Allowed ending IP address for RTSP connection
deny_i<0~9>_start	1.0.0.0 ~ 255.255.255.255	6/6	Denied starting IP address for RTSP connection
deny_i<0~9>_end	1.0.0.0 ~ 255.255.255.255	6/6	Denied ending IP address for RTSP connection

Group: **videoin**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
modulation	ntsc,	4/4	set video input modulation

	pal, auto		type (videoin.type=0)
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Group: **videoin\_c<0~(n-1)>** for n channel products, m is stream number

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
color	0, 1	4/4	0 => monochrome 1 => color
flip	<boolean>	4/4	flip the image
mirror	<boolean>	4/4	mirror the image
ptzstatus	<integer>	1/7	An 32-bits integer, each bit can be set separately as follows: Bit 0 => Support camera control function 0(not support), 1(support) Bit 1 => <b>Build-in</b> or <b>external</b> camera. 0(external), 1(build-in) Bit 2 => Support <b>pan</b> operation. 0(not support), 1(support) Bit 3 => Support <b>tilt</b> operation. 0(not support), 1(support) Bit 4 => Support <b>zoom</b> operation. 0(not support), 1(support) Bit 5 => Support <b>focus</b> operation. 0(not support), 1(support)
text	string[16]	1/4	enclosed caption
imprinttimestamp	<boolean>	4/4	Overlay time stamp on video
maxexposure	1~120	4/4	Maximum exposure time
s<0~(m-1)>_codec type	mpeg4, mjpeg	4/4	video codec type
s<0~(m-1)>_mpeg 4_intraperiod	250, 500, 1000, 2000, 3000, 4000	4/4	The period of intra frame in milliseconds

s<0~(m-1)>_resolution	QCIF, 176x120, 176x144, CIF, 352x240, 352x288, 4CIF, 704x480, 704x576	4/4	Video resolution in pixel
s<0~(m-1)>_mpeg4_ratecontrolmode	cbr, vbr	4/4	cbr, constant bitrate vbr, fix quality
s<0~(m-1)>_mpeg4_quant	1, 2, 3, 4, 5	4/4	quality of video when choosing vbr in "ratecontrolmode". 1 is worst quality and 5 is the best quality.
s<0~(m-1)>_mpeg4_bitrate	20000, 30000, 40000, 50000, 64000, 128000, 256000, 384000, 512000, 768000, 1000000, 1200000, 1500000, 2000000, 3000000, 4000000	4/4	set bit rate in bps when choose cbr in "ratecontrolmode"
s<0~(m-1)>_mpeg4_maxframe	1, 2, 3, 5, 10, 15, 20, 25, 30 (only for NTSC)	4/4	set maximum frame rate in fps
s<0~(m-1)>_mpeg4_quant	1, 2, 3, 4, 5	4/4	quality of jpeg video. 1 is worst quality and 5 is the best quality.

s<0~(m-1)>_mjpe g_maxframe	1, 2, 3, 5, 10, 15, 20, 25, 30 (only for NTSC or 60Hz CMOS)	4/4	set maximum frame rate in fps (for JPEG)
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Group: **audioin\_c<0~(n-1)>** for n channel products

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
source	linein	4/4	linein => use line input, i.e. internal microphone
mute	0, 1	4/4	Enable audio mute
gain	0~31	4/4	Gain of input
s<0~(m-1)>_codectype	aac4, gamr	4/4	set audio codec type for input
s<0~(m-1)>_aac4_bitrate	16000, 32000, 48000, 64000, 96000, 128000	4/4	set AAC4 bitrate in bps
s<0~(m-1)>_gamr_bitrate	4750, 5150, 5900, 6700, 7400, 7950, 10200, 12200	4/4	set AMR bitrate in bps

Group: **image\_c<0~(n-1)>** for n channel products

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
brightness	-5 ~ 5	4/4	Adjust brightness of image according to mode settings.
saturation	-5 ~ 5	4/4	Adjust saturation of image according to mode settings.

contrast	-5 ~ 5	4/4	Adjust contrast of image according to mode settings.
hue	-5 ~ 5	4/4	Adjust hue of image according to mode settings.

Group: **motion\_c<0~(n-1)>** for n channel product

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	enable motion detection
win_i<0~2>_enable	<boolean>	4/4	enable motion window 1~3
win_i <0~2>_name	string[14]	4/4	name of motion window 1~3
win_i <0~2>_left	0 ~ 320	4/4	Left coordinate of window position.
win_i <0~2>_top	0 ~ 240	4/4	Top coordinate of window position.
win_i <0~2>_width	0 ~ 320	4/4	Width of motion detection window.
win_i<0~2>_height	0 ~ 240	4/4	Height of motion detection window.
win_i<0~2>_objsize	0 ~ 100	4/4	Percent of motion detection window.
win_i<0~2>_sensitivity	0 ~ 100	4/4	Sensitivity of motion detection window.

Group: **ddns**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable or disable the dynamic dns.
provider	Safe100, DynDnsDynamic, DynDnsCustom, TZO, DHS, DynInterfree, PeanutHull,	6/6	Safe100 => safe100.net DynDnsDynamic => dyndns.org (dynamic) DynDnsCustom => dyndns.org (custom) TZO => tzo.com DHS => dhs.org DynInterfree => dyn-interfree.it





			PeanutHull => peanut hull
<provider>_hostname	string[128]	6/6	Your dynamic hostname.
<provider>_usernameemail	string[64]	6/6	Your user or email to login ddns service provider
<provider>_passwordkey	string[64]	6/6	Your password or key to login ddns service provider
<provider>_servername	<b>string[128]</b>	6/6	The server name for safe100. (This field only exists for provider is customsafel00)

Group: **syslog**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enableremotelog	<boolean>	6/6	enable remote log
serverip	<IP address>	6/6	Log server IP address
serverport	514, 1025~65535	6/6	Server port used for log
level	0~7	6/6	The levels to distinguish the importance of information. 0: LOG_EMERG 1: LOG_ALERT 2: LOG_CRIT 3: LOG_ERR 4: LOG_WARNING 5: LOG_NOTICE 6: LOG_INFO 7: LOG_DEBUG

Group: **privacymask\_c<0~(n-1)>** for n channel product

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable the privacy mask
win_i<0~4>_enable	<boolean>	4/4	Enable the privacy mask window
win_i<0~4>_name	string[14]	4/4	The name of privacy mask

			window
win_i<0~4>_left	0 ~ 320/352	4/4	Left coordinate of window position.
win_i<0~4>_top	0 ~ 240/288	4/4	Top coordinate of window position.
win_i<0~4>_width	0 ~ 320/352	4/4	Width of privacy mask window
win_i<0~4>_height	0 ~ 240/288	4/4	Height of privacy mask window

Group: capability

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
api_http_version	0200a	0/7	The HTTP API version.
bootuptime	<positive integer>	0/7	The server bootup time
nir	0, <positive integer>	0/7	number of IR interface
ndi	0, <positive integer>	0/7	number of digital input
ndo	0, <positive integer>	0/7	number of digital output
naudioin	0, <positive integer>	0/7	number of audio input
naudioout	0, <positive integer>	0/7	number of audio output
nvideoin	<positive integer>	0/7	number of video input
nmediastream	<positive integer>	0/7	number of media stream per channel
nvideosetting	<positive integer>	0/7	number of video settings per channel
naudiosetting	<positive integer>	0/7	number of audio settings per channel

	integer>		channel
nuart	0, <positive integer>	0/7	number of UART interface
ptzenabled	< boolean >	0/7	indicate whether to support PTZ control
protocol_https	< boolean >	0/7	indicate whether to support http over SSL
protocol_rtsp	< boolean >	0/7	indicate whether to support rtsp
protocol_sip	<boolean>	0/7	indicate whether to support sip
protocol_maxconnection	<positive integer>	0/7	The maximum allowed simultaneous connections
protocol_rtp_multicast_ scalable	<boolean>	0/7	indicate whether to support scalable multicast
protocol_rtp_multicast_ backchannel	<boolean>	0/7	indicate whether to support backchannel multicast
protocol_rtp_tcp	<boolean>	0/7	indicate whether to support rtp over tcp
protocol_rtp_http	<boolean>	0/7	indicate whether to support rtp over http
protocol_spush_mjpeg	<boolean>	0/7	indicate whether to support server push motion jpeg
protocol_snmp	<boolean>	0/7	indicate whether to support snmp
videoin_type	0, 1, 2	0/7	0 => Interlaced CCD 1 => Progressive CCD 2 => CMOS
videoin_resolution	<a list of the available resolution separates by comma)	0/7	available resolutions list
<b>videoin_codec</b>	<a list of the available codec types	0/7	available codec list

	separaters by comma)		
<b>videoout_codec</b>	<a list of the available codec types separaters by comma)	0/7	available codec list
audio_aec	<boolean>	0/7	indicate whether to support acoustic echo cancellation
audio_extmic	<boolean>	0/7	indicate whether to support external microphone input
audio_linein	<boolean>	0/7	indicate whether to support external line input
<b>audio_lineout</b>	<boolean>	0/7	indicate whether to support line output
audio_headphoneout	<boolean>	0/7	indicate whether to support headphone output
<b>audioin_codec</b>	<a list of the available codec types separaters by comma)	0/7	available codec list
<b>audioout_codec</b>	<a list of the available codec types separaters by comma)	0/7	available codec list
camctrl_httptunnel	<boolean>	0/7	Indicate whether to support the http tunnel for camera control
uart_httptunnel	<boolean>	0/7	Indicate whether to support the http tunnel for uart transfer
<b>transmission_mode</b>	Tx, Rx, Both	0/7	Indicate what kind of transmission mode the machine used. TX: server, Rx: receiver box, Both: DVR?.

network_wire	<boolean>	0/7	Indicate whether to support the Ethernet
--------------	-----------	-----	--

Group: event\_i<0~2>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	6/6	The identification of this entry
enable	0, 1	6/6	To enable or disable this event.
priority	0, 1, 2	6/6	Indicate the priority of this event. "0" indicates low priority. "1" indicates normal priority. "2" indicates high priority.
delay	1~999	6/6	Delay seconds before detect next event.
trigger	boot, di, motion, seq,	6/6	Indicate the trigger condition. "boot" indicates system boot. "di" indicates digital input. "motion" indicates video motion detection. "seq" indicates periodic condition.
Di	<integer>	6/6	Indicate which di detected. This field is required when trigger condition is "di". One bit represents one digital input. The LSB indicates DI 0.
Mdwin	<integer>	6/6	Indicate which motion detection windows detected. This field is required when trigger condition is "md". One bit represents one window. The LSB indicates the 1 <sup>st</sup> window. For example, to detect the 1 <sup>st</sup> and 3 <sup>rd</sup> windows, set mdwin as 5.
inter	1~999	6/6	Interval of period snapshot in minute. This field is used when trigger condition is "seq".

weekday	<interger>	6/6	Indicate which weekday is scheduled. One bit represents one weekday. The bit0 (LSB) indicates Saturday. The bit1 indicates Friday. The bit2 indicates Thursday. The bit3 indicates Wednesday. The bit4 indicates Tuesday. The bit5 indicates Monday. The bit6 indicates Sunday. For example, to detect events on Friday and Sunday, set weekday as 66.
begintime	hh:mm	6/6	Begin time of weekly schedule.
endtime	hh:mm	6/6	End time of weekly schedule. (00:00 ~ 24:00 means always.)
action_do_i<0~(nd o-1)>_enable	0, 1	6/6	To enable or disable trigger digital output.
action_do_i<0~(nd o-1)>_duration	1~999	6/6	The duration of digital output is triggered in seconds.
action_cf_enable	0, 1	6/6	To enable put media on CF.
action_cf_folder	string[128]	6/6	The path to store media.
action_cf_media	NULL, 0~4	6/6	The index of attached media.
action_server_i<0~4>_enable	0, 1	6/6	To enable or disable this server action. The default value is 0.
action_server_i<0~4>_media	NULL, 0~4	6/6	The index of attached media.

Group: server\_i<0~4>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	6/6	The identification of this entry
type	email, ftp, http, ns	6/6	Indicate the server type. "email" is email server. "ftp" is ftp server. "http" is http server. "ns" is network storage.
http_url	string[128]	6/6	The url of http server to upload.

http_username	string[64]	6/6	The username to login in the server.
http_passwd	string[64]	6/6	The password of the user.
ftp_address	string[128]	6/6	The ftp server address
ftp_username	string[64]	6/6	The username to login in the server.
ftp_passwd	string[64]	6/6	The password of the user.
ftp_port	0~65535	6/6	The port to connect the server.
ftp_location	string[128]	6/6	The location to upload or store the media.
ftp_passive	0, 1	6/6	To enable or disable the passive mode. 0 is to disable the passive mode. 1 is to enable the passive mode.
email_address	string[128]	6/6	The email server address
email_username	string[64]	6/6	The username to login in the server.
email_passwd	string[64]	6/6	The password of the user.
email_senderemail	string[128]	6/6	The email address of sender.
email_recipientemail	string[128]	6/6	The email address of recipient.
ns_location	string[128]	6/6	The location to upload or store the media.
ns_username	string[64]	6/6	The username to login in the server.
ns_passwd	string[64]	6/6	The password of the user.
ns_workgroup	string[64]	6/6	The workgroup for network storage.

Group: media\_i<0~4>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	6/6	The identification of this entry
type	snapshot, systemlog videoclip	6/6	The media type to send to the server or store by the server.
snapshot_source	<integer>	6/6	Indicate the source of media stream. 0 means the first stream. 1 means the second stream and etc.
snapshot_prefix	string[16]	6/6	Indicate the prefix of the filename.

snapshot_datesuffix	0, 1	6/6	To add date and time suffix to filename or not. 1 means to add date and time suffix. 0 means not to add it.
snapshot_preevent	0 ~ 7	6/6	It indicates the number of pre-event images.
snapshot_postevent	0 ~ 7	6/6	The number of post-event images.
videoclip_source	<integer>	6/6	Indicate the source of media stream. 0 means the first stream. 1 means the second stream and etc.
videoclip_prefix	string[16]	6/6	Indicate the prefix of the filename.
videoclip_preevent	0 ~ 9	6/6	It indicates the time of pre-event recording in seconds.
videoclip_maxduration	1 ~ 10	6/6	The time of maximum duration of one video clip in seconds.
videoclip_maxsize	50 ~ 1500	6/6	The maximum size of one video clip file in Kbytes.

Group: recording\_i<0~1>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	6/6	The identification of this entry
enable	0, 1	6/6	To enable or disable this recoding.
priority	0, 1, 2	6/6	Indicate the priority of this recoding. "0" indicates low priority. "1" indicates normal priority. "2" indicates high priority.
source	<integer>	6/6	Indicate the source of media stream. 0 means the first stream. 1 means the second stream and etc.



weekday	<integer>	6/6	Indicate which weekday is scheduled. One bit represents one weekday. The bit0 (LSB) indicates Saturday. The bit1 indicates Friday. The bit2 indicates Thursday. The bit3 indicates Wednesday. The bit4 indicates Tuesday. The bit5 indicates Monday. The bit6 indicates Sunday. For example, to detect events on Friday and Sunday, set weekday as 66.
begintime	hh:mm	6/6	Begin time of weekly schedule.
endtime	hh:mm	6/6	End time of weekly schedule. (00:00~24:00 means always.)
prefix	string[16]	6/6	Indicate the prefix of the filename.
cyclesize	<integer>	6/6	The maximum size for cycle recording in Kbytes.
maxfilesize	200~6000	6/6	The max size for one file in Kbytes
dest	cf, 0~4	6/6	The destination to store the recording data. "cf" means CF card. "0~4" means the index of network storage.
cffolder	string[128]	6/6	folder name.

Group: **camctrl**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enablehttpunnel	<boolean>	4/4	Enable HTTP tunnel for camera control

Group: **camctrl\_c<0~(n-1)>** for n channel product.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
<b>panspeed</b>	-5 ~ 5	1/4	Pan speed
<b>tiltspeed</b>	-5 ~ 5	1/4	Tilt speed
<b>zoomspeed</b>	-5 ~ 5	1/4	Zoom speed

autospeed	-5 ~ 5	1/4	Auto pan speed
focusspeed	-5 ~ 5	1/4	Auto focus speed
dwelling	0 ~ 9999	1/4	Time to dwelling when patrol
axisx	-104 ~ 104	1/7	Axis X coordinate, used internally
axisy	-15 ~ 28	1/7	Axis Y coordinate, used internally
preset_i<0~9>_name	string[40]	1/4	The name of preset location
preset_i<0~9>_pan	-1024 ~ 1024	1/4	The pan coordinates of preset location.
preset_i<0~9>_tilt	-56 ~ 144	1/4	The tilt coordinates of preset location.
preset_i<0~9>_zoom	0 ~ 19	1/4	The zoom coordinates of the preset location.
patrol_i<0~9>_name	string[40]	1/4	The name of oolea location
uart	0 ~ (m-1), m is uart count	1/4	select correspond uart (capability.nuart>0)
cameraid	0~255	1/4	Camera ID to control external PTZ cameral
isptz	<boolean>	1/7	to distinguish the video channel if mapping to a PTZ camera
disablemdonptz	<boolean>	1/4	disable motion detection on PTZ operation

Group: **uart**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
ptzdrivers_i<0~19>	string[40]	4/4	The name of the PTZ driver
update	1	7/4	update the list of built-in external PTZ drivers
enablehttpunnel	<boolean>	4/4	Enable HTTP tunnel channel to control UART

Group: **uart\_i<0~(n-1)>** n is uart port count

NAME	VALUE	SECURITY	DESCRIPTION
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		Y (get/set)	
enablehttpunnel	<boolean>	4/4	Enable HTTP tunnel for UART commands
baudrate	110,300,600, 1200,2400,3600,4800,7200, ,9600,19200, 38400,57600, 115200	4/4	set baud rate of COM port
databit	5,6,7,8	4/4	
paritybit	none, odd, even	4/4	
stopbit	1,2	4/4	1 2-1.5 , data bit is 5 2-2
uartmode	rs485, rs232	4/4	rs485 or rs232
customdrvcmd_i<0~9>	string[128]	1/4	PTZ command for custom camera.
speedlink_i<0~4>_name	string[40]	1/4	Additional PTZ command name
speedlink_i<0~4>_cmd	string[128]	1/4	Additional PTZ command list
ptzdriver	0~19, 127 (custom), 128 (no driver)	4/4	which PTZ driver is used by this COM port

## Drive the digital output

**Note:** This request requires the privilege of viewer.

**Method:** GET/POST

Syntax:



```
http://<servername>/cgi-bin/dido/setdo.cgi?do1=<state>[&do2=<state>]
[&do3=<state>][&do4=<state>][&return=<return page>]
```

Where state is 0, 1. "0" means inactive or normal state while "1" means active or triggered state.

PARAMETER	VALUE	DESCRIPTION
do<num>	0, 1	0 – inactive, normal state
		1 – active, triggered state
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> can be a full URL path or relative path according the current path. If you omit this parameter, it will redirect to an empty page.

**Example:** Drive the digital output 1 to triggered state and redirect to an empty page

<http://myserver/cgi-bin/dido/setdo.cgi?do1=1>

## Query status of the digital input

**Note:** This request requires the privilege of viewer.

**Method:** GET/POST

Syntax:

```
http://<servername>/cgi-bin/dido/getdi.cgi?[di0][&di1][&di2][&di3]
```

If no parameter is specified, all the status of digital input will be returned.

Return:

```
HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: <length>\r\n
\r\n
[di0=<state>]\r\n
[di1=<state>]\r\n
[di2=<state>]\r\n
```



---

---

`[di3=<state>]\r\n`

where <state> can be 0 or 1.

**Example:** Query the status of digital input 1

Request:

<http://myserver/cgi-bin/dido/getdi.cgi?di1>

Response:

HTTP/1.0 200 OK\r\n

Content-Type: text/plain\r\n

Content-Length: 7\r\n

\r\n

di1=1\r\n

## Query status of the digital output

**Note:** This request requires the privilege of viewer.

**Method:** GET/POST

Syntax:

`http://<servername>/cgi-bin/dido/getdo.cgi?[do0][&do1][&do2][&do3]`

If no parameter is specified, all the status of digital output will be returned.

Return:

HTTP/1.0 200 OK\r\n

Content-Type: text/plain\r\n

Content-Length: <length>\r\n

\r\n

[do0=<state>]\r\n

[do1=<state>]\r\n

[do2=<state>]\r\n

[do3=<state>]\r\n

where <state> can be 0 or 1.

**Example:** Query the status of digital output 1

---

---

Request:

<http://myserver/cgi-bin/dido/getdo.cgi?do1>

Response:

HTTP/1.0 200 OK\r\n

Content-Type: text/plain\r\n

Content-Length: 7\r\n

\r\n

do1=1\r\n

## Capture single snapshot

**Note:** This request require normal user privilege

**Method:** GET/POST

Syntax:

`http://<servername>/cgi-bin/viewer/video.jpg?[channel=<value>][&resolution=<value>]  
[&quality=<value>]`

If the user requests the size larger than all stream setting on the server, this request will failed!

PARAMETER	VALUE	DEFAULT	DESCRIPTION
<b>channel</b>	0~(n-1)	0	the channel number of video source
<b>resolution</b>	<available resolution>	0	The resolution of image
<b>quality</b>	1~5	3	The quality of image

Server will return the most up-to-date snapshot of selected channel and stream in JPEG format. The size and quality of image will be set according to the video settings on the server.

Return:

*HTTP/1.0 200 OK\r\n*

*Content-Type: image/jpeg\r\n*

*[Content-Length: <image size>\r\n]*



---

---

<binary JPEG image data>

---

## Account management

**Note:** This request requires administrator privilege

**Method:** GET/POST

Syntax:

[http://<servername>/cgi-bin/admin/editaccount.cgi?](http://<servername>/cgi-bin/admin/editaccount.cgi?method=<value>&username=<name>[&userpass=<value>][&privilege=<value>][&privilege=<value>][...][&return=<return page>])  
method=<value>&username=<name>[&userpass=<value>][&privilege=<value>]  
[&privilege=<value>][...][&return=<return page>]

PARAMETER	VALUE	DESCRIPTION
method	add	Add an account to server. When using this method, "username" field is necessary. It will use default value of other fields if not specified.
	delete	Remove an account from server. When using this method, "username" field is necessary, and others are ignored.
	edit	Modify the account password and privilege. When using this method, "username" field is necessary, and other fields are optional. If not specified, it will keep original settings.
username	<name>	The name of user to add, delete or edit
userpass	<value>	The password of new user to add or that of old user to modify. The default value is an empty string.
privilege	<value>	The privilege of user to add or to modify.
	viewer	viewer's privilege
	operator	operator's privilege
	admin	administrator's privilege
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> can be a full URL path or relative path according the the current path. If you omit this parameter, it will redirect to an empty page.



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## System logs

**Note:** This request require administrator privilege

**Method:** GET/POST

Syntax:

<http://<servername>/cgi-bin/admin/syslog.cgi>

Server will return the up-to-date system log.

Return:

```
HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: <syslog length>\r\n
\r\n
<system log information>\r\n
```

## Upgrade firmware

**Note:** This request requires administrator privilege

Method: POST

Syntax:

<http://<servername>/cgi-bin/admin/upgrade.cgi>

**Post data:**

```
fimage=<file name>[&return=<return page>]\r\n
\r\n
<multipart encoded form data>
```

Server will accept the upload file named <file name> to be upgraded the firmware and return with <return page> if indicated.



## Camera Control

**Note:** This request requires privilege of viewer

**Method:** GET/POST

Syntax:

```
http://<servername>/cgi-bin/viewer/camctrl.cgi?[channel=<value>][&camid=<value>][&move=<value>][&focus=<value>][&iris=<value>][&speedpan=<value>][&speedtilt=<value>][&speedzoom=<value>][&speedapp=<value>][&auto=<value>][&zoom=<value>][&speedlink=<value>][&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
channel	<0~(n-1)>	Channel of video source
camid	0,<positive integer>	Camera ID
move	home	Move to camera to home position
	up	Move camera up
	down	Move camera down
	left	Move camera left
	right	Move camera right
speedpan	-5 ~ 5	Set the pan speed
speedtilt	-5 ~ 5	Set the tilt speed
speedzoom	-5 ~ 5	Set the zoom speed
speedapp	-5 ~ 5	Set the auto pan/patrol speed
auto	pan	Auto pan
	patrol	Auto patrol
	stop	Stop camera
zoom	wide	To zoom for larger view with current speed
	tele	To zoom for farer view with current speed
focus	auto	To do auto focus
	far	To focus on farer distance



	near	To focus on nearer distance
iris	auto	Let the Network Camera control iris size
	open	Manually control the iris for bigger size
	close	Manually control the iris for smaller size
speedlink	0 ~ 4	Issue speed link command.
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> can be a full URL path or relative path according to the current path. If you omit this parameter, it will redirect to an empty page.

## Preset Locations

**Note:** This request requires operator privilege

**Method:** GET/POST

Syntax:

```
http://<servername>/cgi-bin/operator/preset.cgi?[channel=<value>]  
[&addpos=<value>][&delpos=<value>][&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
addpos	<Text string less than 30 characters>	Add one preset location to preset list.
channel	<0~(n-1)>	channel of video source
delpos	<Text string less than 30 characters>	Delete preset location from preset list.
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> can be a full URL path or relative path according to the current path. If you omit this parameter, it will redirect to an empty page.

## Recall

**Note:** This request requires privilege of viewer

Method: GET

Syntax:

```
http://<servername>/cgi-bin/viewer/recall.cgi?  
recall=<value>[&channel=<value>][&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
recall	Text string less than 30 characters	One of the present positions to recall.
channel	<0~(n-1)>	channel of video source
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> can be a full URL path or relative path according to the current path. If you omit this parameter, it will redirect to an empty page.

## IP filtering

**Note:** This request requires administrator access privilege

**Method:** GET/POST

Syntax:

```
http://<servername>/cgi-bin/admin/ipfilter.cgi?  
method=<value>[&start=<ipaddress>&end=<ipaddress>][&index=<value>]  
[&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
-----------	-------	-------------



Method	addallow	Add a set of allow IP address range to server. Start and end parameters must be specified. If the index parameter is specified, it will try to add starting from index position.
	adddeny	Add a set of deny IP address range to server. Start and end parameters must be specified. If the index parameter is specified, it will try to add starting from index position.
	deleteallow	Remove a set of allow IP address range from server. If start and end parameters are specified, it will try to remove the matched IP address. If index is specified, it will try to remove the address from given index position. [start, end] parameters have higher priority then the [index] parameter.
	deletedeny	Remove a set of deny IP address range from server. If start and end parameters are specified, it will try to remove the matched IP address. If index is specified, it will try to remove the address from given index position. [start, end] parameters have higher priority then the [index] parameter.
start	<ip address>	The start IP address to add or to delete.
end	<ip address>	The end IP address to add or to delete.
index	<value>	The start position to add or to delete.
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> can be a full URL path or relative path according the the current path. If you omit this parameter, it will redirect to an empty page.

## RTSP SDP

**Note:** This request requires viewer access privilege

**Method:** GET/POST

Syntax:

```
http://<servername>/viewer/<0~(n-1)>/<network_accessname_<0~(m-1)>>  
rtsp://<servername>/<0~(n-1)>/<network_accessname_<0~(m-1)>>
```

"n" is the channel number and "m" is the stream number.

You can get the SDP by HTTP or just describe by RTSP protocol directly. For detailed streaming protocol, please refer to "control signaling" and "data format" documents.

## C. Technical specifications

### - System

RAM: 64MB SDRAM  
ROM: 8MB FLASH ROM

### - Networking

#### Protocol

TCP/IP, HTTP, SMTP, FTP, DDNS, Telnet, NTP, DNS, DHCP and RTSP

#### Physical

10 baseT or 100 baseT Fast Ethernet auto negotiation

### - Video

#### Algorithm supported

MPEG4 and Motion JPEG

#### Features

Adjustable image size, quality and bit rate  
Time stamp and text overlay  
B/W or color control  
3 motion detection windows  
Privacy mask

#### Resolution

MPEG-4

Up to 30/25 frames at 176x112/176x144

Up to 30/25 frames at 352x240/352x288

Up to 17 frames at 704x480/704x576

MJPEG

Up to 30/25 frames at 176x112/176x144

Up to 30/25 frames at 352x240/352x288

Up to 12 frames at 704x480/704x576

#### Capture & Decode Chip

Philips SAA7113H; 9 bit video input processor

### - Audio

AAC, GSM-AMR

Bit rate: 16Kbps to 128 Kbps for AAC

Bit rate: 4.75Kbps to 12Kbps for GSM-ARM

### - Serial Port

RS485 supported for remote GANZ-PT series and PTZ control

### - LED indicator

One color status indicator  
Red \* 1 & Green \*1

### - Dimension

120mm(L) \* 75mm(W) \* 35mm(H)

### - Weight

NET. 193.2 g

### - Power

Input: 100-240VAC, 50/60Hz, 0.5A

Output: 12VDC, 2A

### - Operating Environment

Temperature: 0-40°C/32-104°F

Humidity: 20% to 80%

### - EMI & Safety

CE, FCC

### - Viewing system requirement

#### Operating system

Microsoft Windows 2000/XP/Vista

#### Browser

Internet Explorer 6.x or above

Firefox 1.5.0.x or above

### PAN/TILT/ZOOM

Multiple PTZ camera control through RS485

Currently supported devices and protocols:

DynaDome/SmartDOME, Lilin PIH-7x00, and Pelco D protocol

CGI command serial driver is supported



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## Technology License Notice

### Notice

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TELEFONAKIEBOLAGET ERICSSON AB: US PAT. 6192335; 6275798; 6029125; 6424938; 6058359. NOKIA CORPORATION: US PAT. 5946651; 6199035. VOICEAGE CORPORATION: AT PAT. 0516621; BE PAT. 0516621; CA PAT. 2010830; CH PAT. 0516621; DE PAT. 0516621; DK PAT. 0516621; ES PAT. 0516621; FR PAT. 0516621; GB PAT. 0516621; GR PAT. 0516621; IT PAT. 0516621; LI PAT. 0516621; LU PAT. 0516621; NL PAT. 0516621; SE PAT. 0516621; US PAT. 5444816; AT PAT. 819303/AT E 198805T1; AU PAT. 697256; BE PAT. 819303; BR PAT. 9604838-7; CA PAT. 2216315; CH PAT. 819303; CN PAT. ZL96193827.7; DE PAT. 819303/DE69611607T2; DK PAT. 819303; ES PAT. 819303; EP PAT. 819303; FR PAT. 819303; GB PAT. 819303; IT PAT. 819303; JP PAT. APP. 8-529817; NL PAT. 819303; SE PAT. 819303; US PAT. 5664053. NIPPON TELEGRAPH AND TELEPHONE



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CORPORATION: JP PAT. 3085347. THE LIST MAY BE UPDATED FROM TIME TO TIME BY LICENSORS AND A CURRENT VERSION OF WHICH IS AVAILABLE ON LICENSOR'S WEBSITE AT [HTTP://WWW.VOICEAGE.COM](http://WWW.VOICEAGE.COM).



## Electromagnetic Compatibility (EMC)

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

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

**USA** - This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, 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 partial 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.

Shielded interface cables must be used in order to comply with emission limits.

**Europe CE** - This digital equipment fulfills the requirement for radiated emission according to limit B of EN55022/1998, and the requirement for immunity according to EN50082-1/1992.

## Liability

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