

Questo manuale d'istruzione è fornito da trovaprezzi.it. Scopri tutte le offerte per Vivotek SD9161-H o cerca il tuo prodotto tra le migliori offerte di Videosorveglianza

SD9161-H Speed Dome Network Camera User's Manual

2MP • 10x Zoom • 30fps • Smart Stream II • H.265 DIS • 3DNR • Defog



Rev. 1.1



Table of Contents

Overview	4
Revision History	4
Read Before Use	5
Package Contents	5
Symbols and Statements in this Document	5
Physical Description	6
Hardware Installation	10
Network Deployment	23
Software Installation	26
Ready to Use	
Accessing the Network Camera	
Using Web Browsers	28
Using RTSP Players	
Using 3GPP-compatible Mobile Devices	
Using VIVOTEK Recording Software	
Main Page	
Iviali i raye	
Client Settings	
Configuration	
System > General settings	
System > Homepage layout	
System > Logs	
System > Parameters	
System > Maintenance	
Media > Image	
Media > Video	
Media > Audio	
Network > General settings	
Network > Streaming protocols	
Network > DDNS	
Network > SNMP (Simple Network Management Protocol)	
Security > User Account	
Security > HTTPS (Hypertext Transfer Protocol over SSL)	
Security > Access List	
PTZ > PTZ settings	
Event > Event settings	
Applications > Motion detection	
Applications > DI and DO	
Applications > Audio detection	
Applications > Package management (VADP - VIVOTEK Application Development Platform)	
Recording > Recording settings	
Local storage > SD card management	140

Local storage > Content management	
Appendix	
URL Commands for the Network Camera	
Technical Specifications	
Technology License Notice	
Electromagnetic Compatibility (EMC)	

Overview

VIVOTEK's SD9161-H is a high-performance H.265 speed dome network camera, offering 1080p Full HD resolution and consistently superb image quality. Adopting the power of a 10x optical zoom lens and the maneuverability of a sophisticated pan/tilt mechanism, the SD9161-H is able to capture fine detail at top-notch quality and is especially suitable for wide-open indoor spaces, such as airports and lobbies, where the highest levels of reliability and precision are required.

Featuring the Wide Dynamic Range Technology, WDR Pro, the SD9161-H provides improved visibility in both extremely dark and light environments. Additionally, this unique camera also supports VIVOTEK's sophisticated Smart Stream II, enabling the optimization of quality for desired regions and thus delivering the maximum possible efficiency of bandwidth usage. Combining H.265 compression technology and VIVOTEK's Smart Stream II technology, users can enjoy bandwidth savings of up to 80%* compared to traditional H.264 systems.

Incorporating a number of advanced features standard for VIVOTEK cameras, including EIS, tamper detection, MicroSD/SDHC/SDXC card slot, and VIVOTEK's 32-channel recording software, the SD9161-H is the ideal solution for your indoor surveillance needs.

* Depending on scene being monitored

Revision History

- Rev. 1.0: Initial release
- Rev. 1.1: Changed the Ethernet interface specifications.

Below are the requirements for powering the the speed dome:

Feature	Power Consumption
802.3at PoE	15W
AC/DC 24V	15W

Read Before Use

The use of surveillance devices may be prohibited by law in your country. The Network Camera is not only a high-performance web-ready camera but can also 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 Package Contents listed below. Take note of the warnings in the Quick Installation Guide before the Network Camera is installed; then carefully read and follow the instructions in the Installation chapter to avoid damage due to faulty assembly and installation. This also ensures the product is used properly as intended.

The Network Camera is a network device and its use should be straightforward for those who have basic networking knowledge. It is designed for various applications including video sharing, general security/ surveillance, etc. The Configuration chapter suggests ways to best utilize the Network Camera and ensure proper operations. For creative and professional developers, the URL Commands of the Network Camera section serves as a helpful reference to customizing existing homepages or integrating with the current web server.

Package Contents

- SD9161-H
- Top Mount Bracket
- Screws / Screw for ground wire / T10 and T20 L-wrench / Alignment sticker
- Quick Installation Guide
- Software CD
- Power wire, cable tie, and cable tie sticky pad.

Symbols and Statements in this Document



INFORMATION: provides important messages or advices that might help prevent inconvenient or problem situations.

NOTE: Notices provide guidance or advices that are related to the functional integrity of the machine.

Tips: Tips are useful information that helps enhance or facilitae an installation, function, or process.





Electrical Hazard: This statement appears when high voltage electrical hazards might occur to an operator.

Physical Description

Inner View



This drawing shows a camera with its dome cover removed.

Outer View





NOTE:

The I/O combo cable is separately purchased.

Status LED

Item	LED status	Description
1	Steady red	Power on and system booting
	Red LED OFF	Power off
2	Steady red & Green blinking every 1 sec.	Network normal (heartbeat)
	Steady red & Green LED OFF	Network failed
3	Red blinking every 0.15 sec. & Green blinking every 1 sec.	Upgrading firmware
4	Red blinking every 0.15 sec. & Green blinking every 0.15 sec.	Restoring default

Hardware Reset

The reset button is used to reset the system or to restore the factory default settings. Sometimes resetting the system can return the camera to normal operation. If the system problems remain after reset, restore the factory settings and install again.

<u>Reset</u>: Press and release the reset button with a paper clip or thin object. Wait for the Network Camera to reboot.

<u>Restore</u>: Press and hold the reset button for at least ten seconds to restore system defaults. Note that all settings will be restored to factory defaults.

SD/SDHC/SDXC Card Capacity

This network camera is compliant with **SD/SDHC/SDXC 32GB, 64GB**, and other preceding standard SD cards.



- 1. This equipment is only to be connected to PoE networks without routing to outside plants.
- 2. For PoE input, use only UL listed I.T.E. with PoE output.

-`______ Tips:

- 1. If you forget the root (administrator) password for the camera, you can restore the camera defaults by pressing the reset button for longer than 5 seconds.
- 2. If DHCP is enabled in your network, and the camera cannot be accessed, run the IW2 utility to search the network. If the camera has been configured with a fixed IP that does not comply with your local network, you may see its default IP 169.254.x.x. If you still cannot find the camera, you can restore the camera to its factory defaults. The factory default is DHCP client.
- 3. If you change your network parameters, e.g., added a camera via a connection to a LAN card, re-start the IW2 utility.

DI/DO Diagram



- 1. The DO+ pin provides 5V output voltage, and the max. load is 50mA.
- The max. voltage for DO- pins is 80VDC (External power). In order to control AC devices, the above diagram can be taken in consideration. The diagram uses a relay to control the ON/OFF condition of the AC device.
- 3. An external relay can be triggered by using DO+ or by an external power source, depending on the type of relay you use.
- 4. In case of using an individual relay (instead of using a relay module), for protection against voltage or current spikes, a transient voltage suppression diode must be connected in parallel with the inductive load.

Hardware Installation

- 1. Jot down the camera's MAC address for later reference. Before you start to work on the camera, place the camera on the original package foam block to avoid scratch and damage.
- 2. The camera weighs 1.2kgs. Select a rigid mounting location to prevent vibration to the camera.







3. Install an SD card if onboard storage is preferred.



NOTE:

- 1. The I/O wire combo cable is separtely purchased.
- 2. Avoid touching the circuit boards to prevent damage by electro static discharge.
- 3. Use CAT5e, CAT6 cables only.

4. Install the dome cover.



Ceiling Mount - Mount Option A

A-1. Attach the alignment sticker to a preferred location. Drill holes for the mounting screws. If preferred, drill another cabling hole for passing the cables through the ceiling.



A-2. Hammer the anchors into ceiling, and then secure the top mount bracket using the included screws. If you need to route cables along the ceiling, remove the side lid on the bracket.



A-3. Once the bracket is secured, connect the safety wire to the safety hook on the top of the camera.



A-4. Attach a ground wire to the black cross head screw, and install the screw to the screw hole near the RJ45 port. Attach the other end to an appropriate grounding point.



A-5. Route cables and connect them to the corresponding connectors.



A-6. You can use the cable tie and sticky pad to help secure the I/O and/or power wires.



A-7. Raise and match the camera to the bracket by matching the alignment marks. Push the camera up with slightly more force to the bracket and turn clockwise. The camera should snap into place.



A-8. Secure the camera by tightening the T10 anti-tamper screw.



Wall Mount - Mount Option B

B-1. The AM-220 wall mount bracket is separately purchased. To install the camera to a wall mount bracket, remove the metal adaptor plate by lossening 3 screws.



B-2. Install the included bracket to the AM-220 using the same screws.



B-3. Drill 4 pilot holes (9.5mm in diameter and 4cm deep) into the wall, and then hammer in the threaded anchors. Note that you should hammer the anchors with hex nuts on them so that the threaded poles will not be deformed! If preferred, drill another hole for routing cables.



B-4. Remove the hex nuts, washers, and leave one washer on each of the threaded poles. Connect power and/or I/O wires, and if necessary, use foam tapes or seal foam to ensure the back-end connection is waterproof.



B-5. Secure the bracket to wall.



B-6. The rest of the installation steps are identical to those described in steps A3 to A7.



B-7. Secure the camera to bracket by tightening the T10 screw.



B-8. Secure the T20 screws from the top of the camera.



In-ceiling Mount - Mount Option C

C-1. The in-ceiling mount bracket is separately purchased. Apply the alignment sticker to a preferred location. Drill a hole that is 200mm in diameter. The maximum board thickness is 63mm. Make sure the ceiling board can stand the weight of the camera (1.2kgs).



C-2. Secure the included clamping arms to the sides of the camera. When doing this, use the included foam block to help avoid scratch and damage.



C-3. Install the camera. Use an electric screwdriver to lower the clamping plates until they rest against the ceiling board so that the ceiling/board is caught between the clamps and the flang on the other side of the ceiling. Do not over-tighten the clamps to avoid damages to the ceiling board.



C-4. Secure the trim ring using a Phillips screwdriver.



Mechanical Dimensions

Shown below are the dimensions of the wall mount bracket and its mounting holes:







You can find the installation instructions on VIVOTEK's website for other options such as parapet mount: http://www.vivotek.com/web/product/accessories.aspx

Network Deployment

Setting up the Network Camera over the Internet

There are several ways to set up the Network Camera over the Internet. The first way is to set up the Network Camera behind a router. The second way is to utilize a static IP. The third way is to use PPPoE.

Internet connection via a router

Before setting up the Network Camera over the Internet, make sure you have a router and follow the steps below.

1. Connect your Network Camera behind a router, the Internet environment is illustrated below. Regarding how to obtain your IP address, please refer to Software Installation on page 26 for details.



- 2. In this case, if the Local Area Network (LAN) IP address of your Network Camera is 192.168.0.3, please forward the following ports for the Network Camera on the router.
 - Secondary HTTP port: 8080
 - RTSP port: 554
 - RTP port for audio: 5558
 - RTCP port for audio: 5559
 - RTP port for video: 5556
 - RTCP port for video: 5557

If you have changed the port numbers on the Network page, please open the ports accordingly on your router. For information on how to forward ports on the router, please refer to your router's user's manual.

3. Find out the public IP address of your router provided by your ISP (Internet Service Provider). Use the public IP and the secondary HTTP port to access the Network Camera from the

Internet. Please refer to Network Type on page 72 for details.

Device	IP Address: internal	IP Address: External Port (Mapped port on the
	port	router)
Public IP of router	122.146.57.120	
LAN IP of router	192.168.2.1	
Camera 1	192.168.2.10:80	122.146.57.120:8000
Camera 2	192.168.2.11:80	122.146.57.120:8001

For example, your router and IP settings may look like this:

Configure the router, virtual server or firewall, so that the router can forward any data coming into a preconfigured port number to a network camera on the private network, and allow data from the camera to be transmitted to the outside of the network over the same path.

From	Forward to
122.146.57.120:8000	192.168.2.10:80
122.146.57.120:8001	192.168.2.11:80

When properly configured, you can access a camera behind the router using the HTTP request as follows: http://122.146.57.120:8000

If you change the port numbers on the Network configuration page, please open the ports accordingly on your router. For example, you can open a management session with your router to configure access through the router to the camera within your local network. Please consult your network administrator for router configuration if you have troubles with the configuration.

For more information with network configuration options (such as that of streaming ports), please refer to Configuration > Network Settings. VIVOTEK also provides the automatic port forwarding feature as an NAT traversal function with the precondition that your router must support the UPnP port forwarding feature.

	Network > General settings	
System	Network type Port	
Media		
Network	Get P address automatically	
General settings	Use fixed P address	
Streaming protocols	[V] Enable UPnP presentation	
DDNS	P. Enable UPsP port forwarding	
QoS	C PPPuE	
SNMP	Enable Pv6	
Security	The device is configuring now. Your browser will reconnect IPv6 informs to http://192.168.4.140.80/	
PTZ	Manually If the connection fails, please manually enter the above P address in your browser.	
Event	Save	

Internet connection with static IP

Choose this connection type if you are required to use a static IP for the Network Camera. Please refer to LAN on page 72 for details.

Internet connection via PPPoE (Point-to-Point over Ethernet)

Choose this connection type if you are connected to the Internet via a DSL Line. Please refer to PPPoE on page 73 for details.

General Connection

1. Connect the Network Camera's Ethernet cable (CAT5e) to a 802.3at PoE Plus switch.

2. Connect the power wires to an AC or DC 24V power adaptor (user-supplied).

You can connect both power sources for redundancy in power supply.



Power over Ethernet

When using a non-PoE switch

Use a PoE power injector (separately purchased) capable of 15W output or higher to connect between the Network Camera and a non-PoE switch.



Software Installation

Installation Wizard 2 (IW2), free-bundled software included on the product CD, helps you set up your Network Camera on the LAN.

1. Install IW2 under the Software Utility directory from the software CD. Double click the IW2 shortcut on your desktop to launch the program.



2. The program will conduct an analysis of your network environment. After your network environment is analyzed, please click **Next** to continue the program.

🖷 Installation. Winnel 2 - Referrit Environment Analysis 🔀	🖣 Installation Winned 2 - Network Type 🔀
Installation Wizard 2	Installation Wizard 2
The wizard is analyzing your network environment. Please walt a moment.	Your network environment was analyzed as below. Private DHCP
	Cable/DSL modern Bouter K
Ett	Er Fert

- 3. The program will search for all VIVOTEK network devices on the same LAN.
- 4. After a brief search, the main installer window will prompt. Double-click on the MAC and model name which matches the product label on your device to connect to the Network Camera via a web browser.



Ready to Use

- 1. A browser session with the Network Camera should prompt as shown below.
- 2. You should be able to see live video from your camera. You may also install the 32-channel recording software from the software CD in a deployment consisting of multiple cameras. For its installation details, please refer to its related documents.



- Currently the Network Camera utilizes a **32-bit ActiveX plugin**. You **CAN NOT** open a management/view session with the camera using a 64-bit IE browser.
- If you encounter this problem, try execute the lexplore.exe program from C:\Windows\ SysWOW64. A 32-bit version of IE browser will be installed.
- On Windows 7, the 32-bit explorer browser can be accessed from here: C:\Program Files (x86)\Internet Explorer\iexplore.exe
- If you experience compatibility issues between the plug-in control, you may try to uninstall the Camera Stream Controller located in: C:/Program Files (x86)/Camera Stream Controller.

Accessing the Network Camera

This chapter explains how to access the Network Camera through web browsers, RTSP players, 3GPP-compatible mobile devices, and VIVOTEK recording software.

Using Web Browsers

Use Installation Wizard 2 (IW2) to access to the Network Cameras on the LAN. If your network environment is not a LAN, follow these steps to access the Network Camera:

- 1. Launch your web browser (e.g., Microsoft[®] Internet Explorer or Mozilla Firefox).
- 2. Enter the IP address of the Network Camera in the address field. (A temporary IP will be generated for the camera. Find it in your Network Neighborhood). Press **Enter**.
- 3. Live video will display in your web browser.
- 4. If it is the first time installing the VIVOTEK network camera, an information bar will pop up as shown below. Follow the instructions to install the required plug-in on your computer.



DOTE:

For Mozilla **Firefox** or **Netscape** users, your browser will use **Quick Time** to stream live video. If you do not have Quick Time on your computer, please download Quick Time from Apple Inc's website, and then launch your web browser.

	T WYERK	28x Zoom Mega-Pixel Speed Dome Network Camera
	Sala Long (L. 23)	0
Annual (Mar)	Contraction of the	
	Annual Party of	1000 million - 100 million - 1



- By default, the Network Camera is not password-protected. To prevent unauthorized access, it is highly recommended to set a password for the Network Camera. For more information about how to enable password protection, please refer to Security on page 90.
- If you see a dialog box indicating that your security settings prohibit running ActiveX[®] Controls, please enable the ActiveX[®] Controls for your browser.
- 1. Choose Tools > Internet Options > Security > Custom Level.



2. Look for Download signed ActiveX[®] controls; select Enable or Prompt. Click **OK**.

Security Settings	? 🗙
Settings:	_
ActiveX controls and plug-ins Download signed ActiveX controls Disable Enable Fnable Prompt	
Download unsigned ActiveX controls Disable Enable Prompt Initialize and script ActiveX controls not marked as s Disable Enable Prompt	afe ♥
Reset custom settings	
Reset to: Medium 🗸 Reset	
OK Can	cel

3. Refresh your web browser, then install the ActiveX[®] control. Follow the instructions to complete installation.

Using RTSP Players

To view the H.265/H.264 streaming media using RTSP players, you can use one of the following players that support RTSP streaming.



Quick Time Player

VLC Media Player

- 1. Launch the RTSP player.
- 2. Choose File > Open URL. An URL dialog box will pop up.
- 3. The address format is rtsp://<ip address>:<rtsp port>/<RTSP streaming access name for stream1 or stream2>

As most ISPs and players only allow RTSP streaming through port number 554, please set the RTSP port to 554. For more information, please refer to RTSP Streaming on page 81. For example:

Open URL			
Enter an Internet URL to open:			
rtsp://192.168.5.151:554/live.s	dp	~	
		OK Cancel	

4. The live video will be displayed in your player.

For more information on how to configure the RTSP access name, please refer to RTSP Streaming on page 81 for details.



Using 3GPP-compatible Mobile Devices

To view the streaming media through 3GPP-compatible mobile devices, make sure the Network Camera can be accessed over the Internet. For more information on how to set up the Network Camera over the Internet, please refer to Setup the Network Camera over the Internet on page 23.

To utilize this feature, please check the following settings on your Network Camera:

- Because most players on 3GPP mobile phones do not support RTSP authentication, make sure the authentication mode of RTSP streaming is set to disable. For more information, please refer to RTSP Streaming on page 81.
- 2. As the the bandwidth on 3G networks is limited, you will not be able to use a large video size. Please set the video and audio streaming parameters as listed below. For more information, please refer to Stream settings on page 65.

Video Mode	MPEG-4
Frame size	176 x 144
Maximum frame rate	5 fps
Intra frame period	1S
Video quality (Constant bit rate)	40kbps
Audio type (GSM-AMR)	12.2kbps

- 3. As most ISPs and players only allow RTSP streaming through port number 554, please set the RTSP port to 554. For more information, please refer to RTSP Streaming on page 81.
- 4. Launch the player on the 3GPP-compatible mobile devices (ex. Real Player).
- Type the following URL commands into the player. The address format is rtsp://<public ip address of your camera>:<rtsp port>/<RTSP streaming access name for stream 3>. For example:

Open URL							
Enter an Internet URL to open:							
rt	sp://192.168.5.151:554/	live.sdp	×				
			OK Cancel				

Using VIVOTEK Recording Software

The product software CD also contains recording software, allowing simultaneous monitoring and video recording for multiple Network Cameras. Please install the recording software; then launch the program to add the Network Camera to the Channel list. For detailed information about how to use the recording software, please refer to the user's manual of the software or download it from http://www.vivotek.com.



Main Page

This chapter explains the layout of the main page. It is composed of the following sections: VIVOTEK INC. Logo, Host Name, Camera Control Area, Configuration Area, and Live Video Window.



Mouse and Screen Control

In addition to the use of a joystick, mouse control is also supported by the web session. You can click on any spot on the screen to move camera's field of view to that direction. To pan 360 degrees, you can click and hold down the left mouse button when clicking a PTZ button. The same applies to arrow keys, Zoom, and Focus buttons on the PTZ panel.



Note that if your screen control malfunctions, it is possible that the CPU of your current view station can not cope with the HD video feeds or that an incompatibility issue occurred with the ActiveX control plugins.

VIVOTEK INC. Logo

Click this logo to visit the VIVOTEK website.

Host Name

The host name can be customized to fit your needs. For more information, please refer to System on page 45.

Camera Control Area

<u>Video Stream</u>: This Network Camera supports multiple streams (stream $1 \sim 4$) simultaneously. You can select either one for live viewing. For more information about multiple streams, please refer to page 64 for detailed information.

<u>Manual triggers</u>: Manual triggers can be turned on/off by users from the main page. The manual triggers can be associated with the Event settings, and, as the result, can be used to perform recording actions, sending notifications, and so on. See Event settings on page 111.

Digital Output: Click to turn the digital output device on or off.

Heater control: This allows you to manually turn on or turn off the onboard heater.

PTZ Control Panel:



Stop Auto Panning/patrolling/tracking

Pan: Click this button to start the auto pan (360° continuous rotation).

Stop: Click this button to stop the Auto Pan, Auto Patrol, and Auto Tracking functions.

<u>Patrol</u>: Once the Administrator has determined the list of preset positions (including the zoom-in action on a particular position), click this button to command the camera to patrol among those positions on the Patrol List. The Network Camera will patrol continuously. For more information, please refer to PTZ control on page 103.

<u>Track</u>: Allows the camera to move along following the moving objects in the current field of view. If you observe an object of your interest, click this button to track the object. Note that this function does not apply in an extremely crowded area, such as a market or sidewalk full of pedestrian activities. Constant shift of tracked objects will decrease the usability of this feature.

Once started, you can use the Stop button to stop the current action. A click on the screen can also stop the tracking action.

Another key concept is that the camera only detect movements within the current field of view.

Please refer to **PTZ** > **Auto tracking** on page 109 and further for tracking configuration details.

Pan speed	Tilt speed	Zoom speed	Focus speed	
-5	-5	-5	-5	Slower
-4	-4	-4	-4	
-3	-3	-3	-3	
-2	-2	-2	-2	
-1	-1	-1	-1	
0	0	0	0	
1	1	1	1	
2	2	2	2	
3	3	3	3	Faster
4	4	4	4	
5	5	5	5	

Pan /Tilt /Zoom /Focus speed: Adjust the speed of Pan/ Tilt/ Zoom/ Focus:

Note that mouse screen control is also supported. You can refer to page 103 for related information.

Configuration Area

<u>Client Settings</u>: Click this button to access the client setting page. For more information, please refer to Client Settings on page 39.

<u>Configuration</u>: Click this button to access the configuration page of the Network Camera. It is suggested that a password be applied to the Network Camera so that only the administrator can configure the Network Camera. For more information, please refer to Configuration on page 44.

Language: Click this button to choose a language for the user interface. Language options are available in: English, Deutsch, Español, Français, Italiano, 日本語, Português, 簡体中文, and 繁體中文. You can also change a language on the Configuration page; please refer to page 44.

Hide Button

You can click the hide button to hide the control panel or display the control panel.

Resize Buttons

```
EE Auto EE 100% EE 50% EE 25%
```

Click the Auto button, the video cell will resize automatically to fit the monitor. Click 100% is to display the original homepage size. Click 50% is to resize the homepage to 50% of its original size. Click 25% is to resize the homepage to 25% of its original size.

Go to

If you have preset PTZ positions, these positions will be available in the Go to menu. Please refer to page 103 for more information.

Live Video Window

The following window is displayed when the video mode is set to H.265 / H.264: H.265/H.264 Protocol and Media Options



<u>Video Title</u>: The video title can be configured. For more information, please refer to Video settings on page 55.

H.265/H.264 Protocol and Media Options: The transmission protocol and media options for H.265 / H.264 video streaming. For further configuration, please refer to Client Settings on page 39.

<u>Time</u>: Display the current time. For further configuration, please refer to Media > Image > General settings on page 55.

<u>Title and Time</u>: The video title and time can be stamped on the streaming video. For further configuration, please refer to Media > Image > General settings on page 55. The zoom ratio is also displayed with the title bar.

1.0X 2016 2016/03/10 17:08:56

<u>Video and Audio Control Buttons</u>: Depending on the Network Camera model and Network Camera configuration, some buttons may not be available.
Snapshot: Click this button to capture and save still images. The captured images will be displayed in a pop-up window. Right-click the image and choose **Save Picture As** to save it in JPEG (*.jpg) or BMP (*.bmp) format.

Digital Zoom: Click and deselect the "Disable digital zoom" to enable the zoom operation. The navigation screen indicates the part of the image being magnified. To control the zoom level, drag the slider bar. To move to a different area you want to magnify, drag the navigation screen.

Disable digital ptz		
Zoom Factor:	247%	
100%	400%	1. A

III <u>Pause</u>: Pause the transmission of the streaming media. The button becomes the **Pause** Resume button after clicking the Pause button.

Stop: Stop the transmission of the streaming media. Click the **Resume** button to continue transmission.

Start MP4 Recording: Click this button to record video clips in MP4 file format to your computer. Press the Stop MP4 Recording button to end recording. When you exit the web browser, video recording stops accordingly. To specify the storage destination and file name, please refer to MP4 Saving Options on page 40 for details.

Volume: When the Mute function is not activated, move the slider bar to adjust the volume on the local computer.

Mute: Turn off the volume on the local computer. The button becomes the Audio On button after clicking the Mute button.

Talk: Click this button to talk to people around the Network Camera. Audio will project from the external speaker connected to the Network Camera. Click this button again to end talking transmission.

Mic Volume: When the IV Mute function is not activated, move the slider bar to adjust the microphone volume on the local computer.

W Mute: Turn off the Mic volume on the local computer. The button becomes the Mic On button after clicking the Mute button.

Full Screen: Click this button to switch to full screen mode. Press the "Esc" key to switch back to normal mode.

■ The following window is displayed when the video mode is set to MJPEG:



<u>Video Title</u>: The video title can be configured. For more information, please refer to Media > Image on page 55.

<u>Time</u>: Display the current time. For more information, please refer to Media > Image on page 55.

<u>Title and Time</u>: Video title and time can be stamped on the streaming video. For more information, please refer to Media > Image on page 55.

<u>Video and Audio Control Buttons</u>: Depending on the Network Camera model and Network Camera configuration, some buttons may not be available.

Snapshot: Click this button to capture and save still images. The captured images will be displayed in a pop-up window. Right-click the image and choose **Save Picture As** to save it in JPEG (*.jpg) or BMP (*.bmp) format.

Digital Zoom: Click and uncheck "Disable digital zoom" to enable the zoom operation. The navigation screen indicates the part of the image being magnified. To control the zoom level, drag the slider bar. To move to a different area you want to magnify, drag the navigation screen.

Disable digital ptz		
Zoom Factor:	247%	م اللي الع
100%	400%	1. A .

Start MP4 Recording: Click this button to record video clips in MP4 file format to your computer. Press the Stop MP4 Recording button to end recording. When you exit the web browser, video recording stops accordingly. To specify the storage destination and file name, please refer to MP4 Saving Options on page 40 for details.

Full Screen: Click this button to switch to full screen mode. Press the "Esc" key to switch back to normal mode.

Client Settings

This chapter explains how to select the stream transmission mode and saving options on the local computer. When completed with the settings on this page, click **Save** on the page bottom to enable the settings.

H.265/H.264 Media Options

 H.265/H.264 media options
Video and audio 🗸

Select to stream video or audio data or both. This is enabled only when the video mode is set to H.264 or H.265.

H.265/H.264 Protocol Options

- H.265/H.2	64 protocol options –	
TCP	~	

Depending on your network environment, there are four transmission modes of H.265 or H.264 streaming:

<u>UDP unicast</u>: This protocol allows for more real-time audio and video streams. However, network packets may be lost due to network burst traffic and images may be broken. Activate UDP connection when occasions require time-sensitive responses and the video quality is less important. Note that each unicast client connecting to the server takes up additional bandwidth and the Network Camera allows up to ten simultaneous accesses.

<u>UDP multicast</u>: This protocol allows multicast-enabled routers to forward network packets to all clients requesting streaming media. This helps reduce the network transmission load of the Network Camera while serving multiple clients at the same time. Note that to utilize this feature, the Network Camera must be configured to enable multicast streaming at the same time. For more information, please refer to RTSP Streaming on page 82.

<u>TCP</u>: This protocol guarantees the complete delivery of streaming data and thus provides better video quality. The downside of this protocol is that its real-time effect is not as good as that of the UDP protocol.

<u>HTTP</u>: This protocol allows the same quality as TCP protocol without needing to open specific ports for streaming under some network environments. Users inside a firewall can utilize this protocol to allow streaming data through.

Two way audio

 Two way audio –	 	
Half-duplex 🗸		

<u>Half duplex</u>: Audio is transmitted from one direction at a time, e.g., from a PC holding a web console with the camera.

Full duplex: Audio is transmitted in both directions simultaneously.

MP4 Saving Options

 MP4 saving opt 	tions	
Folder:	D:\Record3	Browse
File name prefix:	CLIP	
Add date and	time suffix to file name	

Users can record live video as they are watching it by clicking the 💌 button - Start MP4 Recording - on the main page. Here, you can specify the storage destination and file name.

Folder: Specify a storage destination for the recorded video files.

File name prefix: Enter the text that will be appended to the front of the video file name.

<u>Add date and time suffix to the file name</u>: Select this option to append the date and time to the end of the file name of the recorded videos.



Local Streaming Buffer Time

Γ	Local	Streaming Buffer Time
	0	Millisecond

In a busy network, fluctuations in available bandwidth can occur. Video streaming may lag and may not proceed very smoothly. If you enable this option, video streams from the camera will be temporarily stored on the computer's cache memory for a configurable period of time (seconds or milliseconds) before being played on a web session. This will help you see the streaming more smoothly. If you enter 3,000 Millisecond, the streaming will delay for 3 seconds.

Joystick Settings

Joystick settings		
Selected joystick: CH PROD	UCTS IP DESKTOP CONTROLLER	
Calibrate	Configure buttons	
		Save

Enable Joystick

Connect to the USB plug of the joystick to a USB port on your management computer. Once a USB joystick is connected, the related joystick configuration will be available on the Client settings window. The joystick should work properly without installing any other driver or software.

Then you can begin to configure the joystick settings of connected devices. Please follow the instructions below to enable joystick settings.

1. Click on the Configure buttons button. If your joystick is working properly, it will be displayed on the drop-down list.

🏉 http://	/192.168.4.152/setup/configure_butto	on 🗖 🗖 🗙
🤌 http:,	//192.168.4.152/setup/configure_butt	ons.html 🛛 🔯
>Joys	tick settings	
	: Toggle play/pause 💌	
Button:	1 💌	Assign Delete
Button	Assigned actions	
1	Preset 1	
2		
3	Zoom in	
4	Preset 11	_
5		
6		
7		
8		
9		-
10		-
11		-
12	Snapshot	
•		- 🔍 105% 👻 🔡

Buttons Configuration

In the Joystick Settings window, you can use the combinations of pull-down menus, Actions and Button number, to assign joystick buttons with different functions. The number of buttons may differ from the joystick you attached.

Please follow the steps below to configure your joystick buttons:

- 1. Select the number of the button you want to configure from its pull-down list.
- For example: Assign **Preset 1** (move to preset 1 position) to Button 1.

🏉 http://	192.168.6.231/setup/co	nfiș	gure_b	x
🧃 http:/,	/192.168.6.231/setup/co	onfi	igure_but	tons.html
>Joyst	ick Settings			
Actions:	Toggle play/pause	-]	
Button: [Toggle play/pause Stop streaming Snapshot Full Screen Start/stop recording Pan	•	param	Assign Delete OK
Button	Patrol			
1	Stop			
2	Zoom in Zoom out			
3	Digital output on/off 1			
4	Digital output on/off 2 Digital output on/off 3	E		
5	Digital output on/off 4			
6	Manual trigger on/off 1 Manual trigger on/off 2			
7	Manual trigger on/off 3			
8	Preset 1 Preset 2			
9	Preset 3			
10	Preset 4			
11	Preset 5 Preset 6			
12	Preset 7 Preset 8 Preset 9 Preset 10 Preset 11			
😝 網際網	Preset 12 Preset 13	Ŧ	- @ -	🔍 100% 🔻 🔡

- 2. Select an action from the Actions menu. Click **Assign** to associate the button with an action.
- 3. Your configuration will be automatically saved.
- 4. To disable an assignment, select the number of a button, and then click the Delete button. The associated action will then be cleared.
- 5. Repeat the above process to assign actions to other buttons. When done, simply close the configuration window.



•

- If you want to assign Preset actions to your joystick, the PTZ preset locations should be configured in advance.
- If your joystick is not working properly, it may need to be calibrated. Click the Calibrate button to open the Game Controllers window located in Microsoft Windows control panel and follow the instructions for trouble shooting.

Joystick settings		
Selected joystick: CH PRODU	JCTS IP DESKTOP CONTROLLER	
Calibrate	Configure buttons	
		Save

The joystick will appear in the Game Controllers list in the Windows Control panel. If you want to check out for your devices, go to the following page: **Start** -> **Control Panel** -> **Game Controllers**.

Game Controllers	? 🔀
These settings help you configure the game your computer.	controllers installed on
Installed game controllers	
Controller	Status
CH PRODUCTS IP DESKTOP CONTROLLER	OK
Add Remove	Properties
Advanced	Troubleshoot
	ОК

Follow the onscreen instructions to calibrate your joystick.

stalled game controllers	Test the game controller. If the controller is not functioning properly, if need to be calibrated. To calibrate it, go to the Settings page.
	Aver XK
	XAvis /YAvis ZAx. Buttons Bestool 06

Configuration

Click **Configuration** on the main page to enter the camera setting pages. Note that only Administrators can access the configuration page. Please refer to page 90 Security > User Account for how to configure access rights for different users.

VIVOTEK	Home Client settings Configuration Language
	System > General settings
System	System — Navigation Area
General settings	Host name: SD9161-H
Homepage layout	Turn off the LED indicator
Logs	
Parameters	System time
Maintenance	Time zone: GMT+08:00 Beijing, Chongqing, Hong Kong, Kuala Lumpur, Singapore, Taipei, Irkutsk 💌
Media	Note: You can upload your daylight saving time rules on Maintenance page or use the camera default
Network	value.
Security	Keep current date and time
PTZ	○ Synchronize with computer time
	⊖ Manual
Event	
Applications	Configuration List Save
Recording	
Local storage	
Version: 0100e	- Firmware Version

Each function on the configuration list will be explained in the following sections.

Navigation Area provides an instant switch among **Home** page (the monitoring page for live viewing), **Configuration** page, and multi-language selection.

System > General settings

This section explains how to configure the basic settings for the Network Camera, such as the host name and system time. It is composed of the following two columns: System and System Time.

System	
Host name:	30x Zoom 1080p Speed Dome Network C
Turn off the LED indicator	

<u>Host name</u>: Enter a desired name for the Network Camera. The text will be displayed at the top of the main page.

System time

System

System tin	1e
Time zone:	GMT+08:00 Beijing, Chongqing, Hong Kong, Kuala Lumpur, Singapore, Taipei 💌
Note: You default val	can upload your daylight saving time rules on <u>Maintenance</u> page or use the camera ue.
Keep cur	rrent date and time
Synchror	nize with computer time
🔘 Manual	
	c

<u>Keep current date and time</u>: Select this option to preserve the current date and time of the Network Camera. The Network Camera's internal real-time clock maintains the date and time even when the power of the system is turned off.

<u>Synchronize with computer time</u>: Select this option to synchronize the date and time of the Network Camera with the local computer. The read-only date and time of the PC is displayed as updated.

<u>Manual</u>: The administrator can enter the date and time manually. Note that the date and time format are [yyyy/mm/dd] and [hh:mm:ss].

<u>Automatic</u>: The Network Time Protocol is a protocol which synchronizes computer clocks by periodically querying an NTP Server.

<u>NTP server</u>: Assign the IP address or domain name of an established time server. Leaving the text box blank connects the Network Camera to the default time servers. The precondition is that your camera must have access to the Internet.

<u>Update interval</u>: Select to update the time using the NTP server on an hourly, daily, weekly, or monthly basis.

<u>Time zone</u> : Select the appropriate time zone from the list. If you want to upload Daylight Savings Time rules, please refer to **System > Maintenance > Import/ Export files** on page 52 for details.

When finished with the settings on this page, click **Save** at the bottom of the page to enable the settings.

System > Homepage layout

This section explains how to set up your own customized homepage layout.

General settings

This column shows the settings of your hompage layout. You can manually select the background and font colors in Theme Options (the second tab on this page). The settings will be displayed automatically in this Preview field. The following shows the homepage using the default settings:



■ Hide Powered by VIVOTEK: If you check this item, such wording will be removed from the homepage.

Logo graph

Here you can change the logo at the top of your homepage.

– Logo grapn –		
A customized logo (Gif, Jł 160x50 pixels to replace t	G or PNG) can be uploaded for main page. It will be resized re previous logo.	i to
🔿 Default	⊙ Custom	
VIVOTEK		Browse
Logo link: http://www.vivo	ik.com	

Follow the steps below to upload a new logo:

- 1. Click **Custom** and the Browse field will appear.
- 2. Select a logo from your files.
- 3. Click **Upload** to replace the existing logo with a new one.
- 4. Enter a website link if necessary.
- 5. Click Save to enable the settings.

Customized button

Deselect the checkbox if you do not need the Manual trigger buttons on the main page.

Theme Options

Here you can change the color of your homepage layout. There are three types of preset patterns for you to choose from. The new layout will simultaneously appear in the **Preview** filed. Click **Save** to enable the settings.







- Follow the steps below to set up the customed homepage:
- 1. Click **Custom** on the left column.
- 2. A double-click on the color selection area (the right hand side column) will bring up a color palette window.



3. The palette window will pop up as shown below.

		_		1	
		Hex:	#000000		C
		Red:	0		
		Green:	0		
		Blue:	0		
		Hue:	0		
		Saturation:	0		
		Value:	0		
		Sel	lect		
1				1 L	



- 4. Drag the slider bar and click on the left square to select a desired color.
- 5. The selected color will be displayed in the corresponding fields and in the **Preview** column.
- 6. Click **Save** to enable the settings.

Below are the options for system integrators or VARs. You can use the checkboxes to replace VIVOTEK's company logo, the embedded website address or the slogan "Powered by VIVOTEK." When done, use the Save button to complete the configuration.

Hide Powered by VIVOTEK			
— Logo graph ————			
A customized logo (Gif, JPG or P 160x50 pixels to replace the prev		main page. It will be	resized to
🔾 Default 🖉 🖲	Custom		
VIVOTEK			Browse
www.vivotek.com		Upload	
Logo link: http://www.vivotek.com			
— Customized button ———			
Show manual trigger button			
			Save
		-	

System > Logs

This section explains how to configure the Network Camera to send the system log to the remote server as backup.

Log server settings	
Log server settings	
☑ Enable remote log	
IP address:	
port:	514
	Save

Follow the steps below to set up the remote log:

- 1. Select Enable remote log.
- 2. In the IP address text box, enter the IP address of the remote server.
- 2. In the port text box, enter the port number of the remote server.
- 3. When completed, click **Save** to enable the setting.

You can configure the Network Camera to send the system log file to a remote server as a log backup. Before utilizing this feature, it is suggested that the user install a log-recording tool to receive system log messages from the Network Camera. An example is Kiwi Syslog Daemon. Visit http://www.kiwisyslog. com/kiwi-syslog-daemon-overview/.

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		tage Help	the version lie		ACH IN	
					TELEVISION IN THE PARTY AND INCOME.	
	_	Beaks 20.00	The second secon		TICIDA NE NUMBERON SECONDE	
Bate	Time	Presty .	Hudrame	North		
10.22 2001	17.4515		the second se	(VENC): Insensing detected** (E7 45 27 2011/06/201)		
06.27.2811	100000			EVENCE companies decomments (17.45) 11 (001/00/27)		
06.27.2011	抗林爾	Unse hele.	192, 168, 4, 127	(EVENT MGP)) Task con/ No: these is no valid avent in seconding task and, ship it		
06:27-2011	17.44.38	Unas Inde	192 568 4 122	[EVENT MEP] Robal event task excells files		
16-27-2011	17.44.07	Sheet Sales	192 168 4 127	[VTAC2_tomposing detected# (17.44.20.2011/06/227)		
1625.0811	87-44-57	Burn Lang	192 848 & 127	[19 Cut Control] (Fag mode		
16-21-2011	17.44.05	Burt Laring	152 108 4 127	[13 Eut Control] Night mode		
06-22-2011	17424	Burn Inde	192.048.4.127	[IVINI MERLY Task card his these is no valid event is seconding, lask and skip it		
10.27.2011	1713.00	Water Inde	182.048.4.122	(EVENT MERI Releast event ball worths files		
14-27-2011	17:02:06	These links	102.048.4.127	ITVENT MERE Fash cont the three is no valid avant is recording, task, and, sign it		
10.27.2011	17.41.28	Marris Brakes	192 108 4 122	ITVENT MERL Released second lands accelling likes		
10.77.2011	17.41.41	LocalD Info	197 548 4 177	INTER SERVICIE Store one month, IP-192 168, 6 101		
		Local Date		[NT1P SERVIC) Sheet over exercise, IP-197 558 & 101		
10000		Long Director		(1915)* SC(MUR) Street and another, 17:1712 108 4 101		
		discoli Inde		DITSP SERVER: Short one ancient, IP-152, No. 4 101		
		Sucal: Info		PRISP 33 RWERT She one around, 17-252 Std. 6 101		
16-27-2011				TVENCE: taxooxing detected?? (17.49:40.2011/06/27)		
06-27-2001	17,30,08	Local0.Infe	192.168.4.122	IRTSP SERVERS Start one receive, IP-182 358-4.101		

System log

This column displays the system log in a chronological order. The system log is stored in the Network Camera's buffer area and will be overwritten when the number of events reaches a preset limit.

May 11 14:59:53 syslogd 1.5.0: restart.	
May 11 14:59:54 [swatchdog]: Ready to watch httpd.	
May 11 14:59:54 [EVENT MGR]: Starting eventmgr with support for EcTun	
May 11 14:59:54 [EVENT MGR]: Task conf file: there is no valid event in recording_task.xml,	
skip it	
May 11 14:59:54 [EVENT MGR]: Task conf file: there is no valid event in event_task.xml, skip	
it	
May 11 14:59:55 [ectun]: receiver value of x-path : "camctrl_c0_pr" from configer failed!	
May 11 14:59:55 [ectun]: Get Notify parameter "camctrl_c0_pr" value failed	۳
May 11 14:59:55 [ectun]: receiver value of x-path : "eset_i109_name" from configer failed!	
May 11 14:59:55 [ectun]: Get Notify parameter "eset_i109_name" value failed	
May 11 14:59:56 [DRM Service]: Starting DRM service.	
May 11 15:00:05 [UPnPIGDCP]: Search IGD failed	
May 11 15:00:06 [swatchdog]: Ready to watch configer.	
May 11 15:00:10 [swatchdog]: Ready to watch venc.	
May 11 15:00:13 automount[721]: >> mount: mounting /dev/mmcblk0p1 on /mnt/auto/CF	
failed: No such device or address	
May 11 15:00:13 automount[721]: mount(generic): failed to mount /dev/mmcblk0p1 (type vfat)	
on /mnt/auto/CF	+

Access log

Access log displays the access time and IP address of all viewers (including operators and administrators) in a chronological order. The access log is stored in the Network Camera's buffer area and will be overwritten when reaching a certain limit.

_	System log Access log	
	Mar 9 15:54:25 [RTSP SERVER]: Start one session, IP=192.168.4.116	*
	Mar 9 15:54:38 [RTSP SERVER]: Start one session, IP=192.168.4.116	
	Mar 9 15:58:16 [RTSP SERVER]: Stop one session, IP=192.168.4.116	
	Mar 9 15:58:18 [RTSP SERVER]: Start one session, IP=192.168.4.116	
	Mar 9 16:46:11 [RTSP SERVER]: Stop one session, IP=192.168.4.116	
	Mar 9 16:49:02 [RTSP SERVER]: Start one session, IP=192.168.4.116	

System > Parameters

The View Parameters page lists the entire system's parameters in an alphabetical order. If you need technical assistance, please provide the information listed on this page.

```
Parameters
system hostname='SD9161-H'
                                                                      ~
system ledoff='0'
system_lowlight='1'
 system date='2016/07/13'
system_time='11:11:59'
system datetime=''
system_ntp=''
system_timezoneindex='320'
 system daylight enable='0'
system daylight dstactualmode='1'
system daylight auto begintime='NONE'
system_daylight_auto_endtime='NONE'
system_daylight_timezones=',-360,-320,-280,-240,-241,-200,-201,-160
 system updateinterval='0'
system info modelname='SD9161-H'
system info extendedmodelname='"custom modelname"'
system_info_serialnumber='0002D1493E96'
system_info_firmwareversion='SD9161-VVTK-0100d'
 system info language count='10'
system info language i0='English'
system info language i1='Deutsch'
system_info_language_i2='Español'
system_info_language_i3='Français'
 system info language i4='Italiano'
 system_info_language_i5='日本語'
system info language i6='Português'
system info language i7='简体中文'
system info language i8='繁體中文'
 system_info_language_i9='Russian'
 system_info_language_i10=''
             1.000000000
                       4.1.1 - 1.1
        info
 <
```

System > Maintenance

This chapter explains how to restore the Network Camera to factory default, reboot, upgrade firmware version, etc.

General settings > Upgrade firmware

Upgrade firmware		
Select firmware file:	Browse	Upgrade

This feature allows you to upgrade the firmware of your Network Camera. It takes a few minutes to complete the process.

Note: Do not power off the Network Camera during the upgrade!

Follow the steps below to upgrade the firmware:

- 1. Download the latest firmware file from the VIVOTEK website. The file is in .pkg file format.
- 2. Click **Browse...** and specify the firmware file.
- 3. Click **Upgrade**. The Network Camera starts to upgrade and will reboot automatically when the upgrade completes.

If the upgrade is successful, you will see "Reboot system now!! This connection will close". After that, refresh the management session with the Network Camera.

The following message is displayed when the upgrade has succeeded.

Reboot system now!! This connection will close.

The following message is displayed when you have selected an incorrect firmware file.

Starting firmware upgrade Do not power down the server during the upgrade. The server will restart automatically after the upgrade is completed. This will take about 1 - 5 minutes. Wrong PKG file format Unpack fail
completed. This will take about 1 - 5 minutes. Wrong PKG file format

General settings > Reboot

Reboot	
	Reboot
	Neboot

This feature allows you to reboot the Network Camera, which takes about one minute to complete. When completed, the live video page will be displayed in your browser. The following message will be displayed during the reboot process.

The device is rebooting now. Your browser will reconnect to http://192.168.5.151:80/ If the connection fails, please manually enter the above IP address in your browser.

If the connection fails after rebooting, manually enter the IP address of the Network Camera in the address field to resume the connection.

General settings > Restore

- Restore -						
Restore all settings to factory default except settings in						
Network	Daylight saving time	📄 Custom language 📄 VADP	Restore			

This feature allows you to restore the Network Camera's factory defaults.

<u>Network</u>: Select this option to retain the Network Type settings (please refer to Network Type on page 72).

<u>Daylight Saving Time</u>: Select this option to retain the Daylight Saving Time settings (please refer to Import/Export files below on this page).

<u>Custom Language</u>: Select this option to retain the Custom Language settings.

<u>VADP</u>: Retain the VADP modules (3rd-party software stored on the SD card) and related settings.

If none of the options is selected, all settings will be restored to factory default. The following message is displayed during the restoring process.

The device is rebooting now. Your browser will reconnect to http://192.168.5.151:80/ If the connection fails, please manually enter the above IP address in your browser.	

Import/Export files

This feature allows you to Export / Update daylight saving time rules, custom language file, and configuration file.

Export files	
Export daylight saving time configuration file	Export
Export language file	Export
Export configuration file	Export
Export server status report	Export
Upload files	
Update daylight saving time rules:	Browse Upload
Update custom language file:	Browse Upload
Upload configuration file:	Browse Upload

Export daylight saving time configuration file: Click to set the start and end time of DST.

Follow the steps below to export:

- 1. In the Export files column, click **Export** to export the daylight saving time configuration file from the Network Camera.
- 2. A file download dialog will pop up as shown below. Click **Open** to review the XML file or click **Save** to store the file for editing.



3. Open and edit the file using Microsoft[®] Notepad and locate your time zone in the strings; set the start and end time of DST. When completed, save the file.

In the example below, DST begins each year at 2:00 a.m. on the second Sunday in March and ends at 2:00 a.m. on the first Sunday in November.

D conf	ig_dst - Notepad	
File Ed	Format View Help	
	<pre></pre>	
	<pre><month>ll</month> </pre>	

Update daylight saving time rules: Click Browse... and specify the XML file to update.

If the incorrect date and time are assigned, you will see the following warning message when uploading the file to the Network Camera.

D config_dst - Notepad	💶 🛛 🗿 http://197.168.5.121/cgi-bin/admin/upload.cgi - Microsoft Int 📳 🗆 🔀
File Edit Format View Help	
<pre>rem too remark week rep</pre>	Invalid «Month» value in TimeZone 1d: -240
<pre></pre>	*

The following message is displayed when attempting to upload an incorrect file format.



Export language file: Click to export language strings. VIVOTEK provides nine languages: English, Deutsch, Español, Français, Italiano, 日本語, Português, 簡体中文, and 繁體中文.

Update custom language file: Click Browse... and specify your own custom language file to upload.

Export configuration file: Click to export all parameters for the device and user-defined scripts.

<u>Update configuration file</u>: Click **Browse...** to update a configuration file. Please note that the model and firmware version of the device should be identical to those specified for the configuration file. If you have set up a fixed IP or other special settings for your device, it is not suggested to update a configuration file.

<u>Export server status report</u>: Click to export the current server status report, such as time, logs, parameters, process status, memory status, file system status, network status, kernel message..., and so on.



• If a firmware upgrade is accidentally disrupted, say, by a power outage, you still have a last resort method to restore normal operation. See the following for how to bring the camera back to work:

Applicable scenario:

- (1) Power disconnected during firmware upgrade.
- (2) Unknown reason causing abnormal LED status, and a Restore cannot recover normal working condition.

You can use the following methods to activate the camera with its backup firmware:

- (1) Press and hold down the reset button for at least one minute.
- (2) Power on the camera until the Red LED blinks rapidly.
- (3) After boot up, the firmware should return to the previous version before the camera hanged. (The procedure should take 5 to 10 minutes, longer than the normal boot-up process). When this process is completed, the LED status should return to normal.

Media > Image

This section explains how to configure the image settings of the Network Camera. It is composed of the following four tabbed windows: General settings, Image settings, Exposure, and Privacy mask.

General settings

General settings	Image settings	Exposure	Privacy mask
— Video setting	js —		
√ideo title			
Show times	tamp and video title in	video and sna	apshots
Position of times	tamp and video title or	n image:	Тор 🗸
Timestamp and v	video title font-size:		30 🗸
Video font (.ttf):			Default V Upload
Color:			O B/W Color
Pow er line frequ	ency:		◯ 50 Hz
Video orientation	Ľ		Flip V Mirror

Video title

<u>Show_timestamp and video title in videos_and_snapshots</u>: Enter a name that will be displayed on the title bar of the live video as the picture shown below.



<u>Position of timestamp and video title on image</u>: Select to display time stamp and video title on the top or at the bottom of the video stream.

<u>Timestamp and video title font size</u>: Select the font size for the time stamp and title.

<u>Video font (.ttf)</u>: You can select a True Type font file for the display of textual messages on video.

Color: Select to display color or black/white video streams.

<u>Power line frequency</u>: Set the power line frequency consistent with local utility settings to eliminate image flickering associated with fluorescent lights. Note that after the power line frequency is changed, you must disconnect and reconnect the power cord of the Network Camera in order for the new setting to take effect.

<u>Video orientation</u>: Flip - vertically reflect the display of the live video; Mirror - horizontally reflect the display of the live video. Change the settings if the Network Camera is installed in a different orientation (which is rare for a speed dome) to correct the image orientation.

Day/Night Settings

Day/Night settings			
✓ Turn on external IR illuminator in night mode			
IR cut filter:	Auto mode		\checkmark
Sensitivity of IR cut filter:		51 %	
Select auto mode will disable profile of exposure setting	5.		

Turn on external IR illuminator in night mode

Select this to turn on the external IR illuminator when the camera detects low light condition and enters the night mode. A Digital Output connection to external IR is needed.

IR cut filter

With a removable IR-cut filter, this Network Camera can automatically remove the filter to let IR light enter the light sensor during low light conditions.

Auto mode

The Network Camera automatically removes the filter by judging the level of ambient light.

Day mode

In day mode, the Network Camera switches on the IR cut filter at all times to block infrared light from reaching the sensor so that the colors will not be distorted.

Night mode

In night mode, the Network Camera switches off the IR cut filter at all times for the sensor to accept infrared light, thus helping to improve low light sensitivity.

Synchronize with digital input

The Network Camera automatically removes the IR cut filter when a Digital Input is triggerred. For example, the digital input can come from a housing that is equipped with IR illumination and control circuits such as VIVOTEK's AM-214.

Schedule mode

The Network Camera switches between day mode and night mode based on a specified schedule. Enter the start and end time for day mode. Note that the time format is [hh:mm] and is expressed in 24-hour clock time. By default, the start and end time of day mode are set to 07:00 and 18:00.

Sensitivity of IR cut filter

Tune the responsiveness of the IR cut filter to lighting conditions by the percentage. Judging by the light level, contrast, and color hue, the light sensing algorithms enables the switch between day and night modes. The actual lighting conditions can vary when the lens modules zooms in/out to a target area.

When completed with the settings on this page, click **Save** to enable the settings.

Image settings

On this page, you can tune the White balance and Image adjustment settings.

	- service and the service of	Image settings	Exposure	Privacy mask		
		AND				
ensor Setting 1: or normal situations	Normal light m White h Auto					^
	A	adjustment				
	Brightness	-			50%	
	Contrast	-			50%	
	Saturation				50%	1
	Sharpness	-		-0-	50%	
	- Defog					- 12
	C Detro					~

<u>White balance</u>: Adjust the value for the best color temperature.

Select one of the white balance modes:

- 1. Auto (system default): This mode comes with a temperature ranging 2500K~7500K. This mode is balanced for any lighting conditions.
- 2. **Outdoor**: Using this mode enables the camera to capture images with natural white balance observable in the morning, with a temperature ranging 2000K~ 10000K.
- 2. **Indoor**: This mode applies to most of the indoor lighting conditions, with a temperature ranging 5500K~6500K.
- Fix current value: This option is available when the tuning the white balance. When selected, the camera will use the current color temperature setting (the current color temperature you selected, e.g., from other modes). Note that you should use the Save button below to preserve current configuration. Otherwise, the white balance mode will return to Auto after you leave the configuration page.
- Manual: In the manual mode, you can manually tune the R gain and Blue gain values by dragging the slide bars. Index numbers will be shown on the right hand side while changes in image is immediately displayed.

Image Adjustment

- Brightness: Adjust the image brightness level, which ranges from 0% to 100%.
- Contrast: Adjust the image contrast level, which ranges from 0% to 100%.
- Saturation: Adjust the image saturation level, which ranges from 0% to 100%.
- Sharpness: Adjust the image sharpness level, which ranges from 0% to 100%.

<u>Defog</u>: Defog helps improve the visibility quality of captured image in poor weather conditions such as smog, fog, or smoke.

Enable 3D Noise reduction

Check to enable noise reduction in order to reduce noises and flickers in image. This applies to the onboard 3D Noise Reduction feature. Use the pull-down menu to adjust the reduction strength. Note that applying this function to the video channel will consume system computing power.

3D Noise Reduction is mostly applied in low-light conditions. When enabled in a low-light condition with fast moving objects, trails of after-images may occur. You may then select a lower strength level or disable the function.

Electronic image stabilizer

Select the checkbox to enable the Electronic image stabilization (EIS) function.

Note that the **Preview** button has been cancelled, all changes made to image settings is directly shown on screen. You can click **Restore** to recall the original settings without incorporating the changes. When completed with the settings on this page, click **Save** to enable the setting. You can also click on **Profile mode** to adjust all settings above in a pop-up window for special lighting conditions during a specific period of time in a day.

Sensor Setting 2: For customized situations such as		Normal liç	jht mode	Profile m	node
night mode.					
	Normal light mod	de Profile mod	e		
	 Enable to a; 	oply these setting	s at		
	Night me	ode 🔿 Sched	ule mode		

Exposure

On this page, you can set the Exposure level, Max gain, Exposure mode, and IR cut filter related settings. Detailed configurations will be automatically adjusted since the sensor library will automatically adjust the value according to the ambient light.

	Normal light mode Profile mode Sensor Setting 2: For special situations For special situations	
Sensor Setting 1:	Select auto mode will disable profile of exposure settings.	^
For normal situations	Measurement window	- 11
	Full view OBLC	
	— Exposure control	
	Exposure level: 0	
	Exposure mode: Auto	
	Maximum gain control: 37 %	
	— WDR —	~
	Restore Save	

- Auto: Firmware automatically selects a measurement area.
- HLC: (Highlight Compensation). Firmware detects strong light sources and compensates on affected spots to enhance the overall image quality. For example, the HLC helps reduce the glares produced by spotlights or headlights.

Exposure control:

■ Exposure level: You can manually set the Exposure level, which ranges from -2.0 to +2.0 (dark to bright). You can also select other values from the Exposure mode menus and select a preferred scenario or manually configure the associated settings. You may prefer a shorter shutter time to better capture moving objects, while a faster shutter reduces light and needs to be compensated by electrical brightness gains.

■ Exposure mode:

Select Auto, Shutter Priority, Iris Priority, or Manual mode according to your needs.

- Auto: System default, which automatically adjusts the iris, shutter speed, and gain for an optimmal exposure level.

- Shutter Priority: When selected, the Exposure time slide bar will appear, allowing you to select an exposure time ranging from 1/10,000, to 1/1 second. Once a fixed value is selected, system firmware will automatically tune the gain and iris settings to match an optimal exposure level.

- Iris Priority: When selected, the Iris adjustment slide bar will appear, allowing you to select an aperture size ranging from F14 to F1.6. Once a fixed value is selected, system firmware will automatically tune the gain and exposure time to match an optimal exposure level. The value is measured in the F-number as the ratio of the focal length to the lens diameter. Iris size is inversely proportional to the F-number; therefore, the smaller the F-number, the greater is the exposure ratio. Smaller F-number (larger exposure ratio, largest size of lens aperture opening) is shown on the right of the slide bar.

- Manual: Select Manual to set a fixed exposure time, iris, and gain. Then, tune the slide bar to set the Exposure time, Iris adjustment, and Gain Control to the best image quality. A shorter exposure time allows less amount of light to enter the sensor; while a higher gain control value generates certain amount of noises.

– Exposure control –			
Exposure mode:	Manual	~	
Iris adjustment:			F1.6
Fixed exposure time:			1/5000
Fixed gain control:	0		0 %

Note the following when the **Manual** mode is selected:

- 1. The **Exposure level** bar will not be available.
- 2. The **IR cut filter** setting will switch to **Day Mode**. If it was previously configured into other modes, the previous setting remains intact.

Manual: Note that WDR and Defog functions will be disabled using the Manual mode setting.

_		
l	NOTE:	
•	ratio. When using o	v is selected for the Exposure mode , the tunable aperture size is related to zoom different zoom ratios, the range of aperture sizes can be different. When zoom ratio is sizes is F1.6~F14. When zoom ratio is 20x, the iris size is F3.4.
E	kposure mode:	Iris Priority
Iri	s adjustment:	F1.6 F1.6

- Maximum gain control: Select a maximum value for the electronic gain from the slide bar. The gain value also has its effect on the sensitivity of the IR cut filter. When applying the gain control, IR cut filter setting will change accordingly.
- WDR Pro (Wide Dynamic Range): Default is on. When set to Auto, you can select the strength of the WDR function. The Low, Medium, High options correspond to the level of contrast between the overlylit area and the shaded areas. For example, the High option applies to a high contrast scenario. Note that when the exposure time is set to longer than 1/60 second, the WDR function will be disabled.

 Because the exposure settings are also available in the **Profile** setting, incorrect configurations such as a very high exposure level will let the camera consider it is operating in the Day mode even when the ambient light is actually low. The camera will falsely remove the IR cut filter, and thus results in distorted image colors.

Therefore, when the IR cut filter is in the Auto mode, the Profile setting is not available.

- 2. When set to the Night mode, the image display automatically changes to Black and White.
- 3. There is no Preview button in the Exposure window. Configuration changes are directly reflected in the live view window.

Exposure Profile: (Only available when the IR cut filter is not set to the Auto mode)

If you want to configure another sensor and exposure setting for an individual day/night/schedule mode, please click **Profile mode** to open the Profile of exposure settings page as shown below.

<u>Enable to apply these settings at</u>: Select the mode this profile to apply to the Night mode or Schedule mode. Please manually enter a range of time if you choose Schedule mode. Then check **Save** to take effect.

Please follow the steps below to set up a profile:

- 1. Select the **Enable to apply these settings at** checkbox.
- 2. Select the applicable Night mode or Schedule mode. Please manually enter a range of time if you choose Schedule mode.

When a span of time is configured using the Schedule mode, you can configure the Day/Night setting for controlling the behavior of the IR cut filter during that time.

- 3. Configure Exposure control settings in the folowing columns. Please refer to previous dicussions for detailed information.
- 4. Click **Save** to enable the setting and click **Close** to exit the window.

neral anthigs Image settings Exposure Princyment	
Remail light mode Profile mode Profile stops	
Enable to apply these settings at	î
and the second second	Î
Enable to apply these settings at Measurement window	Î
Enable to apply these settings at Measurement window Full ver	Î
Enable to apply these settings at Measurement window Full wer	
Enable to apply these settings at Moasurement window Plat wee	Î

Privacy mask

On this page, you can block out sensitive view areas to address privacy concerns.



🕅 NOTE:

- The navigation buttons here also support the continuous move. You can click and hold down the button to move across the screen until you release the button.
- You can not create privacy masks at angles between +70° and -70°.



- To set the privacy mask windows, follow the steps below:
- 1. Click on the Enable privacy mask checkbox to enable this function.
- 2. Use mouse clicks on the screen to move to a place where you want to create a mask. You can also use the PTZ panel to fine-tune the move to the target area.
- 3. Enter a name for the masking window. Click Add to create a new window.
- 4. Click on the Modify button and then use the mouse cursor to re-size the masking window, which is recommended to be at least twice the size of the object (height and width) you want to cover. You can select the Drawing mode as "Fixed in center" or "Drag to move."
 - When using the **Fixed in center** mode, you can move to the area of your interest, and then manually change the size and shape of the masking window.
 - When using the **Drag to move** mode, you can move to an area of your interest using the PTZ buttons above, and then click and drag to draw a masking window. The click to move maneuver is not available when you select the Drag to move mode.
- 5. You can also change the color of the mask from the **Color** menu.
- 6. If preferred, move the field of view to other places to create more privacy masks.

You may be prompted by the message when trying to create a privacy mask at angles between +70° and -70°.

No more privacy /	No more privacy mask allowed in this region. Please try to set is other place
A sthe	stherplace

NOTE:

- The camera supports "**3D Privacy Mask**." Privacy masks should stay at the same positions regardless of how the camera lens may move.
- When the "Enabled privacy mask" checkbox is deselected, no privacy masks will appear on screen.
- Up to **24** privacy mask windows can be configured over the camera's hemispheric coverage.
- If you want to delete a privacy mask window, select its name from the pull-down menu at the bottom, and then click **Delete** to remove it.



Media > Video

Stream settings

Stream settings	
Video settings for stream 1	
Video settings for stream 2	
Video settings for stream 3	
Video settings for stream 4	
	Save

This Network Camera supports multiple streams with frame sizes ranging from 384 x 216 to 1920 x 1080 pixels.

The definition of multiple streams:

- Stream 1: Users can define the Frame sizes, compression format, image quality, etc.
- Stream 2: The default frame size for stream 2 is configured to 1280 x 720.
- Stream 3: The default frame size for Stream 3 is set to the minimized 640 x 360 for viewing on mobile devices.
- Stream 4: The default frame size for stream 4 is configured to 1920 x 1080 in the H.265 or H.264 mode.

Click the stream item to display the detailed information. .

+ Vites satings for stream 1	
Q M 200	
(8 H 254	
Prame stat	1925-1005
Maxmun frame rate.	10 tes 🗸 🗸
Into Name partial	11
Smart steam 2	
Oytamic inte tame period	iteda:
🕑 Smart codec:	
Mode	Part Lange V
Quality priority: (Help)	2 -0 - 4
Bit falls control	
(# Constrained bit one	
Target quality	Detailed 👽
Maximum bit rate	4 Mbps 🔍
Poley	Frame rate priority
C Fired quality	
0.750	
Video settings for smearn 2	
CH 255	
@H254	
Plane size	1280-720 🛩
Maximum hame rate.	30 fps 🛩
Into Tame period	[18 w]
Smart stream II	
😥 Oynamia inte hame partici	Hela
C Sman codec:	
Mode	A0110002.M
Quality proving (Mala)	2-0-4
Eit rate control	
· Constrained bit rate	
Target quelty:	Detailed w
Maximum bit rate:	(4 Maps
Poley	Frank rate priority 🗠
Pixed surfix	
Craes	

This Network Camera offers real-time H.265, H.264, and MJPEG compression standards (Multiple Codec) for real-time viewing. If the H.265 / H.264 mode is selected, the video is streamed via RTSP protocol. There are several parameters through which you can adjust the video performance:

H.265		
Frame size:		1920x1080 🗸
Maximum frame	arate:	30 fps 🗸 🗸
Intra frame perio	od:	1S 🗸
Smart stream II		
Dynami	c intra frame period (<u>He</u>	<u>(a</u>)
Smart c	odec:	
Mode	:	Auto tracking 🗸
Qualit	ty priority: (<u>Help</u>)	20 - O - 20
Bit rate control		
Constra	ined bit rate:	
Targe	t quality:	Detailed V
Maxin	num bit rate:	3 Mbps 🗸
Policy	r:	Frame rate priority 🗸
 Fixed quality 	uality:	
⊖ H.264		
⊖ JPEG		

NOTE:

- Video quality and fixed quality refer to the compression rate, so a lower value will produce higher quality.
- Converting high-quality video may significantly increase the CPU loading, and you may encounter streaming disconnection or video loss while capturing a complicated scene. In the event of occurance, we suggest you customize a lower video resolution or reduce the frame rate to obtain smooth video.

Frame size

You can set up different video resolution for different viewing devices. For example, set a smaller frame size and lower bit rate for remote viewing on mobile phones and a larger video size and a higher bit rate for live viewing on web browsers. Note that a larger frame size takes up more bandwidth.

Maximum frame rate

This limits the maximum refresh frame rate per second. Set the frame rate higher for smoother video quality and for recognizing moving objects in the field of view.

If the power line frequency is set to 50Hz, the frame rates are selectable at 1fps, 2fps, 3fps, 5fps, 8fps, 10fps, 15fps, 20fps, 25fps, 30fps, 40fps, 45fps, and 50fps. If the power line frequency is set to 60Hz, the frame rates are selectable at 1fps, 2fps, 3fps, 5fps, 8fps, 10fps, 15fps, 20fps, 25fps, 30fps, 40fps, 45fps, 5fps, 8fps, 10fps, 15fps, 20fps, 25fps, 30fps, 40fps, 45fps, 50fps, 55fps, and 60fps. You can also select **Customize** and manually enter a value.

■ Intra frame period

Determine how often for firmware to plant an I frame. The shorter the duration, the more likely you will get better video quality, but at the cost of higher network bandwidth consumption. Select the intra frame period from the following durations: 1/4 second, 1/2 second, 1 second, 2 seconds, 3 seconds, and 4 seconds.

Smart stream II

► Dynamic Intra frame period

High quality motion codecs, such as H.265, utilize the redundancies between video frames to deliver video streams at a balance of quality and bit rate.

The encoding parameters are summarized and illustrated below. The **I-frames** are completely selfreferential and they are largest in size. The **P-frames** are predicted frames. The encoder refers to the previous I- or P-frames for redundant image information.



H.264/265 Frame Types

By dynamically prolonging the intervals for I-frames insertion to up to 10 seconds, the bit rates required for streaming a video can be tremendously reduced. When streaming a video of a static scene, the Dynamic Intra frame feature can save up to 53% of bandwidth. The amount of bandwidth thus saved is also determined by the activities in the field of view. If activities occur in the scene, firmware automatically shortens the I-frame insertion intervals in order to maintain image quality. In the low light or night conditions, the sizes of P-frames tend to be enlarged due to the noises, and hence the bandwidth saving effect is also reduced.

Streaming a typical 2MP scene normally requires 3~4Mb/s of bandwidth. With the Dynamic Intra frame function, the bandwidth for streaming a medium-traffic scene can be reduced to 2~3Mb/s, and during the no-traffic period of time, down to 500kb/s.



With the H.265 codec in an optimal scenario and when the Dynamic Intra frame and the Smart Stream function are applied, an 80% of bandwidth saving can be achieved compared with using H.264 without enabling these bandwidth-saving features.

► <u>Smart codec:</u> Smart codec effectively reduces the quality of the whole or the non-interested areas on a screen and therefore reduces the bandwidth consumed.

You can manually specify the video quality for the foreground and the background areas.



Select an operation mode if Smart codec is preferred.

- Auto tracking: The Auto mode configures the whole screen into the non-interested area. The video quality of part of the screen returns to normal when one or more objects move in that area. The remainder of the screen where there are no moving objects (no pixel changes) will still be transmitted in low-quality format.
- **Manual**: The Manual mode allows you to configure 3 ROI windows (Region of Interest, with Foreground quality) on the screen. Areas not included in any ROI windows will be considered as the non-interested areas. The details in the ROI areas will be transmitted in a higher-quality video format.

As illustrated below, the upper screen may contain little details of your interest, while the sidewalk on the lower screen is included in an ROI window.



As the result, the lower screen is constantly displayed in high details, while the upper half is transmitted using a lower-quality format. Although the upper half is transmitted using a lower quality format, you still have an awareness of what is happening on the whole screen.



- Hybrid: The major difference between the "Manual" mode and the "Hybrid" mode is that:

In the "**Hybrid**" mode, any objects entering the non-interested area will restore the video quality of the moving objects and the area around them. The video quality of the associated non-interested area is immediately restored to normal to cover the moving objects.

In the "**Manual**" mode, the non-interested area is always transmitted using a lowquality format regardless of the activities inside. - **Quality priority**: Use the slide bar to tune the quality contrast between the ROI and noninterested areas.

The farther the slide bar button is to the right, the higher the image quality of the ROI areas. On the contrary, the farther the slide bar button to the left, the higher the image quality of the non-interested area.

In this way, you may set up an ROI window as a privacy mask by covering a protected area using an ROI window, while the remaining screen become the non-interested area. You may then configure the non-interested area to have a high image quality, or vice versa.

You should also select the Maximum bit rate from the pull-down menu as the threshold to contain the bandwidth consumption for both the high- and low-quality video sections in a smart stream.

Bit rate control

Constrained bit rate:

A complex scene generally produces a larger file size, meaning that higher bandwidth will be needed for data transmission. The bandwidth utilization is configurable to match a selected level, resulting in mutable video quality performance. The bit rates are selectable at the following rates: 20Kbps, 30Kbps, 40Kbps, 50Kbps, 64Kbps, 128Kbps, 256Kbps, 512Kbps, 768Kbps, 1Mbps, 2Mbps, 3Mbps, 4Mbps, 6Mbps, 8Mbps, 10Mbps, 12Mbps, 14Mbps, ~ to 40Mbps. You can also select **Customize** and manually enter a value up to 40Mbps.

Target quality: Select a desired quality ranging from Medium to Excellent

- Maximum bit rate: Select a bit rate from the pull-down menu. The bit rate ranges from 20kbps to a maximum of 40Mbps. The bit rate then becomes the Average or Upper bound bit rate number. The Network Camera will strive to deliver video streams around or within the bit rate limitation you impose.

- Policy: If Frame Rate Priority is selected, the Network Camera will try to maintain the frame rate per second performance, while the image quality will be compromised. If Image quality priority is selected, the Network Camera may drop some video frames in order to maintain image quality.

Fixed quality:

On the other hand, if **Fixed quality** is selected, all frames are transmitted with the same quality; bandwidth utilization is therefore unpredictable. The video quality can be adjusted to the following settings: Medium, Standard, Good, Detailed, and Excellent. You can also select **Customize** and manually enter a value.

Maximum bit rate: With the guaranteed image quality, you might still want to place a bit rate limitation to control the size of video streams for bandwidth and storage concerns. The configurable bit rate starts from 1Mbps to 40Mbps.

The Maximum bit rate setting in the Fixed quality configuration can ensure a reasonable and limited use of network bandwidth. For example, in low light conditions where a Fixed quality setting is applied, video packet sizes can tremendously increase when noises are produced with electrical gains.

You may also manually enter a bit rate number by selecting the **Customized** option.



- Video quality and fixed quality refer to the compression rate. A lower value produces higher quality. The higher the compression rate, the lower the quality.
- Converting high-quality video significantly increases the CPU load, and you may encounter streaming disconnection or video loss while capturing a complicated scene. In the event of video loss, we suggest you customize the video stream to a lower resolution or reduce the frame rate for a smoother video.

If **JPEG** mode is selected, the Network Camera sends consecutive JPEG images to the client, producing a moving effect similar to a filmstrip. Every single JPEG image transmitted guarantees the same image quality, which in turn comes at the expense of variable bandwidth usage. Because the media contents are a combination of JPEG images, no audio data is transmitted to the client. There are three parameters provided in MJPEG mode to control the video performance:

JPEG			
Frame s	ize:	1920x1080	\sim
Maximu	ım frame rate:	10 fps	\sim
Video q	uality		
0	Constant bit rate:		
۲	Fixed quality:		
	Quality:	Good	\sim
	Maximum bit rate:	40 Mbps	\sim

Frame size

You can set up different video resolution for different viewing devices. For example, set a smaller frame size and lower bit rate for remote viewing on mobile phones and a larger video size and a higher bit rate for live viewing on web browsers. Note that a larger frame size takes up more bandwidth.

Maximum frame rate

This limits the maximum refresh frame rate per second. Set the frame rate higher for smoother video quality.

If the power line frequency is set to 50Hz, the frame rates are selectable from 1fps to 25fps If the power line frequency is set to 60Hz, the frame rates are selectable from 1fps to 30fps. You can also select **Customize** and manually enter a value. The frame rate will decrease if you select a higher resolution.

Video quality

Refer to the previous page setting an average or upper bound threshold for controlling the bandwidth consumed for transmitting motion jpegs. The configuration method is identical to that for H.264.

For Constant Bit Rate and other settings, refer to the previous page for details.

Media > Audio

Audio Settings

Audio settings		
Mute		
External microphone input gain: Audio type	-33	21 OdB
G.711:	pc mu 💌	
) G.726 bit rate:	32 Kbps 💌	
		Save

<u>Mute</u>: Select this option to disable audio transmission from the Network Camera to all clients. Note that if muted, no audio data will be transmitted even if audio transmission is enabled on the Client Settings page. In that case, the following message is displayed:

Warning 🛛 🔀
The media type has been changed to video only because the media from server contains no audio
OK

External microphone input gain: Select the gain of the external audio input according to ambient conditions. Adjust the gain from +21 db (most sensitive) or -33db (least sensitive).

Audio type: Select audio codec as G.711 or G.726, and the sampling bit rate .

- G.711 also provides good sound quality and requires about 64Kbps. Select pcmu (μ-Law) or pcma (A-Law) mode.
- G.726 is a speech codec standard covering voice transmission at rates of 16, 24, 32, and 40kbit/s.

When completed with the settings on this page, click **Save** to enable the settings.



IMPORTANT:

The network camera does not come with embedded microphone. An external microphone will be necessary especially if you prefer the **Audio Detection** feature. By default, the Audio setting is muted, and you need to manually deselect the **Mute** option.

Network > General settings

This section explains how to configure a wired network connection for the Network Camera.

Network Type



LAN

Select this option when the Network Camera is deployed on a local area network (LAN) and is intended to be accessed by local computers. The default setting for the Network Type is LAN. Please rememer to click on the **Save** button when you complete the Network setting.

<u>Get IP address automatically</u>: Select this option to obtain an available dynamic IP address assigned by the DHCP server each time the camera is connected to the LAN.

Use fixed IP address: Select this option to manually assign a static IP address to the Network Camera.

Network type Port	
LAN	
CAN CAN	
Get IP address automatically	
Use fixed IP address	
IP address:	172.16.168.10
Subnet mask:	255.255.0.0
Default router:	172.16.0.1
Primary DNS:	192.168.0.21
Secondary DNS:	192.168.0.22
Primary WINS server:	192.168.0.21
Secondary WINS server:	192.168.0.22
Enable UPnP presentation	
Enable UPnP port forwarding	
PPPoE	
Enable IPv6	
	Save

- 1. You can make use of VIVOTEK Installation Wizard 2 on the software CD to easily set up the Network Camera on LAN. Please refer to Software Installation on page 26 for details.
- 2. Enter the Static IP, Subnet mask, Default router, and Primary DNS provided by your ISP or network administrator.

<u>Subnet mask</u>: This is used to determine if the destination is in the same subnet. The default value is "255.255.255.0".

<u>Default router</u>: This is the gateway used to forward frames to destinations in a different subnet. Invalid router setting will disable the transmission to destinations across different subnets.
Primary DNS: The primary domain name server that translates host names into IP addresses.

Secondary DNS: Secondary domain name server that backs up the Primary DNS.

<u>Primary WINS server</u>: The primary WINS server that maintains the database of computer names and IP addresses.

<u>Secondary WINS server</u>: The secondary WINS server that maintains the database of computer names and IP addresses.

<u>Enable UPnP presentation</u>: Select this option to enable UPnP[™] presentation for your Network Camera so that whenever a Network Camera is presented to the LAN, the shortcuts to connected Network Cameras will be listed in My Network Places. You can click the shortcut to link to the web browser. Currently, UPnP[™] is supported by Windows XP or later. Note that to utilize this feature, please make sure the UPnP[™] component is installed on your computer.



<u>Enable UPnP port forwarding</u>: To access the Network Camera from the Internet, select this option to allow the Network Camera to open ports automatically on the router so that video streams can be sent out from a LAN. To utilize of this feature, make sure that your router supports UPnPTM and it is activated.

PPPoE (Point-to-point over Ethernet)

Select this option to configure your Network Camera to make it accessible from anywhere as long as there is an Internet connection. Note that to utilize this feature, it requires an account provided by your ISP.

Follow the steps below to acquire your Network Camera's public IP address.

- 1. Set up the Network Camera on the LAN.
- 2. Go to Configuration > Event > Event settings > Add server (please refer to Add server on page 120) to add a new email or FTP server.
- 3. Go to Configuration > Event > Event settings > Add media (please refer to Add media on page 111). Select System log so that you will receive the system log in TXT file format which contains the Network Camera's public IP address in your email or on the FTP server.
- 4. Go to Configuration > Network > General settings > Network type. Select PPPoE and enter the user name and password provided by your ISP. Click **Save** to enable the setting.

Network type	
O LAN	
PPPoE	
User name:	
Password:	
Confirm password:	
Enable IPv6	

- 5. The Network Camera will reboot.
- 6. Disconnect the power to the Network Camera; remove it from the LAN environment.

Save



- If the default ports are already used by other devices connected to the same router, the Network Camera will select other ports for the Network Camera.
- If UPnP[™] is not supported by your router, you will see the following message: Error: Router does not support UPnP port forwarding.
- Steps to enable the UPnP[™] user interface on your computer: Note that you must log on to the computer as a system administrator to install the UPnP[™] components.
 - 1. Go to Start, click Control Panel, then click Add or Remove Programs.

Distriction A	Pick a category	- 0
be the O	Sector and Research	💒 Instant and Albert Sorkows
C President	and the set of the set	
O the location		
		C

2. In the Add or Remove Programs dialog box, click Add/Remove Windows Components.



3. In the Windows Components Wizard dialog box, select Networking Services and click Details.

Windows Components Wizerd	X
Windows Components You can add or remove components of Windows XP	B
To add or remove a component, click the checkbox: A shaded paid of the component will be installed. To see what's included Details. Concoversits	
Message Queuing	0.0 MB
Deep Networking Services Defen Network File and Part Services Till Lindes Root Cetificates	
Description: Contains a variety of specialized, network veloted Total duit, space required: 0.0 MB	servicies and protocols.
Space evalible on dok 12125 4 MB	
< Back	Next) Cancel

4. In the Networking Services dialog box, select Universal Plug and Play and click OK.



5. Click Next in the following window.

indows Components You can add or remove components of Windows 20	5. C
To add or remove a component, click the checkbox part of the component will be installed. To see what Details	
Components:	0.0 MB
C VMSN Explorer	T35MB
Networking Services	0.3 MB
Differ Network File and Print Services	0.0 MB
Cali Indate Root Cetificates	DOMB N
Description: Contains a variety of specialized, netwo Total disk space required 0.0 MB	ofk-related services and protocols
	UCIDEL.

6. Click **Finish**. UPnP[™] is enabled.

► How does UPnP[™] work?

UPnP[™] networking technology provides automatic IP configuration and dynamic discovery of devices added to a network. Services and capabilities offered by networked devices, such as printing and file sharing, are available among each other without the need for cumbersome network configuration. In the case of Network Cameras, you will see Network Camera shortcuts under My Network Places.

Enabling UPnP port forwarding allows the Network Camera to open a secondary HTTP port on the router-not HTTP port-meaning that you have to add the secondary HTTP port number to the Network Camera's public address in order to access the Network Camera from the Internet. For example, when the HTTP port is set to 80 and the secondary HTTP port is set to 8080, refer to the list below for the Network Camera's IP address.

From the Internet	In LAN
http://203.67.124.123:8080	http://192.168.4.160 or http://192.168.4.160:8080

If the PPPoE settings are incorrectly configured or the Internet access is not working, restore the Network Camera to factory default; please refer to Restore on page 52 for details. After the Network Camera is reset to factory default, it will be accessible on the LAN.

Enable IPv6

Select this option and click **Save** to enable IPv6 settings.

Please note that this only works if your network environment and hardware equipment support IPv6. The browser should be Microsoft[®] Internet Explorer 6.5, Mozilla Firefox 3.0 or above.

When IPv6 is enabled, by default, the network camera will listen to router advertisements and be assigned with a link-local IPv6 address accordingly.

IPv6 Information: Click this button to obtain the IPv6 information as shown below.

[eth0 address] fe80:0000:0000:0000:0201:0aff:fe83:6408/64@Li	
[Gateway]	
fe80::352d:e315:83a5:4d12	
[DNS]	
IPv6 address list of DNS	
	Close

If your IPv6 settings are successful, the IPv6 address list will be listed in the pop-up window. The IPv6 address will be displayed as follows:

Refers to Ethernet

[eth0 address]	
2001:0c08:2500.0002:0202:d1ff:fe04:65f4/64@Global -	Link-global IPv6 address/network mask
fe80.0000.0000.0000.0202.d1ff:fe04.65f4/64@Link -	Link-local IPv6 address/network mask
[Gateway]	
fe80::211:d8ff:fea2:1a2b	
[DNS]	
2010:05c0:978d::	

Please follow the steps below to link to an IPv6 address:

- 1. Open your web browser.
- 2. Enter the link-global or link-local IPv6 address in the address bar of your web browser.
- 3. The format should be:



4. Press **Enter** on the keyboard or click **Refresh** button to refresh the webpage. For example:

Network Camera - Microsoft Internet Explorer File Edit View Favorites Tools Help		
G Back C Image: Search C Favorites Image: Search Image: Search Favorites Image: Search Favorites Image: Search Image: Search Image: Search <th im<="" th=""><th>🔗 퉣 🖂 🖓</th></th>	<th>🔗 퉣 🖂 🖓</th>	🔗 퉣 🖂 🖓
Address @ http://[2001:0c08:2500:0002:0202:d1ff:fe04:65f4]/		
VIVOTEK		

' NOTE:

If you have a Secondary HTTP port (the default value is 8080), you can also link to the webpage in the following address format: (Please refer to HTTP streaming on page 80 for detailed information.)



If you choose PPPoE as the Network Type, the [PPP0 address] will be displayed in the IPv6 information column as shown below.

[eth0 address] fe80:0000:0000:0000:0202:d1ff:fe11:2299/64@Link	
[ppp0 address]	
fe80.0000.0000.0000.0202:d1ff:fe11:2299/10@Link	
2001:b100:01c0:0002:0202:d1ff:fel1:2299/64@Global	
[Gateway]	
fe80::90:1a00:4142:8ced	
[DNS]	
2001:5000::1	

<u>Manually setup the IP address</u>: Select this option to manually set up IPv6 settings if your network environment does not have a DHCPv6 server and router advertisements-enabled routers. If you select this item, the following blanks will be displayed for you to enter the corresponding information:

Port

IPv	6 information				
\checkmark	Manually setup the IP address				
Op	tional IP address / Prefix length		I	64]
Op	tional default router				
Op	tional primary DNS				
port —	tional primary DNS	443			
	tional primary DNS	443			
port —		443 5060			

<u>HTTPS port</u>: By default, the HTTPS port is set to 443. It can also be assigned to another port number between 1025 and 65535.

<u>Two way audio port</u>: By default, the two way audio port is set to 5060. Also, it can also be assigned to another port number between 1025 and 65535.

The Network Camera supports two way audio communication so that operators can transmit and receive audio simultaneously. By using the Network Camera's built-in or external microphone and an external speaker, you can communicate with people around the Network Camera.

Note that as JPEG only transmits a series of JPEG images to the client, to enable the two-way audio function, make sure the video mode is set to "H.265" or "H.264" on the Media > Video > Stream settings page and the media option is set to "Media > Video > Stream settings" on the Client Settings page. Please refer to Client Settings on page 39 and Stream settings on page 65.





Audio is being transmitted to the Network Camera

Click 💽 to enable audio transmission to the Network Camera; click 🕍 to adjust the volume of microphone; click 🖞 to turn off the audio. To stop talking, click 💽 again.

<u>FTP port</u>: The FTP server allows the user to save recorded video clips. You can utilize VIVOTEK's Installation Wizard 2 to upgrade the firmware via FTP server. By default, the FTP port is set to 21. It also can be assigned to another port number between 1025 and 65535.

Network > Streaming protocols

HTTP streaming

To utilize HTTP authentication, make sure that your have set a password for the Network Camera first; please refer to Security > User account on page 90 for details.

HTTP	streaming	RTSP streaming		
Authe	ntication:		basic 🔻	
HTTP	port:		80	
Secon	idary HTTP po	rt:	8080	
Acces	ss name for s	tream 1:	video.mjpg	
Acces	ss name for s	tream 2:	video2.mjpg	
Acces	ss name for s	tream 3:	video3.mjpg	
Acces	ss name for s	tream 4:	video4.mjpg	
			Save	

<u>Authentication</u>: Depending on your network security requirements, the Network Camera provides two types of security settings for an HTTP transaction: basic and digest.

If **basic** authentication is selected, the password is sent in plain text format and there can be potential risks of being intercepted. If **digest** authentication is selected, user credentials are encrypted using MD5 algorithm and thus provide better protection against unauthorized accesses.

<u>HTTP port / Secondary HTTP port</u>: By default, the HTTP port is set to 80 and the secondary HTTP port is set to 8080. They can also be assigned to another port number between 1025 and 65535. If the ports are incorrectly assigned, the following warning messages will be displayed:

Microsoft Internet Explorer	Microsoft Internet Explorer
HTTP port must be 80 or from 1025 to 65535	Secondary HTTP port must be from 1025 to 65535
ОК	ОК

To access the Network Camera on the LAN, both the HTTP port and secondary HTTP port can be used to access the Network Camera. For example, when the HTTP port is set to 80 and the secondary HTTP port is set to 8080, refer to the list below for the Network Camera's IP address.

On the LAN
http://192.168.4.160 or
http://192.168.4.160:8080

<u>Access name for stream 1 ~ 4</u>: This Network camera supports multiple streams simultaneously. The access name is used to identify different video streams. Users can click **Media > Video > Stream settings** to set up the video quality of linked streams. For more information about how to set up the video quality, please refer to Stream settings on page 64.

When using **Mozilla Firefox** to access the Network Camera and the video mode is set to JPEG, users will receive video comprised of continuous JPEG images. This technology, known as "server push", allows the Network Camera to feed live pictures to Mozilla Firefox.

URL command -- http://<ip address>:<http port>/<access name for stream 1, 2, 3, or 4> For example, when the Access name for stream 2 is set to video2.mjpg:

- 1. Launch the Mozilla Firefox browser.
- 2. Type the above URL command in the address bar. Press Enter.
- 3. The JPEG images will be displayed in your web browser.



NOTE:

Microsoft[®] Internet Explorer does not support server push technology; therefore, using http://<ip address>:<http port>/<access name for stream 1, 2, 3, 4, or 5> will not work.

RTSP Streaming

To utilize RTSP streaming authentication, make sure that you have set a password for controlling the access to video stream first. Please refer to Security > User account on page 90 for details.

HTTP streaming RTSP streaming		
Authentication:	basic 🗸	
Access name for stream 1.	live.sdp	
Access name for stream 2:	live2.sdp	
Access name for stream 3:	live3.sdp	
Access name for stream 4:	live4 sdp	
RTSP port:	554	
RTP port for video:	5556	
RTCP port for video:	5557	
RTP port for metadata:	6556	
RTCP port for metadata.	0557	
RTP port for audio:	5558	
RTCP port for audio:	5559	
Multicast settings for stream 1		
Multicast settings for stream 2		
Multicast settings for stream 3		
Multicast settings for stream 4		
	Save	9

<u>Authentication</u>: Depending on your network security requirements, the Network Camera provides three types of security settings for streaming via RTSP protocol: disable, basic, and digest.

If **basic** authentication is selected, the password is sent in plain text format, but there can be potential risks of it being intercepted. If **digest** authentication is selected, user credentials are encrypted using MD5 algorithm, thus providing better protection against unauthorized access.

The availability of the RTSP streaming for the three authentication modes is listed below:

	Quick Time player	VLC
Disable	0	0
Basic	0	0
Digest	0	Х

<u>Access name for stream 1 ~ 5</u>: This Network camera supports multiple streams simultaneously. The access name is used to differentiate the streaming source.

If you want to use an RTSP player to access the Network Camera, you have to set the video mode to H.265 / H.264 and use the following RTSP URL command to request transmission of the streaming data. rtsp://<ip address>:<rtsp port>/<access name for stream 1 to 5>

For example, when the access name for stream 1 is set to live.sdp:

- 1. Launch an RTSP player.
- 2. Choose File > Open URL. A URL dialog box will pop up.
- 3. Type the above URL command in the text box.
- 4. The live video will be displayed in your player as shown below.



Dpoint URL Enter an Internet URL to open:	<u>e</u>
--	----------

RTSP port /RTP port for video, audio/ RTCP port for video, audio

- RTSP (Real-Time Streaming Protocol) controls the delivery of streaming media. By default, the port number is set to 554.
- The RTP (Real-time Transport Protocol) is used to deliver video and audio data to the clients. By default, the RTP port for video is set to 5556 and the RTP port for audio is set to 5558.
- The RTCP (Real-time Transport Control Protocol) allows the Network Camera to transmit the data by monitoring the Internet traffic volume. By default, the RTCP port for video is set to 5557 and the RTCP port for audio is set to 5559.

The ports can be changed to values between 1025 and 65535. The RTP port must be an even number and the RTCP port is the RTP port number plus one, and thus is always an odd number. When the RTP port changes, the RTCP port will change accordingly.

If the RTP ports are incorrectly assigned, the following warning message will be displayed:

	CONTRACTOR OF CONTRACTOR	
1	Invalid port number. RTP video port must i	be an even number
-		

<u>Multicast settings for stream 1, 2, 3, and 4</u>: Click the items to display the detailed configuration information. Select the Always multicast option to enable multicast for video streams.

Multicast settings for stream 1		W Multicast settings for stream 3	
Alw ays multicast		Alw ays multicast	
Multicast group address:	239.128.1.99	.99 Multicast group address: 239.1	
Multicast video port:	5560	Multicast video port:	5568
Multicast RTCP video port:	5561	Multicast RTCP video port:	5569
Multicast metadata port:	6560	Multicast metadata port:	6568
Multicast RTCP metadata port:	6561	Multicast RTCP metadata port:	6569
Multicast audio port:	5562	Multicast audio port:	5570
Multicast RTCP audio port:	5563	Multicast RTCP audio port:	5571
Multicast TTL [1~255]:	15	Multicast TTL [1~255]:	15
 Multicast settings for stream 2 		Multicast settings for stream 4	
Multicast settings for stream 2		Wulticast settings for stream 4 ☐ Always multicast	
-	239.128.1.100	2	239.128.1.102
Always multicast	239.128.1.100 5564	Always multicast	239.128.1.102 5572
Alw ays multicast		Alw ays multicast	
Alw ays multicast Multicast group address: Multicast video port:	5564	Alw ays multicast Multicast group address: Multicast video port:	5572
Always multicast Multicast group address: Multicast video port: Multicast RTCP video port:	5564 5565	Alw ays multicast Multicast group address: Multicast video port: Multicast RTOP video port:	5572 5573
Alw ays multicast Multicast group address: Multicast video port: Multicast RTCP video port: Multicast metadata port:	5564 5565 6564	Alw ays multicast Multicast group address: Multicast video port: Multicast RTOP video port: Multicast metadata port:	5572 5573 6572
Alw ays multicast Multicast group address: Multicast video port: Multicast RTCP video port: Multicast RTCP metadata port:	5564 5565 6564 6565	Alw ays multicast Multicast group address: Multicast video port: Multicast RTCP video port: Multicast metadata port: Multicast RTCP metadata port:	5572 5573 6572 6573

Unicast video transmission delivers a stream through point-to-point transmission; multicast, on the other hand, sends a stream to the multicast group address and allows multiple clients to acquire the stream at the same time by requesting a copy from the multicast group address. Therefore, enabling multicast can effectively save Internet bandwith.

The ports can be changed to values between 1025 and 65535. The multicast RTP port must be an even number and the multicast RTCP port number is the multicast RTP port number plus one, and thus is always odd. When the multicast RTP port changes, the multicast RTCP port will change accordingly.

If the multicast RTP video ports are incorrectly assigned, the following warning message will be displayed:



<u>Multicast TTL [1~255]</u>: The multicast TTL (Time To Live) is the value that tells the router the range a packet can be forwarded.

Initial TTL	Scope
0	Restricted to the same host
1	Restricted to the same subnetwork
32	Restricted to the same site
64	Restricted to the same region
128	Restricted to the same continent
255	Unrestricted in scope

MPORTANT:

The Multicast metadata port is utilized by VIVOTEK VADP modules to transfer video analytics results, PTZ stream, textual data, and event messages between the camera and the client side running and observing the video analysis. If your client side computer is located outside the local network, you may need to open the associated TCP port on routers and firewall.

Network > DDNS

This section explains how to configure the dynamic domain name service for the Network Camera. DDNS is a service that allows your Network Camera, especially when assigned with a dynamic IP address, to have a fixed host and domain name.

Express link

Express Link is a free service provided by VIVOTEK server, which allows users to register a domain name for a network device. One URL can only be mapped to one MAC address. This service will examine if the host name is valid and automatically open a port on your router. If using DDNS, the user has to manually configure UPnP port forwarding. Express Link is more convenient and easier to set up.

Manual setu	p Express link			
Enable	express link			
http://		.2bthere.net	Help Save	
	s link, all users ne e camera from Inte		r the camera. It will generate the link to]

Please follow the steps below to enable Express Link:

- 1. Make sure that your router supports UPnP port forwarding and it is activated.
- 2. Check Enable express link.
- Enter a host name for the network device and click Save. If the host name has been used by another device, a warning message will show up. If the host name is valid, it will display a message as shown below.





Manual setup

DDNS: Dynamic domain name service

DDNS: Dynamic domain na	ame service
Enable DDNS:	
Provider:	Dyndns.org(Dynamic) 🔽
Host name:	
User name:	
Password:	

Enable DDNS: Select this option to enable the DDNS setting.

Provider: Select a DDNS provider from the provider drop-down list.

VIVOTEK offers **Safe100.net**, a free dynamic domain name service, to VIVOTEK customers. It is recommended that you register **Safe100.net** to access VIVOTEK's Network Cameras from the Internet. Additionally, we offer other DDNS providers, such as Dyndns.org(Dynamic), Dyndns.org(Custom), CustomSafe100, dyn-interfree.it.

Note that before utilizing this function, please apply for a dynamic domain account first.

Safe100.net

- 1. In the DDNS column, select **Safe100.net** from the drop-down list. Click **I accept** after reviewing the terms of the Service Agreement.
- 2. In the Register column, fill in the Host name (xxxx.safe100.net), Email, Key, and Confirm Key, and click **Register**. After a host name has been successfully created, a success message will be displayed in the DDNS Registration Result column.

Register		
Host name:	VVTK.safe100.net	
Email:	wtk@vivotek.com	
Key:	•••• Forget key	
Confirm key:	••••	
To apply for a domain name for the camera	a, or to modify the previously registered information, fill i	n
the following fields and then click "Register	6	
Register		
DDNS Registration Result:		
[Register] Successfully Your account i been mailed to registered e-mail address		
Upon successful registration, you can click	copy to automatically upload relevant information to the	e
DDNS form or you can manually fill it in. The	en, click "Save" to save new settings.	

3. Click **Copy** and all the registered information will automatically be uploaded to the corresponding fields in the DDNS column at the top of the page as seen in the picture.

DDNS: Dynamic domain name set	DDNS: Dynamic domain name service			
Enable DDNS:				
Provider:	Safe100.net	~		
Host name:	VVTK.safe100.net	[*.safe100.net]		
Email:	wtk@vivotek.com			
Key:	••••			
		Save		
Register				
Host name:	VVTK.safe100.net			
Email:	wtk@vivotek.com			
Key:	••••	Forget key		
Confirm key:	••••			
To apply for a domain name for the can	nera, or to modify the previous	sly registered information, fill in		
the following fields and then click "Regi	ister".			
Register				
DDNS Registration Result:				
[Register] Successfully Your account information has been mailed to registered e-mail address				
Upon successful registration, you can click <u>copy</u> to automatically upload relevant information to the DDNS form or you can manually fill it in. Then, click "Save" to save new settings.				

4. Select Enable DDNS and click **Save** to enable the setting.

CustomSafe100

VIVOTEK offers documents to establish a CustomSafe100 DDNS server for distributors and system integrators. You can use CustomSafe100 to register a dynamic domain name if your distributor or system integrators offer such services.

- 1. In the DDNS column, select CustomSafe100 from the drop-down list.
- In the Register column, fill in the Host name, Server name, Email, Key, and Confirm Key; then click Register. After a host name has been successfully created, you will see a success message in the DDNS Registration Result column. Enter ns1.safe100.net as the Server name.
- 3. Click **Copy** and all for the registered information will be uploaded to the corresponding fields in the DDNS column.
- 4. Select Enable DDNS and click **Save** to enable the setting.

<u>Forget key</u>: Click this button if you have forgotten the key to Safe100.net or CustomSafe100. Your account information will be sent to your email address.

Refer to the following links to apply for a dynamic domain account when selecting other DDNS providers:

Dyndns.org(Dynamic) / Dyndns.org(Custom): visit http://www.dyndns.com/

Network > QoS (Quality of Service)

Quality of Service refers to a resource reservation control mechanism, which guarantees a certain quality to different services on the network. Quality of service guarantees are important if the network capacity is insufficient, especially for real-time streaming multimedia applications. Quality can be defined as, for instance, a maintained level of bit rate, low latency, no packet dropping, etc.

The following are the main benefits of a QoS-aware network:

- The ability to prioritize traffic and guarantee a certain level of performance to the data flow.
- The ability to control the amount of bandwidth each application may use, and thus provide higher reliability and stability on the network.

Requirements for QoS

To utilize QoS in a network environment, the following requirements must be met:

- All network switches and routers in the network must include support for QoS.
- The network video devices used in the network must be QoS-enabled.

QoS models

CoS (the VLAN 802.1p model)

IEEE802.1p defines a QoS model at OSI Layer 2 (Data Link Layer), which is called CoS, Class of Service. It adds a 3-bit value to the VLAN MAC header, which indicates the frame priority level from 0 (lowest) to 7 (highest). The priority is set up via a web console with the network switches, which then use different queuing disciplines to forward the packets.

Below is the setting column for CoS. Enter the **VLAN ID** of your switch ($0\sim4095$) and choose the priority for each application ($0\sim7$).

— CoS —		
Enable CoS		
VLAN ID:	1	
Live video:	0 🗸	
Live audio:	0 🗸	
Event/Alarm:	0 👻	
Management:	0 👻	

If you assign Video the highest level, the switch will handle video packets first.

🖉 NOTE:

► A VLAN Switch (802.1p) is required. Web browsing may fail if the CoS setting is incorrect.

- Class of Service technologies do not guarantee a level of service in terms of bandwidth and delivery time; they offer a "best-effort." Users can think of CoS as "coarsely-grained" traffic control and QoS as "finely-grained" traffic control.
- Although CoS is simple to manage, it lacks scalability and does not offer end-to-end guarantees since it is based on L2 protocol.

QoS/DSCP (the DiffServ model)

DSCP-ECN defines QoS at Layer 3 (Network Layer). The Differentiated Services (DiffServ) model is based on packet marking and router queuing disciplines. The marking is done by adding a field to the IP header, called the DSCP (Differentiated Services Codepoint). This is a 6-bit field that provides 64 different class IDs. It gives an indication of how a given packet is to be forwarded, known as the Per Hop Behavior (PHB). The PHB describes a particular service level in terms of bandwidth, queueing theory, and dropping (discarding the packet) decisions. Routers at each network node classify packets according to their DSCP value and give them a particular forwarding treatment; for example, how much bandwidth to reserve for it.

Below are the setting options of DSCP (DiffServ Codepoint). Specify the DSCP value for each application (0~63).

— QoS/DSCP —		
Enable QoS/DSCP		
Live video:	0	
Live audio:	0	
Event/Alarm:	0	
Management:	0	

Save

Network > SNMP (Simple Network Management Protocol)

This section explains how to use the SNMP on the network camera. The Simple Network Management Protocol is an application layer protocol that facilitates the exchange of management information between network devices. It helps network administrators to remotely manage network devices and find, solve network problems with ease.

• The SNMP consists of the following three key components:

- 1. Manager: Network-management station (NMS), a server which executes applications that monitor and control managed devices.
- 2. Agent: A network-management software module on a managed device which transfers the status of managed devices to the NMS.
- 3. Managed device: A network node on a managed network. For example: routers, switches, bridges, hubs, computer hosts, printers, IP telephones, network cameras, web server, and database.

Before configuring SNMP settings on the this page, please enable your NMS first.

SNMP Configuration

Enable SNMPv1, SNMPv2c

Select this option and enter the names of Read/Write community and Read Only community according to your NMS settings.

Enable SNMPv1, SNMPv2c

[SNMPv1, SNMPv2c Settings		
	Read/Write community:	Private	
	Read only community:	Public	

Enable SNMPv3

This option contains cryptographic security, a higher security level, which allows you to set the Authentication password and the Encryption password.

- Security name: According to your NMS settings, choose Read/Write or Read Only and enter the community name.
- Authentication type: Select MD5 or SHA as the authentication method.
- Authentication password: Enter the password for authentication (at least 8 characters).
- Encryption password: Enter a password for encryption (at least 8 characters).

Enable SNMPv3		
SNMPv3 Settings		
Read/Write Security name:	Private	
Authentication Type:	MD5 💌	
Authentication Password:		
Encryption Password:		
Read only Security name:	Public	
Authentication Type:	MD5 💌	
Authentication Password:		
Encryption Password		

Security > User Account

This section explains how to enable password protection and create multiple accounts.

Root Password				
	Root password	Privilege management	Account management	
	Root password: Confirm root passv	word:		Save

The administrator account name is "root", which is permanent and can not be deleted. If you want to add more accounts in the Manage User column, please apply the password for the "root" account first. 1. Type the password identically in both text boxes, then click **Save** to enable password protection.

- 2. A window will prompt for authentication; type the correct user's name and password in their respective
- fields to access the Network Camera.

Privilege management

Root password	Privilege managem	Account managemen	t
	mous viewing		
Operator:	Digital output	PTZ control	
Viewer:	Digital output	PTZ control	Save

<u>Digital Output & PTZ control</u>: You can modify the manage privileges of operators or viewers. Select or deselect the checkboxes, then click **Save** to enable the settings. If you give Viewers the privilege, Operators will also have the ability to control the Network Camera through the main page. (Please refer to Configuration on page 44).

<u>Allow anonymous viewing</u>: If this checkbox is selected, any client can access the live stream without entering a User ID and Password.

Account management

Root password	Privilege management	Account management	t	
Existing user name	c	Add new user		
User name:				
User password:			Delete	
Confirm user pass	word:		Add	
Privilege:		Administrator	Update	
		Operator Viewer		

Administrators can add up to 20 user accounts.

- 1. Input the new user's name and password.
- 2. Select the privilege level for the new user account. Click Add to enable the setting.

Access rights are sorted by user privilege (Administrator, Operator, and Viewer). Only administrators can access the Configuration page. Although operators cannot access the Configuration page, they can use the URL Commands to get and set the camera parameters. For more information, please refer to URL Commands of the Network Camera at the Appendix of this manual. Viewers access only the main page for live viewing.

Here you also can change a user's access rights or delete user accounts.

- 1. Select an existing account to modify.
- 2. Make necessary changes and click **Update** or **Delete** to enable the setting.

Security > HTTPS (Hypertext Transfer Protocol over SSL)

This section explains how to enable authentication and encrypted communication over SSL (Secure Socket Layer). It helps protect streaming data transmission over the Internet on higher security level.

Create and Install Certificate Method

Before using HTTPS for communication with the Network Camera, a **Certificate** must be created first. There are three ways to create and install a certificate:

Create self-signed certificate

- 1. Select this option from a pull-down menu.
- 2. In the first column, select **Enable HTTPS secure connection**, then select a connection option: "HTTP & HTTPS" or "HTTPS only".
- 3. Click Create certificate to generate a certificate.

- HTTPS	S	
🔽 Ena	able HTTPS secure connection	
🐭 Mo	de:	
	HTTP & HTTPS O HTTPS only	Please wait while the certificate is being
₩ Ce	rtificate:	generated
	Certificate information	
	Status:	Not installed
	method:	Create self-signed certificate
	Country:	TW
	State or province:	Asia
	Locality:	Asia
	Organization:	VIVOTEK.Inc
	Organization unit:	VIVOTEK.Inc
	Common name:	www.vivotek.com
	Validity:	3650 days

4. The Certificate Information will automatically be displayed as shown below. You can click **Certificate properties** to view detailed information about the certificate.

Certificate information	
Status:	Active
method:	Create self-signed certificate
Country:	TW
State or province:	Asia
Locality:	Asia
Organization:	VIVOTEK.Inc
Organization unit:	VIVOTEK.Inc
Common name:	www.vivotek.com
	Certificate properties Remove certificate

- 5. Click **Save** to preserve your configuration, and your current session with the camera will change to the encrypted connection.
- 6. If your web session does not automatically change to an encrypted HTTPS session, click Home to return to the main page. Change the URL address from "<u>http://</u>" to "<u>https://</u>" in the address bar and press Enter on your keyboard. Some Security Alert dialogs will pop up. Click OK or Yes to enable HTTPS.



https://

Create certificate request and install

- 1. Select the option from the **Method** pull-down menu.
- 2. Click Create certificate to proceed.
- 3. The following information will show up in a pop-up window after clicking **Create**. Then click **Save** to generate the certificate request.

Certil	ficate:	
	Certificate information	
	Status:	Not installed
	Method:	Create certificate request and install
	Country:	TW
	State or province:	Asia
	Locality:	Asia
	Organization:	VIVOTEK Inc.
	Organization unit	VIVOTEK Inc.
	Common name:	www.vivoteic.com
	Please wait while the certific generated	Create certificate

4. The Certificate request window will prompt.

Clean	e certificate request completed	
	e PEM formal request below and send it to a CA for identify validation. After that, you have to ing the "Upload" buildon on HTTPS page.	install
Certil	cate request (PEM format)	
	BEGIN CERTIFICATE REQUEST	
	zOCARwCAQIwezELMAkGA1UEBHNCVFcxDTALBgWVBAgTBEFzaWExDTALBgHV	
	EF##NE#FTATRgNURA#TDFZJUE9UUU#gSN5jLjEVHBMCA1UEC#66U%1WT1RF	
	nHuMAqvFqYDYQQDEv93d3cudm12b3R1ay6jb3Ovg28vDqYJKo2IhvcKAQEB	
	TOAMIGJAoGBALFFSjkjhlCcufOHp43fOWUngGEPtQ8sl84HCTbfsvhpun/W YkHEhLQvGpmpsHy9crSYtu0JuGTbkhLAuHn/T97Rdvf4UC0sGnmmSAc2SI6	
	INTELQUEPERCYCLISICUSUSIERICAUN/IS/WORLOCUMUNISAUIIC IFYSLI44VnhuaircwywRlVHOBXIxflouDIUERsC3UHphl8x5J3r7vA5AqMB	
Sel Local	DANSgkghkiG9v0BAQ0FAA0BgQBdQgpKdU1cbvMtd1RPnEU5HEMInBriKBeQY	
-	ITELX#DWE6Kalgi9I4XpFWjAVRUs0LwUOOh/nyHDScJaJaEZWiSJhD1A1Fm	
-2.5-07	1IAvC46saCh3bqT3e9ILM6V11vC1pROOmeEuUqdatMYVysRgd3aceQu2SVs	
	fluov-	
_	END CERTIFICATE REQUEST	

If you see the following Information bar, click **OK** and click on the Information bar at the top of the page to allow pop-ups.

2HTIPS - Microsoft Inter	net Explorer	
The Edit Vew Parovise		
3 Back • 🕥 - 💌	🗟 🐔 🔎 Search 👷 Fai	wates 🕘 😥 🤯 📷 🕉
Address () Mtp://192.168.5.15	SL/setup/https.html	
	op-up or additional options click here	
	<u></u>	
	VIVOTEK	
		Home Configuration Language
		Security > HTTPS
	System	Information Bar
	Security	Did you notice the Information Bar?
	User account	The Information Bar alerts you when Internet Explorer blocks a pop-up vendoer or file download that might not be rate. It a
	HTTPS	Web page does not display properly, bolk for the Information Bar (near the top of your browser).
	Access Isl	
	IEEE 002.1x	Do not show this message again.
	Network	Learn.about the information Bac

5. Look for a trusted certificate authority, such as Symantec's VeriSign Authentication Services, that issues digital certificates. Sign in and purchase the SSL certification service. Copy the certificate request from your request prompt and paste it in the CA's signing request window. Proceed with the rest of the process as CA's instructions on their webpage.



 Once completed, your SSL certificate should be delivered to you via an email or other means. Copy the contents of the certificate in the email and paste it in a text/HTML/hex editor/converter, such as IDM Computer Solutions' UltraEdit.



7. Open a new edit, paste the certificate contents, and press ENTER at the end of the contents to add an empty line.

volect Open Explorer List	Contract International Contract of Contrac	12
Rer: ** >	Concostado - EUBBA: UNITANBOOR BGEFBQC CARY 3 HROCHH6L 93 d3 cudmV ya XNp 22 4u Y 29 cl.2N vc y 90 2XN 0 72 cm/Q TV R0 1BBY WFA Y X X R Y DBQOR AFGCC s6 AQUF DWRCHB0G	
e 📲 Network e 📲 FTP Accounts	<pre>c0 AlUdIwQYNBaAFCgXE4q91qX13AYst7aOlhBaYG71NHOGCCsGAQUFBwZBBCgwZjAk H1 BggrBgFFBCewAYYYABROchovL29jo3AudmVyaXNpZ24uY29cHD4OCcsGAQUFBsAC hjJodHRwO10VU12SVHJpYWstRsItYW1hLnZ1cmlsaWduLmNvbS9TV1JUcmlhbEcy H2 LawNcjANBgkqhkiG9w0BAQUFAACCAQEATxuH7FnIae/X7T6s/zsr9zEKhLKSEQSp 4 qaNcdsmixKs1289p1ksEKvp5TCLPSMbcO09jPalLFxAKUITs3W1SCOXWR1AjWp1Z e1 qVSbDfxgVHWx9T7rd2oURsjm861fcM5Ttub3Qc2Tu3pWeAKbAH/U+x+ojG0EvB3z be cPaShn/qcapKcqQXvHycwHcCWNBRQgsGc1368qkPzssv7oErbnLhupjdxUE5GExu</pre>	
Name Date m	modflee 19 3813CXrAtQ2v1Red1fJQYSTgSONq2mA9ghdEuKTnhCHUwwqOxNBuce11B31TPK70 msCcYpntb1gmFty39EvgIUdc6Y2Imn2B0q5c5q31ZARPH/g1//XeGg= 10END CERTIFICATE 20	

8. Convert file format from DOS to UNIX. Open **File** menu > **Conversions** > **DOS to Unix**.

Edit 1*] - Ultraedit File Edit Search Insert Pr	oject View Form		
- Univer	Cbi+N		0
Open	Opi+O		
🔮 Quick Open	Ctrl+Q		a x 10
Goce		ti x	10
Close All Elles	Cori+Shift+F4		-14
Close All Files Except This			1000
FTF/Teinet		20 20 40 40 50 50 50 50 50 50 50 50 50 50 50 50 50	3
Nevert to Sover!		L2Nwcy90ZXN0Y2EwHQYDVR01BBYwFAYIKwYBBQUHAwEGCCBGAQUFBwMCHB0G	
Save	Col+5	HIWQYMBakFCgXE4g91qK13kYst7a02bBaYG71MHQGCCsGkQUFBwEBBGgw2jkk	No.
Save As	F12	rBgEFBQcwAYYYaHBOcDovL29jcJAudmVyaXNp234uY29tMD4GCCaGAQUFBtAC odHBw0iSvUI2SVHJpYWwtRrItYW1hLn21cm1raWduLmNvbS9TV1JUcm1hbEcy	Macro Lin
Save Al	Ak+F12	lojANBgkqhk1G9w0BAQUFAAOCAQEATxuH7FnIme/X7T6z/zzr9zEKhLESEQSp	1
Save Selection Ac		c@swixSc129PpJkzEKvp6TCLPSMbrOPGjPa1LFxAEUITr3W1SCoXWR1AjWp12	
Make Copy/Backup		bDfxqVHWx9T7rd2oURzjms6ifcH5Trub3Qc2Tu3pWeAKbAH/U+x+ojGOEvB3z Shn/qcapKcqOXvHycwHeCWNERQgsGci3f8qKPzssv7oErbnLhupjdxUESGExu	18
Encryption	,	DCXrAtQZy1RadifJQYSTgSONq2mA9ghdEuKTnbCHUwwqOxN8uce11831TPK70	South Lines
Rename File		pYpntb1gmFty19EvgIUdc6YZImn2B0qSc5q3iZARPH/gi//ZeGg==	in the second se
Compare	Ab+F11	END CERTIFICATE	
Sort	- Martin		1
Conversions		Age, UNDOWAG to DOS	MHL Martig
Special Functions		T DOS to MAC	fano
E fret	Oylap	Expositio UNEX	8
Print All Files	antites -	HT EBCDBC to ASCII	100
Print Preview		A MARKAN AND AND A MARKAN AND A M	
Print Setup/Configuration		OUN to AND OUN to AND OUN	
Fayorte Files	Ctrl+Shift+F	ANSI to CEM Power User	
Recent Files	48539 I	ASCII to Unicode	
Recent Projects/WorkSpace		The state of the second	
Ext			
- 107722		throughe to ASCII	

The second se	ave As					? ×
+ 8 X	Savein	Desktop		2 0 1	• 🗗 🖬 •	
Noject Open Explorer Lists Rer: ** 3 C C C C C C C C C C C C C	My Decuments Deciments Decidents My Decuments My Computer	My Documents My Computer My Konsoliti Aduba Reader Aduba Reader Gougle Chrom Distalation W UrveClent McAfle Securi McAfle Securi McAfle Securi McAfle Securi ReadPlayer Calcifime Ray ReadPlayer TeamWever 6	laces 9 e tord 2 ty Scan Has tect Smart Client tect	UltraCompan UltraEdk af VIVOTDX BiacholePMC A4 45 46 802.1x-1 802.1x-1 802.1x-2 802.1x-3 802.1x	公用資料大 (位)*	C Blackhole)
	1	4				<u></u>
	My Network Places	File name: Save at type:	CAcet.cit			Save
		Line Terminator:	Default			
0.0049.07		format:	Defait	r correct uses or charge	-	
		AD5 Stream:	-	raaren 1975: Neueri NITTaloo	-	

9. Save the edit using the ".crt" extension, using a file name like "CAcert.crt."

10. Return to the original firmware session, use the **Browse** button to locate the crt certificate file, and click **Upload** to enable the certification.



11. When the certifice file is successfully loaded, its status will be stated as **Active**. Note that a certificate must have been created and installed before you can click on the "**Save**" button for the configuration to take effect.

5) annorr (1111	PS secure connect	
Mode:		
🕫 нтт	P&HTTPS C HT	TPS only
· Certificate:		
Certific	ate information	
Status		Active
Method		Create certificate request and install
Country	r.	TW
State of	r province:	Asia
Locality	r	Asia
Organs	zation;	VIVOTEK Inc.
Organiz	tation unit	VIVOTEK Inc.
Comm	on name:	www.wvotek.com
		Certificate properties. Remove certificate

12.To begin an encrypted HTTPS session, click **Home** to return to the main page. Change the URL address from "<u>http://</u>" to "<u>https://</u>" in the address bar and press **Enter** on your keyboard. Some Security Alert dialogs will pop up. Click **OK** or **Yes** to enable HTTPS.

Security Alert	X	Security Information
You are about to view pages ov Any information you exchange viewed by anyone else on the V liewed by anyone else on the V	with this site cannot be Web.	This page contains both secure and nonsecure items. Do you want to display the nonsecure items? Yes No More Info
	 not chosen to trust. View I you want to trust the certif The security certificate date 	here is a problem with the site's as issued by a company you have the certificate to determine whether fying authority. ate is valid.

Security > Access List

This section explains how to control access permission by verifying the client PC's IP address.

General	Settings
Γ	General settings
1	aximum number of concurrent streaming: 10 🗨 Connection management

<u>Maximum number of concurrent streaming connection(s) limited to</u>: Simultaneous live viewing for 1~10 clients (including all streams). The default value is 10. If you modify the value and click **Save**, all current connections will be disconnected and automatically attempt to re-link (IE Explorer or Quick Time Player).

<u>Connection management</u>: Click this button to display the connection status window showing a list of the current connections. For example:

	IP address	Elapsed time	User ID			
	192.168.1.147	12:20:34	root			
	61.22.15.3	00:10:09				
	192.168.3.25	45:00:34	greg			
Refresh Add to deny list Disconnect Close						

- IP address: Current connections to the Network Camera.
- Elapsed time: How long the client has been at the live view webpage (note that only clients currently at the live view window will be listed here).
- User ID: If the administrator has set a password for the webpage, the clients have to enter a user name and password to access the live video. The user name will be displayed in the User ID column. If the administrator allows clients to make a connection without a user name and password, the User ID column will be empty.

There are some situations which allow clients access to the live video without a user name and password:

- 1. The administrator does not set up a root password. For more information about how to set up a root password and manage user accounts, please refer to Security > User account on page 90.
- 2. The administrator has set up a root password, but set **RTSP Authentication** to "disable". For more information about **RTSP Authentication**, please refer to RTSP Streaming on page 81.
- 3. The administrator has set up a root password, but allows anonymous viewing. For more information about **Allow Anonymous Viewing**, please refer to page 90.
- Refresh: Click this button to refresh all current connections.
- Add to deny list: You can select entries from the Connection Status list and add them to the Deny List to deny their access. Please note that those checked connections will only be disconnected temporarily and they will automatically retry a connection (IE Explorer or Quick Time Player). If you want to enable the denied list, please check Enable access list filtering and click Save in the first column.

Disconnect: If you want to break off the current connections, please select them and click this button. Please note that those checked connections will only be disconnected temporarily and they will automatically retry a connection (IE Explore or Quick Time Player).

<u>Enable access list filtering</u>: Check this item and click **Save** if you want to enable the access list filtering function.

Filter

<u>Filter type</u>: Select **Allow** or **Deny** as the filter type. If you choose **Allow Type**, only those clients whose IP addresses are on the Access List below can access the Network Camera, and exclude the access from those that are not on the list. If you choose **Deny Type**, those clients whose IP addresses are on the Access List below will not be allowed to access the Network Camera, while those that are not on the list can.

Filter		
Filter type: 🔘 Allow 💿 Deny		

Then you can **Add** a rule to the following Access List. Please note that the IPv6 access list column will not be displayed unless you enable IPv6 on the Network page. For more information about **IPv6 Settings**, please refer to Network > Enable IPv6 on page 76 for detailed information.

Filter	
Filter type: 🔘 Allow 💿 Deny	
IPv4 access list	
Add Delete	
IPv6 access list	
Add Delete	

There are three types of rules:

<u>Single</u>: This rule allows the user to add an IP address to the Allowed/Denied list. For example:

Filter address
Rule: Single
IP address:
OK Cancel

<u>Network</u>: This rule allows the user to assign a network address and corresponding subnet mask to the Allow/Deny List in the CIDR format, e.g. 192.168.xx.xx/24. For example:

Filter address					
Rule: Network					
Network address / Network mask:	192.168.2	.0	/ 24		
OK Cancel					

IP address 192.168.2.x will be blocked.

<u>Range</u>: This rule allows the user to assign a range of IP addresses to the Allow/Deny List. Note: This rule is only applicable to IPv4 addresses. For example:

Filter address			
Rule: Range 💌			
IP address - IP address:	192.168.2.0	- 192.168.2.255]
OK Cancel			

Administrator IP address

<u>Always allow the IP address to access this device</u>: You can check this item and add the Administrator's IP address in this field to make sure the Administrator can always connect to the device.

Administrator IP address	
Always allow the IP address to access this device	
	Save

Security > IEEE 802.1x

Enable this function if your network environment uses IEEE 802.1x, which is a port-based network access control. The network devices, intermediary switch/access point/hub, and RADIUS server must support and have their 802.1x settings enabled.

The 802.1x standard is designed to enhance the security of local area networks, which provides authentication to network devices (clients) attached to a network port (wired or wireless). If all certificates between client and server are verified, a point-to-point connection will be enabled; if authentication fails, access on that port will be prohibited. 802.1x utilizes an existing protocol, the Extensible Authentication Protocol (EAP), to facilitate communication.

■ The components of a protected network with 802.1x authentication:



- 1. Supplicant: A client end user (camera), which requests authentication.
- 2. Authenticator (an access point or a switch): A "go between" which restricts unauthorized end users from communicating with the authentication server.
- 3. Authentication server (usually a RADIUS server): Checks the client certificate and decides whether to accept the end user's access request.
- VIVOTEK Network Cameras support two types of EAP methods to perform authentication: EAP-PEAP and EAP-TLS.

Please follow the steps below to enable 802.1x settings:

- 1. Before connecting the Network Camera to the protected network with 802.1x, please apply a digital certificate from a Certificate Authority (i.e., network administrator of your company) which can be validated by a RADIUS server.
- Connect the Network Camera to a PC or notebook outside of the protected LAN. Open the configuration page of the Network Camera as shown below. Select EAP-PEAP or EAP-TLS as the EAP method. In the following blanks, enter your ID and password issued by the CA, then upload related certificate(s).

IEEE 802.1x	
Enable IEEE 802.1x	
EAP method:	EAP-PEAP 🔽
Identity:	
Password:	
CA certificate:	Browse Upload
Status: no file	Remove

- IEEE 802.1x	
Enable 802.1x	
EAP method:	EAP-TLS 💌
Identity:	
Private key passord:	
CA certificate:	Browse Upload
Status: no file	Remove
client certificate:	Browse Upload
Status: no file	Remove
Client private key:	Browse Upload
Status: no file	Remove

3. When all settings are complete, move the Network Camera to the protected LAN by connecting it to an 802.1x enabled switch. The devices will then start the authentication automatically.



- ► Below is the authentication process for 802.1x:
- 1. The Certificate Authority (CA) provides the required signed certificates to the Network Camera (the supplicant) and the RADIUS Server (the authentication server).
- 2. A Network Camera requests access to the protected LAN using 802.1X via a switch (the authenticator). The client offers its identity and client certificate, which is then forwarded by the switch to the RADIUS Server, which uses an algorithm to authenticate the Network Camera and returns an acceptance or rejection back to the switch.
- 3. The switch also forwards the RADIUS Server's certificate to the Network Camera.
- 4. Assuming all certificates are validated, the switch then changes the Network Camera's state to authorized and is allowed access to the protected network via a pre-configured port.



PTZ > PTZ settings

This section explains how to control the Network Camera's Pan/Tilt/Zoom operation. The camera comes with built-in PTZ mechanisms.



Add a preset patrol

Preset positions and patrol settings

In the PTZ settings page, you can configure preset positions for the camera to travel through. A total of 256 preset positions can be configured. 40 of them can be configured into one patrol.

Please follow the steps below to configure preset positions and arrange them in a pan/tilt/zoom tour:

- 1. Adjust the shooting area to the desired position using the keypad on the upper right side of the window. The default **Home** position refers to the center position defaulted in the factory. You might as well select another area of interest as the "Home" position. You should also select the speeds for the actions that occur during the patrol; i.e., pan, tilt, zoom, focus, and the auto pan/patrol.
- 2. Enter a name for a new preset position, which can contain up to forty characters. Click **Add** to enable the settings. The preset positions will be listed on the **User preset locations**. (To add positions you wish, please repeat steps 1~2.)
- 3. Select the preset positions and click on the **Save** button at the bottom of the screen.
- 4. Click on the move button (>>) is to move positions to the Patrol locations window.
- 5. You may select some or all of the imported positions as the stop points during the tour.
- 6. Enter a preferred dwell time before the camera lens moves to the next position.
- 7. Select a **speed** level for the **auto patrol tour**.
- 8. Click on the **Save** button to preserve your configuration.

To remove a preset position from the list, select it and click **Remove**.

You can re-arrange the patrol order of the positions on the list using the **I** buttons.

Home location settings

Move your current field of view to a preferred location using the PTZ panel or mouse clicks on the screen, and use the below buttons to configure the current view as the default home position. You can also restore the home position to the factory default, which is approximately 45 degree looking down with the lens lined up with the VIVOTEK logo.

Home location settings	
Set current position as home	Restore home position to default

Patrol list

This column displays the configured patrols. Note that only one patrol can apply at a time. Use the ON/OFF buttons to enable/disable an existing patrol.

Use the buttons below to create a **recorded patrol** or a **preset patrol**.

Name	Status	Mode	
tour test	OFF	Recorded	Delete
preset patrol	ON	Preset	Delete
preset patrol2	OFF	Preset	Delete
prover paroie	011	110001	Delete
Add a recorded patrol		Add a preset patrol	

Recorded Patrol Add a recorded patrol

The recorded patrol allows you to record the process moving along interested points (positions) in your surveillance area while the camera memorizes every Pan/Tilt/Zoom/Focus commands you gave in the process. You can then save the process as a recorded patrol. Due to the limitation on system memory, you can configure 4 recorded patrols, each with a length of 2 minutes.



To create a recorded patrol,

- 1. Enter a name for the patrol.
- 2. Use mouse clicks or the PTZ panel to select a field of view as your start point.
- 3. Select the Pan/Tilt/Zoom/Focus speed, and the PTZ control mode.
- 4. You can then click on the Record button and start to scan through your surveillance area by moving along and staying at the points of your interest. Click the record button again to stop the recording when you visisted all of your points of interest. Zoom and focus are also supported.
- 5. You can use the playback button is to review your recorded patrol before you click the Save button. When you are satisfied with the recording, click Save and Close to leave the configuration page. Note that if you start a new recording without saving the previous one, the previous recording will be abandoned.



NOTE:

The Joystick mode simulates joystick control using your mouse. Move your mouse target cursor to the direction you want and click on the screen, the lens will move to that direction. You can click and hold down the mouse button to continue scanning.



Misc. settings:

Use the checkboxes and the pull-down menus for the camera to automatically resume the previous action or return to the home position after the camera has stayed idle for a period of time.

Misc settings			
PTZ control panel operation mode:	Continuous move 🗸		
Enable digital zoom	Auto	~	
Freeze image during patrol			
Zoom factor display			
Apply previous action	f the camera idles for 5	(1~999) seconds	
		[Save

<u>PTZ control panel operation mode</u>: This determines how your mouse and PTZ control panel works on a live view window.

— Misc settings —				
PTZ control panel operation mode:	Continuous move 🔻			
🗌 Enable digital zoom V Enabl	e zoom enhancement			
Zoom factor display				
Apply previous action 🔻	if the camera idles for	30 (1~	999) seconds	
				(
				Save

The **Continuous move** allows your screen control action to continue as long as you click and hold down the left mouse button. For example, if you click on the left button on the PTZ control panel, the camera's view should continuously rotate to the left until you release the button. The same applies to arrow keys, Zoom, and Focus buttons on the PTZ panel. If you select **Click to move**, every single mouse click takes effect for once without the ensuing moves.



Note that if your screen control malfunctions, it is possible that the CPU of your current view station can not cope with the HD video feeds or that an incompatibility issue occurred with the ActiveX control plugins.

The **One-time focus** option enables you to disable the continuous focus actions when zooming in or out in a low light condition. You can disable the continuous focus actions and manually change the focus.

If you select the **Enable digital zoom** checkbox, you will be able to zoom in on an image by up to 360X

magnification with the combination of the 30x mechanical zoom and another 12X digital zoom.

The **Freeze image during patrol** skips the display of the process when moving from one position to another. Only the preset points are displayed.

Apply previous action if the camera idles for __(1~999) seconds: You can assign an action to be taken when the camera sits idle for a configurable period time. For example, you can let camera resume a patrol tour. The resumed patrol will continue from the last preset position. You may also let the camera return to the home position. The idle state does not include the situations when the camera is performing pan or patrol action.

Return to home position: When no activities occur after a configurable period of time, let the camera's lens return to the default home position.

Positions on the Home page

The **Preset positions** will also be displayed on the home page. Select one from the Go to drop-down list, and the Network Camera will move to the selected position.

Pan button: Click this button to start the 360° horizontal auto pan.

Patrol button: Click this button, then the Network Camera will patrol continuously among the selected positions.



PTZ > Calibrate

This function re-calibrates the home position to the default center to recover any displacement caused by external forces. Please note that there is no confirm message after using the function, and the calibration immediately takes place. If, after a long use, a user finds it is difficult to move camera's field of view to a specific point, use this function to restore the camera's orginal coordinates in pan and tilt motions.

PTZ > Calibrate	
Calibrate	
Recalibrate the home position to the default center to recover the tolerance ca	used by some external
forces.	
	Calibrate
Auto tracking

In this window, you can modify the minimum object size as the triggering factor while performing the Auto Tracking function. You can move the camera view to an area of your interest, estimate, and define the possible size of objects. For example, you can designate the object size such as that of a human trespasser. The silhouette of the tresspasser must be larger than the whole of the object size square box. The minimum object size is 30x30 pixels within a 320x420 view window.

Use the slide bar to tune the sensitivity of the tracking function.



This function stops when the user clicks on any buttons on the PTZ panel, or a mouse click takes place on a view window.

Users can choose to perform other functions, such as pan or patrol, simply by clicking their buttons on the PTZ panel while the camera is performing the auto tracking function.

When Auto Tracking is taking place, a "Tracking" message is displayed on the message bar.



Auto tracking is configured by designating the minimum object size. Moving objects that enter the current region of view will trigger the tracking action.

Auto tracking, if applied, is designed to track an intruder in a place where human traffic is not heavy, such as a warehouse or a load area. Heavy traffic can result in a constant shift of tracked objects, and reduce the effectiveness of the feature.





The conditions for using this function are listed below:

- 1. The speed dome can track one object at a time.
- 2. If multiple objects are present in the FOV, the camera tracks the object that is farthest from the camera.
- 3. If a tracked object stays motionless for 10 seconds, camera will abandon it and start tracking another object that is farthest away from the center.
- 4. The zoom-in ratio while tracking is determined by the zoom ratio of the camera lens when the tracking is triggered.
- 5. Manual control always has a higher priority than Auto tracking, such as using a joystick to pan or tilt or using a click on VAST view cell.
- 6. Objects can easily move away from an FOV when the zoom-in ratio is high. Therefore, it is recommended not to zoom in too much on where the Auto tracking is expected to take place.

Event > Event settings

This section explains how to configure the Network Camera to responds to particular situations (event). A typical application is that when a motion is detected, the Network Camera sends buffered images to an FTP server or e-mail address as notifications. Click on **Help**, there is an illustration shown in the pop-up window explaining that an event can be triggered by many sources, such as motion detection or external digital input devices. When an event is triggered, you can specify what type of action will be performed.

Name	Status Su	ın Mon Tu	e Wed	l Thu Fi	ri Sat	Time	Trigger
Add	Help						close or Esc Key
		E	vent Trigg	ger —	> Actio	on (What to d	0)
			tion detection	on, Periodically,	1	\ \	· ·
		DI	gital input, S	ystem boot			
					K	7	
				Media (Wh	at to send)		(Where to send)
				EX.	K at to send)	Ex.	(Where to send)

Event

An event is an action initiated by a user-defined trigger source. In the **Event** column, click **Add** to open the event settings window.

Event						
Name Status	Sun Mon	Tue Wed Thu	ı Fri Sat	Time	Trigger	
Add Hel	D					
Event name:						
Priority: Normal						
Detect next motion detection	or digital input	tafter 10 se	cond(s).			
1. Schedule	Time	Mon 🕡 Tue 📝 Always	Wed 🔽 Thu 💟 🛛			
2. Trigger			24.00			
3. Action						
				Close	Save event	

- Event name: Enter a name for the event setting.
- Enable this event: Select this option to enable the event setting.
- Priority: Select the relative importance of this event (High, Normal, or Low). Events with a higher priority setting will be executed first.
- Detect next motion detection or digital input after
 seconds: Enter the duration in seconds to pause motion detection after a motion is detected.

Follow the steps 1~3 to arrange the three elements -- Schedule, Trigger, and Action to configure an action to take when an event is triggered. You can configure 3 event-triggered conditions.

1. Schedule

Specify the time span for the event-triggering condition. Please select the days of the week and the time in a day (in 24-hr time format) for the recording schedule.

2. Trigger

This is the cause or stimulus which defines when to trigger the Network Camera. The trigger source can be configured to use the Network Camera's built-in motion detection mechanism or external digital input devices.

There are several choices of trigger sources as shown on next page. Select the item to display the detailed configuration options.

Video motion detection

This option makes use of the built-in motion detection mechanism as a trigger source. To enable this function, you need to configure a Motion Detection Window first. For more information, please refer to Motion Detection on page 126 for details.

Video motion detection		
Normal: 📄 door		
Profile: 📄 hallway		
Note: Please configure	Motion detection	iirst

Periodically

This option allows the Network Camera to trigger periodically for every other defined minute. Up to 999 minutes are allowed.



Trigger ever	y other 1	minutes

Digital input

This option allows the Network Camera to use an external digital input device or sensor as a trigger source. Depending on your application, there are many choices of digital input devices on the market which helps to detect changes in temperature, vibration, sound, and light, etc.

System boot

This option triggers the Network Camera when the power to the Network Camera is disconnected and reconnected.

Recording notify

This option allows the Network Camera to trigger when the recording disk is full or when recording starts to rewrite older data.

Audio detection

A preset threshold can be configured with an external microphone as the trigger to system event. The triggering condition can be an input exceeding or falling below a threshold. Audio detection can take place as a complement to motion detection or as a method to detect activities not covered by the camera's view. Please refer to page 129 **Applications** > **Audio detection** for more details.

Audio detection

Normal: Trigger event when detected audio	rises above 💌	alarm level
Profile: Trigger event when detected audio	rises above 💌	alarm level
Note: Please configure Audio detection first		

Once you have a preset audio alarm level, you can define the triggering condition either as an audio input rises above or falls below the alarm level.

Manual triggers

An event can be manually triggered by the manual trigger buttons on the main page.

VADP

It is presumed that you already uploaded and enabled the VADP modules before you can associatee VADP triggers with an Event setting.

Click on the Set VADP Trigger button to open the VADP setup menu. The triggering conditions available with 3rd-party software modules known as VADP will be listed. Use the arrow buttons to select these triggers. Users may implant these modules for different purposes such as triggering motion detection, or applications related to video analysis, etc. Please refer to page 132 for the configuration options with VADP modules.

Triggers for Event Settings
Close Save

3. Action

Define the actions to be performed by the Network Camera when a trigger is activated.

	Action	
	Action	
1. Schedule	Trigger digital output 1 for 1 seco	onds
	Trigger digital output 2 for 1 seco	onds
	Backup media if the network is disconnet	ected
+	Move to preset location: p1 💌	
2. Trigger	Note: Please configure Preset locations firs	t
	Server Media	Extra parameter
	SDNone SD test Vie	
0. 4-6		
3. Action	NASNone	olders by date time and hour automatically
	View	
	Add server 💟 Add media 💟	

- Trigger digital output for □ seconds Select this option to turn on the external digital output device when a trigger is activated. Specify the length of the trigger interval in the text box.
- Backup media if the network is disconnected Select this option to backup media file on SD card if the network is disconnected. Please note that this function will only be displayed after you set up a networked storage (NAS). For more information about how to set up network storage, please refer to page 137.
- Trigger auto tracking Auto tracking starts by the occurrence of another trigger.
- Move to preset location

Select a preset location you've configured. Note that please configure **Preset locations** first. For detailed information, please refer to page 106. Another checkbox will appear, **Capture media after moving to the location**. You can select to record associated snapshot, video clip or system event once the event is triggered and the camera moves to the preset location. See Add Media in the following discussion.

To set an event with recorded video or snapshots, it is necessary to configure the server and media settings so that the Network Camera will know what action to take (such as which server to send the media files to) when a trigger is activated.



If you configured a motion detection window as a trigger, the motion detection may become invalid when the camera's field of view moved away from the detection window.

You can let camera return to the motion detection position to detect the coming event by re-configuring your Home position in **PTZ > PTZ settings** (see page 103) or turn the camera to a preset position.



Add server

Click **Add server** to unfold the server setting window. You can specify where the notification messages are sent when a trigger is activated. A total of 5 server settings can be configured.

There are four choices of server types available: Email, FTP, HTTP, and Network storage. Select the item to display the detailed configuration options. You can configure either one or all of them.

Add server	Add media 👽	
Server name:	Email	
Server type		
Email		
Sender e	email address:	Camera@vivotek.com
Recipien	t email address:	VIVOTEK@vivotek.com
Server a	ddress:	Ms.vivotek.tw
User nar	me:	
Passwoi	rd:	
Server p	ort	25
This	server requires a se	cure connection (SSL)
FTP		
HTTP		
Network sto	rage	
	Test	Close Save server

Server type - Email

Select to send the media files via email when a trigger is activated.

- Server name: Enter a name for the server setting.
- Sender email address: Enter the email address of the sender.
- Recipient email address: Enter the email address of the recipient.
- Server address: Enter the domain name or IP address of the email server.
- User name: Enter the user name of the email account if necessary.
- Password: Enter the password of the email account if necessary.
- Server port: The default mail server port is set to 25. You can also manually set another port.

If your SMTP server requires a secure connection (SSL), check **This server requires a secure connection (SSL)**.

To verify if the email settings are correctly configured, click **Test**. The result will be shown in a pop-up window. If successful, you will also receive an email indicating the result.

🗟 hay 17197 1585 1725 ya bada bada matariwa ngi - 👘 💽 🔯	🗿 hey 1997 i 101 5-121 hey-biologian (between ees - 👘 📰 🔯
The email has been out successfully.	Eror in cending email.

Click **Save server** to enable the settings, then click **Close** to exit the Add server page.

After you set up the first event server, a new item for event server will automatically show up on the Server list. If you wish to add more server options, click **Add server**.

Server	Media			Extra parameter
SD	None 💌	<u>SD test</u>	<u>View</u>	
Email	None 💌			
Add serve	er 💟 Add med	lia 🔽		

Server type - FTP

Select to send the media files to an FTP server when a trigger is activated.

Add server	Add media 💟			
Server name:	FTP			
Server type				
Email				
FTP				
Server ac	ldress:	ftp.vivotek	vom	
Server port:		21]	
User name:		vivotek		
Password:		•••••		
FTP folder name:				
🔽 Pass	ive mode			
HTTP				
Network stor	rage			
	Test		Close	Save server

- Server name: Enter a name for the server setting.
- Server address: Enter the domain name or IP address of the FTP server.
- Server port: By default, the FTP server port is set to 21. It can also be assigned to another port number between 1025 and 65535.
- User name: Enter the login name of the FTP account.
- Password: Enter the password of the FTP account.
- FTP folder name

Enter the folder where the media file will be placed. If the folder name does not exist, the Network Camera will create one on the FTP server.

Passive mode

Most firewalls do not accept new connections initiated from external requests. If the FTP server supports passive mode, select this option to enable passive mode FTP and allow data transmission to pass through the firewall.

To verify if the FTP settings are correctly configured, click **Test**. The result will be shown in a pop-up window as shown below. If successful, you will also receive a test.txt file on the FTP server.

🗟 http://192.168.5.121/cgi-bin/admin/textserver.cgi 💽 🛅 🔀	🏂 http://192.160.5.121/cgi-hin/admin/testeerver.cgi – 🔳 🛅 🔀
ftp transmission successfully.	ftp transmission failed.

Click **Save server** to enable the settings, then click **Close** to exit the Add server page.

Server type - HTTP

Select to send the media files to an HTTP server when a trigger is activated.

Add server Add	<u>l media</u> 🔽		
Server name: HTTP	2		
Server type			
Email			
◎ FTP			
HTTP			
URL:		http://192.168.5.10/cgi-	bin/upload.cgi
User name:			
Password:			
Network storage			
	Test	Close	Save server

- Server name: Enter a name for the server setting.
- URL: Enter the URL of the HTTP server.
- User name: Enter the user name if necessary.
- Password: Enter the password if necessary.

To verify if the HTTP settings are correctly configured, click **Test**. The result will be shown in a pop-up window as below. If successful, you will receive a test.txt file on the HTTP server.



Click **Save server** to enable the settings and click **Close** to exit the Add server page.

Network storage:

Select to send the media files to a network storage location when a trigger is activated. Please refer to **NAS server** on page 137 for details.

Click **Save server** to enable the settings, then click **Close** to exit the Add server page.

Server Media Extra parameter
□ SDNone ▼ <u>SD test</u> <u>View</u>
Add server Add media
Server name:
Server type
⊖ Email
○ FTP
О нттр
Network storage
Network storage location:
(For example: \\my_nas\disk\folder)
Workgroup:
User name:
Password:
Test Save server Close

SD Test: Click to test your SD card. The system will display a message indicating success or failure. If you want to use your SD card for local storage, please format it before use. Please refer to page 140 for detailed information.

Add media

Click **Add media** to open the media setting window. You can specify the type of media that will be sent and preserved when a trigger is activated. A total of 5 media settings can be configured. There are three choices of media types available: Snapshot, Video Clip, and System log. Select the item to display the detailed configuration options. You can configure either one or all of them.

Add server 🛇 Add media
Media name: Snapshot
Media type
Attached media:
Snapshot
Source: Stream 1 💌
Send 1 pre-event image(s) [0~7]
Send 1 post-event image(s) [0~7]
File name prefix: Snapshot_
Add date and time suffix to file name
Video clip
System log
Close Save media

<u>Media type - Snapshot</u>

Select to send snapshots when a trigger is activated.

- Media name: Enter a name for the media setting.
- Source: Select to take snapshots from stream 1 ~ 4. (The following options are available when the check circle is selected.
- Send □ pre-event images

The Network Camera has a buffer area; it temporarily holds data up to a certain limit. Enter a number to decide how many images to capture before a trigger is activated. Up to 7 images can be generated.

■ Send post-event images

Enter a number to decide how many images to capture after a trigger is activated. Up to 7 images can be generated.

For example, if both the Send pre-event images and Send post-event images are set to 7, a total of 15 images are generated after a trigger is activated.



File name prefix

Enter the text that will be appended to the front of the file name.

Add date and time suffix to the file name Select this option to add a date/time suffix to the file name. For example:

Snapshot_20110320_100341						
↑	↑					
File name prefix	Date and time suffix The format is: YYYYMMDD_HHMMSS					

Click **Save media** to enable the settings, then click **Close** to exit the Add media page.

After you set up the first media server, a drop-down menu of existing medias will be available on the Media list. If you wish to add more media options, click **Add media** again.

	Server	Media	Extra parameter
	SD	None	SD test View
	NAS	Snapshot None 💌	Create folders by date time and hour automatically <u>View</u>
<u>A</u>	dd serve	er 💟 Add med	

Media type - Video clip

Select to send video clips when a trigger is activated.

Add server 🛇 Add media
Media name: VideoClip
Media type
Attached media:
Snapshot
Video clip
Source: Stream 1 💌
Pre-event recording: 0 seconds [0~9]
Maximum duration: 5 seconds [1~20]
Maximum file size: 500 Kbytes [50~8192]
File name prefix: videoclip
System log
Close Save media

- Media name: Enter a name for the media setting.
- Source: Select the source of video clip.
- Pre-event recording

The Network Camera has a buffer area; it temporarily holds data up to a certain limit. Enter a number to decide the duration of recording before a trigger is activated. Up to 9 seconds can be set.

Maximum duration

Specify the maximum recording duration in seconds. Up to 20 seconds can be set. For example, if pre-event recording is set to 5 seconds and the maximum duration is set to 10 seconds, the Network Camera continues to record for another 4 seconds after a trigger is activated.



 Maximum file size Specify the maximum file size allowed.

File name prefix Enter the text that will be appended to the front of the file name. For example:

Video_20110320_100341					
1	↑				
File name prefix	Date and time suffix The format is: YYYYMMDD_HHMMSS				

Click Save media to enable the settings, then click Close to exit the Add media page.

Media type - System log

Select to send a system log when a trigger is activated.

Add server 💟 Add media		
Media name: System log		
Media type		
Attached media:		
Snapshot		
Video clip		
System log		
	Close	Save media

Click **Save media** to enable the settings, then click **Close** to exit the Add media page.

Action	
Trigger digital output 1 for	1 seconds
Trigger digital output 2 for	1 seconds
Backup media if the netwo	rk is disconnected
Move to preset location: U	
Note: Please configure Preset	Locations first
Server Media	Extra parameter
SDNone	SD test View
Email Snapshot Video clip]
FTP System log]
HTTPNone]
NASNone 💌	Create folders by date time and hour automatically <u>View</u>
Add server 👽 Add me	dia 🔽

View: Click this button to open a file list window. This function only apllies when an SD card and networked storage are available.

If you click **View** button of SD card, a Local storage page will pop up for you to manage recorded files on SD card. For more information about Local storage, please refer to page 140. If you click **View** button of Network storage, a file directory window will pop up for you to view recorded data on Network storage.

Create folders by date, time, and hour automatically: If you check this item, the system will automatically create sub-folders named by the date.

The following is an example of a file destination with recorded video clips:



Click to delete selected items

Click 20140320 to open the directory:



< 07 <u>08 09 10 11 12 13 14 15 16 17 ></u>							
file name size date time							
Video Clip_58. np4	2526004	2014/03/20	07:58:28				
Video Clip_59. np4	2563536	2014/03/20	07:59:28				
Delete all Back							

The format is: File name prefix + Minute (mm)

You can set up the file name prefix on Add media page.

is an example of the E	vent setting.
Event name: event#1	
Enable this event	
Priority: Normal	
Detect next motion detection o	r digital input after 10 second(s).
	Action
1. Schedule	Trigger digital output 1 for 1 seconds
	Trigger digital output 2 for 1 seconds
	Backup media if the network is disconnected
*	Wove to preset location: position 14
2. Trigger	Capture media after moving to the location
	Note: Please configure Preset locations first
	Server Media Extra parameter
3. Action	SD SD SD SD test View
	✓ NAS video ✓ Create folders by date time and hour automatically View
	emailNone
	Add server 🛇 Add media 🛇

Here is an example of the Event setting:

When completed the settings with steps 1~3 to arrange Schedule, Trigger, and Action of an event, click **Save event** to enable the settings and click **Close** to exit the page.

The following is an example of the Event setting page:

Event											
Name	Status	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Time	Trigger	
Event1	<u>ON</u>	V	V	V	V	V	V	V	00:00~24:00	boot	Delete
Add	He	<u>q</u> l									

Server settings

Name	Туре	Address/Location	
NAS	ns	\\172.16.4.39\nas	Delete
Add]		

Media ———		
Available memory	space: 13000KB	
Name	Туре	
<u>Snapshot</u>	snapshot	Delete
Video clip	videoclip	Delete
System log	systemlog	Delete
Add		

When the Event Status is <u>ON</u>, once an event is triggered by motion detection, the Network Camera will automatically send snapshots via e-mails.

If you want to stop the event trigger, you can click <u>ON</u> to turn it to <u>OFF</u> status or click **Delete** to remove the event setting.

To remove a server setting from the list, select a server name and click **Delete**. Note that you can only delete a server setting when the server setting is currently not applied to an event setting.

To remove a media setting from the list, select a media name and click **Delete**. Note that you can only delete a media setting when the media setting is currently not applied to an event setting.

Customized Script

This function allows you to upload a sample script (.xml file) to the camera, which will save your time on configuring the settings. Please note that there is a limited number of customized scripts you can upload; if the current amount of customized scripts has reached the limit, an alert message will prompt. If you need more information, please contact VIVOTEK technical support.

	Customized S	Script			
	Name	Date	Time		
	<u>User1</u>	2014/03/20	18:13:46		
	<u>User2</u>	2014/03/20	18:11:32		
Click to upload a file —	Add User1 🗸	Delete			
Click to modify the script online	of mail is the log mes (process>	2"> ess> 30:00 on Monday to Fr Oc/time> (/status> em log to email adddr on> enc> mail with title "Motic sages> "Motion" -f IF71398y ek.com	ess on" to recipient puddi	ng.yang§vivotek.com. The body g/messages -5 ms.vivotek.tw -	8

Applications > Motion detection

This section explains how to configure the Network Camera to enable motion detection. A total of 5 motion detection windows can be configured.



Follow the steps below to enable motion detection:

- 1. Click New to add a new motion detection window.
- 2. In the Window Name text box, enter a name for the motion detection window.
 - Use 4 mouse clicks to designate a detection window. You can change the window shape by dragging the corner marks to a preferred location.
 - Drag the item size tab to change the minimum size of item to trigger an alarm. An item size box will appear in the center of screen for your reference (in semi-transparent red). An intruding object must be larger than the Item size to trigger an alarm. Change the item size according to the live view.
 - To delete a window, click the X mark on the right of the window name.
- 3. Define the sensitivity to moving objects by moving the Sensitivity slide bar. Note that a high sensitivity is prone to produce false alarms such as the fast changes of light (such as day/night mode switch, turning lights on/off). A movement must persist longer than 0.3 second for the motion to be detected.
- 4. Click Save to enable the settings.

[v] Enable motion detection

5. Select Enable motion detection to enable this function.

For example:

068	Window name Motion1 35	
	060 tem scar 17	
Bensibuty 10%		

The Percentage Indicator will rise or fall depending on the variation between sequential images. When motions are detected by the Network Camera and are considered to exceed the preset threshold, the red bar rises. Meanwhile, the motion detection window will be outlined in red.

Photos or videos can be captured instantly and configured to be sent to a remote server (via an Email or FTP server). For more information on how to configure an event setting, please refer to Event settings on page 111.

A green bar indicates that even though motions have been detected, the event has not been triggered because the image variations still fall under the preset threshold.



If you want to configure other motion detection settings for day/night/schedule mode (e.g., for a different lighting condition), please click **Profile** to open the Motion Detection Profile Settings page as shown below. Another three motion detection windows can be configured on this page.

			Window name	
			Motion1	38
	06B	060	Item size: 15	
			Enable to apply	these settings at
get.		 	Night mode	
Sonoitiuth: 90%			O Schedule mo	de [hh:mm]
Sensitivity: 80%	0			

Please follow the steps beolw to set up a profile:

- 1. Create a new motion detection window.
- 2. Click the Profile mode tab.
- 3. Select the applicable Schedule mode. Please manually enter a time range.
- 4. Click **Save** to enable the settings and click **Close** to exit the page.

This motion detection window will also be displayed on the Event Settings page. You can go to **Event > Event settings > Trigger** to select it as a trigger source. Please refer to page 112 for detailed informatio.



There are two motion detection parameters: Sensitivity and Min. Item Size. As illustrated above, frame A and frame B are two sequential images. Pixel differences between the two frames are detected and highlighted in gray in which the sensitivity setting will take effect. Sensitivity is a value that expresses the sensitivity to moving objects. A higher sensitivity setting allows camera to detect slight movements while a lower sensitivity setting will neglect them.

The minimum item size is a threshold value that determines how many "alerted pixels" can trigger an event. When the size of an intruding object is larger than the minimum size, and its movement persist for 0.3 second, the motion is judged to exceed the defined threshold; and the motion window will be outlined in red. With a large minimum item size, the size of moving object in frame C is considered as smaller than the minimum item size, no motion alarm is triggered. With a smaller minimum item size, the same moving object in frame D triggers the alarm.

For applications that require a high level of security management, it is suggested to use **higher** sensitivity settings. However, a higher sensitivity level can also produce false alarms due to fast light changes when switching between the day and night modes, AE switch, turning the light on or off, etc.

Applications > DI and DO

Digital input 1		
Normal status:	● High [©] Low	
Current status:	High	
Digital input 2		
Normal status:	R High 🔿 Low	
Current status:	High	
Digital input 3		
Normal status	🛞 High \ominus Low	
Current status	High	
Digital input 4		
Normal status	🛞 High 🗇 Low	
Current status:	High	
Digital output 1		
Normal status:	🖲 Open 💿 Grounded	
Current status:	Open	
Digital output 2		
Normal status:	Open Grounded	
Current status.	Open	
	<i>(</i>	ave

<u>Digital input</u>: Select High or Low to define normal status for the digital input. Connect a digital input from a sensor device to the camera, the Network Camera will report the current signal status. You may then configure the Normal status (non-trigger status) as High or Low.

<u>Digital output</u>: Select High or Low to define normal status for the digital output. Connect an output line to an external device, the Network Camera will report the current signal status. You may then configure the Normal status (non-trigger status) as High or Low.

Set up the event source as DI on **Event > Event settings > Trigger.** Please refer to page 112 for detailed information.

Applications > Audio detection

Audio detection, along with video motion detection, is applicable in the following scenarios:

- 1. Detection of activities not covered by camera view, e.g., a loud input by gun shots or breaking a door/ window.
- 2. A usually noisy environment, such as a factory, suddenly becomes quiet due to a breakdown of machines.
- 3. A PTZ camera can be directed to turn to a preset point by the occurrence of audio events.
- 4. Dark environments where video motion detection may not function well.

100 90				Alarm Lev
80			1	
70 60	0.0~	(
50	-70		Lan	
40				
30 20				
10				
0				

The red circles indicate where the audio alarms can be triggered when breaching or falling below the preset threshold.

How to configure Audio detection:

- 1. Once the Audio detection window is opened, the current sound input will be interactively indicated by a fluctuating yellow wave diagram.
- 2. Use a mouse click to drag the Alarm level tab to a preferred location on the slide bar.
- 3. Select the "Enable audio detection" checkbox and click Save to enable the feature.

NOTE:

- 1. Note that the volume numbers (0~100) on the side of wave diagram does not represent decibel (dB). Sound intensity level has already been mapped to preset values. You can, however, use the realworld inputs at your installation site that are shown on the wave diagram to configure an alarm level.
- 2. To configure this feature, you must not mute the audio in **Configuration > Media > Audio**. The default of the camera can be muted due to the lack of an internal microphone. An external microphone is provided by users.

You can use the **Profile** window to configure a different Audio detection setting. For example, a place can be noisy in the day time and become very quiet in the night.

- 1. Click on the **Enable this profile** checkbox. Once the Audio detection window is opened, the current sound input will be interactively indicated by a fluctuating yellow wave diagram.
- 2. Use a mouse click to drag the **Alarm level** tab to a preferred location on the slide bar.
- 3. Select the **Day**, **Night**, or **Schedule** mode check circles. You may also manually configure a period of time during which this profile will take effect.
- 4. Click **Save** and then click **Close** to complete your configuration.

100		
90		Alarm Leve
80		Volume
70		
60		
50		
40		
30		
20		
10		
0		
eneral settings		
Enable this profile		
his profile is applied to:		
Day mode		
Night mode		
Night mode Schedule mode		



MIMPORTANT:

- If the Alarm level and the received volume are set within a range of 20% on the wave diagram, frequent alarms will be triggered. It is recommended to set the Alarm level farther apart from the detected sound level.
- To configure and enable this feature, you must not configure video stream #1 into motion jpeg. If an external microphone input is connected and recording of audio stream is preferred, audio stream is transmitted between camera and viewer/recording station along with stream #1.
- Refer to page 71 for Audio settings, and page 65 for video streaming settings.

Applications > Package management (VADP - VIVOTEK Application Development Platform)

Upload package Save to SD card Select file			Brow	/se U	pload
Resource status					
🐨 Storage status:					
storage_size:	10240 KBytes	Free size:		10240 KB)	rtes
SD card status: De	tached				
Total size:	0 KBytes	Free size:		0 KBytes	
Used size:	0 KBytes	Use (%):		0 %	
🐭 Memory status:					
Total size:	24576 KBytes	Free size:	2	4576 KByt	es
— Module list ——					
Module na	me Ve	ndor V	ersion	Status	License
Start	Stop				

Users can store and execute VIVOTEK's or 3rd-party software modules onto the camera's flash memory or SD card. These software modules can apply in video analysis for intelligent video applications such as license plate recognition, object counting, or as an agent for edge recording, etc.

- Once the software package is successfully uploaded, the module configuration (vadp.xml) information is displayed. When uploading a module, the camera will examine whether the module fits the predefined VADP requirements. Please contact technical support or the vendor of your 3rd-party module for the parameters contained within.
- Users can also run VIVOTEK's VADP packages as a means to access updated functionality instead of replacing the entire firmware.
- Note that for some cameras the flash is too small to hold VADP packages. These cameras will have its "Save to SD card" checkbox selected and grayed-out for all time.
- The file system of SD card (FAT32) does not support soft (symbolic) link. It will return failure if your module tries to create soft links on SD card.

To utilize a software module, acquire the software package and click **Browse** and **Upload** buttons. The screen message for a successful upload is shown below:



To start a module, select the checkcircle in front, and click the **Start** button.

5						
Module	name	Vendor	Version	Status	License	÷
Hello V	<u>Vorld</u>	ABC	1.0.0	ON	yes	
Backup	Reload	Restore	Sta	art	Stop	

If you should need to remove a module, select the checkcircle in front and then click the **Stop** button. By then the module status will become **OFF**, and the **X** button will appear at the end of the row. Click on the **X** button to remove an existing module.

	Module	name	Vendor	Version	Status	License	Ŧ
۲	Hello World		ABC	1.0.0	ON	no	
Ba	ickup	Reload	Restore	St	art	Stop	

When prompted by a confirm message, Click **Yes** to proceed.



Note that the actual memory consumed while operating the module will be indicated on the **Memory status** field. This helps determine whether a running module has consumed too much of system resources.

On the License page, use the Manual or Automatic optionsto register and activate the license for using VIVOTEK's VADP modules. The Automatic method requires an Internet connection. Without Internet connection, you should acquire the license key elsewhere, and manually upload to the network camera.

Follow the onscreen instruction on VIVOTEK's website for the registration procedure.

Status	License							
– Mai	nual Lice	ense						
	To receive a license key for VADP application, go to <u>http://www.vivotek.com</u> and join the VVTK member. This device's VADP number is: 							
BbN	BbM79RE=OdGu1PIUEqJRFgc8sacoRs7g4PX(
Sele	ct file	Browserr No file selected. Upload						
– Aut	- Automatic License							
Plea	Please join the WTK member first http://www.vivotek.com/register/							
Appl	ications	Select Module 💌						
Ema	il							
Pass	sword							
Cou	ntry	Select Country 💌						
Verti	cal	Select Vertical 💌						
	nstall							

You can proced with the following link to download a license key: http://www.vivotek.com/vadp-introduction/ or http://w3.vivotek.com/login.aspx.

When the license key is downloaded to your computer, upload the key to the camera.

AboutUs	Products	Support	Downloads	Events	Press Room	Where to Buy	Allance
Nelwork Caru	eras Video	Servers N	IVR Software	Accesso	ries Selection	Charl	
tequest \	/CA Lice	ense Ke	У				
			the VADP numb F and upload at 1			/ADF numbers you	i have.
Ø Get Si	ingle Lic	ense Key	/ Cet	Multipl	e License	Keys	
Application				VC	A		
oMali					user@gm	ail.com	
Vertical				Lduo	ation	~	
Sountry				Booni	a	~	
WOP	number			WN	08PPrZM	MO8acGd	
				s	ubmit		
Privacy Policy & Copyright 40 201 VIVCULIE Inc. 8		maat Lis (Joh	Opportunities 1	westor Rel	ations (My Pinti	le	

Recording > Recording settings

This section explains how to configure the recording settings for the Network Camera.

Recording Settings

-					In	sert	your	SD card a	nd click	here to test	
Recordin	ng sett	tings -									
Name S	Status	Sun M	on Tue	Wed	Thu	Fri	Sat	Time	Source	Destination	Delete
Add		<u>SD te</u>	<u>st</u>								

NOTE:

Please remember to format your SD card when using it for the first time. Please refer to page 140 for detailed information.

Recording Settings

Click **Add** to open the recording setting window. On this page, you can define the adaptive recording, recording source, recording schedule, and recording capacity. A total of 2 recording settings can be configured.

onngureu.	Recording name: Video	
	Enable this recording	
	👿 With adaptive recording	
	Pre-event recording: 5	seconds [0~9]
	Post-event recording: 5	seconds [0~10]
	Priority: Normal 💌	
	Source: Stream 1 💌	
	Γ	Trigger
	1. Trigger	Schedule
		🗸 Sun 🖉 Mon 🖉 Tue 🖉 Wed 🖉 Thu 🖉 Fri 🖉 Sat
		Time
	2. Destination	Always From 00:00 to 24:00 [hh:mm]
		From 00:00 to 24:00 [hh:mm] Network fail
	Note: To enable recording notifi	cation please configure <u>Event</u> first
		Close Save

- Recording name: Enter a name for the recording setting.
- Enable this recording: Select this option to enable video recording.
- With adaptive recording:

Select this option will activate the frame rate control according to alarm trigger. The frame control means that when there is alarm trigger, the frame rate will raise up to the value you've set on Stream setting page. Please refer to page 66 for more information.

If you enable adaptive recording and enable time-shift cache stream on Camera A, only when an event is triggered on Camera A will the server record video streams in the full frame rate; otherwise, it will only request the I frame data during normal monitoring, thus effectively save lots of bandwidth and storage.



The alarm trigger includes: motion detection and DI detection. Please refer to Event settings on page 111.

- Pre-event recording and post-event recording The Network Camera has a buffer area; it temporarily holds data for up to a certain limit. Enter a number to decide the duration of recording that will take place before and after a trigger is activated.
- Priority: Select the relative importance of this recording (High, Normal, or Low). Recording with a higher priority setting will be executed first.
- Source: Select a stream as the recording source.

NOTE:

► To enable recording notification, please configure *Event* settings first. Please refer to page 111.

Please follow steps 1~2 below to set up the recording:

Select a trigger source.	
	- Trigger
	Schedule
	🕼 Sun 🕼 Mon 🕼 Tue 🕼 Wed 🕼 Thu 🕼 Fri 🕼 Sat
	Time
	Always Alw
	From 00:00 to 24:00 [hh:mm]
	Network fail

- Schedule: The server will start to record files on the local storage or to a networked storage device (NAS).
- Network fail: Since the time when the network fails, the server will start to record files on the local storage (SD card).

Triggor

2. Destination

You can select the SD card or network attached storage (NAS) for recording video files.

	Destination		
1. Trigger	Destination: SD		
	Recording file management		
Ļ	Maximum duration: 1 minutes [1~30]		
	Maximum file size: 100 MB [1~900]		
2. Destination	File name prefix:		
	Add NAS server		
Note: To enable recording no	otification please configure <u>Event</u> first		
		Save	Close

NAS server

Click Add NAS server to open the server setting window and follow the steps below to set up:

- 1. Fill in the information for your server.
 - For example:

	Add NAS server						
	3	3				7	
	Server name:	NAS					
	Server type				orage path me or IP ado	dress\t	folder name)
1	Network sto	rage					
	Network storage location: \\192.168.5.122\nas						
	(For example: \\my_nas\disk\folder)						
	Workgro	up:		vivotel	(
	User nar	me:	\langle	ritali			name and vord for your
	Passwo	rd:	\sim	••••		serve	· · · · · ·
			Test		Close		Save server
			2		4		

2. Click **Test** to check the setting. The result will be shown in the pop-up window.

🐴 http://192.168.5.151/cgi-bin/admin/testserver 🗐 🗖 🔀	🗿 http://192.168.5.151/cgi-bin/admin/testserver 🗐 🗖 🔀
Mount succeeded.	Mount failed.
🙆 Done 🧳 Internet 🦼	🕘 Done 💣 Internet

30 - 1 N 10.22 22.225		-) (1)
Organize 🔹 Search active de	ectory Network and Sharing Center View resolute printers	
Favorites Desktop Downloads Recent Flaces	derek) Share	
Documents	Photos	
H Videos	🛱 text - Notepad	ED
Computer	File Edit Format View Help	
14 controls	[NOTIFICATION]The Result of Server Test of Your IP Cameral	£.c.
Network.		

If successful, you will receive a test.txt file on the network storage server.

- 3. Enter a server name.
- 4. Click **Save** to complete the settings and click **Close** to exit the page.

Recording name: video	
Enable this recording	
With adaptive recording (Help)	
Pre-event recording: 5 seconds [0~9]	
Post-event recording: 5 seconds [0~10]	
Priority: Normal	
Source: Stream 1 💌	
Destination	
1. Trigger Destination: NAS 💌	
Capacity:	
 Entire free space 	
Reserved space: 100 Mbytes	
2. Destination Enable cyclic recording	
Recording file management	
Maximum duration: 1 minutes [1~30]	
Maximum file size: 100 MB [1~900]	
File name prefix:	
Note: To enable recording notification please configure Event first	
Note: To enable recording notification please configure <u>Event</u> inst	Close

- Capacity: You can select either the entire storage space available or specify a reserved space. The recording size limit must be larger than the reserved space for cyclic recording. The reserved space is used during cyclic recording to prevent malfunctions that might occur during the transaction stage when the video feeds are about to fill up the storage space, and new data is still coming. This value must be larger than 15 MBytes.
- Enable cyclic recording: If you check this item, when the maximum capacity is reached, the oldest files will be overwritten by the latest ones.
- File name prefix: Enter the text that will be appended to the front of the file name.

If you want to enable recording notification, please click **<u>Event</u>** to set up. Please refer to **Event > Event** settings on page 111 for more details.

When completed, select Enable this recording. Click Save to enable the setting and click Close to exit

this page. When the system begins recording, it will send the recorded files to a networked storage or SD card. The new recording name will appear on the recording page as shown below. To remove a recording setting from the list, select it and click **Delete**.

Record	ling set	tting	s —									
Name	Status	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Time	Source	Destination	Delete
Video	<u>ON</u>	V	۷	V	۷	۷	V	۷	00:00~24:00	stream1	<u>SD</u>	Delete
Ad	d	<u>s</u>) test									

- Video (Name): Click to open the Recording settings page to modify its details.
- ON (Status): Click to manually adjust the Status. (ON: start recording; OFF: stop recording)
- NAS or SD (Destination): Click to open the file list of recordings as shown below. For more information about folder naming rules, please refer to page 123 or page 119 for details.

Local storage > SD card management

🖉 NOTE:

- It is recommended to turn OFF the recording activity before you remove an SD card from the camera.
- The lifespan of an SD card is limited. Regular replacement of the SD card can be necessary.
- Camera filesystem takes up several megabytes of memory space. The storage space cannot be used for recording.
- Using an SD card that already contains data recorded by another device should not be used in this camera.
- Please do not modify or change the folder names in the SD card. That may result in camera malfunctions.

This section explains how to manage the local storage on the Network Camera. Here you can view SD card status, and implement SD card control.

SD card staus

This column shows the status and reserved space of your SD card. Please remember to format the SD card when using for the first time.

SD card status							
SD card status: Detachedno SD card							
Total size: 0 KBytesFree size:0 KBytes							
Used size:0 KBytesUse (%): 0 %							
			Format				
- SD card status							
SD card status: Ready							
File system: FAT32							
Total size:	15323496 KBytes	Free size:	15087976 KBytes				
Used size:	235520 KBytes	Use (%):	1.537 %				

SD card format

The Linux kernel EXT4 file system format applies to SD card larger than 32GB. However, if EXT4 is applied, the computers running Windows will not be able to access the contents on the SD card unless using some 3rd-party software.

SD card format	
Ext4 Ext4 Ext4 FAT32	Format

SD card control

SD card control			
Enable cyclic storage			
Enable automatic disk cleanup			
Maximum duration for keeping files:	7	days	
			Save

- Enable cyclic storage: Check this item if you want to enable cyclic recording. When the maximum capacity is reached, the oldest file will be overwritten by the latest one.
- Enable automatic disk cleanup: Check this item and enter the number of days you wish to retain a file. For example, if you enter "7 days", the recorded files will be stored on the SD card for 7 days.

Click **Save** to enable your settings.

Local storage > Content management

This section explains how to manage the content of recorded videos on the Network Camera. Here you can search and view the records and view the searched results.

Searching and Viewing the Records

This column allows the user to set up search criteria for recorded data. If you do not select any criteria and click **Search** button, all recorded data will be listed in the **Search Results** column.

Search —				
Trigger type				
Backup	🗌 Sy	stem boot	Digital input	
Motion	🗌 Ne	twork fail	Recording notif	У
Periodically	🗌 Ta	mpering detection	U VADP	
Manual trigg	ers 🗌 Au	dio detection		
Media type				
 Video clip 	🔾 Sn	apshot	⊖ Text	
Time				
Search for last	1 minute(s) h	ours days week	s	
From:	2015/05/18	02	36 PM	
to:	2015/05/25	02	36 PM	
				Q Search

- File attributes: Select one or more items as your search criteria.
- Trigger time: Manually enter the time range you want to search for contents created at a specific point in time.

Click **Search** and the recorded data corresponding to the search criteria will be listed in **Search Results** window.

Search Results

The following is an example of search results. There are four columns: Trigger time, Media type, Trigger type, and Locked. Click 🖕 to sort the search results in either direction.

Numbers of entries displayed on one page	
- Search results	

_			T 1 10 45 D14	T 1 10 50 DM		
	to SD	Periodically	Today at 3:45 PM	Today at 3:58 PM	^	—Click to open a live vie
	to SD	Periodically	Today at 3:58 PM			
	test	Motion	Today at 3:45 PM	Today at 3:45 PM		
	test	Motion	Today at 3:49 PM	Today at 3:49 PM		
	test	Motion	Today at 3:49 PM	Today at 3:49 PM		
	test	Motion	Today at 3:50 PM	Today at 3:50 PM		
	test	Motion	Today at 3:50 PM	Today at 3:50 PM	~	

Play: Click on a search result which will highlight the selected item. A Play window will appear on top for immediate review of the selected file. For example:



- Download: Click on a search result to highlight the selected item in purple as shown above. Then click the **Download** button and a file download window will pop up for you to save the file.
- JPEGs to AVI: This functions only applies to "JPEG" format files such as snapshots. You can select several snapshots from the list, then click this button. Those snapshots will be converted into an AVI file.

Lock/Unlock: Select the checkbox in front of a desired search result, then click this button. The selected items will become Locked, which will not be deleted during cyclic recording. You can click again to unlock the selections. For example:

Periodically Periodically	Today at 3:45 PM Today at 3:58 PM	Today at 3:58 PM	~	
Periodically	Today at 3:58 PM			
	Today at 5.501 M			
Motion	Today at 3:45 PM	Today at 3:45 PM		
Motion	Today at 3:49 PM	Today at 3:49 PM		
Motion	Today at 3:49 PM	Today at 3:49 PM		
Motion	Today at 3:50 PM	Today at 3:50 PM		
Motion	Today at 3:50 PM	Today at 3:50 PM	\sim	
	Motion Motion Motion	Motion Today at 3:49 PM Motion Today at 3:49 PM Motion Today at 3:50 PM Motion Today at 3:50 PM Motion Today at 3:50 PM	MotionToday at 3:49 PMToday at 3:49 PMMotionToday at 3:49 PMToday at 3:49 PMMotionToday at 3:50 PMToday at 3:50 PMMotionToday at 3:50 PMToday at 3:50 PMMotionToday at 3:50 PMToday at 3:50 PM	Motion Today at 3:49 PM Today at 3:49 PM Motion Today at 3:49 PM Today at 3:49 PM Motion Today at 3:50 PM Today at 3:50 PM Motion Today at 3:50 PM Today at 3:50 PM Motion Today at 3:50 PM Today at 3:50 PM

■ Remove: Select the desired search results, then click this button to delete the files.

Appendix

URL Commands for the Network Camera

1. Overview

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

2. Style Convention

In URL syntax and in descriptions of CGI parameters, text within angle brackets denotes content that is to be replaced with either a value or a string. When replacing the text string, the angle brackets should also 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 further down in the page.

URL syntax is denoted with the word "Syntax:" written in bold face followed by a box with the referenced syntax as shown below. For example, name of the server is written as <servername> and 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 is returned in HTTP format, i.e., each line is 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
3. 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, these parameters must be written exactly as they are named in the camera or video server. The CGIs are organized in functionally-related directories under the cgi-bin directory. The file extension .cgi is required.

Syntax:

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

Example: Set digital output #1 to active

http://mywebserver/cgi-bin/dido/setdo.cgi?do1=1

4. Security Level

SECURITY LEVEL	SUB-DIRECTORY	DESCRIPTION
0	anonymous	Unprotected.
1 [view]	anonymous, viewer,	1. Can view, listen, talk to camera.
	dido, camctrl	2. Can control DI/DO, PTZ of the camera.
4 [operator]	anonymous, viewer,	Operator access rights can modify most of the camera's
	dido, camctrl, operator	parameters except some privileges and network options.
6 [admin]	anonymous, viewer,	Administrator access rights can fully control the camera's
	dido, camctrl, operator,	operations.
	admin	
7	N/A	Internal parameters. Unable to be changed by any external
		interfaces.

5. Get Server Parameter Values

Note: The access right depends on the URL directory. **Method:** GET/POST

Syntax:
http://< <i>servername</i> >/cgi-bin/anonymous/getparam.cgi?[< <i>parameter</i> >]
[& <parameter>]</parameter>
http://< <i>servername</i> >/cgi-bin/viewer/getparam.cgi?[< <i>parameter</i> >]
[& <parameter>]</parameter>
http://< <i>servername</i> >/cgi-bin/operator/getparam.cgi?[< <i>parameter</i> >]
[& <parameter>]</parameter>
http://< <i>servername</i> >/cgi-bin/admin/getparam.cgi?[< <i>parameter</i> >]
[& <parameter>]</parameter>

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

When querying parameter values, the current parameter values are returned.

A successful control request returns parameter pairs as follows:

Return:	
HTTP/1.0 200 OK\r\n	
Content-Type: text/html\r\n	
Context-Length: <length>\r\n</length>	
\r\n	
<parameter pair=""></parameter>	
where <parameter pair=""> is</parameter>	
<parameter>=<value>\r\n</value></parameter>	
[<parameter pair="">]</parameter>	

<length> is the actual length of content.

Example: Request IP address and its response

Request:

146 - User's <u>Manual</u>

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

6. 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></name></group>	value to assigned	Assign < <i>value</i> > to the parameter < <i>group</i> >_< <i>name</i> >.
update	<boolean></boolean>	Set to 1 to update all fields (no need to update parameter in each group).
return	<return page=""></return>	Redirect to the page < <i>return page</i> >after the parameter is assigned. The < <i>return page</i> >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. (Note: The return page can be a general HTML file(.htm, .html) or a VIVOTEK server script executable (.vspx) file. It cannot be a CGI commandor have any extra parameters.This parameter must be

placed at the end of the parameter list

Return:

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

<parameter>=<value>\r\n

[<parameter pair>]

Only the parameters that you set and are 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

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

7. Available parameters on the server

Valid values:

VALID VALUES	DESCRIPTION		
string[<n>]</n>	Text strings shorter than `n' characters. The characters ",',<,>,& are invalid.		
string[n~m]	Text strings longer than `n' characters and shorter than `m' characters. The		
	characters ",',<,>,& are invalid.		
password[<n>]</n>	The same as string but displays'*' instead.		
<integer></integer>	Any single integer number in 32-bits.		
	The range is -2147483648~2147483647.		
<positive integer=""></positive>	Any single positive integer number in 32-bits.		
	The range is 1~ 4294967295.		
<m> ~ <n></n></m>	Any number between 'm' and 'n'.		
domain name[<n>]</n>	A string limited to a domain name shorter than 'n' characters (eg. www.ibm.com).		
email address [<n>]</n>	A string limited to an email address shorter than 'n' characters (eg.		
	joe@www.ibm.com).		
<ip address=""></ip>	A string limited to an IP address (eg. 192.168.1.1).		
<mac address=""></mac>	A string limited to contain a MAC address without hyphens or colons.		
<boolean></boolean>	A boolean value of 1 or 0 represents [Yes or No], [True or False], [Enable or		
	Disable].		
<value1>,</value1>	Enumeration. Only given values are valid.		
<value2>,</value2>			
<value3>,</value3>			
blank	A blank string.		
everything inside <>	A description		
integer primary key	SQLite data type. A 32-bit signed integer. The value is assigned a unique integer by		
	the server.		
<text></text>	SQLite data type. The value is a text string, stored using the database encoding		
	(UTF-8, UTF-16BE or UTF-16-LE).		
<coordinate></coordinate>	x, y coordinate (eg. 0,0)		
<window size=""></window>	window width and height (eg. 800x600)		
<w,h></w,h>	The format for coordinate in 2D.		
	W is the pixel number of width.		
	H is the pixel number of height.		
	EX: (176,144)		
<wxh></wxh>	The format for resolution.		

	W is the pixel number of width.
H is the pixel number of height.	
	Ex: 1920x1080, 2048x1536
available	The API is listed in product WebAPIs.
non-available	The API is not in product WebAPIs.
valid	The API is listed in product WebAPIs, and is functional.
non-valid	The API is listed in product WebAPIs, but is malfunction in this status.
<decimal></decimal>	Any decimal number expressed in 32-bits ranging from 1.18e-38~3.40e+38.

NOTE: The camera should not be restarted when parameters are changed.

7.1 System

Group: **system**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
hostname	string[64]	1/6	Host name of server
			(Network Camera,
			Wireless Network Camera,
			Video Server,
			Wireless Video Server).
ledoff	<boolean></boolean>	6/6	Turn on (0) or turn off (1) all led indicators.
date	<yyyy dd="" mm="">,</yyyy>	6/6	Current date of system. Set to 'keep' to keep
	keep,		date unchanged. Set to 'auto' to use NTP to
	auto		synchronize date.
time	<hh:mm:ss>,</hh:mm:ss>	6/6	Current time of the system. Set to 'keep' to
	keep,		keep time unchanged. Set to 'auto' to use NTP
	auto		to synchronize time.
datetime	<mmddhhmmyyyy< td=""><td>6/6</td><td>Another current time format of the system.</td></mmddhhmmyyyy<>	6/6	Another current time format of the system.
	.ss>		
ntp	<domain name="">,</domain>	6/6	NTP server.
	<ip address="">,</ip>		*Do not use "skip to invoke default server" for
	<blank></blank>		default value.
timezoneindex	-489 ~ 529	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
			-180: GMT-04:30 Caracas
			-160: GMT-04:00 Atlantic Time, Canada, 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, Cape_Verde_IS.
	0: GMT Casablanca, Greenwich Mean Time:
	Dublin,
	Edinburgh, Lisbon, London
	40: GMT 01:00 Amsterdam, Berlin, Rome,
	Stockholm, Vienna, Madrid, Paris
	41: GMT 01:00 Warsaw, Budapest, Bern
	80: GMT 02:00 Athens, Helsinki, Istanbul, Riga
	81: GMT 02:00 Cairo
	82: GMT 02:00 Lebanon, Minsk
	83: GMT 02:00 Israel
	120: GMT 03:00 Baghdad, Kuwait, Riyadh,
	Moscow, St. Petersburg, Nairobi
	121: GMT 03:00 Iraq
	140: GMT 03:30 Tehran
	160: GMT 04:00 Abu Dhabi, Muscat, Baku,
	Tbilisi, Yerevan
	180: GMT 04:30 Kabul
	200: GMT 05:00 Ekaterinburg, Islamabad,
	Karachi, Tashkent
	220: GMT 05:30 Calcutta, Chennai, Mumbai,
	New Delhi
	230: GMT 05:45 Kathmandu
	240: GMT 06:00 Almaty, Novosibirsk, Astana,
	Dhaka, Sri Jayawardenepura
	260: GMT 06:30 Rangoon
	280: GMT 07:00 Bangkok, Hanoi, Jakarta,
	Krasnoyarsk
	320: GMT 08:00 Beijing, Chongging, Hong
	Kong, Kuala Lumpur, Singapore, Taipei
	360: GMT 09:00 Osaka, Sapporo, Tokyo,
	Seoul, Yakutsk
	380: GMT 09:30 Adelaide, Darwin
	400: GMT 10:00 Brisbane, Canberra,
	Melbourne, Sydney, Guam, Vladivostok
	440: GMT 11:00 Magadan, Solomon Is., New

			Caledonia
			480: GMT 12:00 Aucklan, Wellington, Fiji,
			Kamchatka, Marshall Is.
			520: GMT 13:00 Nuku'Alofa
daylight_enable	<boolean></boolean>	6/6	Enable automaticdaylight saving time in time
daylight_enable		0/0	zone.
daylight_dstactualmode	<positive integer=""></positive>	6/7	Check if current time is under daylight saving
uayiight_ustactuaimode	<positive integer=""></positive>	0/7	time.
			(Used internally)
	string[19]	6/7	Display the current daylight saving start time.
daylight_auto_endtime	string[19]	6/7	Display the current daylight saving end time.
daylight_timezones	string	6/6	List time zone index which support daylight
			saving time.
updateinterval	0,	6/6	0 to Disable automatic time adjustment,
	3600,		otherwise, it indicates the seconds between
	86400,		NTP automatic update intervals.
	604800,		
	2592000		
restore	0,	7/6	Restore the system parameters to default
	<positive integer=""></positive>		values after <value> seconds.</value>
reset	0,	7/6	Restart the server after <value> seconds if</value>
	<positive integer=""></positive>		<value> is non-negative.</value>
restoreexceptnet	0,	7/6	Restore the system parameters to default
	<positive integer=""></positive>		values except (ipaddress, subnet, router,
			dns1, dns2, pppoe).
			This command can cooperate with other
			"restoreexceptXYZ" commands. When
			cooperating with others, the system
			parameters will be restored to the default
			value except for a union of the combined
			results.
restoreexceptdst	0,	7/6	Restore the system parameters to default
	<positive integer=""></positive>		values except all daylight saving time settings.
			This command can cooperate with other
			"restoreexceptXYZ" commands. When
			cooperating with others, the system
			parameters will be restored to default values
		1	
			except for a union of combined results.
restoreexceptlang	0,	7/6	except for a union of combined results. Restore the system parameters to default

			user has uploaded.
			This command can cooperate with other
			"restoreexceptXYZ" commands. When
			cooperating with others, the system
			parameters will be restored to the default
			value except for a union of the combined
			results.
restoreexceptvadp	0,	7/6	Restore the system parameters to default
	<positive integer=""></positive>		values except the vadp parameters and VADP
			modules that stored in the system.
			This command can cooperate with other
			"restoreexceptXYZ" commands. When
			cooperating with others, the system
			parameters will be restored to the default
			value except for a union of the combined
			results.
restoreexceptfocusvalue	0,	7/6	Restore the system parameters to default
	<positive integer=""></positive>		values except zoom and focus value.
			This command can cooperate with other
			"restoreexceptXYZ" commands. When
			cooperating with others, the system
			parameters will be restored to the default
			value except for a union of the combined
			results.
			* Only available when
			"capability_image_c <n>_remotefocus" != 0.</n>

7.1.1 system.info

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
modelname	string[40]	0/7	Internal model name of the server
extendedmodelname	string[40]	0/7	ODM specific model name of server (eg.
			DCS-5610). If it is not an ODM model, this field
			will be equal to "modelname"
serialnumber	<mac address=""></mac>	0/7	12 characters MAC address (without hyphens).
firmwareversion	string[40]	0/7	Firmware version, including model, company,
			and version number in the
			format: < MODEL-BRAND-VERSION>
language_count	<positive integer=""></positive>	0/7	Number of webpage languages available on
			the server.
language_i<0~(count-1)>	string[16]	0/7	Available language lists.
	language_i0 :		
	English		
	language_i1 :		
	Deutsch		
	language_i2 :		
	Español		
	language_i3 :		
	Français		
	language_i4 :		
	Italiano		
	language_i5:日本		
	語		
	language_i6:		
	Português		
	language_i7:简体		
	中文		
	language_i8:繁體		
	中文		
customlanguage_maxcoun	0, <positive< td=""><td>0/6</td><td>Maximum number of custom languages</td></positive<>	0/6	Maximum number of custom languages
t	integer>		supported on the server.
customlanguage_count	0, <positive< td=""><td>0/6</td><td>Number of custom languages which have been</td></positive<>	0/6	Number of custom languages which have been
	integer>		uploaded to the server.
customlanguage_i<0~(ma	string	0/6	Custom language name.

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

xcount-1)>		

7.2 status

Group: **status**

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
di_i<0~(capability_ndi-1)>	<boolean></boolean>	1/7	0 => Inactive, normal
<product dependent=""></product>			1 => Active, triggered
			(capability.ndi > 0)
do_i<0~(capability_ndo-1)>	<boolean></boolean>	1/7	0 => Inactive, normal
<product dependent=""></product>			1 => Active, triggered
			(capability.ndo > 0)
onlinenum_rtsp	0, <positive< td=""><td>6/7</td><td>Current number of RTSP connections.</td></positive<>	6/7	Current number of RTSP connections.
	integer>		
onlinenum_httppush	0, <positive< td=""><td>6/7</td><td>Current number of HTTP push server</td></positive<>	6/7	Current number of HTTP push server
	integer>		connections.
onlinenum_sip	0, <positive< td=""><td>6/7</td><td>Current number of SIP connections.</td></positive<>	6/7	Current number of SIP connections.
	integer>		
eth_i0	<string></string>	1/7	Get network information from mii-tool.
vi_i<0~(capability_nvi-1)>	<boolean></boolean>	1/7	Virtual input
<product dependent=""></product>			0 => Inactive
			1 => Active
			(capability.nvi > 0)

7.3 digital input behavior define

Group: **di_i<0~(n-1)>** for n is the value of "capability_ndi" (capability.ndi > 0)

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

7.4 digital output behavior define

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

Group: **do_i<0~(n-1)>** for n is the value of "capability_ndo" (capability.ndo > 0)

7.5 security

Group: security

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
privilege_do	view, operator,	1/6	Indicate which privileges and above can
	admin		control digital output
			(capability.ndo > 0)
privilege_camctrl	view, operator,	1/6	Indicate which privileges and above can
	admin		control PTZ
			(capability.ptzenabled > 0 or capability.eptz >
			0)
user_i0_name	string[64]	6/7	User name of root
user_i<1~20>_name	string[64]	6/7	User name
user_i0_pass	password[64]	6/6	Root password
user_i<1~20>_pass	password[64]	7/6	User password
user_i0_privilege	view,	6/7	Root privilege
	operator,		
	admin		
user_i<1~20>_ privilege	view,	6/6	User privilege
	operator,		
	admin		

7.6 Network

Group: network

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
preprocess	<positive integer=""></positive>	6/6	An 32-bit integer, each bit can be set
			separately as follows:
			Bit 0 => HTTP service;
			Bit 1=> HTTPS service;
			Bit 2=> FTP service;
			Bit 3 => Two way audio and RTSP Streaming
			service;
			To stop service before changing its port
			settings. It's recommended to set this
			parameter when change a service port to the
			port occupied by another service currently.
			Otherwise, the service may fail.
			Stopped service will auto-start after changing
			port settings.
			Ex:
			Change HTTP port from 80 to 5556, and
			change RTP port for video from 5556 to 20480.
			Then, set preprocess=9 to stop both service
			first.
			"/cgi-bin/admin/setparam.cgi?
			network_preprocess=9&network_http_port=
			5556& network_rtp_videoport=20480"
type	lan,	6/6	Network connection type.
	рррое		
resetip	<boolean></boolean>	6/6	1 => Get ipaddress, subnet, router, dns1,
			dns2 from DHCP server at next reboot.
			0 => Use preset ipaddress, subnet, rounter,
			dns1, and dns2.
ipaddress	<ip address=""></ip>	6/6	IP address of server.
subnet	<ip address=""></ip>	6/6	Subnet mask.
router	<ip address=""></ip>	6/6	Default gateway.
dns1	<ip address=""></ip>	6/6	Primary DNS server.

dns2	<ip address=""></ip>	6/6	Secondary DNS server.
wins1	<ip address=""></ip>	6/6	Primary WINS server.
wins2	<ip address=""></ip>	6/6	Secondary WINS server.

7.6.1 802.1x

Subgroup of **network: ieee8021x (**capability.protocol.ieee8021x > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	6/6	Enable/disable IEEE 802.1x
eapmethod	eap-peap, eap-tls	6/6	Selected EAP method
identity_peap	string[64]	6/6	PEAP identity
identity_tls	string[64]	6/6	TLS identity
password	string[200]	6/6	Password for TLS
privatekeypassword	string[200]	6/6	Password for PEAP
ca_exist	<boolean></boolean>	6/6	CA installed flag
ca_time	0, <positive< td=""><td>6/7</td><td>CA installed time. Represented in EPOCH</td></positive<>	6/7	CA installed time. Represented in EPOCH
	integer>		
ca_size	0, <positive< td=""><td>6/7</td><td>CA file size (in bytes)</td></positive<>	6/7	CA file size (in bytes)
	integer>		
certificate_exist	<boolean></boolean>	6/6	Certificate installed flag (for TLS)
certificate_time	0, <positive< td=""><td>6/7</td><td>Certificate installed time. Represented in</td></positive<>	6/7	Certificate installed time. Represented in
	integer>		EPOCH
certificate_size	0, <positive< td=""><td>6/7</td><td>Certificate file size (in bytes)</td></positive<>	6/7	Certificate file size (in bytes)
	integer>		
privatekey_exist	<boolean></boolean>	6/6	Private key installed flag (for TLS)
privatekey_time	0, <positive< td=""><td>6/7</td><td>Private key installed time. Represented in</td></positive<>	6/7	Private key installed time. Represented in
	integer>		EPOCH
privatekey_size	0, <positive< td=""><td>6/7</td><td>Private key file size (in bytes)</td></positive<>	6/7	Private key file size (in bytes)
	integer>		

7.6.2 QOS

Subgroup of **network: qos_cos (**capability.protocol.qos.cos > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	6/6	Enable/disable CoS (IEEE 802.1p)
vlanid	1~4095	6/6	VLAN ID
video	0~7	6/6	Video channel for CoS
audio	0~7	6/6	Audio channel for CoS
<product dependent=""></product>			(capability.naudioin > 0)
eventalarm	0~7	6/6	Event/alarm channel for CoS
management	0~7	6/6	Management channel for CoS
eventtunnel	0~7	6/6	Event/Control channel for CoS

Subgroup of **network: qos_dscp** (capability.protocol.qos.dscp > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	6/6	Enable/disable DSCP
video	0~63	6/6	Video channel for DSCP
audio	0~63	6/6	Audio channel for DSCP
			(capability.naudioin > 0)
eventalarm	0~63	6/6	Event/alarm channel for DSCP
management	0~63	6/6	Management channel for DSCP
eventtunnel	0~63	6/6	Event/Control channel for DSCP

7.6.3 IPV6

Subgroup of **network**: **ipv6** (capability.protocol.ipv6 > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	6/6	Enable IPv6.
addonipaddress	<ip address=""></ip>	6/6	IPv6 IP address.
addonprefixlen	0~128	6/6	IPv6 prefix length.
addonrouter	<ip address=""></ip>	6/6	IPv6 router address.
addondns	<ip address=""></ip>	6/6	IPv6 DNS address.
allowoptional	<boolean></boolean>	6/6	Allow manually setup of IP address setting.

7.6.4 FTP

Subgroup of **network**: **ftp**

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

7.6.5 HTTP

Subgroup of network: http

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
port	80, 1025 ~ 65535	1/6	HTTP port.
alternateport	1025~65535	6/6	Alternate HTTP port.
authmode	basic,	1/6	HTTP authentication mode.
	digest		
s<0~(capability_nmediast	string[32]	1/6	Http server push access name for stream N,
ream-1)>_accessname			N= 1~ capability.nmediastream.
<product dependent=""></product>			(capability.protocol.spush_mjpeg =1 and
			capability.nmediastream > 0)
			The value are shown as
			video.mjpg = s0_accessname, (stream1)
			video2.mjpg = s1_accessname, (stream2)
			video3.mjpg = s2_accessname, (stream3)
			video4.mjpg = s3_accessname, (stream4)
			etc.
anonymousviewing	<boolean></boolean>	1/6	Enable anonymous streaming viewing.

7.6.6 HTTPS port

Subgroup of **network**: **https** (capability.protocol.https > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
port	443, 1025 ~ 65535	1/6	HTTPS port.

7.6.7 RTSP

Subgroup of **network**: **rtsp** (capability.protocol.rtsp > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
port	554, 1025 ~ 65535	1/6	RTSP port.
			(capability.protocol.rtsp=1)
anonymousviewing	<boolean></boolean>	1/6	Enable anoymous streaming viewing.
authmode	disable,	1/6	RTSP authentication mode.
	basic,		(capability.protocol.rtsp=1)
	digest		
s<0~(capability_nmediast	string[32]	1/6	RTSP access name for stream N, N= $1\sim$
ream-1)>_accessname			capability.nmediastream.
<product dependent=""></product>			(capability.protocol.spush_mjpeg =1 and
			capability.nmediastream > 0)
			The value are shown as
			live.sdp = s0_accessname, (stream1)
			live2.sdp = s1_accessname, (stream2)
			live3.sdp = s2_accessname, (stream3)
			live4.sdp = s3_accessname, (stream4)
			etc.

7.6.7.1 RTSP multicast

Subgroup of **network_rtsp_s<0~(n-1)>**: **multicast** n is stream count

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
alwaysmulticast	<boolean></boolean>	4/4	Enable always multicast.
ipaddress	<ip address=""></ip>	4/4	Multicast video IP address. * We replace "network_rtsp_s<0~(n-1)>_multicast_ipaddress" with " network_rtsp_s<0~(n-1)>_multicast_videoipaddre ss ". * Reserved for compatibility, and suggest don't use
videoipaddress	<ip address=""></ip>	4/4	this since [httpversion] > 0304a Multicast video IP address. * We support this parameter when the version

			number (httpversion) is equal or greater than 0304a.
audioipaddress	<ip address=""></ip>	4/4	Multicast audio IP address.
<product dependent=""></product>			* We support this parameter when the version
			number (httpversion) is equal or greater than 0304a.
			* Only available when capability_naudioin > 0
metadataipaddress	<ip address=""></ip>	4/4	Multicast metadata IP address.
			* We support this parameter when the version
			number (httpversion) is equal or greater than 0304a.
videoport	1025 ~ 65535	4/4	Multicast video port.
audioport	1025 ~ 65535	4/4	Multicast audio port.
<product dependent=""></product>			* Only available when capability_naudioin > 0
metadataport	1026~65534	4/4	Multicast metadata port.
ttl	1 ~ 255	4/4	Multicasttime to live value.

7.6.8 SIP port

Subgroup of **network**: **sip** (capability.protocol.sip> 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
port	1025 ~ 65535	1/6	SIP port.

7.6.9 RTP port

Subgroup of network: rtp

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
videoport	1025 ~ 65535	6/6	Video channel port for RTP.
			(capability.protocol.rtp_unicast=1)
audioport	1025 ~ 65535	6/6	Audio channel port for RTP.
			(capability.protocol.rtp_unicast=1)
metadataport	1025 ~ 65535	6/6	Metadata channel port for RTP.

7.6.10 PPPoE

Subgroup of **network**: **pppoe** (capability.protocol.pppoe > 0)

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

pass	password[64]	6/6	PPPoE account password.
------	--------------	-----	-------------------------

7.7 IP Filter

Group: ipfilter

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean></boolean>	6/6	Enable access list filtering.
admin_enable	<boolean></boolean>	6/6	Enable administrator IP address.
admin_ip	string[43]	6/6	Administrator IP address.
maxconnection	1~10	6/6	Maximum number of concurrent streaming connection(s).
type	0, 1	6/6	Ipfilter policy :
			$0 \Rightarrow allow$
			1 => deny
ipv4list_i<0~9>	Single address: <ip< td=""><td>6/6</td><td>IPv4 address list.</td></ip<>	6/6	IPv4 address list.
	address>		
	Network address:		
	<ip <="" address="" td=""><td></td><td></td></ip>		
	network mask>		
	Range		
	address: <start ip<="" td=""><td></td><td></td></start>		
	address - end ip		
	address>		
ipv6list_i<0~9>	string[43]	6/6	IPv6 address list.

7.8 Video input

Group: videoin

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
cmosfreq	50, 60	4/4	CMOS frequency.
			(capability.videoin.type=2)
whitebalance	auto,	4/4	Modes of white balance.
<product dependent=""></product>	manual,		"auto": Auto white balance
	rbgain,		"rbgain": Use rgain and bgain to set white
	widerange,		balance manually.
	outdoor,		"manual": 2 cases:
	indoor,		a. if "rbgain" is not supported, this means
	sodiumauto,		keep current white balance status.
	etc		b. if "rbgain" is supported, "rgain" and
			"bgain" are updated to the current values
	(Available values are		which is got from white balance module. Then,
	listed in		act as rbgain mode
	"capability_image_c		"widerange": Auto Tracing White balance
	<n>_wbmode")</n>		(2000K to 10000K).
			"outdoor": auto white balance mode
			specifically for outdoor.
			"indoor": auto white balance mode
			specifically for indoor.
			"sodiumauto": sodium vapor lamps.
			* Only available when
			"capability_image_c <n>_wbmode" !="-"</n>
exposurelevel	0~12	4/4	Exposure level
			"0,12": This range takes the concept from DC's
			exposure tuning options. The definition is:
			0: EV -2.0
			1: EV -1.7
			2: EV -1.3
			3: EV -1.0
			4: EV -0.7
			5: EV -0.3
			6: EV 0
			7: EV +0.3

	1	1	
			8: EV +0.7
			9: EV +1.0
			10: EV +1.3
			11: EV +1.7
			12: EV +2.0
irismode	fixed, indoor,	4/4	Control DC-Iris mode.
	outdoor		"outdoor": Auto-setting DC-Iris to get best
	<product< td=""><td></td><td>quality, but easy to meet rolling or flicker effect</td></product<>		quality, but easy to meet rolling or flicker effect
	independent>		in indoor environment.
			"indoor": Avoid rolling and flicker effect first.
			"fixed": Open the iris to maximum.
			* Only available when
			"capability_image_c <n>_iristype"=dciris</n>
enableblc	<boolean></boolean>	4/4	Enable backlight compensation.
<not anymore="" support=""></not>			* Not support this parameter anymore when
			the version number (httpversion) is equal or
			greater than 0301a.
			* It's recommanded to use
			"exposurewin_c <n>_mode" to switch on/off</n>
			BLC.
color	0, 1	4/4	0 =>monochrome
			1 => color
flip	<boolean></boolean>	4/4	Flip the image.
mirror	<boolean></boolean>	4/4	Mirror the image.
rotate	0,90,180,270	1/4	The rotation angle of image.
			Support only in Rotation mode
			(capability.videoin.c <n>.rotation=1)</n>
ptzstatus	0, <positive< td=""><td>1/7</td><td>A 32-bit integer, each bit can be set separately</td></positive<>	1/7	A 32-bit integer, each bit can be set separately
	integer>		as follows:
			Bit 0 => Support camera control function;
			0(not support), 1(support)
			Bit 1 => Built-in or external camera; 0
			(external), 1(built-in)
			Bit 2 => Support pan operation; 0(not
			support), 1(support)
			Bit 3 => Support tilt operation; 0(not
			support), 1(support)
			Bit 4 => Support zoom operation; 0(not
			support), 1(support)

			Bit 5 => Support focus operation; 0(not
			support), 1(support)(SD/PZ/IZ series only)
text	string[64]	1/4	Enclose caption.
imprinttimestamp	<boolean></boolean>	4/4	Overlay time stamp on video.
minexposure	<1~32000>,	4/4	Minimum exposure time
<product dependent=""></product>	<5~32000>,		1~32000 => 1s ~ 1/32000s
	<1~8000>,		5~32000 => 1/5s ~ 1/32000s
	<5~8000>,		1~8000 => 1s ~ 1/8000s
	etc.		5~8000 => 1/5s ~ 1/8000s
			etc.
	* Available value is		
	listed in		* Only available when
	"capability_image_c		' capability_image_c <n>_exposure_minrange</n>
	<n>_exposure_min</n>		" != "-"
	range"		* Only valid when "piris_mode"=manual or
			"irismode"=fixed
			* Only available when
			"capability_image_c <n>_exposure_rangetyp</n>
			e" is "twovalues".
maxexposure	<1~32000>,	4/4	Maximum exposure time
<product dependent=""></product>	<5~32000>,		1~32000 => 1s ~ 1/32000s
	<1~8000>,		5~32000 => 1/5s ~ 1/32000s
	<5~8000>,		1~8000 => 1s ~ 1/8000s
	etc.		5~8000 => 1/5s ~ 1/8000s
			etc.
	* Available value is		
	listed in		* This parameter may also restrict image
	"capability_image_c		frame rate from sensor due to sensor
	<pre><n>_exposure_ma</n></pre>		generates a frame per exposure time. Ex: If
	xrange"		this is set to $1/5s \sim 1/8000s$ and camera takes
			1/5s on the night, then sensor only outputs 5
			frame/s.
			* Only available when
			"capability_image_c <n>_exposure_maxrang</n>
1	1	1	
			e" != "-"
			e" != "-" * Only valid when "piris_mode"=manual or

			"capability_image_c <n>_exposure_rangetyp e" is "twovalues".</n>
enablepreview	<boolean></boolean>	1/4	Usage for UI of exposure settings. Preview settings of video profile.

7.8.1 Video input setting per channel

Group: videoin_c<0~(n-1)> for n channel products, and m is stream number

n denotes the value of "capability_nvideoin", m denotes the value of "capability_nmediastream"

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
cmosfreq	50, 60	4/4	CMOS frequency.
			(capability.videoin.type=2)
mode	0 ~	4/4	Indicate the video mode on use.
	"capability_videoin_c <n>_nmode"-1</n>		
whitebalance	auto,	4/4	Modes of white balance.
<product< td=""><td>manual,</td><td></td><td>"auto": Auto white balance</td></product<>	manual,		"auto": Auto white balance
dependent>	rbgain,		"rbgain": Use rgain and bgain to set
	widerange,		white balance manually.
	outdoor,		"manual": 2 cases:
	indoor,		a. if "rbgain" is not supported, this
	sodiumauto,		means keep current white balance
	etc		status.
			b. if "rbgain" is supported, "rgain"
	(Available values are listed in		and "bgain" are updated to the current
	"capability_image_c <n>_wbmode")</n>		values which is got from white balance
			module. Then, act as rbgain mode
			"widerange": Auto Tracing White
			balance (2000K to 10000K).
			"outdoor": auto white balance mode
			specifically for outdoor.
			"indoor": auto white balance mode
			specifically for indoor.
			"sodiumauto": sodium vapor lamps.
			* Only available when
			"capability_image_c <n>_wbmode" !=</n>
			n_n
rgain	0~100	4/4	Manual set rgain value of gain control
			setting.

0: Weak <-> 100:	Strong
	5
	en "rbgain" is listed
	e_c <n>_wbmode".</n>
* Only valid when	
	itebalance" != auto
* Normalized range	
	alue of gain control
setting.	
0: Weak <-> 100:	Strong
	en "rbgain" is listed
	e_c <n>_wbmode".</n>
* Only valid when	
"videoin_c <n>_wh</n>	itebalance" != auto
* Normalized range	е.
exposurelevel 0~12 4/4 Exposure level	
"0,12": This range	takes the concept
from DC's exposure	e tuning options.
The definition is:	
0: EV -2.0	
1: EV -1.7	
2: EV -1.3	
3: EV -1.0	
4: EV -0.7	
5: EV -0.3	
6: EV 0	
7: EV +0.3	
8: EV +0.7	
9: EV +1.0	
10: EV +1.3	
11: EV +1.7	
12: EV +2.0	
exposuremode auto, 4/4 Select exposure mo	ode.
<pre><product pre="" shutterpriority,<=""></product></pre>	
dependent> irispriority, "auto": Iris, Gain	and Shutter
manual, Speed(Exposure tir	me) can be set
etc automatically.	
"shutterpriority"	: Adjust with
(Available options are list in variable Shutter Sp	beed, auto Iris and

	"capability_image_c <n>_exposure_</n>		Gain.
	modetype")		"irispriority": Adjust with variable
			Iris, auto Gain and Shutter speed.
			"manual": Adjust with variable
			Shutter, Iris and Gain.
			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0302a.
irismode	fixed, indoor, outdoor	4/4	Control DC-Iris mode.
	<product dependent=""></product>		"outdoor": Auto-setting DC-Iris to
			get best quality, but easy to meet
			rolling or flicker effect in indoor
			environment.
			"indoor": Avoid rolling and flicker
			effect first.
			"fixed": Open the iris to maximum.
			* Only available when
			"capability_image_c <n>_iristype"=dc</n>
			iris
piris_mode	manual, indoor, outdoor,-	1/4	Control P-Iris mode.
<product< td=""><td></td><td></td><td>"outdoor": Auto-setting P-Iris to get</td></product<>			"outdoor": Auto-setting P-Iris to get
dependent>			best quality, but easy to meet rolling or
			flicker effect in indoor environment.
			"indoor": Avoid rolling and flicker
			effect first.
			"manual": Manual set P-Iris by
			"piris_position".
			"-": not support. (only available when
			"capability_image_c<0~(n-1)>_sens
			ortype" is "smartsensor")
			* Only available when
			"capability_image_c <n>_iristype"=pi</n>
			ris
piris_position	1~100	1/4	Manual set P-Iris.
<pre>pins_position <pre>product</pre></pre>		±/ ⁻ T	1: Open <-> 100: Close
dependent>			
uepenuent>			* Only valid when
			* Only valid when
			"piris_mode"=manual or
			"capability_image_c<0~(n-1)>_sens

		1	
			ortype" is "smartsensor"
			* Only available when
			"capability_image_c <n>_iristype"=pi</n>
			ris
enableblc	<boolean></boolean>	4/4	Enable backlight compensation
<not support<="" td=""><td></td><td></td><td>* Not support this parameter anymore</td></not>			* Not support this parameter anymore
anymore>			when the version number
			(httpversion) is equal or greater than
			0301a.
			* It's recommanded to use
			"exposurewin_c <n>_mode" to switch</n>
			on/off BLC.
maxgain	0~100	4/4	Maximum gain value.
			0: Low <-> 100: High
			* Only available when
			"capability_image_c <n>_agc_maxgai</n>
			n" != "-"
			* Only valid when
			"piris_mode"=manual or
			"irismode"=fixed
			* Normalized range.
			* Only available when
			"capability_image_c <n>_exposure_ra</n>
			ngetype" is "twovalues".
mingain	0~100	4/4	Minimum gain value.
-			0: Low <-> 100: High
			5
			* Only available when
			, "capability_image_c <n>_agc_mingai</n>
			n" != "-"
			* Only valid when
			"piris_mode"=manual or
			"irismode"=fixed
			* Normalized range.
			* Only available when
			"capability_image_c <n>_exposure_ra</n>
			ngetype" is "twovalues".
gainvalue	0~100	4/4	Gain value.
ganivalue	0100		
			0: Low <-> 100: High

	1		
			 * Only available when "capability_image_c<n>_agc_maxgai</n> n" != "-" and "capability_image_c<n>_exposure_ra</n> ngetype" is "onevalue". * Normalized range. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.
color	0, 1	4/4	0 =>monochrome
			1 => color
flip	<boolean></boolean>	4/4	Flip the image.
mirror	<boolean></boolean>	4/4	Mirror the image.
rotate	0,90,180,270	1/4	The rotation angle of image.
			Support only in Rotation mode
			(capability.videoin.c <n>.rotation=1)</n>
ptzstatus	0, <positive integer=""></positive>	1/7	A 32-bit integer, each bit can be set
			separately as follows:
			Bit 0 => Support camera control
			function; 0(not support), 1(support)
			Bit 1 => Built-in or external camera;
			0 (external), 1(built-in)
			Bit 2 => Support pan operation;
			0(not support), 1(support)
			Bit 3 => Support tilt operation; 0(not
			support), 1(support)
			Bit 4 => Support zoom operation;
			0(not support), 1(support)
			Bit 5 => Support focus operation;
			0(not support), 1(support)(SD/PZ/IZ
			series only)
text	string[64]	1/4	Enclose caption.
imprinttimesta	<boolean></boolean>	4/4	Overlay time stamp on video.
mp			
textonvideo_po	top, bottom	4/4	Text on video string position
sition			
textonvideo_siz	20~40	4/4	Text on video font size
е			

textonvideo_fon	/usr/share/font/Default.ttf,	4/4	Choose camera default font file
tpath	/mnt/flash2/upload.ttf		(/usr/share/font/Default.ttf) or user
			uploaded font
			file(/mnt/flash2/upload.ttf).
textonvideo_upl	Depends on the font file name	1/7	Show the uploaded font file name.
oadfilename	uploaded by user		
minexposure	<1~32000>,	4/4	Minimum exposure time
<product< td=""><td><5~32000>,</td><td></td><td>1~32000 => 1s ~ 1/32000s</td></product<>	<5~32000>,		1~32000 => 1s ~ 1/32000s
dependent>	<1~8000>,		5~32000 => 1/5s ~ 1/32000s
	<5~8000>,		1~8000 => 1s ~ 1/8000s
	etc.		5~8000 => 1/5s ~ 1/8000s
			etc.
	* Available value is listed in		
	"capability_image_c <n>_exposure_</n>		* Only available when
	minrange"		"capability_image_c <n>_exposure_m</n>
			inrange" != "-"
			* Only valid when
			"piris_mode"=manual or
			"irismode"=fixed
			* Only available when
			"capability_image_c <n>_exposure_ra</n>
			ngetype" is "twovalues".
maxexposure	<1~32000>,	4/4	Maximum exposure time
<product< td=""><td><5~32000>,</td><td></td><td>1~32000 => 1s ~ 1/32000s</td></product<>	<5~32000>,		1~32000 => 1s ~ 1/32000s
dependent>	<1~8000>,		5~32000 => 1/5s ~ 1/32000s
	<5~8000>,		1~8000 => 1s ~ 1/8000s
	etc.		5~8000 => 1/5s ~ 1/8000s
			etc.
	* Available value is listed in		
	"capability_image_c <n>_exposure_</n>		* This parameter may also restrict
	maxrange"		image frame rate from sensor due to
			sensor generates a frame per
			exposure time. Ex: If this is set to 1/5s
			\sim 1/8000s and camera takes 1/5s on
			the night, then sensor only outputs 5
			frame/s.
			* Only available when
			"capability_image_c <n>_exposure_m</n>
			axrange" != "-"

	1		
			* Only valid when
			"piris_mode"=manual or
			"irismode"=fixed
			* Only available when
			"capability_image_c <n>_exposure_ra</n>
			ngetype" is "twovalues".
shuttervalue	<1~32000>,	4/4	Exposure time
<product< td=""><td><5~32000>,</td><td></td><td>1~32000 => 1s ~ 1/32000s</td></product<>	<5~32000>,		1~32000 => 1s ~ 1/32000s
dependent>	<1~8000>,		5~32000 => 1/5s ~ 1/32000s
	<5~8000>,		1~8000 => 1s ~ 1/8000s
	etc.		5~8000 => 1/5s ~ 1/8000s
			etc.
	* Available value is listed in		
	"capability_image_c <n>_exposure_</n>		* This parameter may also restrict
	maxrange"		image frame rate from sensor due to
			sensor generates a frame per
			exposure time. Ex: If this is set to 1/5s
			~ 1/8000s and camera takes 1/5s on
			the night, then sensor only outputs 5
			frame/s.
			* Only available when
			"capability_image_c <n>_exposure_m</n>
			axrange" != "-" and
			"capability_image_c <n>_exposure_ra</n>
			ngetype" is "onevalue".
			ngetype is onevalue.
			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0302a.
onablenroview	<boolean></boolean>	1/4	
enablepreview		1/4	Usage for UI of exposure settings.
		1/7	Preview settings of video profile.
crop_position	<coordinate></coordinate>	1/7	Crop left-top corner coordinate.
	(x,y)		
crop_size	<window size=""></window>	1/7	Crop width and height.
	(WxH)		(width must be 16x or 32x and height
			must be 8x)
zoomratiodispla	<boolean></boolean>	1/4	Indicates multiple of zoom in is
У			"on-screen display" or not.

			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0302a.
s<0~(m-1)>_e	<boolean></boolean>	4/4	Indicate whether stream supprts eptz
nableeptz			or not
s<0~(m-1)>_c	Listed at "capability_videoin_codec"	1/4	Codec type for this stream
odectype	Possible values are: mjpeg,		
	h264,h265		
	<product dependent=""></product>		
s<0~(m-1)>_re	Available options are list in	1/4	Video resolution in pixels.
solution	"capability_videoin_c0_resolution".		
	Besides, available options is referred		
	to		
	"capability_videoin_c0_maxresolution		
	" and		
	"capability_videoin_c0_minresolution		
	п		
s<0~(m-1)>_h	<boolean></boolean>	4/4	Enable "Dynamic intra frame period".
264_dintraperio			* Only available when
d_enable			"capability_videoin_c<0~(n-1)>_dint
			raperiod_support" is 1.
			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0301c.
s<0~(m-1)>_h	250, 500, 1000, 2000, 3000, 4000	4/4	The time interval between two
264_intraperiod			I-frames (Intra coded picture).
			The unit is millisecond (ms).
s<0~(m-1)>_h	cbr, vbr	4/4	cbr : Constant bit rate mode.
264_ratecontrol			vbr : Fixed quality mode, all frames are
mode			encoded in the same quality.
s<0~(m-1)>_h	1~5,	4/4	Set the pre-defined quality level:
264_quant	99, 100		1: Medium
			2: Standard
			3: Good
			4: Detailed
			5: Excellent
			100: Use the quality level in

-		1	
			"qpercent"
			99: Use the quality level in "qvalue"
			* Only valid when "ratecontrolmode"=
			vbr.
s<0~(m-1)>_h	0~51	4/4	Manual video quality level input. The Q
264_qvalue			value which is used by encoded library
			directly.
			* Only valid when "ratecontrolmode"=
			vbr and $s<0~(m-1)>_h264_quant =$
			99.
s<0~(m-1)>_h	1~100	4/4	Select customized quality in a
264_qpercent	1.100	4/4	normalized full range.
204_qpercent			1: Worst quality
			100: Best quality
			* Only valid when "ratecontrolmode"=
			vbr and "quant"= 100.
s<0~(m-1)>_h	20000~"capability_videoin_c <n>_h2</n>	4/4	The maximum allowed bit rate in fixed
264_maxvbrbitr	64_maxbitrate"		quality mode.
ate			When the bit rate exceeds this value,
			frames will be dropped to restrict the
			bit rate.
			* Only valid when "ratecontrolmode"=
			vbr
s<0~(m-1)>_h	1~5, 100	4/4	Set the pre-defined quality level:
264_cbr_quant			1: Medium
			2: Standard
			3: Good
			4: Detailed
			5: Excellent
			100: Use the quality level in
			"cbr_qpercent"
			* Only available when
			"ratecontrolmode"= cbr.
			* Only available when
			"capability_smartstream_version"=2.

			0
s<0~(m-1)>_h	1~100	4/4	Select customized quality in a
264_cbr_qperce			normalized full range.
nt			1: Worst quality
			100: Best quality
			* Only valid when "ratecontrolmode"=
			cbr and "quant"= 100.
			* Only available when
			"capability_smartstream_version"=2.
			0
s<0~(m-1)>_h	20000~"capability_videoin_c <n>_h2</n>	4/4	The target bit rate in constant bit rate
264_bitrate	64_maxbitrate"		mode.
			* Only valid when "ratecontrolmode"=
			cbr
s<0~(m-1)>_h	framerate, imagequality	4/4	Set prioritypolicy
264_prioritypoli			
су			* Only valid when "ratecontrolmode"=
			cbr
s<0~(m-1)>_h	1~"capability_videoin_c <n>_h264_m</n>	1/4	The maximum frame rates of a H264
264_maxframe	axframerate"		stream at different
			resolutions("capability_videoin_c0_re
			solution") are recorded in
			"capability_videoin_c <n>_h264_maxf</n>
			ramerate"
s<0~(m-1)>_h	0~2	1/4	Indicate H264 profiles
264_profile			0: baseline
			1: main profile
			2: high profile
s<0~(m-1)>_h	<boolean></boolean>	4/4	Enable "Dynamic intra frame period".
265_dintraperio			* Only available when
d_enable			"capability_videoin_c<0~(n-1)>_dint
			raperiod_support" is 1 and h265 is
			listed in "capability_videoin_codec".
			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0301c.
s<0~(m-1)>_h	250, 500, 1000, 2000, 3000, 4000	4/4	The time interval between two
265_intraperiod			I-frames (Intra coded picture).

			The unit is millisecond (ms).
			* Only systepic when b205 is listed in
			* Only available when h265 is listed in
			"capability_videoin_codec".
s<0~(m-1)>_h	cbr, vbr	4/4	cbr : Constant bit rate mode.
265_ratecontrol			vbr : Fixed quality mode, all frames are
mode			encoded in the same quality.
			* Only available when h26E is listed in
			* Only available when h265 is listed in
	4 5		"capability_videoin_codec".
s<0~(m-1)>_h	1~5,	4/4	Set the pre-defined quality level:
265_quant	99, 100		1: Medium
			2: Standard
			3: Good
			4: Detailed
			5: Excellent
			100: Use the quality level in
			"qpercent"
			99: Use the quality level in "qvalue"
			* Only available when h265 is listed in
			"capability_videoin_codec" and
			"ratecontrolmode"= vbr.
s<0~(m-1)>_h	0~51	4/4	Manual video quality level input. The Q
265_qvalue	0~51	4/4	value which is used by encoded library
265_qvalue			
			directly.
			* Only available when h265 is listed in
			"capability_videoin_codec".
			* Only valid when "ratecontrolmode"=
			vbr and $s<0~(m-1)>_h265_quant =$
			99.
s<0~(m-1)>_h	1~100	4/4	Select customized quality in a
265_qpercent			normalized full range.
			1: Worst quality
			100: Best quality
			7
			* Only available when h265 is listed in
			"capability_videoin_codec".
		I	

		1	
			* Only valid when "ratecontrolmode"=
			vbr and "quant"= 100.
s<0~(m-1)>_h	20000~"capability_videoin_c <n>_h2</n>	4/4	The maximum allowed bit rate in fixed
265_maxvbrbitr	65_maxbitrate"		quality mode.
ate			When the bit rate exceeds this value,
			frames will be dropped to restrict the
			bit rate.
			* Only available when h265 is listed in
			"capability_videoin_codec".
			* Only valid when "ratecontrolmode"=
			vbr
s<0~(m-1)>_h	1~5, 100	4/4	Set the pre-defined quality level:
265_cbr_quant			1: Medium
			2: Standard
			3: Good
			4: Detailed
			5: Excellent
			100: Use the quality level in
			"cbr_qpercent"
			* Only available when h265 is listed in
			"capability_videoin_codec" and
			"ratecontrolmode"= cbr.
			* Only available when
			"capability_smartstream_version"="2
			.0"
s<0~(m-1)>_h	1~100	4/4	Select customized quality in a
265_cbr_qperce			normalized full range.
nt			1: Worst quality
			100: Best quality
			* Only available when h265 is listed in
			"capability_videoin_codec".
			* Only valid when "ratecontrolmode"=
			cbr and "quant"= 100.
			* Only available when
			"capability_smartstream_version"="2
			.0"
s<0~(m-1)>_h	20000~"capability_videoin_c <n>_h2</n>	4/4	The target bit rate in constant bit rate
3\0'*(III-1)>_II		+/+	The target bit rate in constant bit fale

265_bitrate	65_maxbitrate"		mode.
205_bitrate			mode.
			* Only available when h265 is listed in
			"capability_videoin_codec".
			* Only valid when "ratecontrolmode"=
			cbr
s<0~(m-1)>_h	framerate, imagequality	4/4	Set prioritypolicy
265_prioritypoli		., .	
су			* Only available when h265 is listed in
			"capability_videoin_codec".
			* Only valid when "ratecontrolmode"=
			cbr
s<0~(m-1)>_h	1~"capability_videoin_c <n>_h265_m</n>	1/4	The maximum frame rates of a H265
265_maxframe	axframerate"		stream at different
			resolutions("capability_videoin_c0_re
			solution") are recorded in
			"capability_videoin_c <n>_h265_maxf</n>
			ramerate"
			* Only available when h265 is listed in
			"capability_videoin_codec".
s<0~(m-1)>_h	0~2	1/4	Indicate H265 profiles
265_profile			0: baseline
			1: main profile
			2: high profile
			* Only available when h265 is listed in
			"capability_videoin_codec".
s<0~(m-1)>_m	cbr, vbr	4/4	cbr : Constant bit rate mode.
jpeg_ratecontro			vbr : Fixed quality mode, all frames are
Imode			encoded in the same quality.
s<0~(m-1)>_m	1~5,	4/4	* Only valid when "ratecontrolmode"=
jpeg_quant	99, 100		vbr.
			Set the pre-defined quality level:
			1: Medium
			2: Standard
			3: Good
			4: Detailed
			5: Excellent
			100: Use the quality level in
----------------	--	-----	---
			"qpercent"
			99: Use the quality level in "qvalue"
s<0~(m-1)>_m	10~200	4/4	Manual video quality level input. The Q
jpeg_qvalue	(Only valid when		value which is used by encoded library
	"capability_api_httpversion" format is		directly.
	XXXXX_1 or XXXXX_3		
	ex: 0301a_1 or 0301a_3)		* Only valid when "ratecontrolmode"=
	or 1~99		vbr and s<0~(m-1)>_mjpeg_quant =
	(Only valid when		99
	"capability_api_httpversion" format is		
	XXXXX_2,		
	ex: 0301a_2)		
	<product dependent=""></product>		
s<0~(m-1)>_m	1~100	4/4	Select customized quality in a
jpeg_qpercent			normalized full range.
			1: Worst quality
			100: Best quality
			* Only valid when "ratecontrolmode"=
			vbr and s<0~(m-1)>_mjpeg_quant =
			100.
s<0~(m-1)>_m	20000~"capability_videoin_c <n>_mj</n>	4/4	The maximum allowed bit rate in fixed
jpeg_maxvbrbit	peg_maxbitrate"	,	quality mode.
rate	F - <u>5</u>		When the bit rate exceeds this value,
			frames will be dropped to restrict the
			bit rate.
			bit fute.
			* Only valid when "ratecontrolmode"=
			vbr
s<0~(m-1)>_m	1~5, 100	4/4	Set the pre-defined quality level:
	1~3, 100	4/4	1: Medium
jpeg_cbr_quant			
			2: Standard
			3: Good
			4: Detailed
			5: Excellent
			100: Use the quality level in
			"cbr_qpercent"
			* Only available when

			"ratecontrolmode"= cbr.
			* Only available when
			"capability_smartstream_version"="2
			.0"
s<0~(m-1)>_m	1~100	4/4	Select customized quality in a
jpeg_cbr_qperc			normalized full range.
ent			1: Worst quality
			100: Best quality
			* Only valid when "ratecontrolmode"=
			cbr and "quant"= 100.
			* Only available when
			"capability_smartstream_version"="2
			.0"
s<0~(m-1)>_m	20000~"capability_videoin_c <n>_mj</n>	4/4	The target bit rate in constant bit rate
	peg_maxbitrate"	., .	mode.
Jpeg_bit ate	peg_maxbiliate		
			* Only valid when "ratecontrolmode"=
			cbr
s<0~(m-1)>_m	framerate, imagequality	4/4	Set prioritypolicy
jpeg_prioritypoli			* Only valid when "ratecontrolmode"=
су			cbr
s<0~(m-1)>_m	1~"capability_videoin_c <n>_mjpeg_</n>	1/4	The maximum frame rates of a mjpeg
jpeg_maxframe	maxframerate"		stream at different
			resolutions("capability_videoin_c0_re
			solution") are recorded in
			"capability_videoin_c <n>_mjpeg_ma</n>
			xframerate"
wdrpro_mode	<boolean></boolean>	4/4	Enable WDR pro
<product< td=""><td></td><td></td><td></td></product<>			
dependent>			* Only available when
			"capability_image_c <n>_wdrpro_mo</n>
			de" > 0
wdrpro_strengt	1~100	4/4	The strength of WDR Pro.
h			The bigger value means the stronger
<product< td=""><td></td><td></td><td>strength of WDR Pro.</td></product<>			strength of WDR Pro.
dependent>			* Only available when
· · ·			
			"capability_image c <n> wdrpro stre</n>
			"capability_image_c <n>_wdrpro_stre ngth" is 1</n>

dependent> "capability_image_c <n>_wdrc_mode "is 1 wdrc_strength dependent> 1~100 4/4 The strength of WDR enhanced. The bigger value means the stronger strength of WDR enhanced. aespeed_mode cproduct dependent> <boolean> 4/4 Turning AE converge speed on or off. 0: off 1: on * Only available when "capability_image_c<n>_aespeed" is 1 aespeed_speedl evel cyroduct dependent> 1~100 4/4 The speed level of AE converge speed. 1~20: level 1 dependent> 1~100 4/4 The speed level of AE converge speed. 1~20: level 1 aespeed_speedl evel cyroduct 1~100 4/4 The speed level of AE converge speed. 1~20: level 1 aespeed_sensiti vity 1~100 4/4 The speed level of AE converge speed. 1~20: level 3 61~80: level 4 81+100: level 5 Level 1~4(low ~ high) The higher speed level meas shorter AE converged time during AE executing. * Only available when "capability_image_c<n>_aespeed" is 1 aespeed_sensiti vity 1~100 4/4 The sensitivity of AE converge speed. 1~20: level 1 4i=<001 1~100 4/4 The sensitivity of AE converge speed. 1~20: level 1 4i=<001 1~100 4/4 The sensitivity of AE converge speed. 1~20: level 3 61~80: level 4 6i=<01 1 21~40: level 2 4 4i=<001 1 21~</n></n></boolean></n>	coroduct			* Only available when
wdrc_strength 1~100 4/4 The strength of WDR enhanced. cproduct * Only available when *capability_image_c <n>_wdrc_mode * capability_image_c<n>_wdrc_mode * is 1 aespeed_mode <boolean> 4/4 Turning AE converge speed on or off. cproduct 0: off 1: on * Only available when *capability_image_c<n>_expred 1: on * Only available when *capability_image_c<<n>_aespeed* is 1 1 aespeed_speed1 1~100 4/4 The speed level of AE converge speed. evel -200: level 1 21~40: level 2 cproduct dependent> 4/4 The speed level of AE converge speed. evel -200: level 1 21~40: level 3 61~80: level 4 evel -200: level 1 21~40: level 5 Level 1~4(low ~ high) The higher speed level meas shorter AE converged time during AE executing. * Only available when *capability_image_c<n>_aespeed* is 1 1 1 1 aespeed_sensiti 1~100 4/4 The sensitivity of AE converge speed. vity <product< td=""> 4/4 The sensitivity of AE converge speed.<</product<></n></n></n></boolean></n></n>	<pre><pre>oduct</pre></pre>			* Only available when
wdrc_strength 1~100 4/4 The strength of WDR enhanced. cproduct wdrc_strength 1~100 The bigger value means the stronger strength of WDR enhanced. aespeed_mode * Only available when *capability_image_c <n>_wdrc_mode * is 1 aespeed_mode * 001y available when <product< td=""> dependent> 4/4 Turning AE converge speed on or off. o: off 1: on * 001y available when *capability_image_c<n>_aespeed" is 1 aespeed_speedl 1~100 4/4 The speed level of AE converge speed. <product< td=""> dependent> 4/4 The speed level of AE converge speed. <product< td=""> dependent> 4/4 The speed level of AE converge speed. <product< td=""> dependent> 4/4 The speed level of AE converge speed. <product< td=""> dependent> 4/4 The speed level of AE converge speed. <product< td=""> dependent> 4/4 The speed level of AE converge speed. <product< td=""> dependent> 4/4 The speed level of AE converge speed. <product< td=""> dependent> 1~100 4/4 The sensitivity of AE converge speed. <product< td=""> is conver</product<></product<></product<></product<></product<></product<></product<></product<></n></product<></n>	dependent>			•
<product< td=""> The bigger value means the stronger dependent> * Only available when aespeed_mode <boolean> <product< td=""> dependent> aespeed_mode <boolean> <product< td=""> dependent> aespeed_mode <boolean> <product< td=""> dependent> aespeed_speedi 1~100 evel 1/4 cproduct 4/4 dependent> 1~100 evel 1/20: level 1 cproduct 4/4 dependent> 1/400 evel 1/20: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher speed level meas shorter AE 20 executing, * Only available when "copability_image_c<n>_aespeed" is 1 1~20: level 3 61~80: level 4 81~100: level 5 Level 1/4(low ~ high) The higher speed level meas shorter AE Converged time during AE executing, * Only available when "copability_image_c<n>_aespeed" is 1 1/400<</n></n></product<></boolean></product<></boolean></product<></boolean></product<>		1 100		
dependent> strength of WDR enhanced. aespeed_mode <boolean> 4/4 Turning AE converge speed on or off. oproduct op off 0: off 0: off dependent> 1~100 4/4 Turning AE converge speed on or off. evel - 1: on * Only available when cpoduct dependent> 4/4 The speed level of AE converge speed is aespeed_speedI 1~100 4/4 The speed level of AE converge speed. cyroduct dependent> 1~20: level 1 21~40: level 2 dependent> 4/4 The speed level of AE converge speed. 1~20: level 1 sproduct dependent> 4/4 The speed level meas shorter aespeed_sensiti 1~100 4/4 The speed level meas shorter aespeed_sensiti 1~100 4/4 The sensitivity of AE converge speed. vity sproduct 4/4 The sensitivity of AE converge speed. vity sproduct 4/4 The sensitivity of AE converge speed. vity sproduct 4/4 The sensitivity of AE converge speed. vity sproduct 4/4</boolean>	_	1~100	4/4	-
aespeed_mode <boolean> 4/4 Turning AE converge speed on or off. cproduct coolean> 4/4 Turning AE converge speed on or off. dependent> 0: off 1: on * Only available when "capability_image_c<n>_aespeed' is 1 aespeed_speed! 1~100 4/4 The speed level of AE converge speed. evel <product< td=""> 4/4 The speed level of AE converge speed. cyroduct dependent> 4/4 The speed level of AE converge speed. evel 1~100 4/4 The speed level of AE converge speed. cyroduct dependent> 61~80: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher speed level meas shorter AE converge time during AE executing. * Only available when * capability_image_c<n>_aespeed' is aespeed_sensiti 1~100 4/4 The sensitivity of AE converge speed. 1 ~20: level 1 vity inpoduct 4/4 The sensitivity of AE converge speed. 1 ~20: level 3 oinpoduct dependent> 1~100 4/4 The sensitivity of AE converge speed. 1 ~20: level 1</n></product<></n></boolean>				
aespeed_mode <boolean> 4/4 Turning AE converge speed on or off. <product< td=""> 0: off 1: on 0: off dependent> 1 0: off 1: on aespeed_speedl 1~100 4/4 The speed level of AE converge speed. evel 1~100 4/4 The speed level of AE converge speed. eyroduct dependent> 1~20: level 1 21~40: level 2 dependent> 1~20: level 3 61~80: level 4 81~100: level 5 level </product<></boolean>	dependent>			strength of WDR enhanced.
aespeed_mode <boolean> 4/4 Turning AE converge speed on or off. <product< td=""> 0: off 1: on 0: off dependent> 1 0: off 1: on aespeed_speedl 1~100 4/4 The speed level of AE converge speed. evel 1~100 4/4 The speed level of AE converge speed. eyroduct dependent> 1~20: level 1 21~40: level 2 dependent> 1~20: level 3 61~80: level 4 81~100: level 5 level </product<></boolean>				
aespeed_mode <product </product dependent> <boolean>4/4Turning AE converge speed on or off. 0: off 1: on * Only available when "capability_image_c<n>_aespeed" is 1aespeed_speedl evel <product </product dependent>1~1004/4The speed level of AE converge speed. 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher speed level meas shorter AE converged time during AE executing. * Only available when "capability_image_c<n>_aespeed" is 1aespeed_sensiti vity <product </product dependent>1~1004/4The sensitivity of AE converge speed. 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 1aespeed_sensiti vity <product </product dependent>1~1004/4The sensitivity of AE converge speed. 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.</n></n></boolean>				
aespeed_mode <boolean> 4/4 Turning AE converge speed on or off. oproduct 0: off 1: on * Only available when "capability_image_c<n>_aespeed" is 1 aespeed_speedi 1~100 4/4 The speed level of AE converge speed. evel 1~20: level 1 21~40: level 2 41~60: level 3 ofi~80: level 4 81~100: level 5 1 1 aespeed_sesisti 1~100 4/4 The sensitivity of AE converge speed. vity 1~100 4/4 The sensitivity of AE converge speed. vity 1~100 4/4 The sensitivity of AE converge speed. vity 1~100 4/4 The sensitivity of AE converge speed. vity 1~100 4/4 The sensitivity of AE converge speed. vity 1~100 4/4 The sensitivity of AE converge speed. vity 1~100 4/4 The sensitivity of AE converge speed. vity 1~20: level 1 21~40: level 2 21~40: level 2 dependent> 1~20: level 1 21~40: level 3 61~80: level 3 of I~80: level 3 61~80: level 3 61~80: level 5</n></boolean>				
<pre><preduct dependent=""></preduct></pre>				
dependent>1: on * Only available when "capability_image_c <n>_aespeed" is 1aespeed_speedi1~1004/4The speed level of AE converge speed. 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher speed level meas shorter AE converged time during AE executing. * Only available when "capability_image_c<n>_aespeed" is 1aespeed_sensiti vity <pre>c<n>_aespeed</n></pre>1~1004/4The sensitivity of AE converge speed. 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher speed level meas shorter AE converged time during AE executing. * Only available when "capability_image_c<n>_aespeed" is 1 21~40: level 1 21~40: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.</n></n></n>		<boolean></boolean>	4/4	
Image: sensitive sen				
aespeed_speedI 1~100 4/4 The speed level of AE converge speed. evel 1~20: level 1 21~40: level 2 dependent> 4/4 The speed level of AE converge speed. dependent> 1~20: level 1 21~40: level 2 dependent> 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher speed level meas shorter AE converged time during AE executing. * Only available when "capability_image_c <n>_aespeed" is 1 1 aespeed_sensiti 1~100 4/4 The sensitivity of AE converge speed. vity 1~100 4/4 The sensitivity of AE converge speed. vity 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~2(level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 1~20: level 1 exproduct 4/4 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 1~20: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that 1t is easy to be trigger while scene</n>	dependent>			
aespeed_speedI 1~100 4/4 The speed level of AE converge speed. evel <product< td=""> 1~20: level 1 21~40: level 2 dependent> 4/4 1~20: level 1 21~40: level 2 dependent> 61~80: level 4 81~100: level 5 1 Level 1~4(low ~ high) The higher speed level meas shorter AE converged time during AE executing. * Only available when "capability_image_c<n>_aespeed" is 1 aespeed_sensiti 1~100 4/4 The sensitivity of AE converge speed. vity 1~100 4/4 The sensitivity of AE converge speed. vity 1~100 4/4 The sensitivity of AE converge speed. vity 1~100 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The sensitivity of AE converge speed. 1~20: level 1 vity 1~100 4/4 1~20: level 1 1~20: level 2 41~60: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.</n></product<>				
aespeed_speedl 1~100 4/4 The speed level of AE converge speed. evel 1~20: level 1 21~40: level 2 dependent> 41~60: level 3 61~80: level 4 dependent> 81~100: level 5 Level 1~4(low ~ high) The higher speed level meas shorter AE converged time during AE executing. * Only available when vity 1~100 4/4 The sensitivity of AE converge speed. vity 1~20: level 1 21~40: level 2 dependent> 1~100 4/4 The sensitivity of AE converge speed. vity 1~100 4/4 The sensitivity of AE converge speed. vity 1~100 1/4 The sensitivity of AE converge speed. vity <product< td=""> 4/4 1~20: level 1 dependent> 1~100 4/4 The sensitivity of AE converge speed. i 1 1 1 1 executing. 1 1 1 1 vity 1 1 1 1 1 executing. 1 1 1 1 1 ependuct 1 1<!--</td--><td></td><td></td><td></td><td>"capability_image_c<n>_aespeed" is</n></td></product<>				"capability_image_c <n>_aespeed" is</n>
evel1~20: level 1 <product< td="">21~40: level 2dependent>41~60: level 361~80: level 481~100: level 5Level 1~4(low ~ high)The higher speed level meas shorterAE converged time during AEexecuting.* Only available when"capability_image_c<n>_aespeed" is11aespeed_sensiti1~1004/4The sensitivity of AE converge speed.vity21~40: level 1<product< td="">21~40: level 3dependent>61~80: level 481~100: level 5Level 1~4(low ~ high)The higher sensitivity level meas thatit is easy to be trigger while scenechanged.</product<></n></product<>				
<pre><pre><pre>cyroduct dependent></pre></pre></pre>	aespeed_speedl	1~100	4/4	The speed level of AE converge speed.
dependent>41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher speed level meas shorter AE converged time during AE executing. * Only available when "capability_image_c <n>_aespeed_sensiti 1aespeed_sensiti vity <product </product dependent>1~1004/4The sensitivity of AE converge speed. 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1 21~40: level 2</n>	evel			1~20: level 1
i61~80: level 481~100: level 5Level 1~4(low ~ high)The higher speed level meas shorterAE converged time during AEexecuting.* Only available when"capability_image_c <n>_aespeed" is1aespeed_sensitivity<product< td="">dependent>4/4</product<></n>	<product< td=""><td></td><td></td><td>21~40: level 2</td></product<>			21~40: level 2
81~100: level 5Level 1~4(low ~ high)The higher speed level meas shorterAE converged time during AEexecuting.* Only available when"capability_image_c <n>_aespeed" is1aespeed_sensiti1~1004/4The sensitivity of AE converge speed.vity<product< td="">dependent>4/44/4The sensitivity of AE converge speed.1~20: level 121~40: level 241~60: level 361~80: level 481~100: level 5Level 1~4(low ~ high)The higher sensitivity level meas thatit is easy to be trigger while scenechanged.</product<></n>	dependent>			41~60: level 3
Level 1~4(low ~ high) The higher speed level meas shorter AE converged time during AE executing. * Only available when "capability_image_c <n>_aespeed" is 1aespeed_sensiti vity <product </product dependent>1~1004/4The sensitivity of AE converge speed. 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.</n>				61~80: level 4
aespeed_sensiti 1~100 4/4 The sensitivity of AE converge speed. vity 1~20: level 1 <product< td=""> 21~40: level 2 dependent> 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.</product<>				81~100: level 5
AE converged time during AEexecuting.* Only available when"capability_image_c <n>_aespeed" is1aespeed_sensiti1~100vity<product< td="">dependent>4/44/4The sensitivity of AE converge speed.1~20: level 121~40: level 241~60: level 361~80: level 481~100: level 5Level 1~4(low ~ high)The higher sensitivity level meas thatit is easy to be trigger while scenechanged.</product<></n>				Level 1~4(low ~ high)
executing. * Only available when "capability_image_c <n>_aespeed" is 1 aespeed_sensiti 1~100 vity 4/4 The sensitivity of AE converge speed. 1~20: level 1 2product dependent> 4/4 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.</n>				The higher speed level meas shorter
* Only available when "capability_image_c <n>_aespeed" is 1aespeed_sensiti vity1~1004/4The sensitivity of AE converge speed. 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.</n>				AE converged time during AE
"capability_image_c <n>_aespeed" is 1aespeed_sensiti1~1004/4The sensitivity of AE converge speed. 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.</n>				executing.
aespeed_sensiti 1~100 4/4 The sensitivity of AE converge speed. vity <product< td=""> 1~20: level 1 21~40: level 2 dependent> 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.</product<>				* Only available when
aespeed_sensiti 1~100 4/4 The sensitivity of AE converge speed. vity 1~20: level 1 1~20: level 1 <product< td=""> 21~40: level 2 41~60: level 3 dependent> 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed. 1 1 1</product<>				"capability_image_c <n>_aespeed" is</n>
<pre>vity <pre>vity <pre>vity <pre>vity <pre>image: 1~20: level 1 21~40: level 2 21~40: level 2 41~60: level 3 61~80: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.</pre></pre></pre></pre></pre>				1
<pre><pre><pre><pre><pre><pre>dependent></pre> <pre>21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.</pre></pre></pre></pre></pre></pre>	aespeed_sensiti	1~100	4/4	The sensitivity of AE converge speed.
dependent>41~60: level 361~80: level 481~100: level 5Level 1~4(low ~ high)The higher sensitivity level meas thatit is easy to be trigger while scenechanged.	vity			1~20: level 1
61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.	<product< td=""><td></td><td></td><td>21~40: level 2</td></product<>			21~40: level 2
81~100: level 5 Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.	dependent>			41~60: level 3
Level 1~4(low ~ high) The higher sensitivity level meas that it is easy to be trigger while scene changed.				61~80: level 4
The higher sensitivity level meas that it is easy to be trigger while scene changed.				81~100: level 5
it is easy to be trigger while scene changed.				Level $1 \sim 4$ (low \sim high)
changed.				The higher sensitivity level meas that
				it is easy to be trigger while scene
* Only available when				changed.
				* Only available when

			1 7
			"capability_image_c <n>_aespeed" is</n>
			1 and
			"capability_image_c <n>_aespeedsup</n>
			portsensitivity" is 1.
flickerless	<boolean></boolean>	4/4	Turn on(1) or turn off(0) the flickerless
<product< td=""><td></td><td></td><td>mode</td></product<>			mode
dependent>			* Only available when
			"capability_image_c <n>_flickerless"</n>
			is 1
mounttype	ceiling, wall, floor	1/6	wall mount: 180° panoramic view
<product< td=""><td></td><td></td><td>ceiling mount: 360° surround view</td></product<>			ceiling mount: 360° surround view
dependent>			without blind spots
			floor mount: 360° surround view
			without blind spots
			* Only available when
			"capability_fisheye" > 0
enablewatermar	0, 1	1/6	0: Not to add watermarks on images
k			1: Add watermarks on images
<product< td=""><td></td><td></td><td></td></product<>			
dependent>			* Only available when
			"capability_fisheye" > 0
s<0~(m-2)>_fi	'10, 1P, 2P, 1R, 4R' for ceiling/floor	1/4	Local dewarp mode.
sheyedewarpmo	mount		"10" is original mode (disable).
de	'10, 1P, 1R, 4R' for wall mount		Supported dewarp mode is different by
<product< td=""><td><product dependent=""></product></td><td></td><td>mount type.</td></product<>	<product dependent=""></product>		mount type.
dependent>			(videoin_c <n>_mounttype)</n>
			Supported mode list could be
			extracted from
			(capability_videoin_c <n>_localdewar</n>
			p_typeceilingmount) and
			(capability_videoin_c <n>_localdewar</n>
			p_typewallmount)
			* Only available when
			, "capability_fisheyelocaldewarp_c<0~(
			capability_nvideoin)-1>" > 0
L		1	

Group: videoin_c<0~(n-1)>_s<0~(m-1)>_h264_smartstream2 (capability_smartstream_support=1 and

capability_smartstream_version=2.0)

Group: videoin_c<0~(n-1)>_s<0~(m-1)>_h265_smartstream2 (capability_smartstream_support=1, capability_smartstream_version=2.0 and h265 is listed in "capability_videoin_codec")

n denotes the value of "capability_nvideoin",m denotes the value of " capability_nmediastream"

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	4/4	Enable or Disable smart codec
			function
mode	autotracking,manual,hybrid	4/4	Set Smart stream mode
			"autotracking": only available
			when
			"capability_smartstream_mode_aut
			otracking" is 1.
			"manual": only available when
			"capability_smartstream_mode_ma
			nual" is 1.
			"hybrid": only available when
			"capability_smartstream_mode_hyb
			rid" is 1.
qualitypriority	-5,-4,-3,-2,-1,1,2,3,4,5	4/4	The differential value of Q between
			the regions of interest (ROI) and the
			areas of non-interest (non-ROI) of
			the display image.
			If the value is a positive number, the
			video quality of ROI is better than the
			non-ROI areas. The level is from 1 to
			5. Level 5 is the maximum level of
			the quality difference between the
			ROI and non-ROI areas.
			If the value is a negative number, the
			video quality of non-ROI areas is
			better than the ROI. The level is from
			-1 to -5. Level -5 is the maximum
			level of the quality difference
			between the ROI and non-ROI areas.

Group: videoin_c<0~(n-1)>_s<0~(m-1)>_h264_smartstream2_win_i<0~(k-1)> (capability_smartstream_support=1, capability_smartstream_version=2.0 and

capability_smartstream_mode_manual = 1)

Group: videoin_c<0~(n-1)>_s<0~(m-1)>_h265_smartstream2_win_i<0~(k-1)>

(capability_smartstream_support=1, capability_smartstream_version=2.0 and h265 is listed in

"capability_videoin_codec" and capability_smartstream_mode_manual = 1)

n denotes the value of "capability_nvideoin",m denotes the value of " capability_nmediastream",k denotes the value of "capability_smartstream_nwindow_manual".

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	4/4	Enable or disable the window.
home	0~320,0~240	4/4	Left-top corner coordinate of the window.
size	0~320x0~240	4/4	Width and height of the window

7.8.1.1 Alternative video input profiles per channel

In addition to the primary setting of video input, there can be alternative profile video input setting for each channel which might be for different scene of light (daytime or nighttime).

Group: videoin_c<0~(n-1)>_profile_i<0~(m-1)> for n channel profucts and m profile

n denotes the value of "capability_nvideoin" and m denotes the value of "capability_nvideoinprofile"

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	4/4	Enable/disable this profile setting
policy	night,	4/4	The mode which the profile is applied to.
	schedule		
			* Not support "policy=day" anymore when the
			version number (httpversion) is equal or
			greater than 0301a.
begintime	hh:mm	4/4	Begin time of schedule mode.
endtime	hh:mm	4/4	End time of schedule mode.
minexposure	<1~32000>,	4/4	Minimum exposure time
<product dependent=""></product>	<5~32000>,		1~32000 => 1s ~ 1/32000s
	<1~8000>,		5~32000 => 1/5s ~ 1/32000s
	<5~8000>,		1~8000 => 1s ~ 1/8000s
	etc.		5~8000 => 1/5s ~ 1/8000s
			etc.
	* Available value is		
	listed in		* Only available when
	"capability_image_c		"capability_image_c <n>_exposure_minrange</n>

(capability.nvideoinprofile> 0)

	<n>_exposure_min</n>		" != "-"
	range"		* Only valid when "piris_mode"=manual or
	lange		"irismode"=fixed
			* Only available when
			"capability_image_c <n>_exposure_rangetyp</n>
			e" is "twovalues".
maxexposure	<1~32000>,	4/4	Maximum exposure time
<product dependent=""></product>	<5~32000>,		1~32000 => 1s ~ 1/32000s
	<1~8000>,		5~32000 => 1/5s ~ 1/32000s
	<5~8000>,		1~8000 => 1s ~ 1/8000s
	etc.		5~8000 => 1/5s ~ 1/8000s
			etc.
	* Available value is		
	listed in		* This parameter may also restrict image
	"capability_image_c		frame rate from sensor due to sensor
	<pre><n>_exposure_ma</n></pre>		generates a frame per exposure time. Ex: If
	xrange"		this is set to $1/5s \sim 1/8000s$ and camera takes
	Xiunge		1/5s on the night, then sensor only outputs 5
			frame/s.
			* Only available when
			capability_image_c <n>_exposure_maxrang</n>
			e" != "-"
			* Only valid when "piris_mode"=manual or
			"irismode"=fixed
			* Only available when
			"capability_image_c <n>_exposure_rangetyp</n>
			e" is "twovalues".
shuttervalue	<1~32000>,	4/4	Exposure time
<product dependent=""></product>	<5~32000>,		1~32000 => 1s ~ 1/32000s
	<1~8000>,		5~32000 => 1/5s ~ 1/32000s
	<5~8000>,		1~8000 => 1s ~ 1/8000s
	etc.		5~8000 => 1/5s ~ 1/8000s
			etc.
	* Available value is		
	listed in		* This parameter may also restrict image
	"capability_image_c		frame rate from sensor due to sensor
	<n>_exposure_ma</n>		generates a frame per exposure time. Ex: If
	xrange"		this is set to $1/5$ s ~ $1/8000$ s and camera takes
			1/5s on the night, then sensor only outputs 5
L			

enablebic <boolean> 4/4 Enable backlight compensation. * We support this parameter when the version number (httpversion) is equal or greater than 0302a. enablebic <boolean> 4/4 Enable backlight compensation. * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0302a. enablebic <boolean> 4/4 Enable backlight compensation. * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301a. * It's recommanded to use "exposurewin_c<n>_mode" to switch on/off BLC. exposurelevel 0~12 4/4 Exposure level "0,12". This range takes the concept from DC's exposure tuning options. The definition is: 0: EV -2.0 1: EV -1.7 2: EV -1.3 3: EV -1.0 4: EV 0.7 5: EV -0.3 6: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.0 10: EV +1.7 12: EV +1.7 12: EV +1.7 12: EV +1.7 12: EV +1.7 12: EV +1.2 11: EV +1.7 12: EV +1.2 11: EV +1.7 12: EV +2.0 exposuremode <pre>compositive, manual, etc 4/4 Select exposure mode. speed(Exposure time) can be set automatically.</pre></n></boolean></boolean></boolean>		1	1	ferrar a /a
enablebic <boolean> 4/4 Enable backlight compensation. enablebic <boolean> 4/4 Enable backlight compensation. enablebic <boolean> 4/4 Enable backlight compensation. enablebic <boolean> 4/4 Enable backlight compensation. enablebic <boolean> 4/4 Enable backlight compensation. enablebic <boolean> 4/4 Enable backlight compensation. enablebic <boolean> 4/4 Enable backlight compensation. exposurelevel 0~12 4/4 Enable backlight compensation. exposurelevel 0~12 4/4 Exposure level "0.12". This range takes the concept from DC's exposure tuning options. The definition is: 0: EV = 2.0 i: EV = 1.7 i: EV = 1.7 i: EV = 0.7 i: EV = 0.7 i: EV = 0.7 i: EV = 0.7 i: EV = 0.10 i: EV = 0.7 i: EV = 0.1 i: EV = 0.10 i: EV = 0.1 i: EV = 0.1 i: EV = 0.10 i: EV = 0.1 i: EV = 0.1 i: EV = 0.10 i: EV = 0.1 i: EV = 0.1 i: EV = 0.11 i: EV = 0.1 i: EV = 0.1</boolean></boolean></boolean></boolean></boolean></boolean></boolean>				frame/s.
enablebic <boolean> 4/4 Enable backlight compensation. enablebic <boolean> 4/4 Enable backlight compensation. enablebic <boolean> 4/4 Enable backlight compensation. enablebic <boolean> 4/4 Enable backlight compensation. enablebic <boolean> 4/4 Enable backlight compensation. enablebic <boolean> 4/4 Enable backlight compensation. enablebic <boolean> 4/4 Enable backlight compensation. exposurelevel 0~12 4/4 Enable backlight compensation. exposurelevel 0~12 4/4 Exposure level "0.12". This range takes the concept from DC's exposure tuning options. The definition is: 0: EV = 2.0 i: EV = 1.7 i: EV = 1.7 i: EV = 0.7 i: EV = 0.7 i: EV = 0.7 i: EV = 0.7 i: EV = 0.10 i: EV = 0.7 i: EV = 0.1 i: EV = 0.10 i: EV = 0.1 i: EV = 0.1 i: EV = 0.10 i: EV = 0.1 i: EV = 0.1 i: EV = 0.10 i: EV = 0.1 i: EV = 0.1 i: EV = 0.11 i: EV = 0.1 i: EV = 0.1</boolean></boolean></boolean></boolean></boolean></boolean></boolean>				* Only available when
e* 1 = *-* and *capability_image_c <n>_exposure_rangetyp e* is "onevalue". * We support this parameter when the version number (httpversion) is equal or greater than 0302a. enableblc <boolean> 4/4 Enable backlight compensation. <not anymore="" support=""> 4/4 Enable backlight compensation. <not anymore="" support=""> 4/4 Enable backlight compensation. <not anymore="" support=""> 4/4 Enable backlight compensation. <not (httpversion)="" 0301a.<="" anymore="" equal="" greater="" is="" number="" or="" parameter="" support="" td="" than="" the="" this="" version="" when=""> * It's recommanded to use exposurelevel 0~12 4/4 Exposure level 0~12 4/4 Exposure level 0.12 10 Exposure tuning options. The definition is: 0: EV -2.0 1: EV -1.7 2: EV -1.3 1: EV -1.7 2: EV -0.3 8: EV +0.7 9: EV +0.3 8: EV +0.7 9: EV +1.3 11: EV +1.7 12: EV +2.0 10: EV +1.3 11: EV +1.7 12: EV +2.0 10: EV +1.3 11: EV +1.7 12: EV +2.0 10: EV +1.3 11: EV +1.7 12: EV +2.0 10: EV +1.3 11: EV +1.7 12: EV +2.0 1</not></not></not></not></boolean></n>				
"capability_image_c <n>_exposure_rangetyp e" is "onevalue".enablebic<boolean>4/4Enable backlight compensation. * Not support anymore><ht>4/4Enable backlight compensation. * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301a. * It's recommanded to use "exposureivni_c<n>_mode" to switch on/off BLC.exposurelevel0~124/4Exposure level "0,12": This range takes the concept from DC's exposure tuning options. The definition is: 0: EV -2.0 1: EV -1.7 2: EV -1.3 3: EV -1.0 4: EV -0.7 5: EV -0.3 6: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +1.3 11: EV +1.7 12: EV +2.0exposuremodeauto, shutterpriority, irispriority, manual, etc4/4Select exposure mode.shutterpriority, manual, etc4/4Select exposure mode.</n></ht></boolean></n>				
e" is "onevalue". enablebic <boolean> 4/4 Enable backlight compensation. <not anymore="" support=""> 4/4 Enable backlight compensation. <not anymore="" support=""> exposurelevel 0~12 4/4 Exposure level 0.12 4/4 Exposure luning options. The definition is: 0: EV -1.7 2: EV -1.0 1: EV -1.7 2: EV -1.3 3: EV +0.0 8: EV +0.7 9: EV +1.3 11: EV +1.7 12: EV +1.3 11: EV +1.7 12: EV +2.0 exposuremod</not></not></boolean>				
enableblc <boolean> 4/4 Enable backlight compensation. <not anymore="" support=""> <boolean> 4/4 Enable backlight compensation. <boolean> 4/4 Enable backlight compensation. <boolean> 4/4 Enable backlight compensation. <boolean> 4/4 Exposure level 0~12 4/4 Exposure level 0~12 4/4 Exposure level 0.12 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 <!--</td--><td></td><td></td><td></td><td></td></boolean></boolean></boolean></boolean></not></boolean></not></boolean></not></boolean></not></boolean></not></boolean></not></boolean>				
enableblc <boolean> 4/4 Enable backlight compensation. <not anymore="" support=""> 4/4 Exposure level 0~12 4/4 Exposure level 0~12 4/4 Exposure level 0/12": This range takes the concept from DC's exposure tuning options. The definition is: 0: 0: EV -2.0 1: EV -1.7 2: EV -1.0 1: EV -1.7 3: EV +0.7 3: EV +0.7 Exposure mode 8: EV +0.7 9: EV +1.0 <td></td><td></td><td></td><td>e is onevalue.</td></not></not></not></not></not></not></not></not></not></not></boolean>				e is onevalue.
enableblc <boolean> 4/4 Enable backlight compensation. <not anymore="" support=""> 4/4 Exposure level 0~12 4/4 Exposure level 0~12 4/4 Exposure level 0/12": This range takes the concept from DC's exposure tuning options. The definition is: 0: 0: EV -2.0 1: EV -1.7 2: EV -1.0 1: EV -1.7 3: EV +0.7 3: EV +0.7 Exposure mode 8: EV +0.7 9: EV +1.0 <td></td><td></td><td></td><td>* We support this parameter when the version</td></not></not></not></not></not></not></not></not></not></not></boolean>				* We support this parameter when the version
enableblc <boolean> 4/4 Enable backlight compensation. <not anymore="" support=""> 4/4 Enable backlight compensation. <not anymore="" support=""> * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301a. * It's recommanded to use "exposurewin_c<n>_mode" to switch on/off BLC. exposurelevel 0~12 4/4 Exposure level 0~12 4/4 Exposure level 0/12" 4/4 Exposure tuning options. The definition is: 0: EV -2.0 1: EV +1.7 2: EV +1.3 3: EV -1.0 4: EV 0.7 5: EV 0.7 5: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.3 11: EV +1.7 12: EV +1.3 11: EV +1.7 12: EV +2.0 2: EV +2.0 exposuremode auto, 4/4 Select exposure mode. <product dependent=""> shutterpriority, "auto": Iris, Gain</product></n></not></not></boolean>				
enableblc <boolean> 4/4 Enable backlight compensation. <not anymore="" support=""> *Not support in ymore> *Not support in ymore> *Not support in ymore> exposurelevel 0~12 4/4 Enable backlight compensation. exposurelevel 0~12 4/4 Exposure level 0~12 4/4 Exposure tuning options. The definition is: 0: EV -2.0 1: EV -1.7 2: EV +1.3 3: EV -1.0 4: EV -0.7 5: EV 0.7 5: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.3 11: EV +1.7 12: EV +2.0 exposuremode auto, 4/4 Select exposure mode. <product dependent=""> shutterpriority, "auto": Iris, Gain and Shutter speed(Exposure time) can be set automatically. automatically.</product></not></boolean>				
<not anymore="" support=""> * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301a. * It's recommanded to use "exposurewin_c<n>mode" to switch on/off BLC. exposurelevel 0~12 4/4 Exposure level 0/12": This range takes the concept from DC's exposure tuning options. The definition is: 0:EV -2.0 1: EV -1.7 2: EV -1.3 3: EV +0.7 2: EV 0.7 5: EV 0.3 6: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +2.0 exposuremode auto, 4/4 Select exposure mode. <product dependent=""> shutterpriority, irispriority, manual, etc Select exposure time) can be set automatically.</product></n></not>	anablable		1/1	
exposurelevel0~124/4Exposure level "o,12": This range takes the concept from DC's exposure tuning options. The definition is: 0: EV -2.0 1: EV -1.7 2: EV -1.3 3: EV -1.0 4: EV -0.7 5: EV -0.3 6: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +2.0exposuremode <product dependent="">auto, shutterpriority, irispriority, manual, etc4/4Select exposure mode. set automatically.</product>			4/4	
greater than 0301a. * It's recommanded to use "exposurewin_c <n>_mode" to switch on/off BLC.exposurelevel0~124/4Exposure level "0,12": This range takes the concept from DC's exposure tuning options. The definition is: 0: EV -2.0 1: EV -1.7 2: EV -1.3 3: EV -1.0 4: EV -0.7 5: EV -0.3 6: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +2.0exposuremode exposuremodeauto, shutterpriority, irispriority, manual, etc4/4Select exposure mode. speed(Exposure time) can be set automatically.</n>				
* It's recommanded to use "exposurewin_c <n>_mode" to switch on/off BLC.exposurelevel0~124/4Exposure level "0,12": This range takes the concept from DC's exposure tuning options. The definition is: 0: EV -2.0 1: EV -1.7 2: EV -1.3 3: EV -1.0 4: EV -0.7 5: EV -0.3 6: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +2.0exposuremode <product dependent="">auto, shutterpriority, irispriority, manual, etc4/4Select exposure mode. speed(Exposure time) can be set automatically.</product></n>				
exposurelevel0~124/4"exposure level "0,12": This range takes the concept from DC's exposure tuning options. The definition is: 0: EV -2.0 1: EV -1.7 2: EV -1.3 3: EV -1.0 4: EV -0.7 5: EV -0.3 6: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +1.3 11: EV +1.7 12: EV +2.0exposuremode <product dependent="">auto, shutterpriority, irispriority, manual, etc4/4Select exposure mode. set automatically.</product>				
exposurelevel0~124/4Exposure level"0,12": This range takes the concept from DC's exposure tuning options. The definition is: 0: EV -2.0 1: EV -1.7 2: EV -1.3 3: EV -1.0 4: EV -0.7 5: EV -0.3 6: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +2.0exposuremode <product dependent="">auto, shutterpriority, manual, etc4/4Select exposure mode. spred(Exposure time) can be set automatically.</product>				
exposurelevel0~124/4Exposure level "0,12": This range takes the concept from DC's exposure tuning options. The definition is: 0: EV -2.0 1: EV -1.7 2: EV -1.3 3: EV -1.0 4: EV -0.7 5: EV -0.3 6: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +2.0exposuremode <product dependent="">auto, shutterpriority, irispriority, manual, etc4/4Select exposure mode. speed(Exposure time) can be set automatically.</product>				
exposuremodeauto,4/4Select exposure mode.exposuremodeauto,4/4Select exposure mode.exposure tuning options. The definition is:0: EV -2.01: EV -1.72: EV -1.33: EV -1.04: EV -0.75: EV -0.36: EV 07: EV +0.38: EV +0.79: EV +1.010: EV +1.311: EV +1.712: EV +2.0exposuremodeshutterpriority,irispriority,"auto": Iris, Gain and Shuttermanual,etcetcautomatically.	exposurelevel	0~12	4/4	
exposure tuning options. The definition is:0: EV -2.01: EV -1.72: EV -1.33: EV -1.04: EV -0.75: EV -0.36: EV 07: EV +0.38: EV +0.79: EV +1.010: EV +1.311: EV +1.712: EV +2.0exposuremodeauto,4/4Select exposure mode.shutterpriority,irispriority,manual,etcautomatically.	exposurelevel	0.012		
exposuremode auto, 4/4 Select exposure mode. <product dependent=""> shutterpriority, "auto": Iris, Gain and Shutter speed(Exposure time) can be set automatically.</product>				
exposuremode auto, 4/4 Select exposure mode. shutterpriority, irispriority, manual, ec etc i i i i i i i i i i i i i i i				
exposuremodeauto,4/4Select exposure mode.exposuremodeauto,4/4Select exposure mode.exposuremodeauto,4/4Select exposure mode.exposuremodeauto,4/4Select exposure mode.exposuremodeauto,4/4Select exposure mode.exposuremodeauto,4/4Select exposure mode.exposuremodeshutterpriority,"auto": Iris, Gain and Shutteririspriority,irispriority,"auto": Iris, Gain and Shutteretcautomatically.Speed(Exposure time) can be set				
exposuremodeauto,4/4Select exposure mode.shutterpriority, irispriority, manual, etc4/4Select exposure ime) can be set automatically.				
exposuremodeauto,4/4substructure4/4substructure4/4selectsubstructureetcautomatically.				
exposuremodeauto,4/4Select exposure mode.shutterpriority,irispriority,"auto": Iris, Gain and Shutterexp osure modeauto,4/4Select exposure mode.exp osure modeauto,4/4Select exposure mode.exp osure modeauto,4/4Select exposure mode.exp osure modeshutterpriority,"auto": Iris, Gain and Shutterexp osure modeauto,auto,shutterpriority,auto": Iris, Gain and Shutterautomatically.automatically.				
exposuremodeauto,4/4Select exposure mode.shutterpriority,irispriority,"auto": Iris, Gain and Shutteretcin automatically.Speed(Exposure time) can be set automatically.				
exposuremodeauto,4/4Select exposure mode.shutterpriority, irispriority, ietc*/44Select exposure mode.exposure modeauto,4/4shutterpriority, irispriority, irispriority, irispriority,*/4shutterpriority, irisprinty, iris				
exposuremodeauto,4/4Select exposure mode. <product dependent="">shutterpriority, irispriority, manual, etc"auto": Iris, Gain and Shutter Speed(Exposure time) can be set automatically.</product>				
exposuremodeauto,4/4Select exposure mode. <product dependent="">shutterpriority, irispriority, etc"auto": Iris, Gain and Shutter Speed(Exposure time) can be set automatically.</product>				
exposuremodeauto,4/4Select exposure mode. <product dependent="">shutterpriority, irispriority, manual, etc"auto": Iris, Gain and Shutter Speed(Exposure time) can be set automatically.</product>				
Image: state in the state in				
exposuremodeauto,4/4Select exposure mode. <product dependent="">shutterpriority,"auto": Iris, Gain and Shutteririspriority,"auto": Iris, Gain and Shuttermanual,Speed(Exposure time) can be setetcautomatically.</product>				
exposuremodeauto,4/4Select exposure mode. <product dependent="">shutterpriority,"auto": Iris, Gain and Shutteririspriority,manual,Speed(Exposure time) can be setetcautomatically.</product>				
<pre><product dependent=""> shutterpriority, irispriority,</product></pre>	exposuremode	auto,	4/4	
irispriority,"auto": Iris, Gain and Shuttermanual,Speed(Exposure time) can be setetcautomatically.				
manual,Speed(Exposure time) can be setetcautomatically.				"auto": Iris, Gain and Shutter
etc automatically.				
				"shutterpriority": Adjust with variable

			1
	(Available options		Shutter Speed, auto Iris and Gain.
	are list in		"irispriority": Adjust with variable Iris, auto
	"capability_image_c		Gain and Shutter speed.
	<n>_exposure_mo</n>		"manual": Adjust with variable Shutter, Iris
	detype")		and Gain.
			* We support this parameter when the version
			number (httpversion) is equal or greater than
			0302a.
whitebalance	auto,	4/4	Modes of white balance.
<product dependent=""></product>	manual,		"auto": Auto white balance
	rbgain,		"rbgain": Use rgain and bgain to set white
	widerange,		balance manually.
	outdoor,		"manual": 2 cases:
	indoor,		a. if "rbgain" is not supported, this means
	sodiumauto,		keep current white balance status.
	etc		b. if "rbgain" is supported, "rgain" and
			"bgain" are updated to the current values
	(Available values are		which is got from white balance module. Then,
	listed in		act as rbgain mode
	"capability_image_c		"widerange": Auto Tracing White balance
	<n>_wbmode")</n>		(2000K to 10000K).
			"outdoor": auto white balance mode
			specifically for outdoor.
			"indoor": auto white balance mode
			specifically for indoor.
			"sodiumauto": sodium vapor lamps.
			* Only available when
			"capability_image_c <n>_wbmode" !="-"</n>
rgain	0~100	4/4	Manual set rgain value of gain control setting.
			0: Weak <-> 100: Strong
			* Only available when "rbgain" is listed in
			"capability_image_c <n>_wbmode".</n>
			* Only valid when
			"videoin_c <n>_whitebalance" != auto</n>
			* Normalized range.
bgain	0~100	4/4	Manual set bgain value of gain control setting.
			0: Weak <-> 100: Strong
L			of freak s / 1001 of only

			 * Only available when "rbgain" is listed in "capability_image_c<n>_wbmode".</n> * Only valid when "videoin_c<n>_whitebalance" != auto</n> * Normalized range.
maxgain	0~100	4/4	Maximum gain value. 0: Low <-> 100: High * Only available when "capability_image_c <n>_agc_maxgain" != "-" * Only valid when "piris_mode"=manual or "irismode"=fixed</n>
			 * Normalized range. * Only available when "capability_image_c<n>_exposure_rangetyp</n> e" is "twovalues".
mingain	0~100	4/4	Minimum gain value. 0: Low <-> 100: High * Only available when "capability_image_c <n>_agc_mingain" != "-" * Only valid when "piris_mode"=manual or "irismode"=fixed * Normalized range. * Only available when "capability_image_c<n>_exposure_rangetyp e" is "twovalues".</n></n>
gainvalue	0~100	4/4	Gain value. 0: Low <-> 100: High * Only available when "capability_image_c <n>_agc_maxgain" != "-" and "capability_image_c<n>_exposure_rangetyp e" is "onevalue". * Normalized range. * We support this parameter when the version number (httpversion) is equal or greater than</n></n>

piris_mode manual, indoor, outdoor,- 1/4 Control P-Iris mode. <product dependent="">- outdoor,- "outdoor": Auto-setting P-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment. "indoor": Avoid rolling and flicker effect first. "manual": Manual set P-Iris by "piris_position". "": not support (only available when "capability_image_c<0~(n-1)>_sensortype" is "smartsensor") piris_position 1~100 1/4 Manual set P-Iris. repoduct dependent>- 1~100 1/4 Manual set P-Iris. is "smartsensor") * Only available when "capability_image_c<n>_ristype"=piris piris_position 1~100 1/4 Manual set P-Iris. is Open <> 100: Close * Only available when "capability_image_c<cn>_(n-1)>_sensortype" is "smartsensor" outdoor quality, but easy to meet rolling or flicker effect in indoor environment. outdoor 4/4 Control DC-Iris mode. "outdoor" * Only available when "capability_image_c<n>_instype"=piris wdrpro_mode <boolean> 4/4 Enable WDR pro * only available when "capability_image_c<n>_instype"=doins * Only available when "capability_image_c<n>_instype"=doins wdrpro_strength <boolean> 4/4 Te sthe WDR Pro.</boolean></n></n></boolean></n></cn></n></product>				0302a.
<product dependent="">outdoor,-"outdoor": Auto-setting P-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment. "imdoor": Avoid rolling and flicker effect first. "imdoor": Avoid rolling and flicker effect first. "icapability_image_cco>(cn-1)>_sensortype" is "smartsensor" * Only available when "capability_image_cco>(on-1)>_sensortype" is "smartsensor" * Only available when "capability_image_cco>(on-1)>_sensortype" is "smartsensor" * Only available when "capability_image_cco>(on-1)>_sensortype" is "smartsensor" * Only available when "capability_image_cco>(on-1)>_sensortype" is "smartsensor" * Only available when "capability_image_cco>(on-1)>_sensortype" is "smartsensor" * Only available when "capability_image_cco>_instype"=did</br></br></br></br></br></br></br></br></br></br></br></br></br></product>	piris mode	manual, indoor,	1/4	Control P-Iris mode.
wdrpro_modeIndoorquality, but easy to meet rolling or flicker effect in indoor environment. "indoor": Avoid rolling and flicker effect first. "manual": Manual set P-Iris by "piris_position". "capability_image_c<0~(n-1)>_sensortype" is "smartsensor") * Only available when "capability_image_c<0~(n-1)>_sensortype"=piris is "smartsensor") * Only available when "capability_image_c<0~(n-1)>_sensortype"=piris is "smartsensor") * Only available when "capability_image_c<0~(n-1)>_sensortype"=piris is "smartsensor") * Only available when "capability_image_c<0~(n-1)>_sensortype" is "smartsensor" * Only available when "capability_image_c<0~(n-1)>_sensortype" is "smartsensor" * Only available when "capability_image_c<0~(n-1)>_sensortype" is "smartsensor" * Only available when "capability_image_c<0~(n-1)>_sensortype" is "smartsensor" * Only available when "capability_image_c<0~(n-1)>_sensortype"=pirisirismodefixed, indoor, outdoor < product dependent>4/4Control DC-Iris mode. "outdoor": Auoid rolling and flicker effect first. "indoor": Auoid rolling and flicker effect first. "indoor": Auoid rolling and the relation in indoor environment. "indoor": Auoid rolling and the relation in indoor environment. "indoor": Auoid rolling and the relation in indoor environment. "indoor": Auoid rolling and flicker effect first. "indoor": Auoid rolling and flicker effect first. "indoor			,	
in indoor environment."Indoor": Avoid rolling and flicker effect first."manual": Manual set P-Iris by"piris_position"."-": not support (only available when"capability_image_c<0~(n-1)>_sensortype"is "smartsensor")* Only available when"capability_image_c<10>(n) yavailable when"capability_image_c<20>(n-1)>_sensortype"piris_position <pre>ins_position</pre> <pre>ins_position</pre> <pre>ins_position</pre> <pre>ins_position</pre> <pre>ins_position</pre> <pre>ins_position</pre> <pre>ins_position<pre>ins_position<pre>ins_position</pre><pre>ins_position</pre><pre>ins_position</pre><pre>ins_position</pre><pre>ins_position</pre><pre>ins_position<pre>ins_position<pre>ins_position<pre>ins_position<pre>ins_position<pre>ins_position<pre>ins_position<pre>ins_position<pre>ins_position<pre>ins_position<pre>ins_position<pre>ins_position<pre>ins_position</pre><pre>ins_position</pre><pre>ins_position</pre><pre>ins_position</pre><pre>ins_position</pre><pre>ins_position</pre><pre>ins_position</pre><pre>ins_position<pre>ins_position</pre><pre>ins_position</pre><pre>ins_position<pre>ins_position</pre><pre>ins_position</pre><pre>ins_position</pre><pre>ins_position</pre><pre>ins_position</pre><</pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre>		,		
wdrpro_modeshoolean>4/4Control DC-Iris to get best "indoor": Avoid rolling and ficker effect first. "manual": Manual set P-Iris by "piris_position". "-": not support (only available when "capability_image_c <n>_instype"=piris is "smartsensor") * Only available when "capability_image_c<n>_instype"=pirispiris_position1~1001/4Manual set P-Iris. I: Open <-> 100: Close* only available when "capability_image_c<n>_instype"=pirisis "smartsensor") * Only available when "capability_image_c<0~(n-1)>_sensortype" is "smartsensor" * Only available when "capability_image_c<0~(n-1)>_sensortype" is "smartsensor" * Only available when "capability_image_c<n>_iristype"=pirisinismodefixed, indoor, outdoor4/4Control DC-Iris mode. "outdoor": Avoid rolling and ficker effect in indoor environment. "indoor": Avoid rolling and ficker effect in indoor environment. "indoor": Avoid rolling and ficker effect first. "fixed": Open the iris to maximum. * Only available when "capability_image_c<n>_iristype"=dciriswdrpro_mode<boolean>4/4Enable WDR pro "capability_image_c<n>_iristype"=dciris * Only available when "capability_image_c<n>_wdrpro_mode" > 0vdrpro_strength1~1004/4The strength of WDR Pro. The bigger value means the stronger strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength is a 10</n></n></n></boolean></n></n></n></n></n>				
wdrpro_modeshoelean>4/4"manual": Manual set P-Iris by "piris_position". "-": not support (only available when "capability_image_c<0~(n-1)>_sensortype" is "smartsensor") * Only available when "capability_image_c<1>_iristype"=pirispiris_position1~1001/4Manual set P-Iris. 1: Open <-> iristype"=pirispiris_position1/4Manual set P-Iris. 1: Open <-> iristype"=pirispiris_position1/4Manual set P-Iris. 1: Open <-> iristype"=pirispiris_position1/4Manual set P-Iris. 1: Open <-> iristype"=pirisinismodefixed, indoor, outdoor4/4Control DC-Iris mode. "outdoor": Auto-setting DC-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment. "indoor": Audoi rolling and flicker effect first. "ifixed": Open the Iris to maximum. * Only available when "capability_image_c <n>_iristype"=dciriswdrpro_mode<boolean>4/4Enable WDR pro<product dependent="">1~1004/4The strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength is i auto- i apability_image_c<n>_wdrpro_strength is i Only available when "capability_image_c<n>_wdrpro_strength is i Only available when<br< td=""><td></td><td></td><td></td><td></td></br<></n></n></n></n></n></n></n></n></n></n></product></boolean></n>				
"piris_position".piris_position"				-
wdrpro_modefixed, indoor, outdoor4/4"-": not support (only available when "capability_image_c <n>_ristype"=pirisis "smartsensor") * Only available when "capability_image_c<n>_ristype"=pirispiris_position1~1001/4Manual set P-Iris. 1: Open <-> 100: Close<product dependent="">1~1001/4Manual set P-Iris. 1: Open <-> 100: Close<product dependent="">1~1001/4Manual set P-Iris. 1: Open <-> 100: Close<product dependent="">1~1001/4Manual set P-Iris. 1: Open <-> 100: Close<product dependent="">fixed, indoor, outdoor4/4Control DC-Iris mode. "outdoor": Audo-setting DC-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment. "indoor": Audi and flicker effect first. "fixed": Open the inis to maximum. * Only available when "capability_image_c<n>_inistype"=dciriswdrpro_mode<boolean>4/4Enable WDR pro<product dependent="">1~1004/4The strength of WDR Pro. Tapability_image_c<n>_wdrpro_strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength * Only available when "capability_image_c<n>_wdr</n></n></n></n></n></n></n></n></n></n></n></product></boolean></n></product></product></product></product></n></n>				
wdrpro_modefixed, indoor, outdoor4/4Control DC-Iris mode. "capability_image_c <n>_iristype"=pirisirismodefixed, indoor, outdoor4/4Control DC-Iris mode. "outdoor": Auto-setting DC-Iris to get best quality, but easy to meet rolling on flicker effect in indoor environment. "indoor": Avoid rolling and flicker effect first. "indoor": Avoid rolling and flicker effe</n>				
is "smartsensor") * Only available when "capability_image_c <n>_iristype"=pirispiris_position <product dependent="">1~1001/4Manual set P-Iris. I: Open <> 100: Closesproduct dependent>1~1001/4Manual set P-Iris. I: Open <>> 100: Closeirismodefixed, indoor, outdoor4/4Control DC-Iris mode. uality_image_c<n>_iristype"=pirisirismodefixed, indoor, outdoor4/4Control DC-Iris mode. uality_but easy to meet rolling on flicker effect in indoor environment. "indoor": Auto-setting DC-Iris to get best quality, but easy to meet rolling and flicker effect first. "indoor": Avoid rolling and flicker effect first. "indoor":</n></product></n>				
Piris_position1~1001/4Manual set P-Iris. "capability_image_c <n>_iristype"=pirissproduct dependent>1~1001/4Manual set P-Iris. 1: Open <-> 100: Closesproduct dependent>1~1001/4Manual set P-Iris. 1: Open <-> 100: Closesignation1/4Signation "capability_image_c<0~(n-1)>_sensortype" is "smartsensor" * Only available when "capability_image_c<n>_iristype"=pirisirismodefixed, indoor, outdoor4/4Control DC-Iris mode. Outdoor": Auto-setting DC-Iris to get best quality, but easy to meet rolling on flicker effect in indoor environment. "indoor": Avoid rolling and flicker effect first. "fixed": Open the iris to maximum. * Only available when "capability_image_c<n>_iristype"=dciriswdrpro_mode<boolean>4/4Enable WDR pro<product dependent="">4/4Finable WDR pro<product dependent="">4/4The strength of WDR Pro. The bigger value means the stronger strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength is i auto-strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength is i auto-strength is i auto-s</n></n></n></n></product></product></boolean></n></n></n>				
inis_position1~1001/4Manual set P-Iris. 1: Open <-> 100: Close <product dependent=""><!--</td--><td></td><td></td><td></td><td></td></product>				
piris_position 1~100 1/4 Manual set P-Iris. <product dependent=""> 1/4 Manual set P-Iris. 1: Open <-> 100: Close * Only valid when "piris_mode"=manual or "capability_image_c<0~(n-1)>_sensortype" is "smartsensor" * Only available when "capability_image_c<n>_ristype"=piris irismode fixed, indoor, outdoor 4/4 Control DC-Iris mode. <product< td=""> dependent> "outdoor": Auto-setting DC-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment. *indoor_: Avoid rolling and flicker effect first. *fixed, indoor, outdoor 4/4 Enable When "capability_image_c<n>_iristype"=dciris wdrpro_mode <boolean> 4/4 Enable WDR pro <product dependent=""> 1~100 4/4 The strength of WDR Pro. <product dependent=""> 1~100 4/4 The strength of WDR Pro. <product dependent=""> 1~100 4/4 The strength of WDR Pro.</product></product></product></boolean></n></product<></n></product>				
<pre><pre><pre><pre><pre>cyroduct dependent></pre> <pre> 1: Open <-> 100: Close * Only valid when "piris_mode"=manual or "capability_image_c<0~(n-1)>_sensortype" is "smartsensor" * Only available when "capability_image_c<n>_ristype"=piris * Only available when "capability_image_c<n>_ristype"=piris * Only available when "capability_image_c<n>_ristype"=piris * Only available when * onutdoor </n></n></n></pre> <pre>voluct</pre> <pre>dependent></pre> <pre> 4/4</pre> <pre>Control DC-Iris make. * Only available when * onutdoor": Auto-setting DC-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment. * indoor *: Avoid rolling and flicker effect first. * fixed": Open the iris to maximum. * Only available when * capability_image_c<n>_ristype"=dciris * Only available when * capability_image_c<n>_ristype"=dciris * Only available when * capability_image_c<n>_wdrpro_mode* > 0 </n></n></n></pre> <pre> wdrpro_strength <pre>sproduct dependent></pre> <pre> 4/4</pre> <pre> A * Only available when * capability_image_c<n>_wdrpro_strength <pre> of WDR Pro. * Only available when * capability_image_c<n>_wdrpro_strength is 1</n></pre></n></pre></pre></pre></pre></pre></pre>	piris position	1~100	1/4	
wdrpro_mode <boolean>4/4* Only valid when "piris_mode"=manual or "capability_image_c<0~(n-1)>_sensortype" is "smartsensor" * Only available when "capability_image_c<n>_ristype"=pirisirismodefixed, indoor, outdoor4/4Control DC-Iris mode. "outdoor": Auto-setting DC-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment. "indoor": Avoid rolling and flicker effect first. "fixed": Open the iris to maximum. * Only available when "capability_image_c<n>_ristype"=diriswdrpro_mode<boolean>4/4Enable WDR pro<product dependent="">1~1004/4The strength of WDR Pro. The bigger value means the stronger strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength if wdrpro_strength if undoon1/4</n></n></product></boolean></n></n></boolean>			_, .	
wdrpro_mode <body> <product dependent=""> <br <="" td=""/><td></td><td></td><td></td><td></td></product></body>				
wdrpro_mode <body> <product dependent=""> <br <="" td=""/><td></td><td></td><td></td><td>* Only valid when "piris mode"=manual or</td></br></product></body>				* Only valid when "piris mode"=manual or
wdrpro_mode 				
Initial initia				
irismodefixed, indoor, outdoor4/4Control DC-Iris mode.outdooroutdoor"outdoor": Auto-setting DC-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment.dependent>dependent>"indoor": Avoid rolling and flicker effect first. 				
irismode fixed, indoor, outdoor 4/4 Control DC-Iris mode. 'outdoor': Auto-setting DC-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment. "indoor": Avoid rolling and flicker effect first. ''fixed'': Open the iris to maximum. * Only available when "capability_image_c <n>_iristype"=dciris wdrpro_mode <boolean> 4/4 Enable WDR pro <product dependent=""> * Only available when "capability_image_c<n>_wdrpro_mode" > 0 wdrpro_strength 1~100 4/4 The strength of WDR Pro. The bigger value means the stronger strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength is 1</n></n></product></boolean></n>				
outdoor"outdoor": Auto-setting DC-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment. "indoor": Avoid rolling and flicker effect first. "fixed": Open the iris to maximum. * Only available when "capability_image_c <n>_iristype"=dciriswdrpro_mode <product dependent=""><boolean>4/4Enable WDR pro<product dependent="">1~1004/4The strength of WDR Pro. The bigger value means the stronger strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength1~1004/4The strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength is 1</n></n></n></n></n></n></product></boolean></product></n>	irismode	fixed, indoor,	4/4	
<product </product dependent>quality, but easy to meet rolling or flicker effect in indoor environment."indoor": Avoid rolling and flicker effect first."indoor": Avoid rolling and flicker effect first."fixed": Open the iris to maximum. * Only available when "capability_image_c <n>_iristype"=dciriswdrpro_mode <product dependent=""><boolean>4/4Enable WDR pro* Only available when "capability_image_c<n>_wdrpro_mode">0wdrpro_strength <product dependent="">1~1004/4Af4The strength of WDR Pro. The bigger value means the stronger strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength in WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength in WDR Pro. * Only available when in the bigger value means the stronger strength in WDR Pro. * Only available when incapability_image_c<n>_wdrpro_strength" is in UDI in UD</n></n></n></product></n></boolean></product></n>			., .	
dependent>in indoor environment."indoor": Avoid rolling and flicker effect first."fixed": Open the iris to maximum.* Only available when"capability_image_c <n>_iristype"=dciriswdrpro_mode<boolean><boolean>4/4Enable WDR pro<product dependent="">* Only available whenudrpro_strength1~100<product dependent="">4/4<product dependent="">1~100<product dependent="">4/4<product dependent="">1~100<product dependent="">4/4<product dependent="">1~100<product dependent="">1~100<product dependent="">1~100<product dependent="">1<product dependent="">1<product dependent="">1<product dependent="">1<product dependent="">1<product dependent="">1<product dependent="">1</product></product></product></product></product></product></product></product></product></product></product></product></product></product></product></product></boolean></boolean></n>				
wdrpro_mode <boolean>4/4Enable WDR pro<product dependent=""><boolean>4/4Enable WDR pro<product dependent="">1~1004/4The strength of WDR Pro.<product dependent="">11<100</product></product></product></product></product></product></boolean></product></boolean>				
wdrpro_mode <boolean> 4/4 Enable WDR pro <product dependent=""> <boolean> 4/4 Enable WDR pro wdrpro_strength 1~100 4/4 The strength of WDR Pro. <product dependent=""> 1~100 4/4 The strength of WDR Pro. <product dependent=""> 1~100 4/4 The strength of WDR Pro. <product dependent=""> 1~100 4/4 The strength of WDR Pro. <product dependent=""> 1~100 4/4 The strength of WDR Pro. <product dependent=""> 1~100 4/4 The bigger value means the stronger strength of WDR Pro. <product dependent=""> 1~100 4/4 The bigger value means the stronger strength of WDR Pro. <product dependent=""> 1 1 1</product></product></product></product></product></product></product></boolean></product></boolean>				
wdrpro_mode <product dependent=""><boolean>4/4Enable WDR pro<boolean>4/4Enable WDR pro<product dependent="">* Only available when "capability_image_c<n>_wdrpro_mode" > 0wdrpro_strength <product dependent="">1~1004/4The strength of WDR Pro. The bigger value means the stronger strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength</n></product></n></product></boolean></boolean></product>				-
wdrpro_mode <product dependent=""><boolean>4/4Enable WDR pro<product dependent="">* Only available when "capability_image_c<n>_wdrpro_mode" > 0wdrpro_strength <product dependent="">1~1004/4The strength of WDR Pro.<product dependent="">1~1004/4The bigger value means the stronger strength of WDR Pro. * Only available when "capability_image_c<n>_wdrpro_strength</n></product></product></n></product></boolean></product>				
wdrpro_mode <boolean> 4/4 Enable WDR pro <product dependent=""> * Only available when * Only available when wdrpro_strength 1~100 4/4 The strength of WDR Pro. <product dependent=""> 1~100 4/4 The bigger value means the stronger strength of WDR Pro. <product dependent=""> The bigger value means the stronger strength of WDR Pro. <product dependent=""> * Only available when <product dependent=""> 1 * Only available when <product dependent=""> 1 * Only available when <product dependent=""> 1 * Only available when</product></product></product></product></product></product></product></boolean>				
<pre><product dependent=""></product></pre>	wdrpro mode	<boolean></boolean>	4/4	
* Only available when "capability_image_c <n>_wdrpro_mode" > 0wdrpro_strength1~1004/4The strength of WDR Pro.<product dependent="">1~1004/4The bigger value means the stronger strength of WDR Pro.<product dependent=""><product dependent=""><product dependent=""><product dependent=""><product dependent="">The bigger value means the stronger strength of WDR Pro.<pre><pre><pre><pre><pre><pre><pre><pre< td=""><td></td><td></td><td>,</td><td></td></pre<></pre></pre></pre></pre></pre></pre></pre></product></product></product></product></product></product></n>			,	
wdrpro_strength1~1004/4The strength of WDR Pro. <product dependent="">1~1004/4The strength of WDR Pro.<product dependent=""><product dependent=""><product dependent=""><product dependent=""><product dependent=""><product dependent=""><product dependent=""><pre><pre><pre><pre><pre><pre><pre><pre< td=""><td></td><td></td><td></td><td>* Only available when</td></pre<></pre></pre></pre></pre></pre></pre></pre></product></product></product></product></product></product></product></product>				* Only available when
wdrpro_strength 1~100 4/4 The strength of WDR Pro. <product dependent=""> The bigger value means the stronger strength of WDR Pro. <product dependent=""> * Only available when <product dependent=""> * Only available when <product dependent<="" td=""> 1</product></product></product></product>				,
<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>	wdrpro strenath	1~100	4/4	
of WDR Pro. * Only available when "capability_image_c <n>_wdrpro_strength" is 1</n>				-
* Only available when "capability_image_c <n>_wdrpro_strength" is 1</n>				
"capability_image_c <n>_wdrpro_strength" is 1</n>				
	wdrc_mode	<boolean></boolean>	4/4	Enable WDR enhanced.

<product dependent=""></product>			* Only available when
			, "capability_image_c <n>_wdrc_mode" is 1</n>
wdrc_strength	1~100	4/4	The strength of WDR enhanced.
<product dependent=""></product>		,	The bigger value means the stronger strength
PP			of WDR enhanced.
			* Only available when
			, "capability_image_c <n>_wdrc_mode" is 1</n>
aespeed_mode	<boolean></boolean>	4/4	Turning AE converge speed on or off.
<product dependent=""></product>			0: off
			1: on
			* Only available when
			"capability_image_c <n>_aespeed" is 1</n>
aespeed_speedlevel	1~100	4/4	The speed level of AE converge speed.
<product dependent=""></product>			1~20: level 1
			21~40: level 2
			41~60: level 3
			61~80: level 4
			81~100: level 5
			Level 1~4(low ~ high)
			The higher speed level meas shorter AE
			converged time during AE executing.
			* Only available when
			"capability_image_c <n>_aespeed" is 1</n>
aespeed_sensitivity	1~100	4/4	The sensitivity of AE converge speed.
<product dependent=""></product>			1~20: level 1
			21~40: level 2
			41~60: level 3
			61~80: level 4
			81~100: level 5
			Level 1~4(low ~ high)
			The higher sensitivity level meas that it is easy
			to be trigger while scene changed.
			* Only available when
			"capability_image_c <n>_aespeed" is 1 and</n>
			"capability_image_c <n>_aespeedsupportsen</n>
			sitivity" is 1.
flickerless	<boolean></boolean>	4/4	Turn on(1) or turn off(0) the flickerless mode
<product dependent=""></product>			* Only available when
			"capability_image_c <n>_flickerless" is 1</n>

7.9 Time Shift settings

Group: **timeshift** for n channel profucts and m stream

n denotes the value of "capability_nvideoin", m denotes the value of "capability_nmediastream"

(capability.timeshift > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	4/4	Enable time shift streaming.
c<0~(n-1)>_s<0~(m-1)	<boolean></boolean>	4/4	Enable time shift streaming for specific
>_allow			stream.

7.10 IR cut control

Group: **ircutcontrol** (capability.nvideoinprofile> 0 and capability_daynight_c<0~(n-1)>_ircutfilter=1) n denotes the value of "capability_nvideoin"

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
mode	auto,	6/6	Set IR cut control mode
	day,		
	night,		
	di,		
	schedule		
	<product< td=""><td></td><td></td></product<>		
	dependent>		
sir	<boolean></boolean>	6/6	Enable/disable Smart IR
<product dependent=""></product>			* Only available when
			"capability_daynight_c<0~"capability_nvideoi
			n"-1>_smartir" is 1
daymodebegintime	00:00~23:59	6/6	Day mode begin time
daymodeendtime	00:00~23:59	6/6	Day mod end time
disableirled	<boolean></boolean>	6/6	Enable/disable built-in IR led
			(capability_daynight_c<0~"capability_nvideoi
			n"-1>_buildinir > 0)
enableextled	<boolean></boolean>	1/6	Enable/disable external IR led
			(capability_daynight_c<0~"capability_nvideoi
			n"-1>externalir > 0)
extledmode	do, irring	6/6	Turn on an external IR led which is mounted do
	* Available values		(digital output) device or is a IR ring device.

			1
	are listed in		* Only available when
	"capability_daynight		"capability_daynight_c<0~"capability_nvideoi
	_c <n>_extled_inter</n>		n"-1>_externalir" is 1.
	face"		* Only valid when "ircutcontrol_enableextled"
			is 1.
bwmode	<boolean></boolean>	6/6	Switch to B/W in night mode if enabled
sensitivity	low, normal, high	6/6	Sensitivity of day/night control.
	(if		
	capability_daynight		There are two value format:
	_c <n>_ircutsensitiv</n>		"low,normal,high": if
	ity_type=options)		capability_daynight_c <n>_ircutsensitivity_ty</n>
			pe=options
	1~100 (if		
	capability_daynight		"1~100": if
	_c <n>_ircutsensitiv</n>		capability_daynight_c <n>_ircutsensitivity_ty</n>
	ity_type=normalize		pe=normalize
)		
			* Only available when
			"capability_daynight_c <n></n>
			_ircutsensitivity_type" is not "-".

7.11 Image setting per channel

Group: **image_c<0~(n-1)>** for n channel profucts and m profile

n denotes the value of "capability_nvideoin" and m denotes the value of "capability_nvideoinprofile"

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
brightness	-5~5,100	4/4	-5: Darker <-> 5: Bright
<not recommended="" this="" to="" use=""></not>			100: Use " image_c <n>_brightnesspercent"</n>
			* Only available when bit 0 of
			"capability_image_c <n>_basicsetting" is 1</n>
			* We replace "brightness" with
			"brightnesspercent".
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.
contrast	-5~5,100	4/4	-5: Less contrast <-> 5: More contrast
<not recommended="" this="" to="" use=""></not>			100: Use " image_c <n>_contrastpercent"</n>
			* Only available when bit 1 of
			"capability_image_c <n>_basicsetting" is 1.</n>
			* We replace "contrast" with "contrastpercent
			".
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.
saturation	-5~5,100	4/4	-5: Less saturation <-> 5: More saturation
<not recommended="" this="" to="" use=""></not>			100: Use " image_c <n>_saturationpercent"</n>
			* Only available when bit 2 of
			"capability_image_c <n>_basicsetting" is 1.</n>
			* We replace "saturation" with
			"saturationpercent".
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.

sharpness	-3~3,100	4/4	-3: Softer <-> 3: Sharper
<not recommended="" this="" to="" use=""></not>			100: Use " image_c <n>_sharpnesspercent"</n>
			* Only available when bit 3 of
			"capability_image_c <n>_basicsetting" is 1.</n>
			* We replace "sharpness" with
			"sharpnesspercent".
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.
brightnesspercent	0~100	4/4	Set brightness in the normalized range.
			0: Darker <-> 100: Bright
			* Only available when bit 0 of
			"capability_image_c <n>_basicsetting" is 1.</n>
contrastpercent	0~100	4/4	Set contrast in the normalized range.
			0: Less contrast <-> 100: More contrast
			* Only available when bit 1 of
			"capability_image_c <n>_basicsetting" is 1</n>
saturationpercent	0~100	4/4	Set saturation in the normalized range.
			0: Less saturation <-> 100: More saturation
			* Only available when bit 2 of
			"capability_image_c <n>_basicsetting" is 1.</n>
sharpnesspercent	0~100	4/4	Set sharpness in the normalized range.
			0: Softer <-> 100: Sharper
			* Only available when bit 3 of
			"capability_image_c <n>_basicsetting" is 1</n>
gammacurve	0~100	4/4	0: Fine-turned gamma curve by Vivotek.
<product dependent=""></product>			1: Gamma value = 0.01
			2: Gamma value = 0.02
			3: Gamma value = 0.03
			100: Gamma value = 1
			* Note: Although we set gamma value to 100
			level, but not all gamma values are valid.

			Internal module will take the closest valid one.
			For example, 1~45 may all be mapped to
			gamma value = 0.45 , etc.
			* Only available when
			"capability_image_c <n>_gamm</n>
			acurve" is 1
		4/4	
lowlightmode	<boolean></boolean>	4/4	Enable/disable low light mode.
<product dependent=""></product>			* Only available when
			"capability_image_c <n>_lowlightmode" is 1</n>
dnr_mode	<boolean></boolean>	4/4	3D noise reduction.
<product dependent=""></product>			0:disable
			1:enable
			* Only available when
			"capability_image_c <n>_dnr" is 1</n>
dnr_strength	1~100	4/4	Strength of 3DNR
<product dependent=""></product>			* Only available when
			"capability_image_c <n>_dnr" is 1</n>
defog_mode	<boolean></boolean>	4/4	Enable/disable defog mode.
<product dependent=""></product>			0:disable
			1:enable
			* Only available when
			"capability_image_c <n>_defog_mode" is 1</n>
defog_strength	1~100	4/4	Strength of defog
<product dependent=""></product>			* Only available when
			"capability_image_c <n>_defog_mode" is 1</n>
eis_mode	<boolean></boolean>	4/4	Electronic image stabilizer
<product dependent=""></product>			0:disable
			1:enable
			* Only available when 'eis' is listed in
			"capability_image_c <n>_is_mode".</n>
eis_strength	1~100	4/4	Strength of electronic image stabilizer
<product dependent=""></product>			* Only available when 'eis' is listed in
			"capability_image_c <n>_is_mode".</n>
dis_mode	<boolean></boolean>	4/4	Digital image stabilizer
<product dependent=""></product>			0:disable
			1:enable
			* Only available when 'dis' is listed in
			"capability_image_c <n>_is_mode".</n>
 dis_strength	1~100	4/4	Strength of digital image stabilizer
<product dependent=""></product>	1,-100		* Only available when 'dis' is listed in

			"capability_image_c <n>_is_mode".</n>
scene_enable	<boolean></boolean>	4/4	Enable/disable scene mode
<product dependent=""></product>		,	0: disable
F			1: enable
			* Only available when
			"capability_image_c <n>_scenemode_suppor</n>
			t" is 1
scene_mode	visibility,	4/4	Value of scene mode
<product dependent=""></product>	noiseless,	., .	* Only available when
	lpcparkinglot,		"capability_image_c <n>_scenemode_suppor</n>
	lpcstreet		t" is 1
	<pre> <pre> <pre> <pre> <pre> </pre></pre></pre></pre></pre>		* Available value is listed in
	dependent>		"capability_image_c <n>_scenemode_suppor</n>
	ucpendents		ttype"
restoreatwb	<positive< td=""><td>4/4</td><td>Restore of adjusting white balance of image</td></positive<>	4/4	Restore of adjusting white balance of image
	integer>	-1/-1	according to mode settings
freeze	<boolean></boolean>	4/4	Enable/disable Image freeze while patrolling.
<product dependent=""></product>			0: disable
			1: enable
			* Only available when
			"capability_image_c <n>_freeze" is 1</n>
 profile_i<0~(m-1)>_enable	<boolean></boolean>	4/4	Enable/disable this profile setting
		-	The mode which the profile is applied to.
profile_i<0~(m-1)>_policy	night, schedule	4/4	The mode which the prome is applied to.
			* Not support "policy=day" anymore when the
			version number (httpversion) is equal or
			greater than 0301a.
profile_i<0~(m-1)>_begintime	hh:mm	4/4	Begin time of schedule mode.
profile_i<0~(m-1)>_endtime	hh:mm	4/4	End time of schedule mode.
profile_i<0~(m-1)>_brightness	-5~5,100	4/4	-5: Darker <-> 5: Bright
<not recommended="" this="" to="" use=""></not>			100: Use " image_c <n>_brightnesspercent"</n>
			* Only available when bit 0 of
			"capability_image_c <n>_basicsetting" is 1</n>
			* We replace "profile_i0_brightness" with
			"profile_i0_brightnesspercent".
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.

profile_i<0~(m-1)>_contrast -	-5~5,100	4/4	-5: Less contrast <-> 5: More contrast
<not recommended="" this="" to="" use=""></not>	,	,	100: Use " image_c <n>_contrastpercent"</n>
			* Only available when bit 1 of
			"capability_image_c <n>_basicsetting" is 1.</n>
			* We replace "profile_i0_contrast" with
			"profile_i0_contrastpercent ".
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.
profile_i<0~(m-1)>_saturation -	-5~5,100	4/4	-5: Less saturation <-> 5: More saturation
<not recommended="" this="" to="" use=""></not>			100: Use " image_c <n>_saturationpercent"</n>
			* Only available when bit 2 of
			"capability_image_c <n>_basicsetting" is 1.</n>
			* We replace "profile_i0_saturation" with
			"profile_i0_saturationpercent".
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.
profile_i<0~(m-1)>_sharpness -	-3~3,100	4/4	-5: Less saturation <-> 5: More saturation
<not recommended="" this="" to="" use=""></not>			100: Use " image_c <n>_saturationpercent"</n>
			* Only available when bit 2 of
			"capability_image_c <n>_basicsetting" is 1.</n>
			* We replace "profile_i0_saturation" with
			"profile_i0_saturationpercent".
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.
profile_i<0~(m-1)>_brightness (0~100	4/4	Set brightness in the normalized range.
percent			0: Darker <-> 100: Bright
			-
			* Only available when bit 0 of
			"capability_image_c <n>_basicsetting" is 1.</n>
profile i (0, (m 1))			
profile_i<0~(m-1)>_contrastpe 0	0~100	4/4	Set contrast in the normalized range.

* Only available when bit 1 of "capability_image_c <n>_basicsetting" is 1 profile_i<0~(m-1)>_saturation 0~100 4/4 Set saturation in the normalized range. percent 0: Less saturation <-> 100: More saturation</n>	
profile_i<0~(m-1)>_saturation 0~100 4/4 Set saturation in the normalized range.	
profile_i<0~(m-1)>_saturation $0~100$ $4/4$ Set saturation in the normalized range.	1
	'n
	'''
* Only available when bit 2 of	
"capability_image_c <n>_basicsetting" is 1.</n>	
percent 0: Softer <-> 100: Sharper	
* Only available when bit 3 of	
"capability_image_c <n>_basicsetting" is 1</n>	
profile_i<0~(m-1)>_gammacur 0~100 4/4 0: Fine-turned gamma curve by Vivotek.	
ve 1: Gamma value = 0.01	
2: Gamma value = 0.02	
3: Gamma value = 0.03	
100: Gamma value = 1	
* Note: Although we set gamma value to 10	00
level, but not all gamma values are valid.	
Internal module will take the closest valid on	ne.
For example, 1~45 may all be mapped to	
gamma value = 0.45, etc.	
* Only available when	
"capability_image_c <n>_gammacurve" is 1</n>	1
profile_i<0~(m-1)>_lowlightm <boolean> 4/4 Enable/disable low light mode.</boolean>	
ode * Only available when	
<pre><product dependent=""> "capability_image_c<n>_lowlightmode" is 1</n></product></pre>	1
profile_i<0~(m-1)>_dnr_mode <boolean> 4/4 3D noise reduction.</boolean>	
<pre><product dependent=""> 0:disable</product></pre>	
1:enable	
* Only available when	
"capability_image_c <n>_dnr" is 1</n>	
profile_i<0~(m-1)>_dnr_stren 1~100 4/4 Strength of 3DNR	
gth * Only available when	
<product dependent=""> "capability_image_c<n>_dnr" is 1</n></product>	
profile_i<0~(m-1)>_defog_mo <boolean> 4/4 Enable/disable defog mode.</boolean>	
de 0:disable	

<product dependent=""></product>			1:enable
			* Only available when
			"capability_image_c <n>_defog_mode" is 1</n>
profile_i<0~(m-1)>_defog_str	1~100	4/4	Strength of defog
ength			* Only available when
<product dependent=""></product>			"capability_image_c <n>_defog_mode" is 1</n>
profile_i<0~(m-1)>_eis_mode	<boolean></boolean>	4/4	Electronic image stabilizer
<product dependent=""></product>			0:disable
			1:enable
			* Only available when 'eis' is listed in
			"capability_image_c <n>_is_mode".</n>
profile_i<0~(m-1)>_eis_streng	1~100	4/4	Strength of electronic image stabilizer
th			* Only available when 'eis' is listed in
<product dependent=""></product>			"capability_image_c <n>_is_mode".</n>
profile_i<0~(m-1)>_dis_mode	<boolean></boolean>	4/4	Digital image stabilizer
<product dependent=""></product>			0:disable
			1:enable
			* Only available when 'dis' is listed in
			"capability_image_c <n>_is_mode".</n>
profile_i<0~(m-1)>_dis_streng	1~100	4/4	Strength of digital image stabilizer
th			* Only available when 'dis' is listed in
<product dependent=""></product>			"capability_image_c <n>_is_mode".</n>
profile_i<0~(m-1)>_scene_ena	<boolean></boolean>	4/4	Enable/disable scene mode
ble			0: disable
<product dependent=""></product>			1: enable
			* Only available when
			"capability_image_c <n>_scenemode_suppor</n>
			t" is 1
profile_i<0~(m-1)>_scene_mo	visibility,	4/4	Value of scene mode
de	noiseless,		* Only available when
<product dependent=""></product>	lpcparkinglot,		"capability_image_c <n>_scenemode_suppor</n>
	lpcstreet		t" is 1
	<product< td=""><td></td><td>* Available value is listed in</td></product<>		* Available value is listed in
	dependent>		"capability_image_c <n>_scenemode_suppor</n>
			ttype"

7.12 Exposure window setting per channel

Group: **exposurewin_c<0~(n-1)>** for n channel profucts

n denotes the value of "capability_nvideoin" (Only available when "capability_image_c<n>_exposure_mode"=1)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
mode	auto, custom,blc,hlc	4/4	"auto": Use full image view as the only
			exposure window.
	* Available values are listed in		"custom": Use custom windows.
	"capability_image_c <n>_exposu</n>		"blc": Use BLC(Back Light Compensation),
	re_winmode"		and the only exposure window is located at the
			center of view.
			"hlc": Use HLC (High Light Compensation),
			and to perform the masking of bright light
			area.

Group: exposurewin_c<0~(n-1)>_win_i<0~(k-1)>

n denotes the value of "capability_nvideoin", k denotes the value of "capability_image_c<n>_exposure_winnum". (Only available when custom is listed in "capability_image_c<n>_exposure_winmode" and valid when "exposurewin_c<n>_mode"=custom or "exposurewin_c<n>_mode"=hlc)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	4/4	Enable or disable the window.
policy	0~1	4/4	0: Indicate exclusive.
			1: Indicate inclusive.
			* Only available when exclusive is listed in
			"capability_image_c <n>_exposure_wintype".</n>
home	<0~320,0~240>	4/4	Left-top corner coordinate of the window.
			* Only available when qvga is listed in
			"capability_image_c <n>_exposure_windomai</n>
			n".
size	<0~320x0~240>	4/4	Width and height of the window.
			* Only available when qvga is listed in
			"capability_image_c <n>_exposure_windomai</n>
			n".
homepx	<0~W,0~H>	4/4	Left-top corner coordinate of the window.

		1	1
	W: 0~ The current image width -1		* Only available when px is listed in
	H: 0~ The current image height -1		"capability_image_c <n>_exposure_windomai</n>
			n".
sizepx	<0~Wx0~ H>	4/4	Width and height of the window.
	W: 0~ The current image width -1		* Only available when px is listed in
	H: 0~ The current image height -1		"capability_image_c <n>_exposure_windomai</n>
			n".
homestd	<0~9999,0~9999>	4/4	Left-top corner coordinate of the window.
			* Only available when std is listed in
			"capability_image_c <n>_exposure_windomai</n>
			n".
sizestd	<0~9999x0~9999>	4/4	Width and height of the window.
			* Only available when std is listed in
			"capability_image_c <n>_exposure_windomai</n>
			n".

Group: exposurewin_c<0~(n-1)>_profile_i<0~(m-1)> for n channel profuct and m profile,

n denotes the value of "capability_nvideoin", m denotes the value of "capability_nvideoinprofile",

('Only	available w	hen "	capability	image	c <n></n>	exposure	_mode"=1)
	Unity		inch v	capability_	_innuge_	<u>C SIIZ _</u>		

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
mode	auto, custom,blc,hlc	4/4	The mode indicates how to decide the
			exposure.
	* Available values are listed in		"auto": Use full view as the only one exposure
	"capability_image_c <n>_exposu</n>		window.
	re_winmode"		"custom": Use inclusive and exclusive
			window.
			"blc": Use BLC(Back Light Compensation),
			and the only exposure window is located at the
			center of view.
			"hlc": Use HLC (High Light Compensation),
			and to perform the masking of bright light
			area.

Group: **exposurewin_c<0~(n-1)>_profile_i<0~(m-1)>_win_i<0~(k-1)>** for m profile and n channel product,

n denotes the value of "capability_nvideoin", m denotes the value of "capability_nvideoinprofile",

k denotes the value of "capability_image_c<n>_exposure_winnum".

(Only available when custom is listed in "capability_image_c<n>_exposure_winmode" and valid when

"exposurewin_c <n></n>	_mode"=custom or	"exposurewin_	_c <n></n>	_mode"=hlc)
------------------------	------------------	---------------	------------	-------------

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean></boolean>	4/4	Enable or disable the window.
policy	0~1	4/4	0: Indicate exclusive.
			1: Indicate inclusive.
			* Only available when exclusive is listed in
			"capability_image_c <n>_exposure_wintype".</n>
home	<0~320,0~240>	4/4	Left-top corner coordinate of the window.
			* Only available when qvga is listed in
			"capability_image_c <n>_exposure_windomai</n>
			n".
size	<0~320x0~240>	4/4	Width and height of the window.
			* Only available when qvga is listed in "capability_image_c <n>_exposure_windomai</n>
			n".
homepx	<0~W,0~H>	4/4	Left-top corner coordinate of the window.
	W: 0~ The current image width -1		* Only available when px is listed in
	H: 0~ The current image height -1		"capability_image_c <n>_exposure_windomai n".</n>
sizepx	<0~Wx0~ H>	4/4	Width and height of the window.
	W: 0~ The current image width -1		* Only available when px is listed in
	H: 0~ The current image height -1		"capability_image_c <n>_exposure_windomai n".</n>
homestd	<0~9999,0~9999>	4/4	Left-top corner coordinate of the window.
			* Only available when std is listed in
			"capability_image_c <n>_exposure_windomai</n>
			n".
sizestd	<0~9999x0~9999>	4/4	Width and height of the window.
			* Only available when std is listed in
			"capability_image_c <n>_exposure_windomai</n>
			n".

7.13 Audio input per channel

Group: **audioin_c<0~(n-1)>** for n channel products (capability.naudioin>0)

n denotes the value of "capability_nvideoin"

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
source	micin, linein	4/4	micin => use built-in microphone input.
<not recommended="" td="" to="" use<=""><td><product< td=""><td></td><td>linein => use external microphone input.</td></product<></td></not>	<product< td=""><td></td><td>linein => use external microphone input.</td></product<>		linein => use external microphone input.
this>	dependent>		
			* Reserved for compatibility, and suggest don't
			use this since the version number
			(httpversion) is equal or greater than 0301a.
			* We replace "source" with "input". More
			details, please refer the parameter description
			of "input".
input	intmic, extmic	4/4	intmic: Internal (built-in) microphone.
	<product< td=""><td></td><td>(Only available when capability_audio_intmic</td></product<>		(Only available when capability_audio_intmic
	dependent>		= 1)
			extmic: External microphone input.
			(Only available when capability_audio_extmic
			=1)
			* Note: If physical microphone switch is
			showed on product, this value is updated
			during booting to fit switch status.
volume_internal	0~100	4/4	Volume when take internal microphone as
			input source.
			0: Minimum
			100: Maximum
			* Only available when the channel supports
			internal microphone (The related bit of
			"capability_audio_intmic" is equal to 1).
volume_external	0~100	4/4	Volume when take external microphone as
			input source.
			0: Minimum
			100: Maximum
			* Only available when the channel supports

			external microphone (The related bit of
			"capability_audio_extmic" is equal to 1).
	0.1	1/4	
mute	0, 1	1/4	0: Mute off
			1: Mute on
gain	0~100	4/4	Gain of input.
<not recommended="" td="" to="" use<=""><td></td><td></td><td>(audioin_c<0~(n-1)>_source = linein)</td></not>			(audioin_c<0~(n-1)>_source = linein)
this>			
			* Reserved for compatibility, and suggest don't
			use this since the version number
			(httpversion) is equal or greater than 0301a.
			* We replace "gain" with "volume_internal"
			and "volume_external". More details, please
			refer the parameter description of
			"volume_internal" and "volume_external".
boostmic	0~100	4/4	Enable microphone boost.
<not recommended="" td="" to="" use<=""><td></td><td></td><td>Gain of input.</td></not>			Gain of input.
this>			(audioin_c<0~(n-1)>_source = micin)
			* Reserved for compatibility, and suggest don't
			use this since the version number
			(httpversion) is equal or greater than 0301a.
			* We replace "boostmic" with
			"volume_internal" and "volume_external".
			More details, please refer the parameter
			description of "volume_internal" and
			"volume_external".
s0_codectype	aac4, gamr, g711,	4/4	Set audio codec type for input.
	g726		aac4: Advanced Audio Coding (AAC)
	(Available codec are		gamr: Adaptive Multi-Rate (AMR)
	listed in		g711: G.711
	"capability_audioin_		g726: G.726
	codec")		<u>, , , , , , , , , , , , , , , , , , , </u>
s0_aac4_bitrate	16000,	4/4	Set AAC4 bitrate in bps.
	32000,		Set met bitute in bps.
	48000,		* Only available if AAC is supported
			* Only available if AAC is supported.
	64000,		
	96000,		
	128000		
s0_gamr_bitrate	4750,	4/4	AMR encoded bitrate in bps.

		T	
	5150,		
	5900,		* Only available if AMR is supported.
	6700,		
	7400,		
	7950,		
	10200,		
	12200		
s0_g711_mode	pcmu,	4/4	Set G.711 companding algorithm.
	pcma		pcmu: µ-law algorithm
			pcma: A-law algorithm
			* Only available if G.711 is supported.
s0_g726_bitrate	16000,	4/4	Set G.726 encoded bitrate in bps.
	24000,		
	32000,		* Only available if G.726 is supported.
	40000		
s0_g726_bitstreampackin	little, big	4/4	Set G.726 bit streaming packing mode.
gmode			little: Little-endian bitstream format.
<u>g</u>			big: Big-endian bitstream format.
			big. big chalan biotical formati
			* Only available if G.726 is supported.
s0_g726_vlcmode	0, 1	4/4	Enable vicmode for G.726.
30_g/20_viemode	0,1		0: Standard mode.
			1: Solve compatibility problem with VLC
			player.
			playet.
			* Only available if C 72C is supported
			* Only available if G.726 is supported.
alarm_enable	<boolean></boolean>	4/4	Enable audio detection
alarm_level	1~100	4/4	Audio detection alarm level
	<boolean></boolean>	-	
profile_i0_enable		4/4	Enable/disable this profile setting
profile_i0_policy	night,	4/4	The mode which the profile is applied to.
	schedule		
			* Not support "policy=day" anymore when the
			version number (httpversion) is equal or
	 		greater than 0301a.
profile_i0_begintime	hh:mm	4/4	Begin time of schedule mode.
profile_i0_endtime	hh:mm	4/4	End time of schedule mode.

profile_i0_alarm_level	1~100	4/4	Audio detection alarm level
------------------------	-------	-----	-----------------------------

7.14 Motion detection settings

Group: motion_c<0~(n-1)> for n channel products

n denotes the value of "capability_nvideoin"

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	4/4	Enable motion detection.
win_sensitivity	0 ~ 100	4/4	Sensitivity of all motion detection windows.
			* The value "0" is reserved for compatibility
			and will not be used after the version number
			(httpversion) is equal or greater than 0400a.

Group: motion_c<0~(n-1)>_win_i<0~(k-1)>

n denotes the value of "capability_nvideoin", k denotes the value of "capability_nmotion".

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	4/4	Enable motion detection window.
name	string[14]	4/4	Name of motion window.
polygonstd	0 ~ 9999,0 ~ 9999,	4/4	Coordinate of polygon window position.
	0 ~ 9999,0 ~ 9999,		(4 points: x0,y0,x1,y1,x2,y2,x3,y3)
	0 ~ 9999,0 ~ 9999,		* Only available when
	0 ~ 9999,0 ~ 9999		"capability_motion_wintype" = polygon.
			* Only available when std is listed in
			"capability_motion_windomain"
objsize	1 ~ 100	4/4	Percent of motion detection window.
sensitivity	0 ~ 100	4/4	Sensitivity of motion detection window.
<not recommended="" td="" to="" use<=""><td></td><td></td><td></td></not>			
this>			* We replace "sensitivity" with
			"win_sensitivity".
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.
polygonpx	0 ~ W,0 ~ H, 0 ~	4/4	Coordinate of polygon window position.
<not recommended="" td="" to="" use<=""><td>W,0 \sim H, 0 \sim W,0 \sim</td><td></td><td>(4 points: x0,y0,x1,y1,x2,y2,x3,y3)</td></not>	W,0 \sim H, 0 \sim W,0 \sim		(4 points: x0,y0,x1,y1,x2,y2,x3,y3)
this>	H, 0 ~ W,0 ~ H		* Only available when
	W: 0~ The current		"capability_motion_wintype" = polygon.

	image width -1 H: 0~ The current image height -1		* Only available when px is listed in "capability_motion_windomain
			 * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
polygon <not recommended="" to="" use<br="">this></not>	0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240	4/4	Coordinate of polygon window position. (4 points: x0,y0,x1,y1,x2,y2,x3,y3) * Only available when "capability_motion_wintype" = polygon.
			* Only available when qvga is listed in "capability_motion_windomain
			 * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
left <not recommended="" to="" use<br="">this></not>	0 ~ 320	4/4	Left coordinate of window position. * Only available when "capability_motion_wintype" = rectangle.
			* Only available when qvga is listed in "capability_motion_windomain".
			 * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
top <not recommended="" to="" use<br="">this></not>	0 ~ 240	4/4	Top coordinate of window position. * Only available when "capability_motion_wintype" = rectangle.
			* Only available when qvga is listed in "capability_motion_windomain".
			* It's recommended to use polygonsd* This parameter will not be used after the

			version number (httpversion) is equal or
			greater than 0400a.
	0 220		-
width	0 ~ 320	4/4	Width of motion detection window.
<not recommended="" td="" to="" use<=""><td></td><td></td><td>* Only available when</td></not>			* Only available when
this>			"capability_motion_wintype" = rectangle.
			* Only available when qvga is listed in
			"capability_motion_windomain".
			* It's recommended to use polygonsd
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.
height	0 ~ 240	4/4	Height of motion detection window.
<not recommended="" td="" to="" use<=""><td></td><td></td><td>* Only available when</td></not>			* Only available when
this>			"capability_motion_wintype" = rectangle.
			* Only available when qvga is listed in
			"capability_motion_windomain".
			* It's recommended to use polygonsd
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.

Group: motion_c<0~(n-1)>_profile_i<0~(m-1)> for m profile and n channel product,

n denotes the value of "capability_nvideoin", m denotes the vaule of " capability_nmotionprofile ",

(capability_nmotionprofile > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	4/4	Enable profile 1 ~ (m-1).
policy	night,	4/4	The mode which the profile is applied to.
	schedule		
			* Not support "policy=day" anymore when the
			version number (httpversion) is equal or
			greater than 0301a.
begintime	hh:mm	4/4	Begin time of schedule mode.
endtime	hh:mm	4/4	End time of schedule mode.
win_sensitivity	0 ~ 100	4/4	Sensitivity of all motion detection windows.

		* The value "0" is reserved for compatibility
		and will not be used after the version number
		(httpversion) is equal or greater than 0400a.

Group: motion_c<0~(n-1)>_profile_i<0~(m-1)>_win_i<0~(k-1)> for m profile and n channel product, n denotes the value of "capability_nvideoin", m denotes the vaule of "capability_nmotionprofile", k denotes the value of "capability_nmotion".

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	4/4	Enable motion detection window.
name	string[14]	4/4	Name of motion window.
polygonstd	0 ~ 9999,0 ~ 9999,	4/4	Coordinate of polygon window position.
	0 ~ 9999,0 ~ 9999,		(4 points: x0,y0,x1,y1,x2,y2,x3,y3)
	0 ~ 9999,0 ~ 9999,		* Only available when
	0 ~ 9999,0 ~ 9999		"capability_motion_wintype" = polygon.
			* Only available when std is listed in "capability_motion_windomain
objsize	1 ~ 100	4/4	Percent of motion detection window.
sensitivity	0 ~ 100	4/4	Sensitivity of motion detection window.
<not recommended="" td="" to="" use<=""><td></td><td></td><td></td></not>			
this>			* We replace "sensitivity" with
			"win_sensitivity".
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.
polygonpx	0 ~ W,0 ~ H, 0 ~	4/4	Coordinate of polygon window position.
<not recommended="" td="" to="" use<=""><td>W,0 \sim H, 0 \sim W,0 \sim</td><td></td><td>(4 points: x0,y0,x1,y1,x2,y2,x3,y3)</td></not>	W,0 \sim H, 0 \sim W,0 \sim		(4 points: x0,y0,x1,y1,x2,y2,x3,y3)
this>	H, 0 ~ W,0 ~ H		* Only available when
	W: 0~ The current		"capability_motion_wintype" = polygon.
	image width -1		
	H: 0~ The current		* Only available when px is listed in
	image height -1		"capability_motion_windomain
			* It's recommended to use polygonsd
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.

. , 5	0 ~ 320,0 ~ 240, 0	4/4	Coordinate of polygon window position.
<not recommended="" td="" to="" use<=""><td>~ 320,0 ~ 240, 0 ~</td><td></td><td>(4 points: x0,y0,x1,y1,x2,y2,x3,y3)</td></not>	~ 320,0 ~ 240, 0 ~		(4 points: x0,y0,x1,y1,x2,y2,x3,y3)
this>	320,0 ~ 240, 0 ~		* Only available when
	320,0 ~ 240		"capability_motion_wintype" = polygon.
			* Only available when qvga is listed in
			"capability_motion_windomain
			* It's recommended to use polygonsd
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.
left	0 ~ 320	4/4	Left coordinate of window position.
<not recommended="" td="" to="" use<=""><td></td><td></td><td>* Only available when</td></not>			* Only available when
this>			"capability_motion_wintype" = rectangle.
			* Only available when qvga is listed in
			"capability_motion_windomain".
			* It's recommended to use polygonsd
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.
top	0 ~ 240	4/4	Top coordinate of window position.
<not recommended="" td="" to="" use<=""><td></td><td></td><td>* Only available when</td></not>			* Only available when
this>			"capability_motion_wintype" = rectangle.
			* Only available when qvga is listed in
			"capability_motion_windomain".
			* It's recommended to use polygonsd
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.
width	0 ~ 320	4/4	Width of motion detection window.
<not recommended="" td="" to="" use<=""><td></td><td></td><td>* Only available when</td></not>			* Only available when
this>			"capability_motion_wintype" = rectangle.
			* Only available when qvga is listed in

			 * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
height	0 ~ 240	4/4	Height of motion detection window.
<not recommended="" td="" to="" use<=""><td></td><td></td><td>* Only available when</td></not>			* Only available when
this>			"capability_motion_wintype" = rectangle.
			* Only available when qvga is listed in
			"capability_motion_windomain".
			* It's recommended to use polygonsd
			* This parameter will not be used after the
			version number (httpversion) is equal or
			greater than 0400a.

7.15 Tampering detection settings

Group: **tampering_c<0~(n-1)>** for n channel products (capability.tampering > 0)

n	denotes	tho	value	of	"canability	_nvideoin"
	uenotes	uie	value	UI.	capability	

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	4/4	Enable or disable tamper detection.
threshold	0~100	4/4	Threshold of tamper detection.
duration	10~600	4/4	If tampering value exceeds the "threshold" for
			more than "duration" second(s), then tamper
			detection is triggered.
ignorewidth	0, <positive integer=""></positive>	1/7	Indicate the width to offset to start to analysis
			the image.
dark_enable	<boolean></boolean>	4/4	Enable or disable image too dark detection
dark_threshold	0~100	4/4	Threshold of image too dark detection
dark_duration	1~10	4/4	If image too dark value exceeds the
			"threshold" for more than "duration"
			second(s), then image too dark detection is
			triggered.
bright_enable	<boolean></boolean>	4/4	Enable or disable image too bright detection
bright_threshold	0~100	4/4	Threshold of image too bright detection
bright_duration	1~10	4/4	If image too bright value exceeds the

			"threshold" for more than "duration"
			second(s), then image too bright detection is
			triggered.
blurry_enable	<boolean></boolean>	4/4	Enable or disable image too blurry detection
blurry_threshold	0~100	4/4	Threshold of image too blurry detection
blurry_duration	1~10	4/4	If image too blurry value exceeds the
			"threshold" for more than "duration"
			second(s), then image too blurry detection is
			triggered.

7.16 **DDNS**

Group: **ddns** (capability.protocol.ddns > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	6/6	Enable or disable the dynamic DNS.
provider	CustomSafe100,	6/6	Safe100 => safe100.net
	DyndnsDynamic,		DyndnsDynamic => dyndns.org (dynamic)
	DyndnsCustom,		DyndnsCustom => dyndns.org
	Safe100		CustomSafe100 =>
			Custom server using safe100 method
<provider>_hostname</provider>	string[128]	6/6	Your DDNS hostname.
<provider>_usernameem</provider>	string[64]	6/6	Your user name or email to login to the DDNS
ail			service provider
<provider>_passwordkey</provider>	string[64]	6/6	Your password or key to login to the DDNS
			service provider.
<provider>_servername</provider>	string[128]	6/6	The server name for safe100.
			(This field only exists if the provider is
			customsafe100)

7.17 Express link

Group: expresslink

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	6/6	Enable or disable express link.
state	onlycheck,	6/6	Camera will check the status of network
	onlyoffline,		environment and express link URL
	checkonline,		
	badnetwork		
url	string[64]	6/6	The url user define to link to camera

7.18 UPnP presentation

Group: upnppresentation

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	6/6	Enable or disable the UPnP presentation
			service.

7.19 UPnP port forwarding

Group: upnpportforwarding

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	6/6	Enable or disable the UPnP port forwarding
			service.
upnpnatstatus	0~3	6/7	The status of UPnP port forwarding, used
			internally.
			0 = OK, 1 = FAIL, 2 = no IGD router, 3 = no
			need for port forwarding

7.20 System log

Group: **syslog**

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enableremotelog	<boolean></boolean>	6/6	Enable remote log.
serverip	<ip address=""></ip>	6/6	Log server IP address.
serverport	514, 1025~65535	6/6	Server port used for log.
level	0~7	6/6	Levels used to distinguish the importance of
			the 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
setparamlevel	0~2	6/6	Show log of parameter setting.
			0: disable
			1: Show log of parameter setting set from
			external.
			2. Show log of parameter setting set from
			external and internal.

7.21 SNMP

Group: **snmp** (capability.protocol.snmp > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
v2	<boolean></boolean>	6/6	SNMP v2 enabled. 0 for disable, 1 for enable
v3	<boolean></boolean>	6/6	SNMP v3 enabled. 0 for disable, 1 for enable
secnamerw	string[31]	6/6	Read/write security name
secnamero	string[31]	6/6	Read only security name
authpwrw	string[8~128]	6/6	Read/write authentication password
authpwro	string[8~128]	6/6	Read only authentication password
authtyperw	MD5,SHA	6/6	Read/write authentication type
---------------	---------------	-----	--------------------------------
authtypero	MD5,SHA	6/6	Read only authentication type
encryptpwrw	string[8~128]	6/6	Read/write passwrd
encryptpwro	string[8~128]	6/6	Read only password
encrypttyperw	DES	6/6	Read/write encryption type
encrypttypero	DES	6/6	Read only encryption type
rwcommunity	string[31]	6/6	Read/write community
rocommunity	string[31]	6/6	Read only community
syslocation	string[128]	6/6	System location
syscontact	string[128]	6/6	System contact

7.22 Layout configuration

Group: layout

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
logo_default	<boolean></boolean>	1/6	0 => Custom logo
			1 => Default logo
logo_link	string[128]	1/6	Hyperlink of the logo
	http://www.vivotek.		
	<u>com</u>		
logo_powerbyvvtk_hidden	<boolean></boolean>	1/6	0 => display the power by vivotek logo
			1 => hide the power by vivotek logo
custombutton_manualtrig	<boolean></boolean>	1/6	Show or hide manual trigger (VI) button in
ger_show			homepage
			0 -> Hidden
			1 -> Visible
theme_option	1~4	1/6	1~3: One of the default themes.
			4: Custom definition.
theme_color_font	string[7]	1/6	Font color
theme_color_configfont	string[7]	1/6	Font color of configuration area.
theme_color_titlefont	string[7]	1/6	Font color of video title.
theme_color_controlback ground	string[7]	1/6	Background color of control area.
theme_color_configbackg	string[7]	1/6	Background color of configuration area.

round			
theme_color_videobackgr ound	string[7]	1/6	Background color of video area.
theme_color_case	string[7]	1/6	Frame color

7.23 Privacy mask

Group: **privacymask_c<0~(n-1)>** for n channel products and m privacy mask window.

n denotes the value of "capability_nvideoin" and m denotes the value of

"capability_videoin_c<0~(n-1)>_nprivacymask"

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	4/4	Enable privacy mask.
win_i<0~(m-1)>_enable	<boolean></boolean>	4/4	Enable privacy mask window.
win_i<0~(m-1)>_name	string[14]	4/4	Name of the privacy mask window.
win_i<0~(m-1)>_left	0 ~ 320	4/4	Left coordinate of window position.
			* Only available when
			"capability_image_c <n>_privacymask_wintype"</n>
			= rectangle.
win_i<0~(m-1)>_top	0 ~ 240	4/4	Top coordinate of window position.
			* Only available when
			"capability_image_c <n>_privacymask_wintype"</n>
			= rectangle.
win_i<0~(m-1)>_width	0 ~ 320	4/4	Width of privacy mask window.
			* Only available when
			"capability_image_c <n>_privacymask_wintype"</n>
			= rectangle.
win_i<0~(m-1)>_height	0 ~ 240	4/4	Height of privacy mask window.
			* Only available when
			"capability_image_c <n>_privacymask_wintype"</n>
			= rectangle.
win_i<0~(m-1)>_polygon	0 ~ 320,0 ~	4/4	Coordinate of polygon window position.
	240, 0 ~		(4 points: x0,y0,x1,y1,x2,y2,x3,y3)
	320,0 ~ 240,		* Only available when
	0 ~ 320,0 ~		"capability_image_c <n>_privacymask_wintype"</n>
	240, 0 ~		= polygon.
	320,0 ~ 240		
			* Only available when qvga is listed in

			"capability_image_c <n>_privacymask_windomai</n>
			n
win_i<0~(m-1)>_polygonpx	0 ~ W,0 ~ H, 0	4/4	Coordinate of polygon window position.
	~ W,0 ~ H, 0		(4 points: x0,y0,x1,y1,x2,y2,x3,y3)
	~ W,0 ~ H, 0		* Only available when
	~ W,0 ~ H		"capability_image_c <n>_privacymask_wintype"</n>
	W: 0~ The		= polygon.
	current image		
	width -1		* Only available when px is listed in
	H: 0~ The		"capability_image_c <n>_privacymask_windomai</n>
	current image		n
	height -1		
win_i<0~(m-1)>_polygonstd	0 ~ 9999,0 ~	4/4	Coordinate of polygon window position.
	9999, 0 ~		(4 points: x0,y0,x1,y1,x2,y2,x3,y3)
	9999,0 ~		* Only available when
	9999, 0 ~		"capability_image_c <n>_privacymask_wintype"</n>
	9999,0 ~		= polygon.
	9999, 0 ~		
	9999,0 ~		* Only available when std is listed in
	9999		"capability_image_c <n>_privacymask_windomai</n>
			n

7.24 3D Privacy mask

Group: **privacymask3d_c<0~(n-1)>** for n channel products and m privacy mask window.

(capability_image_c<0~(n-1)>_privacymask_wintype = 3Drectangle)

n denotes the value of "capability_nvideoin" and m denotes the value of

"capability_videoin_c<0~(n-1)>_nprivacymask"

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	4/4	Enable the 3D privacy mask
color	0~"	4/4	Privacy mask color
	capability_image_c<0~(n-1)		
	>_privacymask_ncolor"-1		
win_i<0~(m-1)>_name	string[40]	4/4	Name of the privacy mask window.
win_i<0~(m-1)>_pan	"capability_ptz_c<0~(n-1)>	4/4	Pan position of window position.
	_minpan" ~		* Only available when bit0 of
	"capability_ptz_c<0~(n-1)>		"capability_camctrl_c<0~(n-1)>_buil
	_maxpan"		dinpt" is "1"
win_i<0~(m-1)>_tilt	"capability_ptz_c<0~(n-1)>	4/4	Tilt position of window position.
	_mintilt" ~		* Only available when bit1 of
	"capability_ptz_c<0~(n-1)>		"capability_camctrl_c<0~(n-1)>_buil
	_maxtilt"		dinpt" is "1"
win_i<0~(m-1)>_zoom	"capability_ptz_c<0~(n-1)>	4/4	Zoom position of window position.
	_minzoom" ~		
	"capability_ptz_c<0~(n-1)>		
	_maxzoom"		
win_i<0~(m-1)>_fliped	<boolean></boolean>	4/4	Flip side of window position.
			0: Non-flip side
			1: Flip side

7.25 Capability

Group: capability

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
api_httpversion	<string></string>	0/7	The version of VIVOTEK WebAPI with 4
	This number start		integers plus 1 alphabet, There are composed
	with 0301a.		by "major version", "minor version",
			"revision","_platform". ex: 0301a_1
			Major version
			Increase the major version when change,
			remove the old features/interfaces or the
			firmware has substantially change in
			architecture and not able to roll back to
			previous version. This may cause
			incompatibility with supporting software.
			Minor version
			Increase the minor version when add new
			features/interfaces without change the old
			features and interfaces.
			Revision
			Increase the revision when fix bugs without
			change any features of the output.
			_platform
			This is a constant, it is used to distinguish
			between different platforms
			API version format:
			MMmmr_k
			Where "MM" is the major version, "mm" is the
			minor version and "r" is the revision.
			'M' and 'm' and 'k' are decimal digit from 0 to 9,
			while 'r' is an alphabetic.
			EX: 0302b_1 => Major version = 03, minor
			version = 02, revision = b, platform = 1
			The 4 integer numbers are WebAPI version, we
			use short name: [httpversion] for it in this

		1	
			document.
			The 5th character is model-based version for
			API bug-fix and it's default to "a".
			Ex: If some APIs in a model does not follow the
			API definition of 0301a_1, we will fix them and
			change this API value to 0301b_1.
bootuptime	<positive integer=""></positive>	0/7	Server bootup time.
nir	0,	0/7	Number of IR interfaces.
<not anymore="" support=""></not>	<positive integer=""></positive>		(Recommand to use
			capability_daynight_c<0~"capability_nvideoi
			n"-1>_builtinir for built-in IR and
			capability_daynight_c<0~"capability_nvideoi
			n"-1>_externalir for external IR)
			* Not support this parameter anymore when
			the version number (httpversion) is equal or
			greater than 0301a.
npir	0,	0/7	Number of PIRs.
	<positive integer=""></positive>		
ndi	0,	0/7	Number of digital inputs.
	<positive integer=""></positive>		
nvi	0,	0/7	Number of virtual inputs (manual trigger)
	<positive integer=""></positive>		
ndo	0,	0/7	Number of digital outputs.
	<positive integer=""></positive>		
naudioin	0,	0/7	The number of audio input channel. 0 means
	<positive integer=""></positive>		no audio input support.
naudioout	0,	0/7	The number of audio output channel
	<positive integer=""></positive>		
nvideoin	<positive integer=""></positive>	0/7	Number of video inputs.
nvideoout	0, <positive< td=""><td>0/7</td><td>Number of video out interface.</td></positive<>	0/7	Number of video out interface.
	Integer>	,	
nvideoinprofile	<positive integer=""></positive>	0/7	Number of video input profiles.
nmediastream		0/7	Number of media stream per channels.
	<positive integer=""></positive>	-	
naudiosetting	<positive integer=""></positive>	0/7	Number of audio settings per channel.
<not anymore="" support=""></not>			* Not support this parameter anymore when
			the version number (httpversion) is equal or
			greater than 0301a.
			* We replace "naudiosetting" with "naudioin".

			More details, please refer the parameter description of "volume_internal" and "volume_external".
nuart	0, <positive integer=""></positive>	0/7	Number of UART interfaces.
nmotion	<positive integer=""></positive>	0/7	The number of motion window.
nmotionprofile	0, <positive integer></positive 	0/7	Number of motion profiles.
ptzenabled	0, <positive integer></positive 	0/7	An 32-bit integer, each bit can be set separately as follows: Bit 0 => Support camera control function; O(not support), 1(support) Bit 1 => Built-in or external video source; O(external), 1(built-in) Bit 2 => Support pan operation; O(not support), 1(support) Bit 3 => Support tilt operation; O(not support), 1(support) Bit 4 => Support zoom operation; O(not support), 1(support) (only available when RS-485 interface is supported or SD/PZ/PT/PD/video server series) Bit 5 => Support focus operation; O(not support), 1(support) (only available when RS-485 interface is supported or SD/PZ/PT/PD/video server series) Bit 5 => Support focus operation; O(not support), 1(support) (only available when RS-485 interface is supported or SD/PZ/PT/PD/video server series) Bit 6 => Reserved bit; always 0. Bit 7 => External or built-in PT; O(built-in), 1(external)
windowless	<boolean></boolean>	0/7	Indicate whether to support windowless plug-in.
evctrlchannel	<boolean></boolean>	0/7	Indicate whether to support HTTP tunnel for event/control transfer.
joystick	<boolean></boolean>	0/7	Indicate whether to support joystick control.
remotefocus <not recommended="" to="" use<br="">this></not>	0, <positive integer=""></positive>	0/7	An 4-bit integer, which indicates the supportive application of remotefocus. If the value of this parameter is larger than 0,

			it means that the camera supports
			remotefocus function.
			 bit 0 => Indicate whether to support both zoom and focus function. bit 1 => Only support zoom function. bit 2 => Only support focus function. bit 3 => Currently, this is a reserved bit, and the default value is 0. * It's strongly non-recommended to use this. * This is reserved for compatibility and will not be used after the version number (httpversion) is equal or greater than 0400a. * We replace "capability_remotefocus" with "
			capability_image_c0_remotefocus".
npreset	0, <positive integer></positive 	0/7	Number of preset locations
eptz	0, <positive< td=""><td>0/7</td><td>For "nvideoin" = 1, the definition is as</td></positive<>	0/7	For "nvideoin" = 1, the definition is as
	integer>	-,	following:
			A 32-bits integer, each bit can be set
			separately as follows:
			Bit $0 => 1$ st stream supports ePTZ or not.
			Bit 1 => 2nd stream supports ePTZ or not, and so on.
			For nvideoin $>= 2$, the definition is different:
			First all 32 bits are divided into groups for channel.
			Ex:
			nvideoin = 2, bit $0 \sim 15$ are the 1st group for 1st
			channel, bit 16~31 are the 2nd group for 2nd channel.
			nvideoin = 3, bit $0 \sim 9$ are the 1st group for 1st
			channel, bit 10~19 are the 2nd group for 2nd
			channel, bit 20~31 are the 3rd group for 3rd
			channel.
			Then, the 1st bit of the group indicates 1st
			stream of a channel support ePTZ or not. The
			2nd bit of the group indicates 2nd stream of a

			channel support ePTZ or not, and so on.
			* For most products, the last stream of a channel will not support ePTZ. It is reserved for full view of the channel. For some dual-stream products, both streams support ePTZ.
nanystream	0, <positive integer></positive 	0/7	number of any media stream per channel
iva	<boolean></boolean>	0/7	Indicate whether to support Intelligent Video analysis
whitelight	<boolean></boolean>	0/7	Indicate whether to support white light led.
iris	<boolean></boolean>	0/7	Indicate whether to support iris control.
supportsd	<boolean></boolean>	0/7	Indicate whether to support local storage.
fisheye	<boolean></boolean>	0/7	The parameter is used to determine whether the product is fisheye or not.
tampering	<boolean></boolean>	0/7	Indicate whether to support tampering detection.
tamperingmode	tamper,toodark,toob right,tooblurry	0/7	Available tampering mode list. * Only available when "capability_tampering" is 1.
adaptiverecording	<boolean></boolean>	0/7	Indicate whether to support adaptive recording.
adaptivestreaming	<boolean></boolean>	0/7	Indicate whether to support adaptive streaming.
supporttriggertypes	<pre>seq,boot,motion,net workfail,recnotify,ta mpering,vi,vadp,di, volalarm,temperatu re,pir, visignal, backup,smartsd <product dependent=""></product></pre>	0/7	<pre>list all the trigger types which are supported in the camera: "seq" = Periodic condition "boot" = System boot "motion" = Video motion detection "networkfail" = network connection failure "recnotify" = Recording notification. "tampering" = Tamper detection. "vi" = Virtual input (Manual trigger) "vadp" = VADP trigger "di"= Digital input "volalarm" = Audio detection "temperature" = Temperature detection "pir" = PIR detection</pre>

			"visignal" = Video input signal loss.
			"backup" = Backing up recorded files
			"smartsd" = Lifetime detection of SD card
			* Only available when [httpversion] >= 0301a
storage_dbenabled	<boolean></boolean>	0/7	Media files are indexed in database.
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></boolean>	0/7	Indicate whether to support SIP.
protocol_maxconnection	<positive integer=""></positive>	0/7	The maximum number of allowed
			simultaneous connections.
protocol_maxgenconnecti on	<positive integer=""></positive>	0/7	The maximum general streaming connections .
protocol_rtp_multicast_sc	<boolean></boolean>	0/7	Indicate whether to support scalable multicast.
alable			
protocol_rtp_multicast_ba	<boolean></boolean>	0/7	Indicate whether to support backchannel
ckchannel			multicast.
protocol_rtp_tcp	<boolean></boolean>	0/7	Indicate whether to support RTP over TCP.
protocol_rtp_http	<boolean></boolean>	0/7	Indicate whether to support RTP over HTTP.
protocol_spush_mjpeg	<boolean></boolean>	0/7	Indicate whether to support server push
			MJPEG.
protocol_snmp	<boolean></boolean>	0/7	Indicate whether to support SNMP.
protocol_ipv6	<boolean></boolean>	0/7	Indicate whether to support IPv6.
protocol_pppoe	<boolean></boolean>	0/7	Indicate whether to support PPPoE.
protocol_ieee8021x	<boolean></boolean>	0/7	Indicate whether to support IEEE802.1x.
protocol_qos_cos	<boolean></boolean>	0/7	Indicate whether to support CoS.
protocol_qos_dscp	<boolean></boolean>	0/7	Indicate whether to support QoS/DSCP.
protocol_ddns	<boolean></boolean>	0/7	Indicate whether to support DDNS.
videoin_type	0, 1, 2	0/7	0 => Interlaced CCD
			1 => Progressive CCD
			2 => CMOS
videoin_nresolution	<positive integer=""></positive>	0/7	This equals
			"capability_videoin_c0_nresolution".
			* This is kept for compatibility.

	coroduct		"conshility videoin of recolution"
	<pre><pre>oduct</pre></pre>		"capability_videoin_c0_resolution".
	dependent>		* This is least for some shihility.
		0.17	* This is kept for compatibility.
videoin_maxframerate	A list of <integer></integer>	0/7	This equals
			"capability_videoin_c0_maxframerate".
			* This is kept for compatibility.
videoin_mjpeg_maxframe	A list of <integer></integer>	0/7	This equals
rate	and "-"		"capability_videoin_c0_mjpeg_maxframerate
			".
			* This is kept for compatibility.
videoin_h264_maxframer	A list of <integer></integer>	0/7	This equals
ate	and "-"		"capability_videoin_c0_h264_maxframerate".
			* This is kept for compatibility.
videoin_codec	mjpeg, h264, h265	0/7	Available codec of a device, split by comma.
	<product< td=""><td></td><td>The sequence is not limited.</td></product<>		The sequence is not limited.
	dependent>		
			EX:
			FD8183 supports H.264 and MJPEG, then this
			is "mjpeg,h264".
			IP9171 supports H.264, MJPEG and H.265,
			then this is "mjpeg,h264,h265"
videoin_streamcodec	A list of <positive< td=""><td>0/7</td><td>This equals</td></positive<>	0/7	This equals
	Integer>		"capability_videoin_c0_streamcodec".
			* This is kept for compatibility.
videoin_flexiblebitrate	<boolean></boolean>	0/7	Indicate whether to support
			flexible bit rate control.
videoout_codec	-, ntsc, pal	0/7	Current output information about video out.
			1st element for 1st video-out, 2nd element for
			2nd video-out, and so on. The number of
			element depends on "capability_nvideooout".
			"-": Video-out is not available
			ntsc: NTSC analog output
			pal: PAL analog output
			Ex:
			"nvideoout"=0, "videoout_codec"=-
L			

			"nvideoout"=1 with NTSC,
			"videoout_codec"=ntsc
			"nvideoout"=1 with PAL,
			"videoout_codec"=pal
			"nvideoout"=2 with both NTSC,
			"videoout_codec"=ntsc,ntsc
			* For camera, this feature is controlled by
			physical jump on device. No WebAPI to control
			it. This value is set only on camera power-on
			and maintains the status.
			* Only available when [httpversion] >= 0301a
timeshift	<boolean></boolean>	0/7	Indicate whether to support time shift caching
			stream.
audio_aec	<boolean></boolean>	0/7	Indicate whether to support acoustic echo
			cancellation.
audio_mic	<boolean></boolean>	0/7	Indicate whether to support built-in
<not anymore="" support=""></not>			microphone input.
			* Not support this parameter anymore when
			the version number (httpversion) is equal or
			greater than 0301a.
			* We replace "audio_mic" with "audio_intmic".
audio_intmic	<0~Positive	0/7	Internal (Built-in) Microphone.
	Integer>		0: Not support
			1: Support
			Bit 0 for CH0, bit 1 for CH1, and so on.
audio_extmic	<0~Positive	0/7	External Microphone.
	Integer>		0: Not support
			1: Support
			Bit 0 for CH0, bit 1 for CH1, and so on.
audio_alarm	<0~Positive	0/7	0: Not support audio alarm.
	Integer>		1: Support audio alarm.
	_		Bit 0 for CH0, bit 1 for CH1, and so on.
audio_linein	<boolean></boolean>	0/7	Indicate whether to support external line
<not anymore="" support=""></not>			input.
			* Not support this parameter anymore when
			the version number (httpversion) is equal or
			greater than 0301a.
			* It will be replaced by audio_intmic and
	I		Te will be replaced by addio_intrine and

			audio_extmic.
audio_lineout	<boolean></boolean>	0/7	Indicate whether to support line output.
audio_michardwareswitch	<boolean></boolean>	0/7	Indicate whether the hardware supports
			built-in/external mic switch
audio_headphoneout	<boolean></boolean>	0/7	Indicate whether to support headphone
<not anymore="" support=""></not>			output.
			* Not support this parameter anymore when
			the version number (httpversion) is equal or
		- (T	greater than 0301a.
audioin_codec	aac4, gamr, g711,	0/7	Available audio codec. We take comma to split
	g726, -		codec without any space.
	<product dependent></product 		aac4: Advanced Audio Coding (AAC)
			gamr: Adaptive Multi-Rate (AMR)
			g711: G.711
			g726: G.726
			-: Not supported.
audioout_codec	g711, -	0/7	Available codec list for SIP.
	<product< td=""><td></td><td>-: Not supported.</td></product<>		-: Not supported.
	dependent>		
motion_wintype	rectangle, polygon	0/7	The supported motion window type.
			polygon: The window is a 2D polygon shape.
			rectangle: The window is a 2D rectangle
			shape.
motion_windomain	qvga, px, std, -	0/7	The domain to set an motion window.
			qvga: a 320x240 range to represent the whole
			image.
			px: Locate a window in the image with pixels.
			std: A normalized 0~9999 range.
			-: Not supported.
smartstream_support	<boolean></boolean>	0/7	Indicate whether smart stream is supported.
smartstream_version	<integer></integer>	0/7	Number of smart stream version
smartstream_nstream	<positive integer=""></positive>	0/7	Number of stream that support smart stream.
			*only available when
			"capability_smartstream_support" is 1
smartstream_windomain	qvga, px, std, -	0/7	The domain to set an focus window.
			qvga: a 320x240 range to represent the whole

			image
			image.
			px: Locate a window in the image with pixels.
			std: A normalized 0~9999 range.
			-: Not supported.
			*only available when
			"capability_smartstream_support" is 1
smartstream_mode_autot	<boolean></boolean>	0/7	Indicate whether autotracking smart stream is
racking			supported.
			*only available when
			"capability_smartstream_support" is 1
smartstream_mode_man	<boolean></boolean>	0/7	Indicate whether manual smart stream is
ual			supported.
			*only available when
			"capability_smartstream_support" is 1
smartstream_mode_hybri	<boolean></boolean>	0/7	Indicate whether hybrid(autotracking+
d			manual) smart stream is supported.
			*only available when
			"capability_smartstream_support" is 1
smartstream_nwindow_a	<positive integer=""></positive>	0/7	Maximum number of tracking window of
utotracking			autotracking.
			*only available when
			"capability_smartstream_support" is 1
smartstream_nwindow_m	<positive integer=""></positive>	0/7	Maximum number of tracking window of
anual – –			manual.
			*only available when
			' "capability_smartstream_support" is 1
smartstream_nwindow_h	<positive integer=""></positive>	0/7	Maximum number of tracking window of
ybrid_autotracking		0,1	autotracking in hybrid mode.
ybrid_ddtotrdcking			*only available when
			"capability_smartstream_support" is 1
smartstream_nwindow_h	<positive integer=""></positive>	0/7	Maximum number of tracking window of
		0,7	5
ybrid_manual			manual in hybrid mode.
			*only available when
			"capability_smartstream_support" is 1
vadp_supportfeature	<positive integer=""></positive>	0/7	An 32-bit integer, each bit can be set
			separately as follows:
			Bit 0 => VADP interface
			Bit 1 => Capture video raw data
			Bit 2 => Support encode jpeg
			Bit 3 => Capture audio raw data

		1	1
			Bit 4 => Support event trigger
			Bit 5 => Support license registration
			Bit 6 => Support shared memory API
			Bit 7 => Support digital signature of package
			Bit 8 => Support snapshot
vadp_npackage	<positive integer=""></positive>	0/7	Indicate the maximum number of VADP
			package that can be uploaded to the device.
thermal_support	<boolean></boolean>	0/7	Indicate whether to support thermal IC.
thermal_controlmode	auto,	0/7	Indicate the thermal control mode.
	customheater		"auto": control by camera automatically
			"customheater": the threshold of heater can
			be sepcified by user.
			* only available when
			"capability_thermal_support" is 1.
			* We support this parameter when the version
			number (httpversion) is equal or greater than
			0302a.
thermal_temperaturedete	<boolean></boolean>	0/7	Indicate whether to support temperature
ction			detection.
camctrl_httptunnel	<boolean></boolean>	0/7	Indicate whether to support httptunnel.
<not anymore="" support=""></not>			* Not support this parameter anymore when
			the version number (httpversion) is equal or
			greater than 0301b.
			* It will be replaced by
			capability_camctrl_ptztunnel.
camctrl_ptztunnel	<boolean></boolean>	0/7	Indicate whether to support ptztunnel.
			* We support this parameter when the version
			number (httpversion) is equal or greater than
			0301b.
			This equals
			"capability_camctrl_c0_ptztunnel".
			* This is kept for compatibility.
 camctrl_privilege	<boolean></boolean>	0/7	Indicate whether to support "Manage
pge			Privilege" of PTZ control in the security page.
			1: support both /cgi-bin/camctrl/camctrl.cgi
			and /cgi-bin/viewer/camctrl.cgi
			0: support only /cgi-bin/viewer/camctrl.cgi
			This is equivalent

			to"capability_camctrl_c0_privilege".
			* This is kept for compatibility.
uart_httptunnel	<boolean></boolean>	0/7	Indicate whether to support HTTP tunnel for UART transfer.
transmission_mode	Tx,	0/7	Indicate transmission mode of the machine:
	Rx,		TX = server, $Rx = receiver box$, $Both = DVR$.
	Both <boolean></boolean>	0/7	Indicate whether to support Ethernet.
network_wireless	<boolean></boolean>	0/7	Indicate whether to support wireless.
wireless_s802dot11b	<boolean></boolean>	0/7	Indicate whether to support wireless 802.11b+.
wireless_s802dot11g	<boolean></boolean>	0/7	Indicate whether to support wireless 802.11g.
wireless_s802dot11n	<boolean></boolean>	0/7	Indicate whether to support wireless 802.11n.
wireless_beginchannel	1 ~ 14	0/7	Indicate the begin channel of wireless network
wireless_endchannel	1 ~ 14	0/7	Indicate the end channel of wireless network
wireless_encrypt_wep	<boolean></boolean>	0/7	Indicate whether to support wireless WEP.
wireless_encrypt_wpa	<boolean></boolean>	0/7	Indicate whether to support wireless WPA.
wireless_encrypt_wpa2	<boolean></boolean>	0/7	Indicate whether to support wireless WPA2.
derivative_brand	<boolean></boolean>	0/7	Indicate whether to support the upgrade
			function for the derivative brand. For example,
			if the value is true, the VVTK product can be
			upgraded to VVXX. (TCVV<->TCXX is
			excepted)
test_ac	<boolean></boolean>	0/7	Indicate whether to support test ac key.
version_onvifdaemon	<string></string>	0/7	Indicate ONVIF daemon version
version_onviftesttool	<string></string>	0/7	Indicate ONVIF test tool version
media_totalspace	<positive integer=""></positive>	0/7	Available memory space (KB) for media.
media_snapshot_maxpre	<positive integer=""></positive>	0/7	Maximum snapshot number before event
event			occurred.
media_snapshot_maxpost	<positive integer=""></positive>	0/7	Maximum snapshot number after event
event			occurred.
media_snapshot_maxsize	<positive integer=""></positive>	0/7	Maximum size (KB) of a snapshot.
media_videoclip_maxsize	<positive integer=""></positive>	0/7	Maximum size (KB) of a videoclip.
media_videoclip_maxleng	<positive integer=""></positive>	0/7	Maximum length (second) of a videoclip.

th			
media_videoclip_maxpree	<positive integer=""></positive>	0/7	Maximum duration (second) after event
vent			occurred in a videoclip.
image_iristype	<string></string>	0/7	Indicate iris type.
<not recommended="" td="" to="" use<=""><td></td><td></td><td>• "piris": P-Iris</td></not>			• "piris": P-Iris
this>			• "dciris": DC-Iris
			• "-": No Iris control support
			* When "capability_iris"=0, this value must be "-".
			* Note: For some box-type cameras, this value
			may be varied depending on mounted lens.
			* We replace "capability_image_iristype" with
			" capability_image_c0_iristype ".
			* Reserved for compatibility, and suggest don't
			use this since [httpversion] > 0301a
image_focusassist	<boolean></boolean>	0/7	Indicate whether to support focus assist.
<not recommended="" td="" to="" use<=""><td></td><td></td><td>* We replace "capability_image_ focusassist "</td></not>			* We replace "capability_image_ focusassist "
this>			with " capability_image_c0_ focusassist ".
			* Reserved for compatibility, and suggest don't
			use this since [httpversion] > 0301a
localstorage_manageable	<boolean></boolean>	0/7	Indicate whether manageable local storage is
			supported.
localstorage_seamless	<boolean></boolean>	0/7	Indicate whether seamless recording is
			supported.
localstorage_modnum	0,	0/7	The maximum MOD connection numbers.
	<positive integer=""></positive>		
localstorage_modversion	<string></string>	0/7	Indicate MOD daemon version
localstorage_stormgrversi on	<string></string>	0/7	Indicate storage manager daemon version
localstorage_supportedge	0,	0/7	An 32-bit integer, which indicates the
	<positive integer=""></positive>		supportive application of edge storage.
			If the value of this parameter is larger than 0,
			it means that the camera supports edge
			recording function.
			bit 0 : It supports to record directly to an
			on-board SD-Card.

			the default value is 0.
localstorage_slconnum	0, <positive integer=""></positive>	0/7	The maximum seamless connection number.
localstorage_smartsd	<boolean></boolean>	0/7	The "Lifetime and Log SD Card" feature allows
			users to obtain the card's remaining lifetime
			information.
			0: Non-support this feature
			1: Support this feature
			* Only Sony SD card can support this function
			now.
remotecamctrl_master	0, <positive< td=""><td>0/7</td><td>Indicate whether to support remote auxiliary</td></positive<>	0/7	Indicate whether to support remote auxiliary
	integer>		camera (master side), this value means
			supporting max number of auxiliary camera.
remotecamctrl_slave	<boolean></boolean>	0/7	Indicate whether to support remote camera
			control (slave side).
fisheyelocaldewarp_c<0~	0, <positive< td=""><td>0/7</td><td>Indicate the supported streams of local</td></positive<>	0/7	Indicate the supported streams of local
(capability_nvideoin)-1>	integer>		dewarp. One bit represents one supported
<product dependent=""></product>			stream. The LSB indicates stream 0.
			Ex: "3" means stream 0 and stream 1 support
			local dewarp.
			* Only available when "capability_fisheye" > 0

Group: capability_camctrl_c<0~(n-1)> n denotes the value of "capability_nvideoin"

(capability_ptzenabled > 0)

 \ast We support this group when the version number (httpversion) is equal or greater than 0303b.

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
ptztunnel	<boolean></boolean>	0/7	Indicate whether to support ptztunnel in this
			video input.
privilege	<boolean></boolean>	0/7	Indicate whether to support "Manage Privilege"
			of PTZ control in the security page in this video
			input.
			1: support both /cgi-bin/camctrl/camctrl.cgi and
			/cgi-bin/viewer/camctrl.cgi
			0: support only /cgi-bin/viewer/camctrl.cgi
rs485	<boolean></boolean>	0/7	An 32-bit integer, each bit can be set separately
			as follows:
			Bit 0 => support rs485-in
			Bit 1 => support rs485-out

buildinpt	<boolean></boolean>	0/7	An 32-bit integer, each bit can be set separately
			as follows:
			Bit 0 => support build-in pan
			Bit 1 => support build-in tilt
zoommodule	<boolean></boolean>	0/7	Indicate whether to support zoom lens. In our
			product, only SD series and IZ series use the
			zoom lens.
			* Both varifocal and zoom lenses are built with
			movable elements that permit changing the
			effective focal length. And the key difference
			between a varifocal and a zoom lens can be
			explained by thinking about a lens that has been
			focused on an object at any focal length. A
			varifocal will need to be refocused whenever the
			focal length is adjusted; the zoom will stay in
			focus when the focal length is adjusted.
focusmode	auto,onetimeauto,spo	0/7	Focus mode selection:
	tlight,manual		"auto": Camera will automatically adjust the
	<product dependent=""></product>		focus position full time to adapt a clear picture.
			"onetimeauto": Camera will automatically
			adjust the focus position one time, which follows
			any PTZ control.
			"spotlight": Camera will automatically adjust
			the focus position full time, and to consider a
			spotlight avoidance situation.
			"manual": Turn off the automatically focus
			function. For user to control the focus position
			manually as their purpose.
			* We support this parameter when the version
			number (httpversion) is equal or greater than
			0304a.

Group: capability_ptz_c<0~(n-1)> n denotes the value of "capability_nvideoin"

(capability_ptzenabled > 0 and capability_camctrl_c<0~(n-1)>_zoommodule !=0)

* We support this group when the version number (httpversion) is equal or greater than 0303b.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
panspeedlv	0, <positive integer=""></positive>	0/7	The maximum speed level of pan motion. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
minpan	0, <positive integer=""></positive>	0/7	The lower limit for pan position. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
maxpan	0, <positive integer=""></positive>	0/7	The upper limit for pan position. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
minpanangle	<integer></integer>	0/7	The lower limit for pan angle. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
maxpanangle	<integer></integer>	0/7	The upper limit for pan angle. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
tiltspeedlv	0, <positive integer=""></positive>	0/7	The maximum speed level of tilt motion. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
mintilt	0, <positive integer=""></positive>	0/7	The lower limit for tilt position. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
maxtilt	0, <positive integer=""></positive>	0/7	The upper limit for tilt position. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"

mintiltangle	<integer></integer>	0/7	The lower limit for tilt angle.
			*Only available when bit1 of
			"capability_camctrl_c<0~(n-1)>_buildinpt" is
			"1"
maxtiltangle	<integer></integer>	0/7	The upper limit for tilt angle.
			*Only available when bit1 of
			"capability_camctrl_c<0~(n-1)>_buildinpt" is
			"1"
zoomspeedlv	0, <positive integer=""></positive>	0/7	The maximum speed level of zoom motion.
			*Only available when the value of
			"capability_camctrl_c<0~(n-1)>_zoommodule"
			is "1"
minzoom	0, <positive integer=""></positive>	0/7	The lower limit for zoom position.
			*Only available when the value of
			"capability_camctrl_c<0~(n-1)>_zoommodule"
			is "1"
maxzoom	0, <positive integer=""></positive>	0/7	The upper limit for zoom position.
			*Only available when the value of
			"capability_camctrl_c<0~(n-1)>_zoommodule"
			is "1"
maxdzoom	0, <positive integer=""></positive>	0/7	The upper limit for digital zoom position.
			*Only available when the value of
			"capability_camctrl_c<0~(n-1)>_zoommodule"
			is "1"
focusspeedlv	0, <positive integer=""></positive>	0/7	The maximum speed level of focus motion.
			*Only available when the value of
			"capability_camctrl_c<0~(n-1)>_zoommodule"
			is "1"
minfocus	0, <positive integer=""></positive>	0/7	The lower limit for focus position.
			*Only available when the value of
			"capability_camctrl_c<0~(n-1)>_zoommodule"
			is "1"
maxfocus	0, <positive integer=""></positive>	0/7	The upper limit for focus position.
			*Only available when the value of
			"capability_camctrl_c<0~(n-1)>_zoommodule"
			is "1"

Group: capability_daynight_c<0~(n-1)> n denotes the value of "capability_nvideoin"	Group	capability	_daynight_	_c<0~(n-1)> n	denotes th	e value of	"capability_	_nvideoin"
---	-------	------------	------------	---------------	------------	------------	--------------	------------

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
support	<boolean></boolean>	0/7	Indicate whether the camera supports day/night
			mode switch
builtinir	<boolean></boolean>	0/7	Indicate whether to support built-in IR led.
externalir	<boolean></boolean>	0/7	Indicate whether to support external IR led.
smartir	<boolean></boolean>	0/7	Indicate whether to support smart IR.
ircutfilter	<boolean></boolean>	0/7	Indicate whether to support IR cut.
lightsensor	<boolean></boolean>	0/7	Indicate whether to support light sensor.
blackwhitemode	<boolean></boolean>	0/7	Indicate whether to support automatically
			switch to Black & White display during the night
			mode.
			st We support this parameter when the version
			number (httpversion) is equal or greater than
			0302a.
ircutsensitivity_type	<string></string>	0/7	Indicate the cgi interface of
			"ircutcontrol_sensitivity".
			"options": the value of
			"ircutcontrol_sensitivity" parameter is "low,
			normal,high".
			"normalize": the value of
			"ircutcontrol_sensitivity" parameter is "1~100"
			"-":not support
			* Only available when
			"capability_daynight_c <n>_support" is 1.</n>
			* We support this parameter when the version
			number (httpversion) is equal or greater than
			0302a.
ircutsensitivity_supportlevel	0,	0/7	The value indicate the support strength level of
	<positive integer=""></positive>		ircutsensitivity.
			* Only available when
			"capability_daynight_c <n>_support" is 1 and</n>
			"capability_daynight_c <n>_ircutsensitivity_typ</n>
			e" is not "-".
			* We support this parameter when the version
			number (httpversion) is equal or greater than
			0302a.

extled_interface	do,irring	0/7	The device interface of external IR led:
	<product dependent=""></product>		"do": digital output
			"irring": IR ring
			* Only available when
			"capability_daynight_c0_externalir" is 1
			st We support this parameter when the version
			number (httpversion) is equal or greater than
			0304a.

Group: capability_videoin_c<0~(n-1)> n denotes the value of "capability_nvideoin"

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
lens_type	fisheye, fixed,	0/7	The lens type of this channel.
	varifocal, changeable,		fisheye: Fisheye lens
	motor, -		fixed: Build-in fixed-focus lens.
	<product dependent=""></product>		varifocal: Build-in varifocal lens.
			changeable: changeable lens. Like box-type
			camera, users can install any C-Mount or
			CS-Mount lens as they wish.
			motor: Lens with motor to support zoom, focus,
			etc.
			-: N/A
			* Only available when [httpversion] >= 0301a
rotation	<boolean></boolean>	0/7	Indicate current mode whether support video
			rotation

rotationaffect	-	0/7	When rotation is enabled, some features may
	<product dependent=""></product>		become malfunction or be forced to a given
			value. The affected functions are list here.
			The format is "Affect API
			name":"Policy":"Description"
			"Policy" can be categorized into following
			groups:
			- (disabled) : UI turns grey and users can't select
			it.
			- (unchanged) : UI keeps the status as before
			and user can't change it.
			- (hidden) : UI is hidden.
			- (fixed) : UI is fixed to one selection or value.
			- (ranged) : UI is fixed to multiple selections or
			values.
			- (enabled) : UI is checked.
			- (notsupport) : the affected function is not
			available.
			"Affect API name" can be described in hierarchy,
			such as "exposurewin.mode.blc:disabled:"
			which means blc exposure window is disabled.
			API name can be one word as well, such as
			"exposurelevel:fixed:6" which means
			exposurelevel is fixed to level 6.
			"Description" can be a nonnegative integer or
			string or NULL.
			"-" means no feature is affected.
			* When "rotation"=0, this value must be "-"
			* We support this parameter when the version
			number (httpversion) is equal or greater than
			0304b.

streamcodec	<positive integer=""></positive>	0/7	Represent supported codec types of each
			stream.
			This contains a list of positive integers, split by
			comma. Each one stands for a stream, and the
			definition is as following:
			Bit 0: Support MPEG4.
			Bit 1: Support MJPEG
			Bit 2: Support H.264
			Bit 3: Support H.265
mode	0, <positive integer=""></positive>	0/7	Indicate current video mode.
nmode	<positive integer=""></positive>	0/7	Indicate how many video modes supported by
			this channel.
maxsize	<wxh></wxh>	0/7	The maximum resolution of all modes in this
			channel, the unit is pixel.
nprivacymask	0, <positive integer=""></positive>	0/7	Number of privacy mask per channel
nresolution	<positive integer=""></positive>	0/7	The maximum resolution options (listed in
			"resolution") in current video mode.
resolution	A list of <wxh></wxh>	0/7	Resolution options in current video mode. These
	<product dependent=""></product>		options are the possible options for
			"videoin_c <n>_s<m>_resolution".</m></n>
			The last one is the maximum resolution in
			current mode.
maxresolution	A list of <integer></integer>	0/7	Represent supported maximum resolution of
			each stream in current video mode.
			* The element number is defined as
			"capability_nmediastream".
minresolution	A list of <integer></integer>	0/7	Represent supported minimum resolution of
			each stream in current video mode.
			* The element number is defined as
			"capability_nmediastream".
			\ast We support this parameter when the version
			number (httpversion) is equal or greater than
			0304b.

maxframerate	A list of <integer></integer>	0/7	Indicate frame rate that the video source
			outputs in current video mode.
			One to one mapping to the resolution in
			"resolution".
			* The element number is defined as
			"nresolution" in this group.
			* This parameter may be changed when
			"videoin_c <n>_cmosfreq"=50 or</n>
			"videoin_c <n>_modulation"=pal.</n>
			Ex: 30 fps is changed to 25 fps, 60 fps is changed
			to 50 fps, and so on.
mjpeg_maxframerate	A list of <positive< td=""><td>0/7</td><td>Maximum fps that the device can encoded with</td></positive<>	0/7	Maximum fps that the device can encoded with
	Integer> and "-"		MJPEG on resolutions in current video mode.
			"-" means not support.
			* One to one mapping to the resolution in
			"resolution".
			* The element number is defined as
			"nresolution" in this group.
			* This parameter may be changed when
			"videoin_c <n>_cmosfreq"=50 or</n>
			"videoin_c <n>_modulation"=pal.</n>
			Ex: 30 fps is changed to 25 fps, 60 fps is
			changed to 50 fps, and so on.
			* Only available when 'mjpeg' is listed in
			"capability_videoin_codec".
mjpeg_maxbitrate	<positive integer="">, -</positive>	0/7	Maximum bitrates of MJPEG.
			The unit is bps.
			"-" means MJPEG does not support bit rate
			control.
			* Only available when 'mjpeg' is listed in
			"capability_videoin_codec".

h264_maxframerate	A list of <positive< th=""><th>0/7</th><th>Maximum fps that the device can encoded with</th></positive<>	0/7	Maximum fps that the device can encoded with
	Integer> and "-"		H.264 on resolutions in current video mode.
			"-" means not support.
			* One to one mapping to the resolution in
			"resolution".
			* The element number is defined as
			"nresolution" in this group.
			* This parameter may be changed when
			"videoin_c <n>_cmosfreq"=50 or</n>
			"videoin_c <n>_modulation"=pal.</n>
			Ex: 30 fps is changed to 25 fps, 60 fps is
			changed to 50 fps, and so on.
			* Only available when 'h264' is listed in
			"capability_videoin_codec".
h264_maxbitrate	<positive integer=""></positive>	0/7	Maximum bitrates of H.264.
			The unit is bps.
			* Only available when 'h264' is listed in
			"capability_videoin_codec".
h265_maxframerate	A list of <positive< td=""><td>0/7</td><td>Maximum fps that the device can encoded with</td></positive<>	0/7	Maximum fps that the device can encoded with
	Integer> and "-"		H.265 on resolutions in current video mode.
			"-" means not support.
			* One to one mapping to the resolution in
			"resolution".
			* The element number is defined as
			"nresolution" in this group.
			* This parameter may be changed when
			"videoin_c <n>_cmosfreq"=50 or</n>
			"videoin_c <n>_modulation"=pal.</n>
			Ex: 30 fps is changed to 25 fps, 60 fps is
			changed to 50 fps, and so on.
			* Only available when 'h265' is listed in
			"capability_videoin_codec".
h265_maxbitrate	<positive integer=""></positive>	0/7	Maximum bitrates of H.265.
			The unit is bps.
			* Only available when 'h265' is listed in
			"capability_videoin_codec".

fisheye_mounttype	ceiling, wall, floor	0/7	Indicate the supported type.
<product dependent=""></product>	<product dependent=""></product>		wall mount: 180° panoramic view
			ceiling mount: 360° surround view without blind
			spots
			floor mount: 360° surround view without blind
			spots
			* Only available when "capability_fisheye" > 0
dintraperiod_support	<boolean></boolean>	0/7	0: Non-support "Dynamic intra frame period"
			1: Support "Dynamic intra frame period"
			"Dynamic intra frame period" can be used to
			reduce bitrate by reducing the number of
			I-frame.
			* We support this parameter when the version
			number (httpversion) is equal or greater than
			0301c.
cameraunit_name	CU8131,	0/7	A "camera unit" name of a split-type camera
	CU8171,		system, which the camera unit and the video
	CU8161-H,		core are separated.
	CU8162-H,		-: If the camera is not a split-type camera
	СU8163-Н,		system, the value of this parameter is "-".
	CU8361-H,		
	,		* We support this parameter when the version
	-		number (httpversion) is equal or greater than
	<product dependent=""></product>		0302b.

Group: capability_videoin_c<0~(n-1)>_localdewarp

$(capability_fisheyelocaldewarp_c<0~(capability_nvideoin)-1>>0)$

n denotes the value of "capability_nvideoin"

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
typeceilingmount	10, 1P, 2P, 1R, 4R	0/7	Available dewarp types of ceiling and floor
			mount.
typewallmount	10, 1P, 1R, 4R	0/7	Available dewarp types of wall mount.
resolutionC1P	A list of <wxh></wxh>	0/7	Available resolutions of 1P mode of ceiling and
			floor mount.
resolutionC2P	A list of <wxh></wxh>	0/7	Available resolutions of 2P mode of ceiling and
			floor mount.
resolutionC1R	A list of <wxh></wxh>	0/7	Available resolutions of 1R mode of ceiling and
			floor mount.

resolutionC4R	A list of <wxh></wxh>	0/7	Available resolutions of 4R mode of ceiling and
			floor mount.
resolutionW1P	A list of <wxh></wxh>	0/7	Available resolutions of 1P mode of wall mount.
resolutionW1R	A list of <wxh></wxh>	0/7	Available resolutions of 1R mode of wall mount.
resolutionW4R	A list of <wxh></wxh>	0/7	Available resolutions of 4R mode of wall mount.

Group: **capability_videoin_c<0~(n-1)>_mode<0~(m-1)>** n denotes the value of "capability_nvideoin", m denotes the value of "capability_videoin_c<n>_nmode"

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
rotation	<boolean></boolean>	0/7	Indicate this mode whether support video
			rotation
eptz	0, <positive integer=""></positive>	0/7	Indicate this mode whether support eptz.
			For "nvideoin" = 1, the definition is as following:
			A 32-bits integer, each bit can be set separately
			as follows:
			Bit $0 = > 1$ st stream supports ePTZ or not.
			Bit 1 => 2nd stream supports ePTZ or not, and
			so on.
			For nvideoin >= 2, the definition is different:
			First all 32 bits are divided into groups for
			channel.
			Ex:
			nvideoin = 2, bit $0 \sim 15$ are the 1st group for 1st
			channel, bit 16~31 are the 2nd group for 2nd
			channel.
			nvideoin = 3, bit $0 \sim 9$ are the 1st group for 1st
			channel, bit 10~19 are the 2nd group for 2nd
			channel, bit 20~31 are the 3rd group for 3rd
			channel.
			Then, the 1st bit of the group indicates 1st
			stream of a channel support ePTZ or not. The
			2nd bit of the group indicates 2nd stream of a
			channel support ePTZ or not, and so on.
			* We support this parameter when the version
			number (httpversion) is equal or greater than
			0304b.

wanana	0 1 2	0/7	Indicate this mode whether surrent WDD
wdrpro	0, 1, 2	0/7	Indicate this mode whether support WDR pro.
			0: Non-support WDR Pro
			1: Support WDR Pro
			2: Support WDR Pro and WDR Pro II
			\ast We support this parameter when the version
			number (httpversion) is equal or greater than
			0304b.
effectivepixel	<wxh></wxh>	0/7	The visible area of full scene in this video mode.
			The unit is pixel in source.
			* If
			"effectivepixel"<"capability_videoin_c <n>_max</n>
			size", then the visible area is located at the
			center of full scene.
outputsize	<wxh></wxh>	0/7	The output size of source, equal to the captured
			size by device, in this video mode. The unit is
			pixel.
			This value is used as a basic coordinate system
			for many features, like ePTZ, privacy mask,
			motion, etc.
			* Source (most for image sensor) may perform
			scale or binning, etc on image data, and output
			data with smaller size. This parameter is
			designed to represent this.
binning	0, 1, 3	0/7	Indicate binning is used or not in this video
			mode.
			0: No binning
			1: 2x2 binning
			3: 3x3 binning
			* Binning is a technology to increase light
			sensitivity by combining multiple pixels to one.
			The drawback is reduced resolution. We design
			this parameter to disclose this information.
nresolution	<positive integer=""></positive>	0/7	How many resolution options in this video mode.

resolution	A list of <wxh></wxh>	0/7	Resolution options in this video mode.
			The last one is the maximum resolution in this
			video mode.
			* The element number is defined as
			"nresolution" in this group.
maxresolution	A list of <integer></integer>	0/7	Represent supported maximum resolution of
			each stream in current video mode.
			* The element number is defined as
			"capability_nmediastream".
minresolution	A list of <integer></integer>	0/7	Represent supported minimum resolution of
			each stream in current video mode.
			* The element number is defined as
			"capability_nmediastream".
			st We support this parameter when the version
			number (httpversion) is equal or greater than
			0304b.
maxframerate	A list of <positive< td=""><td>0/7</td><td>Indicates frame rate that the video source</td></positive<>	0/7	Indicates frame rate that the video source
	Integer>		outputs in this video mode.
			* One to one mapping to the resolution in
			"resolution".
			* The element number is defined as
			"nresolution" in this group.
			* This parameter records the frame rate when
			"videoin_c <n>_cmosfreq"=60 or</n>
			"videoin_c <n>_modulation"=ntsc</n>
maxfps_mjpeg	A list of <positive< td=""><td>0/7</td><td>Maximum fps which the device can encoded with</td></positive<>	0/7	Maximum fps which the device can encoded with
	Integer> and "-"		MJPEG on resolutions in this video mode.
			"-" means not support.
			* One to one mapping to the resolution in
			"resolution".
			* The element number is defined as
			"nresolution" in this group.
			* This parameter records the frame rate when
			"videoin_c <n>_cmosfreq"=60 or</n>
			"videoin_c <n>_modulation"=ntsc</n>
			* Only available when 'mjpeg' is listed in

maxfps_h264	A list of <positive< th=""><th>0/7</th><th>Maximum fps which the device can encoded with</th></positive<>	0/7	Maximum fps which the device can encoded with
	Integer> and "-"		H.264 on resolutions in this video mode.
			"-" means not support.
			* One to one mapping to the resolution in
			"resolution".
			* The element number is defined as
			"nresolution" in this group.
			* This parameter records the frame rate when
			"videoin_c <n>_cmosfreq"=60 or</n>
			"videoin_c <n>_modulation"=ntsc</n>
			* Only available when 'h264' is listed in
			"capability_videoin_codec".
maxfps_h265	A list of <positive< td=""><td>0/7</td><td>Maximum fps which the device can encoded with</td></positive<>	0/7	Maximum fps which the device can encoded with
	Integer> and "-"		H.265 on resolutions in this video mode.
			"-" means not support.
			* One to one mapping to the resolution in
			"resolution".
			* The element number is defined as
			"nresolution" in this group.
			* This parameter records the frame rate when
			"videoin_c <n>_cmosfreq"=60 or</n>
			"videoin_c <n>_modulation"=ntsc</n>
			* Only available when 'h265' is listed in
			"capability_videoin_codec".
description	<string[128]></string[128]>	0/7	Description about this mode.

Group: **capability_image_c<0~(n-1)>** n denotes the value of "capability_nvideoin"

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
basicsetting	0, <positive integer=""></positive>	0/7	A 32-bits integer, each bit can be set
			separately as follows:
			Bit 0 => Supports Brightness or not.
			Bit 1 => Supports Contrast or not.
			Bit 2 => Supports Saturation or not.
			Bit 3 => Supports Sharpness or not.
wdrpro_mode	0, 1, 2	0/7	0: Non-support WDR Pro
			1: Support WDR Pro
			2: Support WDR Pro and WDR Pro II

wdrpro_strength	0, 1	0/7	0: Non-support tuning strength of
			WDR Pro
			1: Support tuning strength of WDR Pro
			* If
			"capability_image_c <n>_wdrpro"=1,</n>
			this may be either 0 or 1.
wdrpro_supportlevel	0, <positive integer=""></positive>	0/7	This contains a list of positive integers,
			split by comma.
			If "wdrpro_mode" =1, then the value
			indicate the support strength level of
			WDR Pro.
			If "wdrpro_mode" =2, then the first
			number indicate the support strength
			level of WDR Pro, and the scecond
			number indicate the support strength
			level of WDR Pro II.
wdrpro_affect	-,	0/7	When WDR Pro is enabled, some
warpro_ancee	, exposurewin.mode:fixed:au	0,7	features may become malfunction or
	to,		be forced to a given value. The
	exposurewin.mode.blc:disab		affected functions are list here.
	led:,		
	aespeed:disabled:,		The format is "Affect API
	exposurelevel:hidden:,		name":"Policy":"Description"
	exposurelevel:fixed: <x>,</x>		
	exposurelevel:fixed: <x>/<x< td=""><td></td><td>"Policy" can be categorized into</td></x<></x>		"Policy" can be categorized into
	>,		following groups:
	exposurelevel:ranged: <x>-</x>		- (disabled) : UI turns grey and users
	<x>,</x>		can't select it.
	exposuremode:fixed:auto		- (unchanged) : UI keeps the status as
			before and user can't change it.
	<x>: nonnegative integer</x>		- (hidden) : UI is hidden.
	<product dependent=""></product>		- (fixed) : UI is fixed to one selection or
			value.
			- (ranged) : UI is fixed to multiple
			selections or values.
			- (enabled) : UI is checked.
			- (notsupport) : the affected function
			is not available.
	ļ		

			"Affect API name" can be described in
			hierarchy, such as
			"exposurewin.mode.blc:disabled:"
			which means blc exposure window is
			disabled. API name can be one word as
			well, such as "exposurelevel:fixed:6"
			which means exposurelevel is fixed to
			level 6.
			"Description" can be a nonnegative
			integer or string or NULL.
			For example:
			"exposurelevel:fixed:6/8/12" which
			means exposurelevel is fixed to level
			6, level 8 and level 12.
			"-" means no feature is affected.
			* When "wdrpro"=0, this value must
			be "-"
wdrpro_description	<string></string>	0/7	Description about WDR Pro mode.
			* Only available when
			"capability_image_c<0~(n-1)>_wdrp
			ro_mode" > 0
wdrc_mode	0, 1	0/7	0: Non-support WDR Enhanced
			1: Support WDR Enhanced
wdrc_supportlevel	0, <positive integer=""></positive>	0/7	Indicate the support strength level of
			WDR Enhanced.
wdrc_affect	-,	0/7	When WDR Enhanced is enabled, some
	exposurewin.mode:fixed:au		features may become malfunction or
	to,		be forced to a given value. The
	exposurewin.mode.blc:disab		affected functions are list here.
	led:,		
	aespeed:disabled:,		The format is "Affect API
	exposurelevel:hidden:,		name":"Policy":"Description"
	exposurelevel:fixed: <x>,</x>		
	exp		"Policy" can be categorized into
	osur		following groups:
	0501		
	elev		- (disabled) : UI turns grey and users
			- (disabled) : UI turns grey and users can't select it.
	elev		
wdrc_supportlevel	<pre>0, <positive integer=""> -, exposurewin.mode:fixed:au to, exposurewin.mode.blc:disab led:, aespeed:disabled:, exposurelevel:hidden:, exposurelevel:fixed:<x>, exp</x></positive></pre>	0/7	<pre>ro_mode" > 0 0: Non-support WDR Enhanced 1: Support WDR Enhanced Indicate the support strength level of WDR Enhanced. When WDR Enhanced is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. The format is "Affect API name":"Policy":"Description" "Policy" can be categorized into</pre>

	/ <x< td=""><td></td><td>- (hidden) : UI is hidden.</td></x<>		- (hidden) : UI is hidden.
	>,		- (fixed) : UI is fixed to one selection or
	exposurelevel:ranged: <x>-</x>		value.
	<x>,</x>		- (ranged) : UI is fixed to multiple
	exposuremode:fixed:auto		selections or values.
			- (enabled) :
	<x>: nonnegative integer</x>		UI is checked.
	<pre><pre>cxproduct dependent></pre></pre>		- (notsupport) : the affected function
			is not available.
			"Affect API name" can be described in
			hierarchy, such as
			"exposurewin.mode.blc:disabled:"
			which means blc exposure window is
			disabled. API name can be one word as
			well, such as "exposurelevel:fixed:6"
			which means exposurelevel is fixed to
			level 6.
			"Description" can be a nonnegative
			integer or string or NULL.
			For example:
			"exposurelevel:fixed:6/8/12" which
			means exposurelevel is fixed to level
			6, level 8 and level 12.
			"-" means no feature is affected.
			* When "wdrc"=0, this value must be
			"_"
dnr	0,1	0/7	0: Non-support 3D digital noise
			reduction
			1: Support 3D digital noise reduction
eis	0,1	0/7	0: Non-support electronic image
			stabilizer
			1: Support electronic image stabilizer
is_mode	eis,	0/7	Indicate the image stabilizer mode.
	dis,		"eis": electronic image stabilizer
	-		"dis": digital image stabilizer
			"-": not support
			* We support this parameter when the
		I	

			version number (http://www.ion) is acual
			version number (httpversion) is equal
			or greater than 0302a.
is_strength	<boolean></boolean>	0/7	0: Non-support tuning strength of
			image stabilizer mode.
			1: Support tuning strength of image
			stabilizer mode.
			* Only available when
			"capability_image_c <n>_is_mode" is</n>
			not "-".
			* We support this parameter when the
			version number (httpversion) is equal
		0.7	or greater than 0302a.
is_supportlevel	0, <positive integer=""></positive>	0/7	Indicate the support strength level of
			image stabilizer mode.
			* Only available when
			' "capability_image_c <n>_is_mode" is</n>
			not "-".
			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0302a.
is_affect	-,	0/7	When Is mode is not "-", some
	minexposure:hidden:,		features may become malfunction or
	mingain:hidden:,		be forced to a given value. The
	wdrpro:unchanged:,		affected functions are list here.
	3dnr:unchanged:,		
	or others		The format is "Affect API
			name":"Policy":"Description"
	<x>: nonnegative integer</x>		
	<product dependent=""></product>		"Policy" can be categorized into
			following groups:
			- (disabled) : UI turns grey and users
			can't select it.
			- (unchanged) : UI keeps the status as
			before and
			user can't change it.
			[]
---	----------------------------------	-----	---
			- (fixed) : UI is fixed to one selection or
			value.
			- (ranged) : UI is fixed to multiple
			selections or values.
			- (enabled) :
			UI is checked.
			- (notsupport) : the affected function
			is not available.
			"Affect API name" can be described in
			hierarchy, such as
			"exposurewin.mode.blc:disabled:"
			which means blc exposure window is
			disabled. API name can be one word as
			well, such as "exposurelevel:fixed:6"
			which means exposurelevel is fixed to
			level 6.
			"Description" can be a nonnegative
			integer or string or NULL.
			"-" means no feature is affected.
			* Only available when
			"capability_image_c <n>_is_mode" is</n>
			not "-".
			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0302a.
scenemode_support	0,1	0/7	0: Non-support scene mode
		,	1: Support scene mode
scenemode_supporttype	visibility,	0/7	list all the scene mode which are
<product dependent=""></product>	noiseless,		supported in the camera.
	lpcparkinglot,		
	lpcstreet		* Only available when
	<product dependent=""></product>		'capability_image_c <n>_</n>
			scenemode_support" is 1
scenemode_visibility_affe	-,	0/7	When scene mode is enabled, some
ct	, minexposure:hidden:,		features may become malfunction or
<pre><pre>cc <pre>cc <</pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre>	mingain:hidden:,		be forced to a given value. The
product dependence	wdrpro:unchanged:,		affected functions are list here.
	marprotanchangeat,		

3dnr:unchanged:, The format is "Affect API or others "Policy": "Description" <x>: nonnegative integer "Policy" can be categorized into <product dependent=""> "Olicy" can be categorized into following groups: - (disabled) : UI turns grey and users - (disabled) : UI turns grey and users can't select it. - (unchanged): - (unchange) : UI keeps the status as before and user can't change it. - (hidden) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (ranged) : UI is fixed to multiple selections or values. - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is</product></x>
<pre><x>: nonnegative integer <pre><product dependent=""></product></pre> <pre>"Policy" :"Description" "Policy" can be categorized into following groups: - (disabled) : UI turns grey and users can't select it (unchanged) : UI keeps the status as before and user can't change it (hidden) : UI is hidden (fixed) : UI is fixed to one selection or value (ranged) : UI is fixed to one selection or value (ranged) : UI is fixed to multiple selections or values (enabled) : UI is checked (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is</pre></x></pre>
<pre><x>: nonnegative integer <pre><product dependent=""></product></pre> <pre>"Policy" can be categorized into following groups: - (disabled) : UI turns grey and users can't select it (unchanged) : UI keeps the status as before and user can't change it (hidden) : UI is hidden (fixed) : UI is fixed to one selection or value (ranged) : UI is fixed to multiple selections or values (enabled) : UI is checked (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is</pre></x></pre>
<pre>>product dependent></pre> <pre>"Policy" can be categorized into following groups: - (disabled) : UI turns grey and users can't select it (unchanged) : UI keeps the status as before and user can't change it (hidden) : UI is hidden (fixed) : UI is fixed to one selection or value (ranged) : UI is fixed to multiple selections or values (enabled) : UI is checked (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is</pre>
following groups: - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
 (disabled) : UI turns grey and users can't select it. (unchanged) : UI keeps the status as before and user can't change it. (hidden) : UI is hidden. (fixed) : UI is fixed to one selection or value. (ranged) : UI is fixed to multiple selections or values. (enabled) : UI is checked. (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
<pre>can't select it (unchanged): UI keeps the status as before and user can't change it (hidden): UI is hidden (fixed): UI is fixed to one selection or value (ranged): UI is fixed to multiple selections or values (enabled): UI is checked (notsupport): the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is</pre>
 - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
 - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
- (fixed): UI is fixed to one selection or value (ranged): UI is fixed to multiple selections or values (enabled): UI is checked (notsupport): the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
 - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
- (enabled) : UI is checked. - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
UI is checked (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
 - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
"Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is
"exposurewin.mode.blc:disabled:" which means blc exposure window is
which means blc exposure window is
well, such as "exposurelevel:fixed:6"
which means exposurelevel is fixed to
level 6.
"Description" can be a nonnegative
integer or string or NULL.
"-" means no feature is affected.
* Only available when visibility is listed
in "capability_image_c <n>_</n>
scenemode_supporttype" and
"capability_image_c <n>_</n>
scenemode_support" is 1
scenemode_noiseless_aff -, 0/7 When scene mode is enabled, some

ect	minexposure:hidden:,	features may become malfunction or
<product dependent=""></product>	mingain:hidden:,	be forced to a given value. The
	wdrpro:unchanged:,	affected functions are list here.
	3dnr:unchanged:,	
	or others	The format is "Affect API
		name":"Policy":"Description"
	<x>: nonnegative integer</x>	
	<pre><pre>cyproduct dependent></pre></pre>	"Policy" can be categorized into
		following groups:
		- (disabled) : UI turns grey and users
		can't select it.
		- (unchanged) : UI keeps the status as
		before and
		user can't change it.
		- (hidden) : UI is hidden.
		- (fixed) : UI is fixed to one selection or
		value.
		- (ranged) : UI is fixed to multiple
		selections or values.
		- (enabled) : UI is checked.
		- (notsupport) : the affected function
		is not available.
		"Affect API name" can be described in
		hierarchy, such as
		"exposurewin.mode.blc:disabled:"
		which means blc exposure window is
		disabled. API name can be one word as
		well, such as "exposurelevel:fixed:6"
		which means exposurelevel is fixed to
		level 6.
		"Description" can be a nonnegative
		integer or string or NULL.
		"-" means no feature is affected.
		* Only available when visibility is listed
		in "capability_image_c <n>_</n>
		scenemode_supporttype " and
		"capability_image_c <n>_</n>

			scenemode_support" is 1
scenemode_lpcparkinglot	-,	0/7	When scene mode is enabled, some
_affect	minexposure:hidden:,		features may become malfunction or
<product dependent=""></product>	mingain:hidden:,		be forced to a given value. The
	wdrpro:unchanged:,		affected functions are list here.
	3dnr:unchanged:,		
	or others		The format is "Affect API
			name":"Policy":"Description"
	<x>: nonnegative integer</x>		
	<product dependent=""></product>		"Policy" can be categorized into
			following groups:
			- (disabled) : UI turns grey and users
			can't select it.
			- (unchanged) : UI keeps the status as
			before and
			user can't change it.
			- (hidden) : UI is hidden.
			- (fixed) : UI is fixed to one selection or
			value.
			- (ranged) : UI is fixed to multiple
			selections or values.
			- (enabled) : UI is checked.
			- (notsupport) : the affected function
			is not available.
			"Affect API name" can be described in
			hierarchy, such as
			"exposurewin.mode.blc:disabled:"
			which means blc exposure window is
			disabled. API name can be one word as
			well, such as "exposurelevel:fixed:6"
			which means exposurelevel is fixed to
			level 6.
			"Value" can be a nonnegative integer
			or string or NULL.
			"-" means no feature is affected.
			* Only available when visibility is listed
			in "capability_image_c <n>_</n>

			scenemode_supporttype " and
			"capability_image_c <n>_</n>
		0.17	scenemode_support" is 1
scenemode_lpcstreet_aff	-,	0/7	When scene mode is enabled, some
ect	minexposure:hidden:,		features may become malfunction or
<product dependent=""></product>	mingain:hidden:,		be forced to a given value. The
	wdrpro:unchanged:,		affected functions are list here.
	3dnr:unchanged:,or others		
			The format is "Affect API
	<x>: nonnegative integer</x>		name":"Policy":"Description"
	<product dependent=""></product>		
			"Policy" can be categorized into
			following groups:
			- (disabled) : UI turns grey and users
			can't select it.
			- (unchanged) : UI keeps the status as
			before and
			user can't change it.
			- (hidden) : UI is hidden.
			- (fixed) : UI is fixed to one selection or
			value.
			- (ranged) : UI is fixed to multiple
			selections or values.
			- (enabled) : UI is checked.
			- (notsupport) : the affected function
			is not available.
			"Affect API name" can be described in
			hierarchy, such as
			"exposurewin.mode.blc:disabled:"
			which means blc exposure window is
			disabled. API name can be one word as
			well, such as "exposurelevel:fixed:6"
			which means exposurelevel is fixed to
			level 6.
			"Description" can be a nonnegative
			integer or sting or NULL.
			"-" means no feature is affected.

		* Only available when visibility is listed
		in "capability_image_c <n>_</n>
		scenemode_supporttype " and
		"capability_image_c <n>_</n>
		scenemode_support" is 1
auto,	0/7	Available white balance mode.
manual,		"-" means white balance is not
rbgain,		supported.
widerange,		
outdoor,indoor,		
sodiumauto,		
-		
<product dependent=""></product>		
	0/7	Indicate iris type.
		"piris": P-Iris
-		"dciris": DC-Iris
		"-": No Iris control support
		* Note: For some cameras, this value
		may be varied depending on mounted
		lens.
rawconcor	0/7	Indicate sensor type.
	0/ /	"rawsensor": Raw sensor
Sindi (Sensor		
		"smartsensor": Smart sensor
		* We support this parameter when the
		version number (httpversion) is equal
		or greater than 0302a.
0,1	0/7	0: Non-support exposure control.
		1: Support exposure control.
auto,	0/7	Available mode of exposure setting.
shutterpriority,		* We support this parameter when the
irispriority,		version number (httpversion) is equal
manual		or greater than 0302a.
<product dependent=""></product>		
onevalue,	0/7	Support interface of exposure range.
twovalues		"onevalue": The parameter is a
		constant value.
		constant value.
		"twovalues": Need two parameters
-	<pre>manual, rbgain, widerange, outdoor,indoor, sodiumauto, - piris, dciris, - rawsensor, smartsensor 0,1 auto, shutterpriority, irispriority, manual </pre>	manual, rbgain, widerange, outdoor, indoor, sodiumauto, - <product dependent="">piris, dciris, -0/7rawsensor, smartsensor0/7o,10/7auto, shutterpriority, irispriority, manual <product dependent="">0/7</product></product>

			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0302a.
exposure_shuttervaluetyp	fixed,	0/7	* One to one mapping to the mode
е	maximum,		type in "exposure_modetype".
	-		"fixed": The shutter value is the
			assigned value
			(videoin_c <n>_shuttervalue).</n>
			"maximum": The shutter value can
			be up to the assigned value
			(videoin_c <n>_shuttervalue).</n>
			"-": not support.
			* Only available when
			"capability_image_c <n>_exposure_ra</n>
			ngetype" is "onevalue".
			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0302a.
exposure_gainvaluetype	fixed,	0/7	* One to one mapping to the mode
	maximum,		type in "exposure_modetype".
	-		"fixed": The shutter value is the
			assigned value
			(videoin_c <n>_gainvalue).</n>
			"maximum": The shutter value can
			be up to the assigned value
			(videoin_c <n>_gainvalue)</n>
			"-": not support.
			* Only available when
			"capability_image_c <n>_exposure_ra</n>
			ngetype" is "onevalue".
			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0302a.
exposure_automode_affe	-,	0/7	When exposure auto mode is enabled,
ct	exposurewin.mode.blc:hidd		some features may become
	en:,		malfunction or be forced to a given
	defog:disabled:,		value. The affected functions are list
	wdrpro:disabled:,		here.



-

			or greater than 0302a.
exposure_shutterpriority	-,	0/7	When exposure shutter priority mode
mode_affect	exposurewin.mode.blc:hidd		is enabled, some features may become
	en:,		malfunction or be forced to a given
	defog:disabled:,		value. The affected functions are list
	wdrpro:disabled:,		here.
	exposurelevel:hidden:,		
	or others		The format is "Affect API
			name":"Policy":"Description"
	<x>: nonnegative integer</x>		
	<product dependent=""></product>		"Policy" can be categorized into
			following groups:
			- (disabled) : UI turns grey and users
			can't select it.
			- (unchanged) : UI keeps the status as
			before and
			user can't change it.
			- (hidden) : UI is hidden.
			- (fixed) : UI is fixed to one selection or
			value.
			- (ranged) : UI is fixed to multiple
			selections or values.
			- (enabled) : UI is checked.
			- (notsupport) : the affected function
			is not available.
			"Affect API name" can be described in
			hierarchy, such as
			"exposurewin.mode.blc:disabled:"
			which means blc exposure window is
			disabled. API name can be one word as
			well, such as "exposurelevel:fixed:6"
			which means exposurelevel is fixed to
			level 6.
			"Description" can be a nonnegative
			integer or string or NULL.
			"-" means no feature is affected.
			* Only available when shutterpriority is

			Parts of the Warner billion for an and
			listed in "capability_image_c <n>_</n>
			exposure_modetype" and
			"capability_image_c <n>_</n>
			exposure_mode" is 1.
			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0302a.
exposure_irisprioritymod	-,	0/7	When exposure iris priority mode is
e_affect	exposurewin.mode.blc:hidd		enabled, some features may become
	en:,		malfunction or be forced to a given
	defog:disabled:,		value. The affected functions are list
	wdrpro:disabled:,		here.
	exposurelevel:hidden:,		
	or others		The format is "Affect API
			name":"Policy":"Description"
	<x>: nonnegative integer</x>		
	<pre><pre>conduct dependent></pre></pre>		"Policy" can be categorized into
			following groups:
			- (disabled) : UI turns grey and users
			can't select it.
			- (unchanged) : UI keeps the status as
			before and
			user can't change it.
			- (hidden) : UI is hidden.
			- (fixed) : UI is fixed to one selection or
			value.
			- (ranged) : UI is fixed to multiple
			selections or values.
			- (enabled) : UI is checked.
			- (notsupport) : the affected function
			is not available.
			"Affect API name" can be described in
			hierarchy, such as
			"exposurewin.mode.blc:disabled:"
			which means blc exposure window is
			disabled. API name can be one word as
			well, such as "exposurelevel:fixed:6"
			which means exposurelevel is fixed to
			level 6.
	ļ		

			"Description" can be a nonnegative integer or string or NULL.
exposure_manualmode_a ffect	-, exposurewin.mode.blc:hidd en:,	0/7	"-" means no feature is affected. * Only available when irispriority is listed in "capability_image_c <n>_ exposure_modetype" and "capability_image_c<n>_ exposure_mode" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0302a. When exposure manual mode is enabled, some features may become malfunction or be forced to a given</n></n>
	defog:disabled:,		value. The affected functions are list
	wdrpro:disabled:, exposurelevel:hidden:,		here.
	or others		The format is "Affect API name":"Policy":"Description"
	<x>: nonnegative integer</x>		
	<product dependent=""></product>		"Policy" can be categorized into
			following groups: - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as
			before and user can't change it.
			 - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple
			 selections or values. (enabled) : UI is checked. (notsupport) : the affected function is not available.
			"Affect API name" can be described in hierarchy, such as

exposure_in_mode -, 0/7 Available range for exposure_inimode auto, 0/7 indiable range for exposure_inimode auto, 0/7 indiable range for exposure_inimode auto, 0/7 indiable one of one exposure_inimode auto, 0/7 indiable one exposure_inimode auto, 0/7 indiable one exposure_inimode auto, 0/7 indiable one exposure/inition on exposure_inimode auto, 0/7 indiable one exposure/inition on exposure_inimode auto, 0/7 indiable one exposure/inition on exposure_inimode auto, 0/7 indiable one inition on exposure_inimode auto, 0/7 inition on inition on exposure_inimode auto, 0/7 inition inition exposur				· · · · · · · · · · · · · · · · · · ·
exposure_levelrange-,0/7Available arange for "videoin_c <n>_exposure_winmodeexposure_winmodeauto, custom, blc, hc - 0/7Available pather of support exposure is pather of support exposure wink means group: exposure mode wink means group: exposure wink means group: exposure wink means group: exposure mode wink means group: exposure wink means group: exposure wink means group: exposure wink means exposure_hlcmode_affect exposure_hlcmode_affect exposure exposure_int dependent>0/7When hlc mode is enabled, some features may become maifunction or be forced to a given value. The affected functions are list here. exposure product dependent></n>				
exposure_levelrange-, -, 0,12"0/7Well, such as "exposurelevel: fixed: 6" which means exposurelevel is fixed to level 6."Description" can be a nonnegative integer or string or NULL."-" means no feature is affected. * Only available when manual is listed in "capability_image_c <n>_ exposure_modetype" and "capability_image_c<n>_ exposure_modetype" and "capability_image_c<n>_ exposure_modetype" and "capability_image_c<n>_ exposure_modetype" and "capability_image_c<n>_ exposure_modet is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.exposure_levelrange-, "0,12"0/7Available range for "videoin_c<n>_exposure_mode"=0, this value must be set to "-".exposure_winmodeauto, custom, bic, hlc - eproduct dependent>0/7Available options for "exposure_mode"=0, this value must be set to "-".exposure_hlcmode_suppo rtwindow0/7Available options for "exposure_mode"=0, this value must be set to "-".exposure_hlcmode_suppo rtwindow0/7Available options for "exposure_mode"=0", this value must be set to "-".exposure_hlcmode_suppo rtwindow<!--</td--><td></td><td></td><td></td><td></td></n></n></n></n></n></n>				
exposure_levelrange -, 0/7 Available of or ". exposure_winmode auto, 0/7 Available of or ". exposure_winmode auto, 0/7 Available of or ". exposure_mode auto, 0/7 Available of or ". exposure_mode auto, 0/7 Available of or ". exposure_winmode auto, 0/7 Available of ", mode" exposure_hiltmum 0/7 Available of ", mode" exposure_hiltmum 0/7 Available of ", mode" exposure_winmode auto, 0/7 Available of ", mode" exposure_hiltmum auto, 0/7 Available of ", mode" bic, hic * ", means group: exposurewin is not usutown custom, value must be set to ", mode" bic, hic * ", mode" value auto, wilde of the of, mode" custom, bic, * ", means group: exposurewin is not usutown custom, wilde of, mode" bic, hic *, means group: exposurewin is not usutown custom, <td></td> <td></td> <td></td> <td></td>				
exposure_levelrange-,0/7Available options for "exposure_mode"=0, this value must be set to ""exposure_winmodeauto, custom, bic, hic0/7Available options for "exposure_mode"">***** means group: exposurewinde" exposure_mode" 0/7exposure_hlcmode_affect-, or others0/7Available options for "exposure. ***** means group: exposurewin is not supported. ****** means group: exposurewin is not supported.exposure_hlcmode_affect-, or others0/7Available options for "exposure. ************************************				well, such as "exposurelevel:fixed:6"
exposure_levelrange -, 0/7 Available options for exposure_winmode auto, 0/7 Available options for exposure_winmode auto, 0/7 Available options for exposure_levelrange -, 0/7 Available options for exposure_winmode auto, 0/7 Available options for exposure_hlcmode_suppo >0/7 Available options for exposure_hlcmode_affect -, 0/7 Available options for exposure_hlcmode_suppo auto, 0/7 Available options for exposure_hlcmode_suppo exposure_hlcmode_suppo 0/7 Available options for exposure_hlcmode_suppo exposure_hlcmode_suppo exposure_hlcmode_affect .				which means exposurelevel is fixed to
exposure_levelrange -, 0/7 Available range for exposure_levelrange -, 0/7 Available options for exposure_winmode auto, 0/7 Available options for exposure_hicmode_suppo custom, bic, * "*" means group: exposure_mode"=0, this value must be set to ".". exposure_hicmode_suppo custom, 0/7 Available options for exposure_hicmode_suppo custom, 0/7 Available options for exposure_hicmode_suppo ocolean> 0/7 Available options for exposure_hicmode_suppo custom, bic, * * hic - * * * * exposure_hicmode_suppo coolean> 0/7 Indicate whether to support exposure window * exposure_hicmode_affect -, or othe				level 6.
exposure_levelrange-,0/7Available range for "videoin_c <n>exposure_modetype" and "capability_image_c<n>exposure_modetype" and "capability_image_c<n>exposure_modetype" and "capability_image_c<n>exposure_modetype" and "capability_image_c<n>exposure_modetype" and "capability_image_c<n>exposure_modetype" and "capability_image_c<n>exposure_modetype" and "capability_image_c<n>exposure_modetype" and "capability_image_c<n>exposure_modetype" and "capability_image_c<n>exposure_modetype" and "capability_image_c<n>exposure_mode" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.exposure_levelrange-,0/7Available range for "videoin_c<n>exposurelevel" * When "exposure_mode"=0, this value must be set to "-".exposure_winmodeauto, custom, bic, hic0/7Available options for "exposurewin_c<n>mode" bic, hicexposure_hicmode_suppo rtwindowcustom custom0/7Mailable options for "exposure_mode="0", this value must be set to "-".exposure_hicmode_sappo rtwindow0/7Indicate whether to support exposure window in hic mode.exposure_hicmode_affect </n></n></n></n></n></n></n></n></n></n></n></n></n>				
"-" means no feature is affected.* Only available when manual is listed in "capability_image_c <n>_ exposure_modetype" and "capability_image_c<n>_ exposure_mode" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.exposure_levelrange-, "0,12"0/7Available range for "videoin_c<n>_ exposure_mode"=0, this value must be set to "-".exposure_winmodeauto, custom, blc, hlc0/7Available options for "exposurewin_c<n>_ mode" support this value must be set to "-".exposure_hlcmode_suppodoolean>0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect custom-, cor others0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect custom-, cor others0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. The format is "Affect API</n></n></n></n>				"Description" can be a nonnegative
exposure_levelrange-,0/7Available options for "videoin_c <n>exposure_mode" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.exposure_levelrange-,0/7Available range for "videoin_c<n>exposure_mode" =0, this value must be set to "-".exposure_winmodeauto, custom, blc, hlc0/7Available options for "exposure_mode" =0, this value must be set to "-".exposure_hinmodeauto, custom, blc, hlc0/7Available options for "exposure_mode"=0, this value must be set to "-".exposure_hinmodeauto, custom, blc, hlc0/7Available options for "exposurewin_c<n>mode"exposure_hinmode_apfect-0/7Indicate whether to supported. * When exposure_mode="0", this value must be set to "-".exposure_hinmode_affect-, or others0/7When hic mode is enabled, some features may become maifunction or be forced to a given value. The affected functions are list here. <pre> exposure_hicmode_affect-, or others0/7When hic mode is enabled, some features may become maifunction or be forced to a given value. The affected functions are list here.</pre></n></n></n>				integer or string or NULL.
exposure_levelrange-,0/7Available options for "videoin_c <n>exposure_mode" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.exposure_levelrange-,0/7Available range for "videoin_c<n>exposure_mode" =0, this value must be set to "-".exposure_winmodeauto, custom, blc, hlc0/7Available options for "exposure_mode" =0, this value must be set to "-".exposure_hinmodeauto, custom, blc, hlc0/7Available options for "exposure_mode"=0, this value must be set to "-".exposure_hinmodeauto, custom, blc, hlc0/7Available options for "exposurewin_c<n>mode"exposure_hinmode_apfect-0/7Indicate whether to supported. * When exposure_mode="0", this value must be set to "-".exposure_hinmode_affect-, or others0/7When hic mode is enabled, some features may become maifunction or be forced to a given value. The affected functions are list here. <pre> exposure_hicmode_affect-, or others0/7When hic mode is enabled, some features may become maifunction or be forced to a given value. The affected functions are list here.</pre></n></n></n>				
in "capability_image_c <n>_ exposure_modetype" and "capability_image_c<n>_ exposure_mode" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.exposure_levelrange-, "0,12"0/7Available range for "videoin_c<n>_exposure_mode"=0, this value must be set to "-".exposure_winmodeauto, custom, blc, hlc0/7Available options for "exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n>_exposurein_c<n< td="">exposure_hlcmode_affect-, or others0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect-, or others0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. exposure_hlcmode_inite- exposureinite- infect API</n<></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n></n>				
exposure_nodetype" and "capability_image_c <n>_ exposure_mode" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.exposure_levelrange-, "0,12"0/7Available range for "videoin_c<n>_exposure_mode"=0, this value must be set to "-".exposure_winmodeauto, custom, blc, hlc0/7Available options for "exposuremin_c<n>_mode"exposure_hlcmode_suppo rtwindowauto, custom, blc, hlc0/7Available options for "exposuremin_c<n>_mode"exposure_hlcmode_suppo rtwindow co others0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect < <br <="" td=""/><td></td><td></td><td></td><td></td></n></n></n></n>				
"capability_image_c <n>_exposure_mode" is 1.exposure_levelrange-,0,12"0/7Available range for"0,12""videoin_c<n>_exposure_mode" is 1.* When "exposure_mode" is 1.exposure_winmodeauto,custom,blc,hlc-exposure_hlcmode_suppo<bodean>custom,vide0/7Available options for''</bodean></n></n>				
exposure_mode" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0302a. exposure_levelrange -, 0/7 Available range for "0,12" "videoin_c <n>_exposure_mode"=0, this value must be set to ".". exposure_winmode auto, 0/7 Available options for exposure_winmode auto, 0/7 Available options for blc, hlc * "-" means group: exposurewin is not supported. exposure_hlcmode_suppo <boolean> 0/7 Indicate whether to support exposure twindow in hlc mode. exposure_hlcmode_affect -, 0/7 When hlc mode. * window in hlc mode. exposure_hlcmode_affect -, 0/7 Indicate whether to support exposure window in hlc mode. exposure_hlcmode_affect -, 0/7 When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. <product dependent=""> -, The format is "Affect API</product></boolean></n>				
* We support this parameter when the version number (httpversion) is equal or greater than 0302a.exposure_levelrange-, "0,12"0/7Available range for 				"capability_image_c <n>_</n>
exposure_levelrange-, "0,12"0/7Available range for "videoin_< <n>= exposure_levelrangeexposure_levelrange-, "0,12"0/7Available range for "videoin_<<n>= exposure_mode"=0, this value must be set to "-".exposure_winmodeauto, custom, blc, hlc0/7Available options for "exposurewin_c<n>_mode"exposure_levelauto, custom, blc, hlc0/7Available options for "exposurewin_c<n>_mode"exposure_levelauto, custom, blc, hlc0/7Available options for "exposurewin_c<n>_mode"exposure_levelauto, custom, blc, hlc0/7Indicate whether to supported. * When exposure_mode="0", this value must be set to "-".exposure_hlcmode_suppo rtwindow 0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect -, or others0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. <product dependent="">The format is "Affect API</product></n></n></n></n></n>				exposure_mode" is 1.
exposure_levelrange-, "0,12"0/7Available range for "videoin_c <n>_exposurelevel"exposure_winmodeauto, custom, blc, hlc0/7Available options for "exposurewin_c<n>_mode"=0, this value must be set to "-".exposure_winmodeauto, custom, blc, hlc0/7Available options for "exposurewin_c<n>_mode"exposure_hlcmode_suppocoolean>0/7Available options for "exposurewin_c<n>_mode"exposure_hlcmode_suppo<boolean>0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect-, or others0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect-, or others0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affect dfunctions are list here. <pre>cypoduct dependent>The format is "Affect API</pre></boolean></n></n></n></n>				* We support this parameter when the
exposure_levelrange -, "0,12" 0/7 Available range for "videoin_c <n>_exposurelevel" exposure_winmode auto, custom, blc, hlc 0/7 Available options for "exposurein_c<n>_mode" exposure_hlcmode_suppo rtwindow auto, custom, blc, hlc 0/7 Available options for "exposure_mode" exposure_hlcmode_suppo rtwindow 0/7 Available options for "exposure_mode" exposure_hlcmode_suppo rtwindow * "-" means group: exposurewin is not supported. exposure_hlcmode_affect -, or others 0/7 Indicate whether to support exposure window in hlc mode. exposure_hlcmode_affect -, or others 0/7 When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. <product dependent=""> The format is "Affect API</product></n></n>				version number (httpversion) is equal
"0,12""videoin_c <n>_exposureleve!"* When "exposure_mode"=0, this value must be set to "-".exposure_winmodeauto, custom, blc, hlc0/7Available options for "exposurewin_c<n>_mode"blc, hlc* "-" means group: exposurewin is not supported <product dependent="">* When exposure_mode="0", this value must be set to "-".exposure_hlcmode_suppo rtwindow<boolean>0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect or others-, or others0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. <product dependent="">0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here.</product></boolean></product></n></n>				or greater than 0302a.
exposure_winmodeauto, custom, blc, hlc0/7Available options for 	exposure_levelrange	-,	0/7	Available range for
exposure_winmodeauto, custom, blc, hlc0/7Available options for "exposurewin_c <n>_mode" blc, hlc-Supportedsupportedsupported.exposure_hlcmode_suppo rtwindow<boolean>0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect or others-, custom, or others0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect or others-, custom, or others0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here.<product dependent="">iffected functions are list here<product dependent="">iffected functions are list here<product dependent=""><product dependent=""><product dependent=""><product dependent=""><product dependent=""><product dependent=""><product dependent=""><product dependent=""><pre><pre><pre><pre><pre><pre><pre><pre< td=""><td></td><td>"0,12"</td><td></td><td>"videoin_c<n>_exposurelevel"</n></td></pre<></pre></pre></pre></pre></pre></pre></pre></product></product></product></product></product></product></product></product></product></product></boolean></n>		"0,12"		"videoin_c <n>_exposurelevel"</n>
exposure_winmodeauto, custom, blc, hlc0/7Available options for "exposurewin_c <n>_mode" blc, hlc-Supportedsupportedsupported.exposure_hlcmode_suppo rtwindow<boolean>0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect or others-, custom, or others0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect or others-, custom, or others0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here.<product dependent="">iffected functions are list here<product dependent="">iffected functions are list here<product dependent=""><product dependent=""><product dependent=""><product dependent=""><product dependent=""><product dependent=""><product dependent=""><product dependent=""><pre><pre><pre><pre><pre><pre><pre><pre< td=""><td></td><td></td><td></td><td></td></pre<></pre></pre></pre></pre></pre></pre></pre></product></product></product></product></product></product></product></product></product></product></boolean></n>				
exposure_winmodeauto, custom, blc, hlc0/7Available options for "exposurewin_c <n>_mode""exposurewin_c<n>_mode"<td< td=""><td></td><td></td><td></td><td>* When "exposure_mode"=0, this</td></td<></n></n>				* When "exposure_mode"=0, this
custom,"exposurewin_c <n>_mode"blc,hlc* "-" means group: exposurewin is not-supported* When exposure_mode="0", this value must be set to "-".exposure_hlcmode_suppo<boolean>rtwindow0/7exposure_hlcmode_affect-, or others-,0/7exposure_hlcmode_affect-, or others-,0/7exposure_hlcmode_affect-, or others-,0/7blc,+</boolean></n>				value must be set to "-".
blc, hlc* "-" means group: exposurewin is not supported <product dependent="">* When exposure_mode="0", this value must be set to "-".exposure_hlcmode_suppo rtwindow<boolean>0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect or others-, or others0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here.<x>: nonnegative integer <product dependent="">The format is "Affect API</product></x></boolean></product>	exposure_winmode	auto,	0/7	Available options for
hlc* "-" means group: exposurewin is not supported. * When exposure_mode="0", this value must be set to "-".exposure_hlcmode_suppo rtwindow <boolean>0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect or others-,0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. <product dependent="">exposure_hlcmode_affect or others-,0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here.exposure_hlcmode_affect-,The format is "Affect API</product></boolean>		custom,		"exposurewin_c <n>_mode"</n>
- supported. <product dependent=""> * When exposure_mode="0", this value must be set to "-". exposure_hlcmode_suppo <boolean> 0/7 Indicate whether to support exposure window in hlc mode. exposure_hlcmode_affect -, 0/7 Undicate whether to support exposure window in hlc mode. exposure_hlcmode_affect -, 0/7 When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. <x>: nonnegative integer <product dependent=""> The format is "Affect API</product></x></boolean></product>		blc,		
<product dependent=""> * When exposure_mode="0", this value must be set to "-". exposure_hlcmode_suppo <boolean> 0/7 Indicate whether to support exposure window in hlc mode. exposure_hlcmode_affect -, 0/7 When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. <x>: nonnegative integer -product dependent> The format is "Affect API</x></boolean></product>		hlc		* "-" means group: exposurewin is not
exposure_hlcmode_suppo rtwindow <boolean>0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect or others-, or others0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here.<x>: nonnegative integer <product dependent="">The format is "Affect API</product></x></boolean>		-		supported.
exposure_hlcmode_suppo rtwindow <boolean>0/7Indicate whether to support exposure window in hlc mode.exposure_hlcmode_affect-, or others0/7When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here.<x>: nonnegative integer <product dependent="">-The format is "Affect API</product></x></boolean>		<product dependent=""></product>		* When exposure_mode="0", this
rtwindow window in hlc mode. exposure_hlcmode_affect -, or others 0/7 When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. <x>: nonnegative integer affected functions are list here. <product dependent=""> The format is "Affect API</product></x>				value must be set to "-".
exposure_hlcmode_affect -, 0/7 When hlc mode is enabled, some features may become malfunction or be forced to a given value. The <x>: nonnegative integer affected functions are list here. <product dependent=""> The format is "Affect API</product></x>	exposure_hlcmode_suppo	<boolean></boolean>	0/7	Indicate whether to support exposure
or others <pre>cx>: nonnegative integer <product dependent=""></product></pre> features may become malfunction or be forced to a given value. The affected functions are list here. The format is "Affect API	rtwindow			window in hlc mode.
<pre></pre>	exposure_hlcmode_affect	-,	0/7	When hlc mode is enabled, some
<pre><x>: nonnegative integer <pre>content</pre> affected functions are list here. <pre>product dependent></pre> The format is "Affect API</x></pre>		or others		features may become malfunction or
<pre><pre>out dependent></pre> The format is "Affect API</pre>				be forced to a given value. The
The format is "Affect API		<x>: nonnegative integer</x>		affected functions are list here.
		<product dependent=""></product>		
name":"Policy":"Description"				The format is "Affect API
				name":"Policy":"Description"

			"Policy" can be categorized into
			following groups:
			- (disabled) : UI turns grey and users
			can't select it.
			- (unchanged) : UI keeps the status as
			before and
			user can't change it.
			- (hidden) : UI is hidden.
			- (fixed) : UI is fixed to one selection or
			value.
			- (ranged) : UI is fixed to multiple
			selections or values.
			- (enabled) : UI is checked.
			- (notsupport) : the affected function
			is not available.
			"Affect API name" can be described in
			hierarchy, such as
			"exposurewin.mode.blc:disabled:"
			which means blc exposure window is
			disabled. API name can be one word as
			well, such as "exposurelevel:fixed:6"
			which means exposurelevel is fixed to
			level 6.
			"Description" can be a nonnegative
			integer or string or NULL.
			"-" means no feature is affected.
			* Only available when manual is listed
			in "capability_image_c <n>_</n>
			exposure_modetype" and
			"capability_image_c <n>_</n>
			exposure_winmode" is hlc.
			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0304a.
exposure_wintype	inclusive,	0/7	The supported exposure window type.
	exclusive,		inclusive: The image inside a window is

		1	
	-		the target area of exposure control.
			exclusive: The image inside a window
			is omitted by exposure control.
			-: Not supported.
exposure_windomain	qvga, px, std, -	0/7	The domain to set an exposure
			window.
			qvga: a 320x240 range to represent
			the whole image.
			px: Locate a window in the image with
			pixels.
			std: A normalized 0~9999 range.
			-: Not supported.
exposure_winnum	0, <positive integer=""></positive>	0/7	Indicate the number of custom
			exposure windows.
			* If no " custom" is listed in
			"exposure_winmode", this should be
			0.
exposure_ntsc_totalrange	A list of <positive integer=""></positive>	0/7	Available total range for NTSC analog
			output
			* Only available when [httpversion] >=
			0301a
exposure_pal_totalrange	A list of <positive integer=""></positive>	0/7	Available total range for PAL analog
exposure_pur_totaliarige	This of a billing integery	0,7	output
			* Only available when [httpversion] >=
			0301a
exposure_maxrange	"1,32000",	0/7	Available range for
exposure_maxiange	"1,8000",	0,7	"videoin_c <n>_maxexposure"</n>
			"1,32000" => 1s ~ 1/32000s
	-,		
	or others		"1,8000" => 1s ~ 1/8000s
	<product dependent=""></product>		etc.
			"-" means maximum exposure time is
			not available.
			* When "exposure_mode"=0, this
			value must be set to "-".
exposure_minrange	"1,32000",	0/7	Available range for
exposure_minunge	"1,8000",	0, 7	"videoin_c <n>_minexposure"</n>
			"1,32000" => 1s ~ 1/32000s
	-,		"1,8000" => 1s ~ 1/8000s
	or others		1,0000 => 15 ~ 1/80005

	<product dependent=""></product>		etc.
			"-" means minimum exposure time is
			not available.
			* When "exposure_mode"=0, this
			value must be set to "-".
privacymask_wintype	rectangle,	0/7	The supported mask window type.
	polygon,		polygon: The window is a 2D polygon
	3Drectangle		shape.
			rectangle: The window is a 2D
			rectangle shape.
			3Drectangle: The window is a 3D
			rectangle shape.
privacymask_windomain	qvga, px, std, -	0/7	The domain to set an window.
			qvga: a 320x240 range to represent
			the whole image.
			px: Locate a window in the image with
			pixels.
			std: A normalized 0~9999 range.
			-: Not supported.
privacymask_ncolor	<positive integer=""></positive>	0/7	Available total color numbers of
			privacy mask.
agc_maxgain	"0,100",	0/7	Available range for
	"_"		"videoin_c <n>_maxgain"</n>
			"0,100" => 0~100 percent
			"-" means "videoin_c <n>_maxgain" is</n>
			not available.
agc_mingain	"0,100",	0/7	Available range for
	"_"		"videoin_c <n>_mingain"</n>
			"0,100" => 0~100 percent
			"-" means "videoin_c <n>_mingain" is</n>
			not available.
flickerless	0,1	0/7	0: Non-support flickerless
			1: Support flickerless
flickerlessaffect	-,	0/7	When flickerless is enabled, some
	minexposure:hidden:,		features may become malfunction or
	mingain:hidden:,		be forced to a given value. The
	or others		affected functions are list here.
	<x>: nonnegative integer</x>		The format is "Affect API

	<product dependent=""></product>		name":"Policy":"Description"
			"Policy" can be categorized into
			following groups:
			- (disabled) : UI turns grey and users
			can't select it.
			- (unchanged) : UI keeps the status as
			before and
			user can't change it.
			- (hidden) : UI is hidden.
			- (fixed) : UI is fixed to one selection or
			value.
			- (ranged) : UI is fixed to multiple
			selections or values.
			- (enabled) : UI is checked.
			- (notsupport) : the affected function
			is not available.
			"Affect API name" can be described in
			hierarchy, such as
			"exposurewin.mode.blc:disabled:"
			which means blc exposure window is
			disabled. API name can be one word as
			well, such as "exposurelevel:fixed:6"
			which means exposurelevel is fixed to
			level 6.
			"Description" can be a nonnegative
			integer or string or NULL.
			"-" means no feature is affected.
			* When "flickerless" = 0, this value
			must be "-"
 defog_mode	0,1	0/7	0: Non-support defog
acrog_mode	5/±	0, /	1: Support defog
	0, 1	0/7	0: Non-support tuning strength of
acrog_sacrigan	0, 1	0,7	defog
			1: Support tuning strength of defog
			* If
			. 11

			<pre>"capability_image_c<n>_defog_mode "=1, this may be either 0 or 1.</n></pre>
defog_supportlevel	0, <positive integer=""></positive>	0/7	The value indicate the support
delog_supportievel	o, spositive integers	0, /	strength level of defog.
defog_affect	-,	0/7	When defog is enabled, some features
	wdrpro:unchanged:,		may become malfunction or be forced
	or others		to a given value. The affected
			functions are list here.
	<x>: nonnegative integer</x>		
	<product dependent=""></product>		The format is "Affect API
			name":"Policy":"Description"
			"Policy" can be categorized into
			following groups:
			- (disabled) : UI turns grey and users
			can't select it.
			- (unchanged) : UI keeps the status as
			before and
			user can't change it.
			- (hidden) : UI is hidden.
			- (fixed) : UI is fixed to one selection or
			value.
			- (ranged) : UI is fixed to multiple
			selections or values.
			- (enabled) : UI is checked.
			- (notsupport) : the affected function
			is not available.
			"Affect API name" can be described in
			hierarchy, such as
			"exposurewin.mode.blc:disabled:"
			which means blc exposure window is
			disabled. API name can be one word as
			well, such as "exposurelevel:fixed:6"
			which means exposurelevel is fixed to
			level 6.
			"Description" can be a nonnegative
			integer or string or NULL.

			"-" means no feature is affected. * When "defog" = 0, this value must be "_"
aespeed	0,1	0/7	0: Non-support AE speed 1: Support AE speed
aespeedsupportlevel	<positive integer=""></positive>	0/7	The value indicate the support strength level of aespeed. * Only available when "capability_image_c <n>_aespeed" is 1.</n>
gammacurve	0,1	0/7	0: Non-support tuning Gamma curve 1: Support tuning Gamma curve
lowlightmode	-,0,1	0/7	 -: Internal parameter, must not open to user. 0: Non-support low light mode 1: Support low light mode
focusassist	0,1	0/7	0: Non-support focus assist 1: Support focus assist
remotefocus	0, <positive integer=""></positive>	0/7	 An 4-bit integer, which indicates the supportive application of remotefocus in this channel. If the value of this parameter is larger than 0, it means that the camera supports remotefocus function in this channel. bit 0 => Indicate whether to support both zoom and focus function. bit 1 => Only support zoom function. bit 2 => Only support focus function. bit 3 => Currently, this is a reserved bit, and the default value is 0.
focuswindomain	qvga, px, std, -	0/7	The domain to set an focus window. qvga: a 320x240 range to represent the whole image. px: Locate a window in the image with pixels.

			std: A normalized 0~9999 range.
			-: Not supported.
lensconfiguration_support	0,1	0/7	Indicate whether to support different
			image library configuration files for
			specific exchangeable lens.
freeze	<boolean></boolean>	0/7	0: Non-support image freeze feature
			1: Support image freeze feature
			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0302a.
autotrack_support	<boolean></boolean>	0/7	0: Non-support auto tracking feature
			1: Support auto tracking feature
			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0302a.
smartsensor_iristotalrang	A list of iris value	0/7	Available total step for iris value.
e			* We support this parameter when the
			version number (httpversion) is equal
			or greater than 0302a.
			* Only available when
			"capability_image_c<0~(n-1)>_sens
			ortype" is "smartsensor"

Group: capability_peripheral_c<0~(n-1)> n denotes the value of "capability_nvideoin"

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
waterspray_support	<boolean></boolean>	0/7	0: Non-support water spray feature
			1: Support water spray feature
			* We support this parameter when the version
			number (httpversion) is equal or greater than
			0302a.
wiper_support	<boolean></boolean>	0/7	0: Non-support wiper feature
			1: Support wiper feature
			* We support this parameter when the version
			number (httpversion) is equal or greater than
			0302a.

7.26 Customized event script

Group: event_customtaskfile_i<0~2>

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
name	string[40]	6/6	Custom script identification of this entry.
date	string[4~20]	6/6	Date of custom script.
time	string[4~20]	6/6	Time of custom script.

7.27 Event setting

Group: event_i<0~2>

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
name	string[40]	6/6	Identification of this entry.
enable	0, 1	6/6	Enable or disable this event.
priority	0, 1, 2	6/6	Indicate the priority of this event:
			"0"= low priority
			"1"= normal priority
			"2"= high priority
delay	1~999	6/6	Delay in seconds before detecting the next
			event.
trigger	boot,	6/6	Indicate the trigger condition:
	di,		"boot" = System boot
	pir,		"di"= Digital input
	motion,		"pir"= PIR detection
	seq,		"motion" = Video motion detection
	recnotify,		"seq" = Periodic condition
	tampering,		"visignal" = Video input signal loss.
	vi,		"recnotify" = Recording notification.
	volalarm,		"tampering" = Tamper detection.
	visignal,		"vi"= Virtual input (Manual trigger)
	vadp,		"volalarm"= Audio detection
	smartsd		"smartsd"= Lifetime detection of SD card
	<product dependent=""></product>		
triggerstatus	string[40]	6/6	The status for event trigger

di	0, <positive integer=""></positive>	6/6	Indicate the source id of di trigger.
		0,0	This field is required when trigger condition is
			"di".
			One bit represents one digital input. The LSB
			indicates DI 0.
mdwin	0, <positive integer=""></positive>	6/6	Indicate the source window id of motion
			detection.
			This field is required when trigger condition is
			"md″.
			One bit represents one window.
			The LSB indicates the 1 st window.
			For example, to detect the 1 st and 3 rd windows,
			set mdwin as 5.
mdwin0	0, <positive integer=""></positive>	6/6	Similar to mdwin. The parameter takes effect
			when profile 1 of motion detection is enabled.
vi	0, <positive integer=""></positive>	6/6	Indicate the source id of vi trigger.
			This field is required when trigger condition is
			"vi″.
			One bit represents one digital input. The LSB
			indicates VI 0.
vadp	0, <positive integer=""></positive>	6/6	Indicate the source id of vadp event notification.
<product dependent=""></product>			Each bit corresponds to one vadp source, and
			the LSB indicates source id 0.
			For example, to detect event from any one of
			source id 0, 1 and 3, set vadp to 11.
			* Only available when vadp is listed in
			"capability_supporttriggertypes"
valevel	0,1	6/6	Select audio detection event.
	- /	-,-	0: not select
			1: select
valevel0	0,1	6/6	Select audio detection profile event.
			0: not select
			1: select
inter	1~999	6/6	Interval of snapshots in minutes.
		-,-	This field is used when trigger condition is "seq".

weekday	0~127	6/6	Indicate which weekday is scheduled.
		-, -	One bit represents one weekday.
			bit0 (LSB) = Saturday
			bit1 = Friday
			bit2 = Thursday
			bit3 = Wednesday
			bit4 = Tuesday
			bit5 = Monday
			bit6 = Sunday
			For example, to detect events on Friday and
			Sunday, set weekday as 66.
begintime	hh:mm	6/6	Begin time of the weekly schedule.
endtime	hh:mm	6/6	End time of the weekly schedule.
			(00:00 ~ 24:00 sets schedule as always on)
lowlightcondition	0, 1	6/6	Switch on white light LED in low light condition
<product dependent=""></product>			0 => Do action at all times
			1 => Do action in low-light conditions
action_do_i<0~(ndo-1)>_e	<boolean></boolean>	6/6	Enable or disable trigger digital output.
nable			* Only available when "capability_ndo" > 0
action_do_i<0~(ndo-1)>_	1~999	6/6	Duration of the digital output trigger in seconds.
duration			* Only available when "capability_ndo" > 0
action_cf_enable	<boolean></boolean>	6/6	Enable or disable sending media to SD card.
action_cf_folder	string[128]	6/6	Path to store media.
action_cf_media	NULL, 0~4,101	6/6	Index of the attached media.
			101 means "Recording Notify"
action_cf_datefolder	<boolean></boolean>	6/6	Enable this to create folders by date, time, and
			hour automatically.
action_cf_backup	<boolean></boolean>	6/6	Enable or disable the function that send media to
			SD card for backup if network is disconnected.
action_server_i<0~4>_ena	<boolean></boolean>	6/6	Enable or disable this server action.
ble			
action_server_i<0~4>_me	NULL, 0~4,101	6/6	Index of the attached media.
dia			101 means "Recording Notify"
action_server_i<0~4>_dat	<boolean></boolean>	6/6	Enable this to create folders by date, time, and
efolder			hour automatically.
action_goto_enable	<boolean></boolean>	6/6	Enable/disable ptz goto preset position on event
<product dependent=""></product>			triggered.
			* Only available when capability_ptzenabled >
	1	1	

action_goto_name	string[40]	6/6	Specify the preset name that ptz goto on event
<product dependent=""></product>			triggered.
			* Only available when capability_ptzenabled >
			0.
action_goto_sync	<boolean></boolean>	6/6	Capture media after moving to the location.
<product dependent=""></product>			* Only avaliable when the bit4 of
			capability_ptzenabled is 1 and the bit7 of
			capability_ptzenabled is 0
action_autotrack_enable	<boolean></boolean>	6/6	Enable/disable auto tracking on event triggerd.
<product dependent=""></product>			* Only avaliable when the bit4 of
			capability_ptzenabled is 1 and the bit7 of
			capability_ptzenabled is 0

7.28 Server setting for event action

Group: **server_i**<0~4>

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
name	string[40]	6/6	Identification of this entry
type	email,	6/6	Indicate the server type:
	ftp,		"email" = email server
	http,		"ftp" = FTP server
	ns		"http" = HTTP server
			"ns" = network storage
http_url	string[128]	6/6	URL of the HTTP server to upload.
http_username	string[64]	6/6	Username to log in to the server.
http_passwd	string[64]	6/6	Password of the user.
ftp_address	string[128]	6/6	FTP server address.
ftp_username	string[64]	6/6	Username to log in to the server.
ftp_passwd	string[64]	6/6	Password of the user.
ftp_port	0~65535	6/6	Port to connect to the server.
ftp_location	string[128]	6/6	Location to upload or store the media.
ftp_passive	<boolean></boolean>	6/6	Enable or disable passive mode.
			0 = disable passive mode
			1 = enable passive mode
email_address	string[128]	6/6	Email server address.
email_sslmode	<boolean></boolean>	6/6	Enable support SSL.

email_port	0~65535	6/6	Port to connect to the server.
email_username	string[64]	6/6	Username to log in to the server.
email_passwd	string[64]	6/6	Password of the user.
email_senderemail	string[128]	6/6	Email address of the sender.
email_recipientemail	string[640]	6/6	Email address of the recipient.
ns_location	string[128]	6/6	Location to upload or store the media.
ns_username	string[64]	6/6	Username to log in to the server.
ns_passwd	string[64]	6/6	Password of the user.
ns_workgroup	string[64]	6/6	Workgroup for network storage.

7.29 Media setting for event action

Group: media_i<0~4>

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
name	string[40]	6/6	Identification of this entry
type	snapshot,	6/6	Media type to send to the server or
	systemlog,		store on the server.
	videoclip,		
	recordmsg		
snapshot_source	0~"capability_nmediastream -1"	6/6	Indicate the source of media stream.
			0 means the first stream.
			1 means the second stream and etc.
			2 means the third stream and etc.
			3 means the fourth stream and etc.
snapshot_prefix	string[16]	6/6	Indicate the prefix of the filename.
			media_i0=> Snapshot1_
			media_i1=> Snapshot2_
			media_i2=> Snapshot3_
			media_i3=> Snapshot4_
			media_i4=> Snapshot5_
snapshot_datesuffix	0, 1	6/6	Add date and time suffix to filename:
			1 = Add date and time suffix.
			0 = Do not add.
snapshot_preevent	0~"	6/6	Indicates the number of pre-event
	capability_media_snapshot_maxpr		images.
	eevent"		

snapshot_postevent	0~"	6/6	Indicates the number of post-event
	capability_media_snapshot_maxpo		images.
	stevent"		
videoclip_source	0~"capability_nmediastream -1"	6/6	Indicate the source of media stream.
			0 means the first stream.
			1 means the second stream and etc.
			2 means the third stream and etc.
			3 means the fourth stream and etc.
videoclip_prefix	string[16]	6/6	Indicate the prefix of the filename.
videoclip_preevent	0 ~ "	6/6	Indicates the time for pre-event
	capability_media_videoclip_maxpre		recording in seconds.
	event"		
videoclip_maxduration	1 ~ "	6/6	Maximum duration of one video clip in
	capability_media_videoclip_maxlen		seconds.
	gth"		
videoclip_maxsize	50 ~ "	6/6	Maximum size of one video clip file in
	capability_media_videoclip_maxsiz		Kbytes.
	e"		

7.30 Recording

Group: recording_i<0~1>

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
name	string[40]	6/6	Identification of this entry.
trigger	schedule,	6/6	The event trigger type
	networkfail		schedule: The event is triggered by schedule
			networkfail: The event is triggered by the
			failure of network connection.
enable	<boolean></boolean>	6/6	Enable or disable this recording.
priority	0, 1, 2	6/6	Indicate the priority of this recording:
			"0" indicates low priority.
			"1" indicates normal priority.
			"2" indicates high priority.
source	0~"capability_nmediastream-1"	6/6	Indicate the source of media stream.
			0 means the first stream.
			1 means the second stream and so on.

maxretentiontime	<string></string>	6/6	To specify the expired time for automatic clean
		0,0	up, and it only takes effect for video clip
			generated by recording_i <0 ~1>.
			generated by recording_r to 171
			Format is
			"``P[Y]Y[MM]M[DDD]DT[hh]H[mm]M[ss]S'
			, similar with ISO8601 with symbols P
			Ex. P7D, it means 7 days. P1DT10H, it means
			1 days and 10 hours.
			The parameter takes effect when
			autocleanup_
			maxretentiontime_recording_enabled is
			enabled.
limitsize	<boolean></boolean>	6/6	0: Entire free space mechanism
			1: Limit recording size mechanism
cyclic	<boolean></boolean>	6/6	0: Disable cyclic recording
			1: Enable cyclic recording
notify	<boolean></boolean>	6/6	0: Disable recording notification
			1: Enable recording notification
notifyserver	0~31	6/6	Indicate which notification server is
			scheduled.
			One bit represents one application server
			(server_i0~i4).
			bit0 (LSB) = server_i0.
			bit1 = server_i1.
			bit2 = server_i2.
			bit3 = server_i3.
			bit4 = server_i4.
			For example, enable server_i0, server_i2, and
			server_i4 as notification servers; the
			notifyserver value is 21.

weekday	0~127	6/6	Indicate which weekday is scheduled.
			One bit represents one weekday.
			bit0 (LSB) = Saturday
			bit1 = Friday
			bit2 = Thursday
			bit3 = Wednesday
			bit4 = Tuesday
			bit5 = Monday
			bit6 = Sunday
			For example, to detect events on Friday and
			Sunday, set weekday as 66.
begintime	hh:mm	6/6	Start time of the weekly schedule.
endtime	hh:mm	6/6	End time of the weekly schedule.
			(00:00~24:00 indicates schedule always on)
prefix	string[16]	6/6	Indicate the prefix of the filename.
cyclesize	100~	6/6	The maximum size for cycle recording in
			Kbytes when choosing to limit recording size.
reserveamount	0~1500000	6/6	The reserved amount in Mbytes when
			choosing cyclic recording mechanism.
dest	cf,	6/6	The destination to store the recorded data.
	0~4		"cf" means local storage (CF or SD card).
			"0" means the index of the network storage.
cffolder	string[128]	6/6	Folder name.
maxsize	100~2000	6/6	Unit: Mega bytes.
			When this condition is reached, recording file
			is truncated.
maxduration	60~3600	6/6	Unit: Second
			When this condition is reached, recording file
			is truncated.
adaptive_enable	<boolean></boolean>	6/6	Indicate whether the adaptive recording is
			enabled
adaptive_preevent	0~9	6/6	Indicate when is the adaptive recording
			started before the event trigger point
			(seconds)
adaptive_postevent	0~10	6/6	Indicate when is the adaptive recording
			stopped after the event trigger point
			(seconds)

7.31 HTTPS

Group: **https** (capability.protocol.https > 0)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean></boolean>	6/6	To enable or disable secure HTTP.
policy	<boolean></boolean>	6/6	If the value is 1, it will force HTTP connection
			redirect to HTTPS connection
method	auto,	6/6	auto =>Create self-signed certificate
	manual,		automatically.
	install		manual =>Create self-signed certificate
			manually.
			install =>Create certificate request and install.
status	-3 ~ 1	6/6	Specify the https status.
			-3= Certificate not installed
			-2 = Invalid public key
			-1 = Waiting for certificate
			0= Not installed
			1 = Active
countryname	string[2]	6/6	Country name in the certificate information.
stateorprovincename	string[128]	6/6	State or province name in the certificate
			information.
localityname	string[128]	6/6	The locality name in thecertificate information.
organizationname	string[64]	6/6	Organization name in the certificate
	VIVOTEK Inc.		information.
unit	string[64]	6/6	Organizational unit name in thecertificate
	VIVOTEK Inc.		information.
commonname	string[64]	6/6	Common name in the certificate information.
	www.vivotek.com		
validdays	0 ~ 3650	6/6	Valid period for the certification.

7.32 Storage management setting

Group: **disk_i<0~(n-1)>** n is the total number of storage devices. (capability.storage.dbenabled > 0)

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
cyclic_enabled	<boolean></boolean>	6/6	Enable cyclic storage method.
autocleanup_enabled	<boolean></boolean>	6/6	Enable automatic clean up method.
<not recommended="" td="" to="" use<=""><td></td><td></td><td>Expired and not locked media files will be</td></not>			Expired and not locked media files will be
this>			deleted.
			* For forward compatibility reservations, but
			only group disk_i0_autocleanup is effective.
			* Not recommended to use this. Please refers
			"autocleanup" group.
			* This parameter will not be used after the
			version number (httpversion) is equal or greater
			than 0400a.
autocleanup_maxage	<positive integer=""></positive>	6/6	To specify the expired days for automatic clean
<not recommended="" td="" to="" use<=""><td></td><td></td><td>up.</td></not>			up.
this>			* For forward compatibility reservations, but
			only group disk_i0_autocleanup is effective.
			* Not recommended to use this. Please refers
			"autocleanup" group.
			* This parameter will not be used after the
			version number (httpversion) is equal or greater
			than 0400a.

Currently it's only for local storage (SD, CF card), so n is equal to 1.

Group: **autocleanup** (capability.localstorage.supportedge > 0)

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enabled	<boolean></boolean>	6/6	Enable automatic clean up method.
			Expired and not locked media files will be
			deleted.
maxretentiontime_recordin	<boolean></boolean>	6/6	Enable automatic clean up method for video clip
g_enabled			generated by recording task.
			The parameter takes effect when
			autocleanup_enabled is enabled.

maxretentiontime_recordin	<string></string>	6/6	To specify the expired time for automatic clean
_ g_i <0~1>_maxage		,	up, and it only takes effect for video clip
			generated by recording_i $<0\sim1>$.
			Format is
			"``P[Y]Y[MM]M[DDD]DT[hh]H[mm]M[ss]S'
			, similar with ISO8601 with symbols P
			Ex. P7D, it means 7 days. P1DT10H, it means 1
			days and 10 hours.
			The newspaper takes offer turben suite despus
			The parameter takes effect when autocleanup_ maxretentiontime_recording_enabled is
			enabled.
	<pre><boolean></boolean></pre>	6/6	Enable automatic clean up method for all media
nabled		0,0	files except media files generated by recording
			task.
			The parameter takes effect when
			autocleanup_enabled is enabled.
maxretentiontime_others_	<string></string>	6/6	To specify the expired time for automatic clean
maxage			up, and it takes effect for all media files except
			media files generated by recording task.
			Format is
			"`P[Y]Y[MM]M[DDD]DT[hh]H[mm]M[ss]S' , similar with ISO8601 with symbols P
			Ex. P7D, it means 7 days. P1DT10H, it means 1
			days and 10 hours.
			The parameter takes effect when
			autocleanup_maxretentiontime_others_enabled
			is enabled.

7.33 Region of interest

(capability.eptz > 0)			
PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
s<0~(m-1)>_home	<w,h></w,h>	1/6	ROI left-top corner coordinate.* If the minimal
	<product dependent=""></product>		window size is 64x64, then the
			"win_i0_home"=(0~resolution_W-64,
			$0\sim$ resolution_H-64), which the resolution is the
			value in current stream.
			* If the stream doesn't support ePTZ, the
			permissions of this parameter must be set as
			1/7.
s<0~(m-1)>_size	<wxh></wxh>	1/6	ROI width and height. The width value must be
	<product dependent=""></product>		multiples of 16 and the height value must be
			multiples of 8
			* The minimal window size is 64x64.
			* If the stream doesn't support ePTZ, the
			permissions of this parameter must be set as
			1/7.

Group: **roi_c<0~(n-1)>** for n channel product and m is the index of video stream which support ePTZ.

7.34 ePTZ setting

Group: **eptz_c<0~(n-1)>** for n channel product. (capability.eptz > 0)

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
osdzoom	<boolean></boolean>	1/4	Indicates multiple of zoom in is "on-screen
<not recommended="" td="" to="" use<=""><td></td><td></td><td>display" or not.</td></not>			display" or not.
this>			
			* Reserved for compatibility, and suggest don't
			use this since [httpversion] > 0302a
			* We replace "eptz_c<0~(n-1)>_osdzoom" with
			" videoin_c<0~(n-1)>_zoomratiodisplay".
smooth	<boolean></boolean>	1/4	Enable the ePTZ "move smoothly" feature
tiltspeed	-5 ~ 5	1/4	Tilt speed
			* Only available when "capability_fisheye" is 1

		1/7	Tilt speed
			(It should be set by eCamCtrl.cgi rather than by
			setparam.cgi.)
panspeed	-5 ~ 5	1/4	Pan speed
			* Only available when "capability_fisheye" is 1
		1/7	Pan speed
			(It should be set by eCamCtrl.cgi rather than by
			setparam.cgi.)
zoomspeed	-5 ~ 5	1/4	Zoom speed
			* Only available when "capability_fisheye" is 1
		1/7	Zoom speed
			(It should be set by eCamCtrl.cgi rather than by
			setparam.cgi.)
autospeed	1 ~ 5	1/4	Auto pan/patrol speed
			* Only available when "capability_fisheye" is 1
		1/7	Auto pan/patrol speed
			(It should be set by eCamCtrl.cgi rather than by
			setparam.cgi.)
rotatespeed	1 ~ 5	1/4	Rotate speed (only for Fisheye series)
			* Only available when "capability_fisheye" is 1
			and "capability_fisheyelocaldewarp_c <n>" is 0</n>

Group: **eptz_c<0~(n-1)>_s<0~(m-1)>** for n channel product and m is the index of video stream which support ePTZ. (capability.eptz > 0)

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
patrolseq	string[120]	1/4	The patrol sequence of ePTZ. All the patrol
			position indexes will be separated by ","
patroldwelling	string[160]	1/4	The dwelling time (unit: second) of each patrol
			point, separated by ",".
preset_i<0~19>_name	string[40]	1/4	Name of ePTZ preset.
			* Only available when "capability_fisheye" is 1
		1/7	Name of ePTZ preset.
			(It should be set by ePreset.cgi rather than by
			setparam.cgi.)
preset_i<0~19>_pos	<w,h></w,h>	1/4	Left-top corner coordinate of the preset.
	<product dependent=""></product>		* Only available when "capability_fisheye" is 1
		1/7	Left-top corner coordinate of the preset.
			(It should be set by ePreset.cgi rather than by
			setparam.cgi.)

preset_i<0~19>_size	<wxh></wxh>	1/4	Width and height of the preset.
	<product dependent=""></product>		* Only available when "capability_fisheye" is 1
		1/7	Width and height of the preset.
			(It should be set by ePreset.cgi rather than by
			setparam.cgi.)

7.35 Focus Window setting

Group: focuswindow_c<0~(n-1)> for n channel products

n denotes the value of "capability_nvideoin".

(capability_image_c<0~(n-1)>_remotefocus=1 or capability_image_c<0~(n-1)>_remotefocus=4)

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
win_i0_enable	<boolean></boolean>	4/4	Enable or disable the window.
win_i0_home	<w,h></w,h>	4/4	Left-top corner coordinate of the window.
	<product dependent=""></product>		* If the minimal window size is 192x144, then
			the "win_i0_home"=(0~resolution_W-192,
			0~resolution_H-144), which the resolution is
			the value in current stream.
win_i0_size	<wxh></wxh>	4/4	Width and height of the window.
	<product dependent=""></product>		* The minimal window size is 192x144

7.36 Seamless recording setting

Group: seamlessrecording (capability.localstorage.seamless> 0)

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
diskmode	seamless,	1/6	"seamless" indicates enable seamless recording.
	manageable		"manageable" indicates disable seamless
			recording.
maxconnection	3	1/7	Maximum number of connected seamless
			streaming.
enable	<boolean></boolean>	1/7	Indicate whether seamless recording is
			recording to local storage or not at present.
			(Read only)
guid<0~2>_id	string[127]	1/7	The connected seamless streaming ID.
			(Read only)

guid<0~2>_number	0~3	1/7	Number of connected seamless streaming with
			guid<0~2>_id.
			(Read only)

7.37 VIVOTEK Application Development Platformsetting

Group: vadp

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
version	<string></string>	6/7	Indicate the VADP version.
resource_total_memory	0, <positive integer=""></positive>	6/7	Indicate total available memory size for VADP
			modules.
resource_total_storage	0, <positive integer=""></positive>	6/7	Indicate total size of the internal storage
			space for storing VADP modules.
resource_free_memory	0, <positive integer=""></positive>	6/7	Indicate free memory size for VADP modules.
resource_free_storage	0, <positive integer=""></positive>	6/7	Indicate current free storage size for
			uploading VADP modules.
module_number	0, <positive integer=""></positive>	6/7	Record the total module number that already
			stored in the system.
module_order	string[40]	6/6	The execution order of the enabled modules.
module_save2sd	<boolean></boolean>	6/6	Indicate if the module should be saved to SD
			card when user want to upload it.
			If the value is false, save module to the
			internal storage space and it will occupy
			storage size.
number	string[128]	6/7	This number is used to register license key for
			VADP application.

Group: vadp_module_i<0~(n-1)> for n VADP package number (capability_vadp_npackage > 0)

n denotes the value of "capability_vadp_npackage".

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	6/6	Indicate if the module is enabled or not.
			If yes, also add the index of this module to the
			module_order.
name	string[40]	6/6	Module name
extendedname	string[40]	6/6	Extended module name. If this value is not
			blank, it will be shown on the VADP UI first
			instead of vadp_module_i <n>_name.</n>

		1	1
url	string[120]	6/6	Define the URL string after the IP address if the
			module provides it own web page.
vendor	string[40]	6/6	The provider of the module.
vendorurl	string[120]	6/6	URL of the vendor.
version	string[40]	6/6	Version of the module.
license	string[40]	6/6	Indicate the license status of the module.
licmsg	string[128]	6/6	Indicate the message that will be show on
			license status when mouse over.
path	string[40]	6/6	Record the storage path of the module.
initscr	string[40]	6/6	The script that will handle operation
			commands from the system.
status	string[40]	6/6	Indicate the running status of the module.
statmsg	string[128]	6/6	Indicate the message that will be show on the
			running status when mouse over.
vvtklicensemec	string[40]	6/7	Indicate the module use VIVOTEK license
			mechanism

Group: **vadp_schedule_i**<0~(n-1)> for n VADP package number

n denotes the value of "capability_vadp_npackage".

(Only available when "capability_vadp_npackage" > 0 and the version number of "vadp_version" >= "1.3.2.0")

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	6/6	Enable or disable the schedule mode to
			control the execution of the VADP package
begintime	hh:mm	6/6	Begin time of the schedule
endtime	hh:mm	6/6	End time of the schedule

Group: vadp_event

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
ntrigger	0, <positive integer=""></positive>	6/7	Indicate the number of topics to be transferred
			to event manager for trigger.
triggerlist_i<0~(n-1)>_to	string[256]	6/6	Indicate the event notification with this topic
pic			will be transferred to event manager as trigger.
			n is equal to ntrigger above.

7.38 camera PTZ control

Group: **camctrl** (capability.camctrl.ptztunnel > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enableptztunnel	<boolean></boolean>	1/4	Enable PTZ tunnel for camera control.

Group: camctrl_c<0~(n-1)> for n channel products (capability.ptzenabled > 0)

n denotes the value of "capability_nvideoin" and k denotes the value of "capability_npreset"

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
panspeed	-5 ~ 5	1/4	Pan speed
tiltspeed	-5 ~ 5	1/4	Tilt speed
zoomspeed	-5 ~ 5	1/4	Zoom speed
focusspeed	-5 ~ 5	1/4	Auto focus speed
patrolseq	string[120]	1/4	(For external device)
			The indexes of patrol points, separated by $``,''$
patroldwelling	string[160]	1/4	(For external device)
			The dwelling time of each patrol point,
			separated by ","
preset_i<0~(k-1)>_name	string[40]	1/4	Name of the preset location.
preset_i<0~(k-1)>_	0 ~ 999	1/4	The dwelling time of each preset location
dwelling			
uart	0 ~	1/4	Select corresponding uart
	(capability_nuart -1)		(capability.nuart>0).
cameraid	0~255	1/4	Camera ID controlling external PTZ camera.
isptz	0 ~ 2	1/4	0: disable PTZ commands.
			1: enable PTZ commands with PTZ driver.
			2: enable PTZ commands with UART tunnel.
			* Only available when bit7 of
			capability_ptzenabled is 1
disablemdonptz	<boolean></boolean>	1/4	Disable motion detection on PTZ operation.
7.39 camera PTZ control (IZ series)

Group: **camctrl_c<0~(n-1)>** for n channel products (capability_camctrl_c0_zoommodule = 1 and capability_camctrl_c0_buildinpt = 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
ccdtype	string[16]	6/7	(Internal used, read only)
motortype	string[16]	6/7	(Internal used, read only)
cameraid	0 ~ 255	1/4	Camera ID controlling external PTZ
			camera.
			Note:
			Please set your speed dome to the
			appropriate baud rate, and Camera ID,
			e.g. 2400bps, camera ID 1,2,3,,,,etc.
			All Camera IDs on the same controlling
			system (NVR or rs485 keyboard) have
			to be distinct.
			Therefore, once you send a controlling
			signal, each camera will only accept the
			inputs with the corresponding ID.
panspeed	-5 ~ 5	1/4	Pan speed
tiltspeed	-5 ~ 5	1/4	Tilt speed
zoomspeed	-5 ~ 5	1/4	Zoom speed
autospeed	-5 ~ 5	1/4	Auto pan speed
focusspeed	-5 ~ 5	1/4	Auto focus speed
focusmode	auto,onetimeauto,spotligh	1/4	Indicate the focus control mode.
	t,manual		
	* Available values are		
	listed in		
	"capability_camctrl_c <n></n>		
	_focusmode"		
uart	0 ~ (capability_nuart -1)	1/4	Select corresponding uart
			(capability.nuart>0).
isptz	0 ~ 2	1/4	0: disable PTZ commands.
			1: enable PTZ commands with PTZ
			driver.
			2: enable PTZ commands with UART
			tunnel.

n denotes the value of "capability_nvideoin" and k denotes the value of "capability_npreset"

	1	1	1
			* Only available when bit7 of
			capability_ptzenabled is 1
preset_i<0~(k-1)>_name	string[40]	1/4	Name of the preset location.
preset_i<0~(k-1)>_zoom	capability_ptz_c<0~(n-1)	1/4	Zoom position at each preset location.
	>_minzoom ~		
	capability_ptz_c<0~(n-1)		
	>_maxzoom		
preset_i<0~(k-1)>_focus	capability_ptz_c<0~(n-1)	1/4	Focus position at each preset location.
	>_minfocus ~		
	capability_ptz_c<0~(n-1)		
	>_maxfocus		
preset_i<0~(k-1)>_	0 ~ 999	1/4	The dwelling time of each preset
dwelling			location
patrolseq	string[120]	1/4	(For external device)
			The indexes of patrol points, separated
			by ``,″
patroldwelling	string[160]	1/4	(For external device)
			The dwelling time of each patrol point,
			separated by ","
disablemdonptz	<boolean></boolean>	1/4	Disable motion detection on PTZ
			operation.
defaulthome	<boolean></boolean>	1/4	This field tells system to use default
			home position or not.
axisz	capability_ptz_c<0~(n-1)	1/4	Custom home zoom position.
	>_minzoom ~		
	capability_ptz_c<0~(n-1)		
	>_maxzoom		
axisf	capability_ptz_c<0~(n-1)	1/4	Custom home focus position.
	>_minfocus ~		
	capability_ptz_c<0~(n-1)		
	>_maxfocus		
digitalzoom	<boolean></boolean>	1/4	Enable/disable digital zoom
zoomenhance	<boolean></boolean>	1/4	Enable /disable zoom enhancement
· · · · · · · · · · · · · · · · · · ·			

7.40 camera PTZ control (SD series)

Group: **camctrl_c<0~(n-1)>** for n channel products (the bit7 of capability_ptzenabled is 0 and the bit4 of capability_ptzenabled is 1)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
ccdtype	string[16]	6/7	(Internal used, read only)
motortype	string[16]	6/7	(Internal used, read only)
cameraid	1 ~ 255	1/4	Camera ID controlling external PTZ
			camera.
			Note:
			Please set your speed dome to the
			appropriate baud rate, and Camera ID,
			e.g. 2400bps, camera ID 1,2,3,,,,etc.
			All Camera IDs on the same controlling
			system (NVR or rs485 keyboard) have
			to be distinct.
			Therefore, once you send a controlling
			signal, each camera will only accept the
			inputs with the corresponding ID.
panspeed	-5 ~ 5	1/4	Pan speed
tiltspeed	-5 ~ 5	1/4	Tilt speed
zoomspeed	-5 ~ 5	1/4	Zoom speed
autospeed	-5 ~ 5	1/4	Auto pan speed
focusspeed	-5 ~ 5	1/4	Auto focus speed
focusmode	auto,onetimeauto,spotligh	1/4	Indicate the focus control mode.
	t,manual		
	* Available values are		
	listed in		
	"capability_camctrl_c <n></n>		
	_focusmode"		
preset_i<0~(k-1)>_name	string[40]	1/4	Name of the preset location.
preset_i<0~(k-1)>_pan	capability_ptz_c<0~(n-1)	1/4	Pan position at each preset location.
	>_minpan ~		
	capability_ptz_c<0~(n-1)		
	>_maxpan		
preset_i<0~(k-1)>_tilt	capability_ptz_c<0~(n-1)	1/4	Tilt position at each preset location.
	>_mintilt ~		

n denotes the value of "capability_nvideoin" and k denotes the value of "capability_npreset"

	capability_ptz_c<0~(n-1)		
	>_maxtilt		
preset_i<0~(k-1)>_zoom	capability_ptz_c<0~(n-1)	1/4	Zoom position at each preset location.
	>_minzoom ~		
	capability_ptz_c<0~(n-1)		
	>_maxzoom		
preset_i<0~(k-1)>_focus	capability_ptz_c<0~(n-1)	1/4	Focus position at each preset location.
	>_minfocus ~		
	capability_ptz_c<0~(n-1)		
	>_maxfocus		
preset_i<0~(k-1)>_fliped	<boolean></boolean>	1/4	Flip side at each preset location.
patrol_i<0~39>_name	string[40]	1/4	(For internal device)
			The name of patrol location
patrol_i<0~39>_ dwelling	0 ~ 999	1/4	(For internal device)
			The dwelling time of each patrol location
disablemdonptz	<boolean></boolean>	1/4	Disable motion detection on PTZ
			operation.
defaulthome	<boolean></boolean>	1/4	This field tells system to use default
			home position or not.
axisx	capability_ptz_c<0~(n-1)	1/4	Custom home pan position.
	>_minpan ~		
	capability_ptz_c<0~(n-1)		
	>_maxpan		
axisy	capability_ptz_c<0~(n-1)	1/4	Custom home tilt position.
	>_mintilt ~		
	capability_ptz_c<0~(n-1)		
	>_maxtilt		
axisz	capability_ptz_c<0~(n-1)	1/4	Custom home zoom position.
	>_minzoom ~		
	capability_ptz_c<0~(n-1)		
	>_maxzoom		
axisf	capability_ptz_c<0~(n-1)	1/4	Custom home focus position.
	>_minfocus ~		
	capability_ptz_c<0~(n-1)		
	>_maxfocus		
axisflip	<boolean></boolean>	1/4	Custom home flip side.
returnhome	<boolean></boolean>	1/4	Enable/disable return home while idle.
returnhomeinterval	1~999	1/4	While idle over this time interval, idle
			action will be taken.
digitalzoom	<boolean></boolean>	1/4	Enable/disable digital zoom

		1	
idleaction_enable	<boolean></boolean>	1/4	Enable/disable idle action while idle
idleaction_type	pan,patrol,home,objtrack,	1/4	This field tells what kind of action should
	prev		be taken while idle.
idleaction_interval	1~999	1/4	While idle over this time interval, idle
			action will be taken.
zoomenhance	<boolean></boolean>	1/4	Enable /disable zoom enhancement
tour_index	-1, 0~19	1/4	Index of the enabled tour group, from 0
			to 19.
			Set -1 to disable all the tour groups.
tour_i<0~19>_name	string[40]	1/4	Name of the tour.
tour_i<0~19>_type	<boolean></boolean>	1/4	0 = Recorded tour
			1 = Preset tour
tour_i<0~19>_speed	-5 ~ 5	1/4	Preset tour: pan and tilt speed when
			moving between presets.
			Recorded tour: unnecessary.
tour_i<0~19>_checklist	string[512]	1/4	The indexes of preset positions,
			separated by ","
tour_i<0~19>_dwelltime	string[512]	1/4	Preset tour: time to wait before moving
			to the next preset position, separated by
			× // /
			Recorded tour: number of seconds to
			wait
			before continuing a loop tour.

7.41 UART control

Group: **uart** (capability.nuart > 0 and capability.fisheye = 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
ptzdrivers_i<0~19,	string[40]	1/4	Name of the PTZ driver.
127>_name			
ptzdrivers_i<0~19,	string[128]	1/4	Full path of the PTZ driver.
127>_location			
enablehttptunnel	<boolean></boolean>	1/4	Enable HTTP tunnel channel to control UART.

Group: **uart_i<0~(n-1)>** n is uart port count (capability.nuart > 0 and capability.fisheye = 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
baudrate	110,300,600,1200,	4/4	Set baud rate of COM port.

2400,3600,4800,72		
00,9600,19200,384		
00,57600,115200		
5,6,7,8	4/4	Data bits in a character frame.
none,	4/4	For error checking.
odd,		
even		
1,2	4/4	1
		2-1.5 , data bit is 5
		2-2
rs485,	4/4	RS485 or RS232.
rs232		
string[128]	1/4	PTZ command for custom camera.
string[40]	1/4	Additional PTZ command name.
string[40]	1/4	Additional PTZ command list.
0~19,	1/4	The PTZ driver is used by this COM port.
127 (custom),		
128 (no driver)		
	00,9600,19200,384 00,57600,115200 5,6,7,8 none, odd, even 1,2 rs485, rs232 string[128] string[40] string[40] 0~19, 127 (custom),	00,9600,19200,384 00,57600,115200 5,6,7,8 4/4 none, 4/4 odd, 4/4 odd, 4/4 otd, 4/4 string[128] 1/4 string[40] 1/4 0~19, 1/4 127 (custom), 1/4

7.42 UART control (SD series)

Group: uart_i<0~(n-1)> n is uart port count (capability.nuart > 0 and the bit7 of capability_ptzenabled is 0, the
bit4 of capability_ptzenabled is 1)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
cameraid	1~255	4/4	Camera ID controlling external PTZ camera.
			Note:
			Please set your speed dome to the appropriate
			baud rate, and Camera ID, e.g. 2400bps,
			camera ID 1,2,3,,,,etc.
			All Camera IDs on the same controlling system
			(NVR or rs485 keyboard) have to be distinct.
			Therefore, once you send a controlling signal,
			each camera will only accept the inputs with
			the corresponding ID.
baudrate	2400,4800,9600,19	4/4	Set baud rate of COM port.
	200,38400,57600,1		
	15200		
databit	5,6,7,8	4/4	Data bits in a character frame.
paritybit	none,	4/4	For error checking.
	odd,		
	even		
stopbit	1,2	4/4	1
			2-1.5 , data bit is 5
			2-2
uartmode	rs485	4/7	RS485 mode.

7.43 Lens configuration

Group: **lens** for n channel products

n denotes the value of "capability_nvideoin"

(capability.image.c<0~(n-1)>.lensconfiguration.support = 1)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
selected	<string></string>	6/7	Current selected lens profile.
			e.g. lens_selected=lens_default_i0, it means
			choosen lens configuration is i0 lens of default
			group.

Group: lens_default

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
totalnumbers	0, <positive integer=""></positive>	6/7	Totoal support number of the default lens
			profiles

Group: lens_user

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
totalnumbers	0, <positive integer=""></positive>	6/7	Totoal support number of the user lens profiles

Group: lens_default_i<0~(n-1)> n is lens_default_totalnumbers

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
name	<string></string>	6/7	Default lens name

Group: lens_user_i<0~(n-1)> n is lens_user_totalnumbers

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
name	<string></string>	6/7	User-defined lens name

7.44 Fisheye info

Group: **fisheyeinfo** (capability.fisheye > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
revisedcenteraxis	<coordinate></coordinate>	6/7	The actual center axis coordinate
radius	0, <positive< td=""><td>6/7</td><td>The actual center radius</td></positive<>	6/7	The actual center radius
	integer>		

7.45 Fisheye local dewarp setting

Group: **fisheyedewarp_c<0~(n-1)>** (capability_fisheyelocaldewarp_c<0~(capability_nvideoin)-1> > 0)

n denotes the value of "	'capability_nvideoin", m	denotes the value of	"capability_nmediastream"
--------------------------	--------------------------	----------------------	---------------------------

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
panspeed	-5 ~ 5	1/4	Pan speed of regional view
	<integer></integer>		
tiltspeed	-5 ~ 5	1/4	Tilt speed of regional view
	<integer></integer>		
zoomspeed	-5 ~ 5	1/4	Zoom speed of regional
	<integer></integer>		
s<0~(m-2)>_panorama_	0~359	1/4	Initial pan position of panorama view.
panstart	<integer></integer>		(only available for 1P and 2P mode at ceiling or
			floor mount)
s<0~(m-2)>_region_pan	-90~359	1/4	Pan home angle of regional view
	<integer></integer>		Pan range of ceiling/floor mount is [0~359].
			Pan range of wall mount is [-90~90].
s<0~(m-2)>_region_tilt	-90~90	1/4	Tilt home angle of regional view
	<integer></integer>		Tilt range of ceiling/floor mount is $[0 \sim 90]$.
			Tilt range of wall mount is $[-90 \sim 90]$.
s<0~(m-2)>_region_zoo	100~300	1/4	Zoom home ratio of regional view
m	<integer></integer>		

7.46 PIR behavior define

Group: **pir** (capability.npir > 0)

NAME	VALUE	SECURITY	DESCRIPTION
		(get/set)	
enable	<boolean></boolean>	1/1	Enable/disable PIR

7.47 Auto tracking setting

Group: **autotrack_c<0~(n-1)>** (capbility_image_c<0~(capability_nvideoin)-1>_autotrack_support > 0) n denotes the value of "capability_nvideoin"

PARAMETER	VALUE	SECURITY	DESCRIPTION
		(get/set)	
objsize_type	-1~2	1/4	Type of object size.
			-1 : customized width and height
			$0: object size = 30 \times 30$
			$1 : object size = 10 \times 20$
			$2:$ object size = 10×10
objsize_customized_width	10~320	1/4	The minimum width of tracking target.
objsize_customized_height	10~240	1/4	The minimum height of tracking target.
sensitivity	0~2	1/4	Tracking sensitivity.
			0: Low
			1: Medium
			2: High

8. Useful Functions

8.1 Drive the Digital Output (capability.ndo > 0)

Note: This request requires Viewer privileges. **Method:** GET/POST

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

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

PARAMETER	VALUE	DESCRIPTION
do <num></num>	0, 1	0 – Inactive, normal state
		1 – Active, triggered state

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

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

8.2 Query Status of the Digital Input(capability.ndi > 0)

Note: This request requires Viewer privileges

Method: GET/POST

Syntax:

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

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

Return:

HTTP/1.0 200 OK\r\n		
Content-Type: text/plain\r\n		
Content-Length: < <i>length</i> >\r\n		
\r\n		
[di0= <state>]\r\n [di1=<state>]\r\n [di2=<state>]\r\n</state></state></state>		
[di1= <state>]\r\n</state>		
[di2= <state>]\r\n</state>		
[di3= <state>]\r\n</state>		

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

8.3 Query Status of the Digital Output (capability.ndo > 0)

Note: This request requires Viewer privileges

Method: GET/POST

Syntax:

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

If no parameter is specified, all the digital output statuses 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

8.4 Capture Single Snapshot

Note: This request requires Normal User privileges.

Method: GET/POST

Syntax:

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

If the user requests a size larger than all stream settings on the server, this request will fail.

PARAMETER	VALUE	DEFA	DESCRIPTION
		ULT	
channel	0~(n-1)	0	The channel number of the video source.
resolution	IP8165:	0	The resolution of the image.
	(160~640, 120~360)		
	IP8155:		
	(160~1280, 120~1024)		
quality	1~5	3	The quality of the image.
streamid	0~(m-1)	2	The stream number.

The server will return the most up-to-date snapshot of the selected channel and stream in JPEG format. The size and quality of the 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>

8.5 Account Management

Note: This request requires Administrator privileges. Method: GET/POST

Syntax:

http://<servername>/cgi-bin/admin/editaccount.cgi?

method=<value>&username=<name>[&userpass=<value>][&privilege=<value>]

[&privilege=<value>][...][&return=<return page>]

PARAMETER	VALUE	DESCRIPTION
method	Add	Add an account to the server. When using this method, the"username"
		field is necessary. It will use the default value of other fields if not
		specified.
	Delete	Remove an account from the server. When using this method, the
		"username" field is necessary, and others are ignored.
	edit	Modify the account password and privilege. When using this method,
		the"username" field is necessary, and other fields are optional. If not
		specified, it will keep the original settings.
username	<name></name>	The name of the user to add, delete, or edit.
userpass	<value></value>	The password of the new user to add or that of the old user to modify.
		The default value is an empty string.
Privilege	<value></value>	The privilege of the user to add or to modify.
	viewer	Viewer privilege.
	operator	Operator privilege.
	admin	Administrator privilege.
Return	<return page=""></return>	Redirect to the page < <i>return page</i> >after the parameter is assigned.
		The < <i>return page</i> >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.

8.6 System Logs

Note: This request require Administrator privileges. **Method:** GET/POST

Syntax:

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

Server will return the most 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

8.7 Upgrade Firmware

Note: This request requires Administrator privileges. 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 file named <file name> to upgrade the firmware and return with <return page> if indicated.

8.8 ePTZ Camera Control (capability.eptz > 0 and

capability_fisheye = 0)

Note: This request requires camctrl privileges. **Method:** GET/POST

Syntax:

http://< <i>servername</i> >/cgi-bin/camctrl/eCamCtrl.cgi?channel= <value>&stream=<value></value></value>
[&move= <value>] – Move home, up, down, left, right</value>
[&auto= <value>] - Auto pan, patrol</value>
[&zoom= <value>] -Zoom in, out</value>
[&zooming= <value>&zs=<value>] -Zoom without stopping, used for joystick</value></value>
[&x= <value>&y=<value>&w=<value>&h=<value>&resolution=<value>] - Zoom in, out on a specific area</value></value></value></value></value>
[&vx= <value>&vy=<value>&vs=<value>] - Shift without stopping, used for joystick</value></value></value>
[&x= <value>&y=<value>&videosize=<value>&resolution=<value>&stretch=<value>] -Click on image</value></value></value></value></value>
(Move the center of image to the coordination (x,y) based on resolution or videosize.)
[[&speedpan= <value>][&speedtilt=<value>][&speedzoom=<value>][&speedapp=<value>]] - Set speeds</value></value></value></value>
[&return= <return page="">]</return>

Example:

http://myserver/cgi-bin/camctrl/eCamCtrl.cgi?channel=0&stream=0&move=right
http://myserver/cgi-bin/camctrl/eCamCtrl.cgi?channel=0&stream=1&vx=2&vy=2&vz=2
http://myserver/cgi-bin/camctrl/eCamCtrl.cgi?channel=0&stream=1&x=100&y=100&
videosize=640x480&resolution=640x480&stretch=0

In zoom operation, there are two ways to control it, scale zoom and area zoom.

1. [Scale zoom]: contains two control method, relative movement and continuous movement

a. relative movement -

If you trigger a relative movement, it will only zoom certain ratio and stop by itself.

http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?stream=0&zoom=tele

http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?stream=0&zoom=wide

The zoom ratio to move by relative movement is according to the setting of speedzoom [-5~5].

http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?stream=0&speedzoom=5

b. continuous movement -

If you trigger a continuous movement, you have to handle the stop time by yourself.

A continuous movement is convenient to integrate a joystick control.

http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?stream=0&zooming=tele&zs=1

<u>http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?stream=0&zooming=wide&zs=5</u> zooming is used to indicate the moving direction, and zs is used to indicate the speed. To stop a continuous movement, you have to use the command as below: <u>http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?stream=0&zoom=stop&zs=0</u>

2. [Area zoom]: it means to zoom in on a specific area, here is an example for a directly moving

[x, y] is the desired coordinate, and it will be the center after movement

[w, h] is the scaled area size

[resolution] is the base range of this coordinate system

The example shows [w, h] = [864, 488], which means to zoom in to ratio x2.2 based on [1920x1080].

Pay attention to that [x, y, w, h] are essential parameters in an area zoom case, and the stream index is counted from 0 as the first stream.

http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?channel=0&stream=0&x=912&y=297&w=864&h=488&resolution=1920x1080

PARAMETER	VALUE	DESCRIPTION
channel	<0~(n-1)>	Channel of video source.
stream	<0~(m-1)>	Stream.
move	home	Move to home ROI.
	up	Move up.
	down	Move down.
	left	Move left.
	right	Move right.
auto	pan	Auto pan.
	patrol	Auto patrol.
	stop	Stop auto pan/patrol.
zoom	wide	Zoom larger view with current speed.
	tele	Zoom further with current speed.
zooming	wide or tele	Zoom without stopping for larger view or further view with zs speed,
		used for joystick control.
zs	0 ~ 6	Set the speed of zooming, "0" means stop.
х	<integer></integer>	The desired coordinate, and it will be the center after movement
у	<integer></integer>	
w	<integer></integer>	The scaled area size
h	<integer></integer>	
resolution	<window size=""></window>	The resolution of streaming.

vx	<integer></integer>	The direction of movement, used for joystick control.
vy	<integer></integer>	
vs	0 ~ 7	Set the speed of movement, "0" means stop.
x	<integer></integer>	x-coordinate clicked by user.
		It will be the x-coordinate of center after movement.
у	<integer></integer>	y-coordinate clicked by user.
		It will be the y-coordinate of center after movement.
videosize	<window size=""></window>	The size of plug-in (ActiveX)window in web page
resolution	<window size=""></window>	The resolution of streaming.
stretch	<boolean></boolean>	0 indicates that it uses resolution (streaming size) as the range of the
		coordinate system.
		1 indicates that it uses videosize (plug-in size) as the range of the
		coordinate system.
speedpan	-5 ~ 5	Set the pan speed.
speedtilt	-5 ~ 5	Set the tilt speed.
speedzoom	-5 ~ 5	Set the zoom speed.
speedapp	1 ~ 5	Set the auto pan/patrol speed.
return	<return page=""></return>	Redirect to the page < <i>return page</i> >after the parameter is assigned.
		The < <i>return page</i> >can be a full URL path or relative path according to
		the current path.

8.9 ePTZ Recall (capability.eptz > 0 and capability_fisheye = 0)

Note: This request requires camctrl privileges.

Method: GET/POST

Syntax:

http://<*servername*>/cgi-bin/camctrl/eRecall.cgi?channel=<value>&stream=<value>& recall=<value>[&return=<*return page*>]

PARAMETER	VALUE	DESCRIPTION
channel	<0~(n-1)>	Channel of the video source.
stream	<0~(m-1)>	Stream.
recall	Text string less than 40	One of the present positions to recall.
	characters	
return	<return page=""></return>	Redirect to the page < <i>return page</i> >after the parameter is assigned.
		The < <i>return page</i> >can be a full URL path or relative path according to
		the current path.

8.10 ePTZ Preset Locations(capability.eptz > 0 and

capability_fisheye = 0)

Note: This request requires Operator privileges.

Method: GET/POST

Syntax:

http://<*servername*>/cgi-bin/operator/ePreset.cgi?channel=<value>&stream=<value>

```
[&addpos=<value>][&delpos=<value>][&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
channel	<0~(n-1)>	Channel of the video source.
stream	<0~(m-1)>	Stream.
addpos	<text less="" string="" td="" than<=""><td>Add one preset location to the preset list.</td></text>	Add one preset location to the preset list.
	40 characters>	
delpos	<text less="" string="" td="" than<=""><td>Delete preset location from the preset list.</td></text>	Delete preset location from the preset list.
	40 characters>	

return	<return page=""></return>	Redirect to the page < <i>return page</i> >after the parameter is assigned.
		The < <i>return page</i> >can be a full URL path or relative path according to
		the current path.

8.11 IP Filtering

Note: This request requires Administrator access privileges.

Method: GET/POST

Syntax: <product dependent>

http://<servername>/cgi-bin/admin/ipfilter.cgi?type[=<value>] http://<servername>/cgi-bin/admin/ipfilter.cgi?method=add<v4/v6>&ip=<ipaddress>[&index=<value>][&ret urn=<return page>] http://<servername>/cgi-bin/admin/ipfilter.cgi?method=del<v4/v6>&index=<value>[&return=<return page>] VALUE DESCRIPTION PARAMETER NULL Get IP filter type type allow, deny Set IP filter type method addv4 Add IPv4 address into access list. addv6 Add IPv6 address into access list. delv4 Delete IPv4 address from access list. delv6 Delete IPv6 address from access list. <IP address> Single address: <IP address> ip Network address: <IP address / network mask> Range address: < start IP address - end IP address > 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 to the current path. If you omit this parameter, it will redirect to an empty page.

8.12 **IP Filtering for ONVIF**

Syntax: < product dependent >

http://<*servername*>/cgi-bin/admin/ipfilter.cgi?type[=<value>]

http://<*servername*>/cgi-bin/admin/ipfilter.cgi?method=add<v4/v6>&ip=<*ipaddress*>[&index=<value>][&ret urn=<*return page*>]

http://<*servername*>/cgi-bin/admin/ipfilter.cgi?method=del<v4/v6>&index=<value>[&return=<*return page*>]

PARAMETER	VALUE	DESCRIPTION

type	NULL	Get IP filter type
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	allow, deny	Set IP filter type
method	addv4	Add IPv4 address into access list.
	addv6	Add IPv6 address into access list.
	delv4	Delete IPv4 address from access list.
	delv6	Delete IPv6 address from access list.
ip	<ip address=""></ip>	Single address: <ip address=""></ip>
		Network address: <ip address="" mask="" network=""></ip>
		Range address: <start -="" address="" end="" ip=""></start>
index	<value></value>	The start position to add or to delete.
return	<return page=""></return>	Redirect to the page < <i>return page</i> >after the parameter is assigned.
		The <i><return i="" page<="">>can be a full URL path or relative path according to</return></i>
		the current path. If you omit this parameter, it will redirect to an
		empty page.

8.13 UART HTTP Tunnel Channel (capability.nuart > 0)

Note: This request requires Operator privileges.

Method: GET and POST

Syntax: http://<servername>/cgi-bin/operator/uartchannel.cgi?[channel=<value>] _____ GET /cgi-bin/operator/uartchannel.cgi?[channel=<value>] x-sessioncookie: string[22] accept: application/x-vvtk-tunnelled pragma: no-cache cache-control: no-cache _____ POST /cgi-bin/operator/uartchannel.cgi x-sessioncookie: string[22] content-type: application/x-vvtk-tunnelled pragma : no-cache cache-control : no-cache content-length: 32767 expires: Sun, 9 Jam 1972 00:00:00 GMT

User must use GET and POST to establish two channels for downstream and upstream. The x-sessioncookie in GET

and POST should be the same to be recognized as a pair for one session. The contents of upstream should be base64 encoded to be able to pass through a proxy server.

This channel will help to transfer the raw data of UART over the network. Please see UART tunnel spec for detail information

PARAMETER	VALUE	DESCRIPTION
channel	0 ~ (n-1)	The channel number of UART.

8.14 Event/Control HTTP Tunnel Channel (capability.

evctrlchannel > 0)

Note: This request requires Administrator privileges.

Method: GET and POST

Syntax:

User must use GET and POST to establish two channels for downstream and upstream. The x-sessioncookie in GET and POST should be the same to be recognized as a pair for one session. The contents of upstream should be base64 encoded to be able to pass through the proxy server.

This channel will help perform real-time event subscription and notification as well as camera control more efficiently. The event and control formats are described in another document.

See Event/control tunnel spec for detail information

8.15 Get SDP of Streams

Note: This request requires Viewer access privileges.

Method: GET/POST

Syntax:

http://<*servername*>/<network_rtsp_s<0~m-1>_accessname>

"m" is the stream number.

"network_accessname_<0~(m-1)>" is the accessname for stream "1" to stream "m". Please refer to the

"subgroup of network: rtsp" for setting the accessname of SDP.

You can get the SDP by HTTP GET.

When using scalable multicast, Get SDP file which contains the multicast information via HTTP.

8.16 Open the Network Stream

Note: This request requires Viewer access privileges.

Syntax:

For HTTP push server (MJPEG):

http://<*servername*>/<network_http_s<0~m-1>_accessname>

For RTSP (MP4), the user needs to input theURL below into an RTSP compatible player.

rtsp://<servername>/<network_rtsp_s<0~m-1>_accessname>

"m" is the stream number.

For details on streaming protocol, please refer to the "control signaling" and "data format" documents.

8.17 Senddata (capability.nuart > 0)

Note: This request requires Viewer privileges.

Method: GET/POST

Syntax:

http://<*servername*>/cgi-bin/viewer/senddata.cgi? [com=<value>][&data=<value>][&flush=<value>] [&wait=<value>] [&read=<value>]

PARAMETER	VALUE	DESCRIPTION
com	1 ~ <max. com="" port<="" td=""><td>The target COM/RS485 port number.</td></max.>	The target COM/RS485 port number.
	number>	
data	<hex decimal<="" td=""><td>The <hex data="" decimal=""> is a series of digits from 0 \sim 9, A \sim F. Each</hex></td></hex>	The <hex data="" decimal=""> is a series of digits from 0 \sim 9, A \sim F. Each</hex>
	data>[, <hex decimal<="" td=""><td>comma separates the commands by 200 milliseconds.</td></hex>	comma separates the commands by 200 milliseconds.
	data>]	
flush	yes,no	yes: Receive data buffer of the COM port will be cleared before read.
		no: Do not clear the receive data buffer.
wait	1 ~ 65535	Wait time in milliseconds before read data.
read	1 ~ 128	The data length in bytes to read. The read data will be in the return
		page.

Return:

HTTP/1.0 200 OK\r\n

Content-Type: text/plain\r\n

Content-Length: <system information length>\r\n

\r\n

<hex decimal data>\r\n

Where hexadecimal data is digits from 0 \sim 9, A \sim F.

8.18 Storage managements (capability.storage.dbenabled > 0)

Note: This request requires administrator privileges.

Method: GET and POST

Syntax:

http://<*servername*>/cgi-bin/admin/lsctrl.cgi?cmd=<cmd_type>[&<parameter>=<value>...]

The commands usage and their input arguments are as follows.

PARAMETER	VALUE	DESCRIPTION
cmd_type	<string></string>	Required.
		Command to be executed, including <i>search</i> , <i>insert</i> , <i>delete</i> , <i>update</i> ,
		and <i>queryStatus</i> .

Command: **search**

PARAMETER	VALUE	DESCRIPTION
label	<integer key="" primary=""></integer>	Optional.
		The integer primary key column will automatically be assigned a
		unique integer.
triggerType	<text></text>	Optional.
		Indicate the event trigger type.
		Please embrace your input value with single quotes.
		Ex. mediaType='motion'
		Support trigger types are product dependent.
mediaType	<text></text>	Optional.
		Indicate the file media type.
		Please embrace your input value with single quotes.
		Ex. mediaType='videoclip'
		Support trigger types are product dependent.
destPath	<text></text>	Optional.
		Indicate the file location in camera.
		Please embrace your input value with single quotes.
		Ex. destPath ='/mnt/auto/CF/NCMF/abc.mp4'
resolution	<text></text>	Optional.
		Indicate the media file resolution.
		Please embrace your input value with single quotes.
		Ex. resolution='800x600'
isLocked	<boolean></boolean>	Optional.

	Indicate if the file is locked or not.
	0: file is not locked.
	1: file is locked.
	A locked file would not be removed from UI or cyclic storage.
<text></text>	Optional.
	Indicate the event trigger time. (not the file created time)
	Format is "YYYY-MM-DD HH:MM:SS"
	Please embrace your input value with single quotes.
	Ex. triggerTime='2008-01-01 00:00:00'
	If you want to search for a time period, please apply "TO"
	operation.
	Ex. triggerTime='2008-01-01 00:00:00'+TO+'2008-01-01
	23:59:59' is to search for records from the start of Jan 1^{st} 2008to
	the end of Jan 1 st 2008.
<positive integer=""></positive>	Optional.
	Limit the maximum number of returned search records.
<positive integer=""></positive>	Optional.
	Specifies how many rows to skip at the beginning of the matched
	records.
	Note that the offset keyword is used after limit keyword.
	<positive integer=""></positive>

To increase the flexibility of search command, you may use "OR" connectors for logical "OR" search operations. Moreover, to search for a specific time period, you can use "TO" connector.

Ex. To search records triggered by motion or di or sequential and also triggered between 2008-01-01 00:00:00 and 2008-01-01 23:59:59.

http://<*servername*>/cgi-bin/admin/lsctrl.cgi?cmd=search&triggerType='motion'+OR+'di'+OR+'seq'&triggerTi me='2008-01-01 00:00:00'+TO+'2008-01-01 23:59:59'

Command: **delete**

PARAMETER	VALUE	DESCRIPTION
label	<integer key="" primary=""></integer>	Required.
		Identify the designated record.
		Ex. label=1

Ex. Delete records whose key numbers are 1, 4, and 8.

http://<servername>/cgi-bin/admin/lsctrl.cgi?cmd=delete&label=1&label=4&label=8

Command: **update**

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

label	<integer key="" primary=""> Required.</integer>	
		Identify the designated record.
		Ex. label=1
isLocked	<boolean></boolean>	Required.
		Indicate if the file is locked or not.

Ex. Update records whose key numbers are 1 and 5 to be locked status.

http://<servername>/cgi-bin/admin/lsctrl.cgi?cmd=update&isLocked=1&label=1&label=5

Ex. Update records whose key numbers are 2 and 3 to be unlocked status.

```
http://<servername>/cgi-bin/admin/lsctrl.cgi?cmd=update&isLocked=0&label=2&label=3
```

Command: queryStatus

PARAMETER	VALUE	DESCRIPTION
retType	xml or javascript	Optional.
		Ex. retype=javascript
		The default return message is in XML format.

Ex. Query local storage status and call for javascript format return message.

http://<*servername*>/cgi-bin/admin/lsctrl.cgi?cmd=queryStatus&retType=javascript

8.19 Virtual input (capability.nvi > 0)

Note: Change virtual input (manual trigger) status. Method: GET

Syntax:

http://<servername>/cgi-bin/admin/setvi.cgi?vi0=<value>[&vi1=<value>][&vi2=<value>] [&return=<return page>]

PARAMETER	VALUE	DESCRIPTION
vi <num></num>	state[(duration)nstate]	Ex: vi0=1
		Setting virtual input 0 to trigger state
	Where "state" is 0, 1. "0"	
	means inactive or normal	Ex: vi0=0(200)1
	state while "1" means	Setting virtual input 0 to normal state, waiting 200
	active or triggered state.	milliseconds, setting it to trigger state.
	Where "nstate" is next	Note that when the virtual input is waiting for next state, it
	state after duration.	cannot accept new requests.
return	<return page=""></return>	Redirect to the page < <i>return page</i> >after the request is
		completely assigned. The < <i>return page</i> >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.

Return Code	Description	
200	The request is successfully executed.	
400	The request cannot be assigned, ex. incorrect parameters.	
	Examples:	
	setvi.cgi?vi0=0(10000)1(15000)0(20000)1	
	No multiple duration.	
	setvi.cgi?vi3=0	
	VI index is out of range.	
	setvi.cgi?vi=1	
	No VI index is specified.	
503	The resource is unavailable, ex. Virtual input is waiting for next state.	
	Examples:	
	setvi.cgi?vi0=0(15000)1	
	setvi.cgi?vi0=1	
	Request 2 will not be accepted during the execution time(15 seconds).	

8.20 Open Timeshift Stream (capability.timeshift > 0,

timeshift_enable=1, timeshift_c<n>_s<m>_allow=1)

Note: This request requires Viewer access privileges.

Syntax:

For HTTP push server (MJPEG):

http://<servername>/<network_http_s<m>_accessname>?maxsft=<value>[&tsmode=<value>&reftime=<v alue>&forcechk&minsft=<value>]

For RTSP (MP4 and H264), the user needs to input theURL below into an RTSP compatible player.

```
rtsp://<servername>/<network_rtsp_s<m>_accessname>?maxsft=<value>[&tsmode=<value>&reftime=<va
lue>&forcechk&minsft=<value>]
```

"n" is the channel index.

"m" is the timeshift stream index.

For details on timeshift stream, please refer to the "TimeshiftCaching" documents.

PARAMETER	VALUE	DEFAULT	DESCRIPTION
maxsft	<positive< td=""><td>0</td><td>Request cached stream at most how many seconds ago.</td></positive<>	0	Request cached stream at most how many seconds ago.
	integer>		
tsmode	normal,	normal	Streaming mode:
	adaptive		normal => Full FPS all the time.
			adaptive => Default send only I-frame for MP4 and H.264, and
			send 1 FPS for MJPEG. If DI or motion window are triggered, the
			streaming is changed to send full FPS for 10 seconds.
			(*Note: this parameter also works on non-timeshift streams.)
reftime	mm:ss	The time	Reference time for maxsft and minsft.
		camera receives	(This provides more precise time control to eliminate the
		the request.	inaccuracy due to network latency.)
			Ex: Request the streaming from 12:20
			rtsp://10.0.0.1/live.sdp?maxsft=10&reftime=12:30
forcechk	N/A	N/A	Check if the requested stream enables timeshift, feature and
			if minsft is achievable.
			If false, return "415 Unsupported Media Type".
minsft	<positive< td=""><td>0</td><td>How many seconds of cached stream client can accept at least.</td></positive<>	0	How many seconds of cached stream client can accept at least.
	integer>		(Used by forcechk)

Return Code	Description
400 Bad Request	Request is rejected because some parameter values are illegal.
415 Unsupported Media Type	Returned, if forcechk appears, when minsft is not achievable or the timeshift
	feature of the target stream is not enabled.

8.21 RemoteFocus

(capability_image_c<0~(n-1)>_remotefocus=1)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax:

http://< <i>servername</i> >/cgi-bin/admin/remotefocus.cgi?function= <value>[&direction=<value>]</value></value>
[&position= <value>][&steps=<value>][&iris]</value></value>

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

function	zoom,	Function type
	focus,	zoom - Move focus motor
	auto,	focus – Move focus motor
	scan,	auto – Perform auto focus
	stop,	scan – Perform focus scan
	positioning,	stop – Stop current operation
	getstatus	positioning – Position the motors
		getstatus–Information of motors, return value as below:
		remote_focus_zoom_motor_max: Maximum steps of zoom motor
		remote_focus_focus_motor_max: Maximum steps of focus motor
		remote_focus_zoom_motor_start: Start point of zoom motor
		remote_focus_zoom_motor_end: End point of zoom motor
		remote_focus_focus_motor_start: Start point of effective focal
		length
		remote_focus_focus_motor_end: End point of effective focal
		length
		remote_focus_zoom_motor: Current position of zoom motor
		remote_focus_focus_motor: Current position of focus motor
		remote_focus_zoom_enable: Current function of zoom motor
		remote_focus_focus_enable: Current function of focus motor
		<pre>remote_focus_iris_open: The current status of iris. 0: irisenable, 1:</pre>
		irisopen
		Current function of zoom/focus motor, return value as below:
		0: no service
		1: zooming
		2. focusing
		3: auto focus
		4: focus scan
		5: positioning (both zoom motor and focus motor)
		12: reset focus
direction	direct,	Motor's moving direction.
	forward,	It works only if function= zoom focus.
	backward	
position	0~ <motor_max></motor_max>	Motor's position.
		It works only if function=zoom focus and direction=direct.
		<motor_max> is refer to remote_focus_focus_motor_max or</motor_max>
		remote_focus_zoom_motor_max which replied from
		"function=getstatus"

steps	1 ~ <motor_max></motor_max>	Motor's moving steps.
		It works only if function=zoom focus and direction=forward
		backward.
		<motor_max> is refer to remote_focus_focus_motor_max or</motor_max>
		remote_focus_zoom_motor_max which replied from
		"function=getstatus"
iris	N/A	Open iris or not.
		It works only if function=auto scan.

8.22 BackFocus (capability_image_c<0~(n-1)>_remotefocus=4)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax:

http://<servername>/cgi-bin/admin/remotefocus.cgi?function=<value>[&direction=<value>]

[&position=<value>][&steps=<value>][&iris]

PARAMETER	VALUE	DESCRIPTION
	VALUE	DESCRIPTION

function	focus,	Function type
	auto,	focus – Move focus motor
	scan,	auto – Perform auto focus
	stop,	scan – Perform focus scan
	positioning,	stop – Stop current operation
	irisopen,	positioning – Position the motors
	irisenable,	resetfocus – reset focus position to default
	resetfocus,	irisopen – Fully open iris. It will maintain this status until sending
	getstatus	irisenable cgi.
		irisenable – leave fully open iris and return back to previous status
		getstatus–Information of motors, return value as below:
		remote_focus_focus_motor_max: Maximum steps of focus motor
		remote_focus_focus_motor_start: Start point of effective focal
		length
		remote_focus_focus_motor_end: End point of effective focal
		length
		remote_focus_focus_motor: Current position of focus motor
		remote_focus_focus_enable: Current function of focus motor
		<pre>remote_focus_iris_open: The current status of iris. 0: irisenable, 1:</pre>
		irisopen
		Current function of zoom/focus motor, return value as below:
		0: no service
		1: zooming
		2. focusing
		3: auto focus
		4: focus scan
		5: positioning (both zoom motor and focus motor)
		12: reset focus
direction	direct,	Motor's moving direction.
	forward,	It works only if function= focus.
	backward	
position	0~ <motor_max></motor_max>	Motor's position.
		It works only if function=focus and direction=direct.
		<motor_max> is refer to remote_focus_focus_motor_max which</motor_max>
		replied from "function=getstatus"

steps	1 ~ <motor_max></motor_max>	Motor's moving steps.
		It works only if function=focus and direction=forward backward.
		<motor_max> is refer to remote_focus_focus_motor_max which</motor_max>
		replied from "function=getstatus"
iris	N/A	Open iris or not.
		It works only if function=auto scan.

8.23 Export Files

Note: This request requires Administrator privileges.

Method: GET

Syntax:

For daylight saving time configuration file:

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

For language file:

http://<servername>/cgi-bin/admin/export_language.cgi?currentlanguage=<value>

PARAMETER	VALUE	DESCRIPTION
currentlanguage	0~20	Available language lists.
		Please refer to:
		system_info_language_i0 ~ system_info_language_i19.

For setting backup file:

http://<servername>/cgi-bin/admin/export_backup.cgi?backup

8.24 Upload Files

Note: This request requires Administrator privileges. Method: POST

Syntax:

For daylight saving time configuration file:

http://<*servername*>/cgi-bin/admin/upload_dst.cgi

Post data:

filename =<file name>\r\n

\r\n

<multipart encoded form data>

For language file:

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

Post data:

filename =<file name>\r\n

\r\n

<multipart encoded form data>

For setting backup file:

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

Post data:

filename =<file name>\r\n \r\n <multipart encoded form data>

Server will accept the file named <file name> to upload this one to camera.

8.25 Update Lens Configuration

Note: This request requires Administrator privileges. **Method:** GET

Syntax:

For list a name of lens currently used:

http://<*servername*>/cgi-bin/admin/update_lens.cgi?get_currentlens

For list all names of lens installed in camera:

http://<servername>/cgi-bin/admin/update_lens.cgi?list_lens

For choose selected lens configuration:

http://<servername>/cgi-bin/admin/update_lens.cgi?choose_lens=<value>

You need to reboot manually after you choose another lens configuration.

For choose selected lens configuration and reboot camera:

http://<servername>/cgi-bin/admin/update_lens.cgi?choose_reboot_lens=<value>

The camera will reboot after using this cgi.

For delete selected lens configuration:

http://<servername>/cgi-bin/admin/update_lens.cgi?delete_lens=<value>

PARAMETER	VALUE	DESCRIPTION
value	<string></string>	Available lens name.
		Please refer to:
		lens_default_i<0~(n-1)>_name
		lens_user_i<0~(n-1)>_name
		n is a positive integer.

Method: POST

Syntax:

For upload user-defined lens configuration:

http://<servername>/cgi-bin/admin/update_lens.cgi?upload_lens

Post data:

upload_lens_profile_input = <file name>\r\n \r\n
<multipart encoded form data>

Server will accept the file named <file name> to upload the lens profile to camera.

8.26 Media on demand (capability.localstorage.modnum > 0)

Media on demand allows users to select and receive/watch/listen to metadata/video/audio contents on demand. **Note:** This request requires Viewer access privileges.

Syntax:

rtsp://<servername>/mod.sdp?[&stime=<value>][&etime=<value>][&length =<value>][&loctime =<value>][&file=<value>][&tsmode=<value>]

PARAMETER	VALUE	DEFAULT	DESCRIPTION
stime	<yyyymmdd_hhmmss.mmm></yyyymmdd_hhmmss.mmm>	N/A	Start time.
etime	<yyyymmdd_hhmmss.mmm></yyyymmdd_hhmmss.mmm>	N/A	End time.
length	<positive integer=""></positive>	N/A	The length of media of interest.
			The unit is second.
loctime	<boolean></boolean>	0	Specify if start/end time is local time format.
			1 for local time, 0 for UTC+0
file	<string></string>	N/A	The media file to be played.
tsmode	<positive integer=""></positive>	N/A	Timeshift mode, the unit is second.

Ex.

stime	etime	length	file	Description
V	V	x	x	Play recordings between stime and etime
				rtsp://10.10.1.2/mod.sdp?stime=20110312_040400.000&etime
				=2011_0312_040510.000
V	X	V	X	Play recordings for length seconds which start from stime
				rtsp://10.10.1.2/mod.sdp?stime=20110312_040400.000&lengt
				h=120
x	V	V	x	Play recordings for length seconds which ends at etime
				rtsp://10.10.1.2/mod.sdp?etime=20110312_040400.000&lengt
				h=120
X	X	X	V	Play file file
				<pre>rtsp://10.10.1.2/mod.sdp?filename=/mnt/link0/</pre>

8.27 Fisheye local dewarp camera control (capability.fisheye > 0

and capability.fisheyelocaldewarp.c0 > 0, only support in 1R

mode)

Note: This request requires camctrl privileges. **Method:** GET/POST

Syntax:

http://<servername>/cgi-bin/camctrl/fdCamCtrl.cgi?channel=<value>&stream=<value>
[&move=<value>] - Move home, up, down, left, right
[&zoom=<value>] - Zoom wide, tele
[[&speedpan=<value>][&speedtilt=<value>][&speedzoom=<value>]] - Set speeds
[&zooming=<value>&zs=<value>] - Zoom without stopping, used for joystick
[&vx=<value>&vy=<value>&vs=<value>] - Shift without stopping, used for joystick
[&x=<value>&y=<value>&videosize=<value>&resolution=<value>&stretch=<value>] - Click on image (Move
the center of image to the coordination (x,y) based on resolution or videosize of 10 mode.)
[&return=<return page>]

Example:

http://myserver/cgi-bin/camctrl/fdCamCtrl.cgi?channel=0&stream=0&move=right http://myserver/cgi-bin/camctrl/fdCamCtrl.cgi?channel=0&stream=0&move=top&speedtilt=-1 http://myserver/cgi-bin/camctrl/fdCamCtrl.cgi?channel=0&stream=0&zooming=tele&zs=2 http://myserver/cgi-bin/camctrl/fdCamCtrl.cgi?channel=0&stream=0&vx=5&vy=3&vs=2 http://myserver/cgi-bin/camctrl/fdCamCtrl.cgi?channel=0&stream=0&x=700&y=700&videosize=1920x1920&r esolution=1920x1920&stretch=1

PARAMETER	VALUE	DESCRIPTION
channel	<0~(n-1)>	Channel of video source.
stream	<0~(m-1)>	Stream.
move	home	Move to home position.
	up	Move up.
	down	Move down.
	left	Move left.
	right	Move right.

zoom	wide	Zoom larger view with current speed.
	tele	Zoom further with current speed.
speedpan	-5 ~ 5	Set the pan speed of current command.
speedtilt	-5 ~ 5	Set the tilt speed of current command.
speedzoom	-5 ~ 5	Set the zoom speed of current command.
zooming	wide or tele	Zoom without stopping for larger view or further view with zs speed, used for joystick control.
zs	0 ~ 6	Set the speed of zooming, "0" means stop.
vx	-6 ~ 6	The direction of movement, used for joystick control.
vy	-6 ~ 6	
vs	0 ~ 7	Set the speed of movement, "0" means stop.
x	<integer></integer>	x-coordinate clicked by user.
		It will be the x-coordinate of center after movement.
у	<integer></integer>	y-coordinate clicked by user.
		It will be the y-coordinate of center after movement.
videosize	<window size=""></window>	The size of plug-in (ActiveX) window in web page of 10 content.
resolution	<window size=""></window>	The resolution of streaming of 10 content.
stretch	<boolean></boolean>	0 indicates that it uses resolution (streaming size) as the range of
		the coordinate system.
		1 indicates that it uses videosize (plug-in size) as the range of the
		coordinate system.
return	<return page=""></return>	Redirect to the page < return page > after the parameter is assigned.
		The <i><return page=""></return></i> 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.

8.28 3D Privacy Mask

(capability_image_c<0~(n-1)>_privacymask_wintype =

3Drectangle) n denotes the value of "capability_nvideoin"

Note: This request requires admin user privilege Method: GET/POST

Syntax:

http://<*servername*>/cgi-bin/admin/setpm3d.cgi?method=<value>&name=<value>&[maskheight=<value>& maskwidth=<value>&videosize=<value>&return page>]

PARAMETER	VALUE	DESCRIPTION
method	add	Add a 3D privacy mask at current location
	delete	Delete a 3D privacy mask
	edit	Edit a 3D privacy mask
maskname	string[40]	3D privacy mask name
maskheight	integer	3D privacy mask height
maskwidth	integer	3D privacy mask width
videosize	<window size=""></window>	Optimal.
		The size of plug-in (ActiveX) window in web page is the size of the
		privacy window size. This field is not necessary, it will use the default
		value if not specified. 320x180 for 16:9 resolution and 320x240 for
		4:3 resolution.
return	<return page=""></return>	Redirect to page < <i>return page</i> > after the 3D privacy mask is
		configured. The <i><return page=""></return></i> 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.

8.29 Camera Control

(capability_camctrl_c<0~(n-1)>_zoommodule = 1)

Note: This request requires Viewer privileges. **Method:** GET/POST

Syntax: (for control API)

http://<servername>/cgi-bin/camctrl/camctrl.cgi?[channel=<value>][&camid=<value>]
[&move=<value>] - Move home, up, down, left, right
[&focus=<value>] - Focus operation
[&auto=<value>] - Auto pan, patrol
[&zoom=<value>] - Zoom in, out
[&zooming=<value>&zs=<value>] - Zoom without stopping, used for joystick
[&vx=<value>&vy=<value>&vs=<value>] - Shift without stopping, used for joystick
[&x=<value>&y=<value>&videosize=<value>&resolution=<value>&stretch=<value>] - Click on image
(Move the center of image to the coordination (x,y) based on resolution or videosize.)
[[&speedpan=<value>][&speedtilt=<value>][&speedzoom=<value>][&speedapp=<value>][&speedlink=<value>]] - Set speeds
[&return=<return page>]

Example:

http://myserver/cgi-bin/camctrl/camctrl.cgi?channel=0&camid=1&move=right http://myserver/cgi-bin/camctrl/camctrl.cgi?channel=0&camid=1&zoom=tele http://myserver/cgi-bin/camctrl/camctrl.cgi?channel=0&camid=1&x=300&y=200&resolution=704x480&videosi ze=704x480&strech=1

PARAMETER	VALUE	DESCRIPTION
channel	<0~(n-1)>	Channel of video source.
camid	0, <positive integer=""></positive>	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.
speedfocus	-5 ~ 5	Set the focus speed.
speedapp	-5 ~ 5	Set the auto pan/patrol speed.
auto	pan	Auto pan.
	patrol	Auto patrol.
	stop	Stop camera.
zoom	wide	Zoom larger view with current speed.
	tele	Zoom further with current speed.
	stop	Stop zoom.
zooming	wide or tele	Zoom without stopping for larger view or further view with zs speed,
		used for joystick control.
zs	0~8 <sd8362></sd8362>	Set the speed of zooming, "0" means stop.
vx	<integer ,="" 0="" excluding=""></integer>	The slope of movement = vy/vx , used for joystick control.
vy	<integer></integer>	
vs	0 ~ 127	Set the speed of movement, "0" means stop.
х	<integer></integer>	x-coordinate clicked by user.
		It will be the x-coordinate of center after movement.
у	<integer></integer>	y-coordinate clicked by user.
		It will be the y-coordinate of center after movement.
videosize	<window size=""></window>	The size of plug-in (ActiveX) window in web page
resolution	<window size=""></window>	The resolution of streaming.
stretch	<boolean></boolean>	0 indicates that it uses resolution (streaming size) as the range of
		the coordinate system.
		1 indicates that it uses videosize (plug-in size) as the range of the
		coordinate system.
focus	auto	Auto focus.
	far	Focus on further distance.
	near	Focus on closer distance.
return	<return page=""></return>	Redirect to the page < return page > after the parameter is assigned.
		The <i><return page=""></return></i> 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.

Syntax: (for querying API)

http://<servername>/cgi-bin/camctrl/camctrl.cgi?[<parameter>] [&<parameter>...]

Example:

http://myserver/cgi-bin/camctrl/camctrl.cgi?genpan

Response: HTTP/1.0 200 OK\r\n Cache-control: no-cache\r\n Pragma: no-cache\r\n \r\n pan=4117\r\n

PARAMETER	VALUE	DESCRIPTION
getversion	<string></string>	Get the version of the PTZ control module.
getaction	idle,	Get the current status of the camera.
	autopan,	
	tracking,	st We support this parameter when the version number (getversion) is
	tour,	equal or greater than 5.0.0.12
	patrol,	
getpan	0, <positive integer=""></positive>	Get the current pan position.
		*Only available when bit0 of
		"capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getpanangle	<integer></integer>	Get the current pan angle.
		*Only available when bit0 of
		"capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
gettilt	0, <positive integer=""></positive>	Get the current tilt position.
		*Only available when bit1 of
		"capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
gettiltangle	<integer></integer>	Get the current tilt angle.
		*Only available when bit1 of
		"capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getzoom	0, <positive integer=""></positive>	Get the current zoom position.
getratio	<decimal></decimal>	Get the current zoom ratio.
getfocus	0, <positive integer=""></positive>	Get the current focus position.
getminspeedlv	0, <positive integer=""></positive>	Get the minimum speed level of the PTZ control. Normally, the speed
		level is '0,' which denotes halting a continuous movement.
getmaxptspeedlv	0, <positive integer=""></positive>	Get the maximum speed level of pan/tilt moving.
		*Only available when "capability_camctrl_c<0~(n-1)>_buildinpt" > 0
getmaxzspeedlv	0, <positive integer=""></positive>	Get the maximum speed level of zoom moving.
getmaxfspeedlv	0, <positive integer=""></positive>	Get the maximum speed level of focus moving.

getminpan	0, <positive integer=""></positive>	Get the lower limit for pan position.
		*Only available when bit0 of
		"capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getmaxpan	0, <positive integer=""></positive>	Get the upper limit for pan position.
		*Only available when bit0 of
		"capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getminpanangle	<integer></integer>	Get the lower limit for pan angle.
		*Only available when bit0 of
		"capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getmaxpanangle	<integer></integer>	Get the upper limit for pan angle.
		*Only available when bit0 of
		"capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getmintilt	0, <positive integer=""></positive>	Get the lower limit for tilt position.
		*Only available when bit1 of
		"capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getmaxtilt	0, <positive integer=""></positive>	Get the upper limit for tilt position.
		*Only available when bit1 of
		"capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getmintiltangle	<integer></integer>	Get the lower limit for tilt angle.
		*Only available when bit1 of
		"capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getmaxtiltangle	<integer></integer>	Get the upper limit for tilt angle.
		*Only available when bit1 of
		"capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getminzoom	0, <positive integer=""></positive>	Get the lower limit for zoom position.
getmaxzoom	0, <positive integer=""></positive>	Get the upper limit for zoom position.
getmaxdzoom	0, <positive integer=""></positive>	Get the upper limit for digital zoom position.
getmaxratio	<decimal></decimal>	Get the maximum ratio of optical zoom.
		st We support this parameter when the version number (getversion) is
		equal or greater than 5.0.0.14
getmaxdratio	<decimal></decimal>	Get the maximum ratio of digital zoom.
		st We support this parameter when the version number (getversion) is
		equal or greater than 5.0.0.14
getminfocus	0, <positive integer=""></positive>	Get the lower limit for focus position.
getmaxfocus	0, <positive integer=""></positive>	Get the upper limit for focus position.

8.30 Recall (capability_camctrl_c<0~(n-1)>_zoommodule = 1)

Note: This request requires Viewer privileges.

Method: GET

Syntax:

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

PARAMETER	VALUE	DESCRIPTION
recall	string[30]	One of the present positions to recall.
channel	0~(capability_nvideoin-1)	Channel of the video source.
return	<return page=""></return>	Redirect to the page < <i>return page</i> > after the parameter is assigned.
		The <i><return page=""></return></i> 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.

8.31 Preset Locations

(capability_camctrl_c<0~(n-1)>_zoommodule = 1)

Note: This request requires Operator privileges.

Method: GET/POST

Syntax:

http:// <serverr< th=""><th>name>/cgi-bin/operator/preset.cgi?[channel=<value>]</value></th></serverr<>	name>/cgi-bin/operator/preset.cgi?[channel= <value>]</value>
[&addpos= <val< td=""><td>lue>][&delpos=<value>][&return=<<i>return page</i>>]</value></td></val<>	lue>][&delpos= <value>][&return=<<i>return page</i>>]</value>

PARAMETER	VALUE	DESCRIPTION
addpos	string[30]	Add one preset location to the preset list.
channel	0~(capability_nvideoin-1)	Channel of the video source.

delpos	string[30]	Delete preset location from preset list.	
return	<return page=""></return>	Redirect to the page <i><return page=""></return></i> after the parameter is assigned.	
		The <i><return page=""></return></i> 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.	

8.32 SmartSD (capability_localstorage_smartsd > 0)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax:

http://<*servername*>/cgi-bin/admin/smartsd.cgi?function=<value>

PARAMETER	VALUE	DESCRIPTION

function	getstatus	Function type
	getstatus	getstauts : Information of smartSD internal status return value as
		below:
		smartsd_lifetime_num:
		Accumulated amount of data that has been written
		smartsd_lifetime_den:
		Card-guaranteed amount of data that can be written
		smartsd_lifetime_rate:
		The ratio of smartsd_lifetime_num to smartsd_lifetime_den.
		It means the accumulated percentage amount of flash block has been
		written. The range is from 0 to 100 (unit: %). The SD card is
		recommended to be replaced if the percentage reaches above 90%.
		smartsd_spare_block_rate:
		Usage rate of spare blocks.
		It means the usage percentage of total spare block. The range is from
		0 to 100 (unit: %). The SD card is recommended to be replaced if the
		percentage reaches above 90%.
		smartsd_data_size_per_unit:
		Size (in sectors) of data to be written when Life Information1 is
		updated.
		smartsd_num_of_sudden_power_failure:
		Indicates how many times power disconnection occurred during
		write/erase operations
		smartsd_operation_mode:
		Enables/disables power-off detection and write error notification
		smartsd_attached:
		Indicate the smartSD is attached or not.

<End of document>

Technical Specifications

Technical Specifications

Model	SD9161-H	had a start of a start	10 Base-T/100 BaseTX Ethernet (RJ-45) *It is highly recommended to use standard	
System Information CPU Multimedia SoC (System-on-Chip)		Interface	CAT5e & CAT6 cables which are compliant	
			with the 3P/ETL standard.	
Flash	128MB	ONVIF	Supported, specification available at www. onvif.org	
RAM	512MB	Intelligent Video		
Camera Features		Video Motion Detection	Five-window video motion detection	
Image Sensor	1/3" Progressive CMOS	Auto-Tracking	Auto-tracking on moving object	
Maximum Resolution	1920x1080 (2MP)	Alarm and Event		
Lens Type	10x Optical Zoom, Auto Focus		Motion detection, manual trigger, digital	
Focal Length	f = 5.1 ~ 51 mm	Alarm Triggers	input, periodical trigger, system boot,	
Aperture	F1.6 ~ F1.8		recording notification, audio detection	
Auto-iris	DC-iris	Alexandra Electrica	Event notification using digital output, HTTP, SMTP, FTP and NAS server, SD Card	
Field of View	4.9° ~ 54° (Horizontal) 4° ~ 31° (Vertical) 6.7° ~ 68° (Diagonal)	Alarm Events	File upload via HTTP, SMTP, FTP, NAS server and SD card	
Shutter Time	1/8 sec. to 1/30,000 sec.	General		
WDR Technology	WDR Pro		RJ-45 cable connector for Network/PoE connection	
Day/Night	Removable IR-cut filter for day & night function	Connectors	Audio input Audio output 24V DC/24V AC power input	
Minimum Illumination	0.2 Lux @ F1.6 (Color) 0.01 Lux @ F1.6 (B/W)		Digital input*4 Digital output*2	
Pan Speed	0.05° ~ 360° / sec	LED Indicator	System power and status indicator	
Pan Range	360° endless		24V DC	
Tilt Speed	0.05° ~ 360° / sec	Power Input	24V AC IEEE 802.3at PoE Class 4	
Tilt Range	180°	Power Consumption	Max. 15W	
Preset Locations	256 preset locations 128 presets per tour	Dimensions	Ø 172 x 157 mm (Camera Body)	
	128x digital zoom (4x on IE plug-in, 32x	Weight	1043 g	
Pan/Tilt/Zoom	built-in)	Safety Certifications	CE, LVD, FCC Class A, VCCI, C-Tick, UL	
Functionalities	Auto pan mode Auto patrol mode Slot type: MicroSD/SDHC/SDXC card slot	Operating Temperature	Starting Temperature: -10'C ~ 55'C (14'F ~ 131'F) Working Temperature: -10'C ~ 55'C (14'F ~ 131'F)	
On-board Storage	Seamless Recording			
Video		Humidity	90%	
Compression	H265, H264, MJPEG	Warranty	36 months	
Maximum Frame Rate	30 fps @ 1920x1080 In all compression modes	System Requirements		
Maximum Streams	4 simultaneous streams	Operating System	Microsoft Windows 7/8/Vista/XP/2000	
S/N Ratio	50dB	Web Browser	Mozilla Firefox 7~43 (streaming only) Internet Explorer 7/8/9/10/11	
Dynamic Range	100dB	Other Players	VLC: 1.1.11 or above	
Video Streaming	Adjustable resolution, quality and constant bit rate control	Other Players Included Accessories	Quicktime: 7 or above	
	Smart Stream II	CD	User's manual, quick installation guide,	
	Time stamp, text overlay, flip & mirror; Configurable brightness, contrast,	CD	Installation Wizard 2, VAST	
Image Settings	saturation, sharpness, white balance, exposure control, gain, backlight compensation, privacy masks (up to 24)	Others	Indoor pendant mount, quick installation guide, alignment sticker, L-wrench, software CD, power cable	
	Scheduled profile settings, EIS, 3DNR, defog	Dimensions		
Audio				
Audio Capability	Two-way Audio (full duplex)			
Compression	G.711, G.726	172 mm		
Interface	External microphone input External line output	<u> 0 00_F</u>		
Network				
Users	Live viewing for up to 10 clients	\setminus \backslash	■	
Protocols	IPv4, IPv6, TCP/IP, HTTP, HTTPS, UPnP, RTSP/RTP/RTCP, IGMP, SMTP, FTP, DHCP, NTP, DNS, DDNS, PPPOE, CoS, QoS, SNMP, 802.1X, NTCIP, ARP, SSL, TLS, ICMP	120 mm		



mm		
<u> </u>	89 mm	

Technology License Notice

H.264

THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD ("AVC VIDEO") AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE HTTP:// WWW.MPEGLA.COM

MPEG-4 AAC Technology

THIS PRODUCT IS LICENSED UNDER THE MPEG-4 AAC AUDIO PATENT LICENSE. THIS PRODUCT MAY NOT BE DECOMPILED, REVERSE-ENGINEERED OR COPIED, EXCEPT WITH REGARD TO PC SOFTWARE, OF WHICH YOU MAY MAKE SINGLE COPIES FOR ARCHIVAL PURPOSES. FOR MORE INFORMATION, PLEASE REFER TO <u>HTTP://WWW.VIALICENSING.COM</u>.

MPEG-4 Visual Technology

THIS PRODUCT IS LICENSED UNDER THE MPEG-4 VISUAL PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER FOR (i) ENCODING VIDEO IN COMPLIANCE WITH THE MPEG-4 VISUAL STANDARD ("MPEG-4 VIDEO") AND/OR (ii) DECODING MPEG-4 VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/ OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED BY MPEG LA TO PROVIDE MPEG-4 VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION INCLUDING THAT RELATING TO PROMOTIONAL, INTERNAL AND COMMERCIAL USES AND LICENSING MAY BE OBTAINED FROM MPEG LA, LLC. PLEASE REFER TO <u>HTTP://WWW.MPEGLA.COM</u>.

AMR-NB Standard

THIS PRODUCT IS LICENSED UNDER THE AMR-NB STANDARD PATENT LICENSE AGREEMENT. WITH RESPECT TO THE USE OF THIS PRODUCT, THE FOLLOWING LICENSORS' PATENTS MAY APPLY:

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. 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.

Electromagnetic Compatibility (EMC)

FCC Statement

This device compiles 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.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the installation manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

CE Mark Warning

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

VCCI Warning

この装置は、情報処理装置等電波障害自主規制協議会(VCCI)の基準にづくクラスB情報技術装置です。この 装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使 用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい

Liability

VIVOTEK Inc. cannot be held responsible for any technical or typographical errors and reserves the right to make changes to the product and manuals without prior notice. VIVOTEK Inc. makes no warranty of any kind with regard to the material contained within this document, including, but not limited to, the implied warranties of merchantability and fitness for any particular purpose.