

# TOSHIBA

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## NETWORK CAMERA

### **Model: IK-WB70A**

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### URL Command Guide



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■ <http://www.toshibasecurity.com>

The above URL is subject to change without prior notice.

If the URL changes, refer to the Toshiba website (<http://www.toshiba.com>).

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# URL commands of IK-WB70A (ver. 1.00)

## Overview

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

## Style convention

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

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

Syntax:

http:// <servername>/cgi-bin/viewer/video.jpg
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Description of returned data is written with "**Return:**" in bold face followed by the returned data in a box. All data returned as HTTP formatted, i.e., starting with the string HTTP is line separated with a Carriage Return and Line Feed (CRLF) printed as \r\n.

Return:

HTTP/1.0 <HTTP code> <HTTP text>\r\n
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URL syntax examples are written with "**Example:**" in bold face followed by a short description and a light grey box with the example.

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**Example:** request a single snapshot image

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

## General CGI URL syntax and parameters

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

Syntax:

<code>http://&lt;servername&gt;/cgi-bin/&lt;subdir&gt;[/&lt;subdir&gt;...]/&lt;cgi&gt;.&lt;ext&gt; [?&lt;parameter&gt;=&lt;value&gt;[&amp;&lt;parameter&gt;=&lt;value&gt;...]]</code>
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**Example:** Setting digital output #1 to active

<http://mywebserver/cgi-bin/dido/setdo.cgi?dol=1>

## Security level

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

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## Get server parameter values

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

**Method:** GET/POST

Syntax:

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

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

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

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

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

When query parameter values, the current parameter value are returned.  
Successful control request returns paramter pairs as follows.

Return:

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

where <parameter pair> is  
<parameter>=<value>\r\n  
[<parameter pair>]

<length> is the actual length of content.

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

Request:

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

Response:

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

## Set server parameter values

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

**Method:** GET/POST

Syntax:

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

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

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

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

PARAMETER	VALUE	DESCRIPTION
<b>&lt;group&gt;_&lt;name&gt;</b>	value to assigned	Assign <value> to the parameter <group>_<name>
<a href="#">update</a>	<boolean>	set to 1 to actually update all fields (no need to use update parameter in each group)
<b>return</b>	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> can be a full URL path or relative path according the the current path. If you omit this parameter, it will redirect to an empty page.  (note: The return page can be a general HTML file(.htm, .html) or a unique server script executable (.vspcx) file. It can not be a CGI command. It can not have any extra parameters. This parameter must be put at end of parameter list)

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Return:

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

where <parameter pair> is  
<parameter>=<value>\r\n

[<parameter pair>]

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

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

Request:

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

Response:

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

## Available parameters on the server

Valid values:

VALID VALUES	DESCRIPTION
string[<n>]	Text string shorter than 'n' characters
password[<n>]	The same as string but display '*' instead
integer	Any number between $(-2^{31} - 1)$ and $(2^{31} - 1)$
positive integer	Any number between 0 and $(2^{32} - 1)$
<m> ~ <n>	Any number between 'm' and 'n'
domain name[<n>]	A string limited to contain a domain name shorter than 'n' characters (eg. www.tsb.com)
email address [<n>]	A string limited to contain an email address shorter than 'n' characters (eg. joe@www.tsb.com)
ip address	A string limited to contain an ip address (eg. 192.168.1.1)

mac address	A string limited to contain mac address without hyphen or colon connected
boolean	A boolean value 1 or 0 represents [Yes or No], [True or False], [Enable or Disable].
<value1>, <value2>, <value3>, ...	Enumeration. Only given values are valid.
blank	A blank string
everything inside <>	As description

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

Group: **system**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
date	<yyyy/mm/dd>, keep, auto	6/6	Current date of system. Set to 'keep' keeping date unchanged. Set to 'auto' to use NTP to synchronize date.
time	<hh:mm:ss>, keep, auto	6/6	Current time of system. Set to 'keep' keeping time unchanged. Set to 'auto' to use NTP to synchronize time.
ntp	<domain name>, <ip address>, <blank>	6/6	NTP server
timezoneindex	-480 ~ 520	6/6	Indicate timezone and area -480: GMT-12:00 Niwetok, Kwajalein -440: GMT-11:00 Midway Island, Samoa -400: GMT-10:00 Hawaii -360: GMT-09:00 Alaska -320: GMT-08:00 Las Vegas, San_Francisco, Vancouver -280: GMT-07:00 Mountain Time, Denver -281: GMT-07:00 Arizona -240: GMT-06:00 Central America, Central Time, Mexico City, Saskatchewan

			-200: GMT-05:00 Eastern Time, New York, Toronto -201: GMT-05:00 Bogota, Lima, Quito, Indiana -160: GMT-04:00 Atlantic Time, Canada, Caracas ,La Paz, Santiago -140: GMT-03: 30 Newfoundland -120: GMT-03:00 Brasilia, Buenos Aires, Georgetown, Greenland -80: GMT-02:00 Mid-Atlantic -40: GMT-01:00 Azores, Cape_Verde_IS. 00: 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
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			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, Chongqing, 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 Auckland, Wellington, Fiji, Kamchatka, Marshall Is. 520: GMT 13:00 Nuku'Alofa
daylight_enable	<boolean>	6/6	Enable automatic daylight saving to time zone
daylight_dstactualmode	<boolean>	6/7	Check if current time is under daylight saving time.
daylight_auto_begintime	string[19]	6/7	Display the current daylight saving begin time.
daylight_auto_endtime	string[19]	6/7	Display the current daylight saving end time.
updateinterval	0, 3600, 86400, 604800, 2592000	6/6	0 to Disable automatic time adjustment, otherwise, it means the seconds between NTP automatic update interval.

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

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
modelname	string[40]	0/7	model name of server

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serialnumber	<mac address>	0/7	12 characters mac address without hyphen connected
firmwareversion	string[40]	0/7	The version of firmware, including model, company, and version number in the format <MODEL-BRAND-VERSION>

Group: **status**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
di_i<0~(ndi-1)>	<boolean>	1/7	0 => Inactive, normal 1 => Active, triggered
do_i<0~ndi-1)>	<boolean>	1/7	0 => Inactive, normal 1 => Active, triggered
onlinenum_rtsp	integer	6/7	current RTSP connection numbers
onlinenum_httppush	integer	6/7	current HTTP push server connection numbers

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

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

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

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

Group: **security**

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

Group: **network**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
type	lan, pppoe	6/6	Network connection type
resetip	<boolean>	6/6	1 => get ipaddress, subnet, router, dns1, dns2 from DHCP server at next reboot 0 => use preset ipaddress, subnet, router, dns1, and dns2
ipaddress	<ip address>	6/6	IP address of server
subnet	<ip address>	6/6	subnet mask
router	<ip address>	6/6	default gateway
dns1	<ip address>	6/6	primary DNS server
dns2	<ip address>	6/6	secondary DNS server
wins1	<ip address>	6/6	primary WINS server
wins2	<ip address>	6/6	secondary WINS server

Subgroup of **network: sip**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
port	5060, 1025 ~ 65535	6/6	SIP port

Subgroup of **network: ftp**

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

Subgroup of **network: http**

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

Subgroup of **network: https**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
port	443, 1025~65535	6/6	https port

Subgroup of **network: rtsp**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
port	554, 1025 ~ 65535	6/6	RTSP port
authmode	disable, basic, digest	1/6	RTSP authentication mode
s0_accessname	string[32]	1/6	RTSP access name for stream1
s1_accessname	string[32]	1/6	RTSP access name for stream2
s0_audiotrack	<integer>	6/6	The current audio track for stream1. -1 => audio mute
s1_audiotrack	<integer>	6/6	The current audio track for stream2. -1 => audio mute

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

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
alwaysmulticast	<boolean>	4/4	Enable always multicast
ipaddress	<ip address>	4/4	Multicast IP address
videoport	1025 ~ 65535	4/4	Multicast video port
audioprot	1025 ~ 65535	4/4	Multicast audio port
tll	1 ~ 255	4/4	Muticast time to live value

Subgroup of **network: rtp**

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

Subgroup of **network: pppoe**

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

Group: **ipfilter**

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

Group: **videoin**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
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cmosfreq	50, 60	4/4	CMOS frequency
whitebalance	auto, keep current value	4/4	auto, auto white balance keep current value => keep current value
atwbvalue	0 ~ 9999999999	4/4	The auto white balance value
exposurelevel	1~8	4/4	exposure level
enablewdr	<boolean>	4/4	Enable wide dynamic range
agc	0~2	4/4	Set auto gain control
daynight	auto, schedule, on, off	4/4	Set IR cut filter mode
bwlowluxmode	<boolean>	4/4	Turn on or off black/white video in low lux mode

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

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
color	0, 1	4/4	0 => monochrome 1 => color
flip	<boolean>	4/4	flip the image
mirror	<boolean>	4/4	mirror the image
ptzstatus	<integer>	1/7	An 32-bits integer, each bit can be set separately as follows: Bit 0 => Support Network Camera control function. 0(not support), 1(support) Bit 1 => <b>Build-in</b> or <b>external</b> Network Camera. 0(external), 1(buildin) Bit 2 => Support <b>pan</b> operation. 0(not support), 1(support) Bit 3 => Support <b>tilt</b> operation. 0(not support), 1(support) Bit 4 => Support <b>zoom</b> operation. 0(not support), 1(support) Bit 5 => Support <b>focus</b> operation. 0(not support),

			1 (support)
text	string[16]	1/4	enclosed caption
imprinttimestamp	<boolean>	4/4	Overlay time stamp on video
maxexposure	1 ~ 120	4/4	Maximum exposure time
s<0~(m-1)>_codec type	mpeg4, mjpeg	4/4	video codec type
s<0~(m-1)>_resol ution	176x144, 352x240, 640x480	4/4	Video resolution in pixel
s<0~(m-1)>_mpeg 4_intraperiod	250, 500, 1000, 2000, 3000, 4000	4/4	The period of intra frame in milliseconds
s<0~(m-1)>_mpeg 4_ratecontrolmode	cbr, vbr	4/4	cbr, constant bitrate vbr, fix quality
s<0~(m-1)>_mpeg 4_quant	1, 2, 3, 4, 5	4/4	quality of video when choosing vbr in "ratecontrolmode". 1 is worst quality and 5 is the best quality.
s<0~(m-1)>_mpeg 4_bitrate	20000, 30000, 40000, 50000, 64000, 128000, 256000, 384000, 512000, 768000, 1000000, 1200000, 1500000, 2000000, 3000000, 4000000	4/4	set bit rate in bps when choose cbr in "ratecontrolmode" 20000 => 20 Kbps 30000 => 30 Kbps 40000 => 40 Kbps 50000 => 50 Kbps 64000 => 64 Kbps 128000 => 128 Kbps 256000 => 256 Kbps 384000 => 384 Kbps 512000 => 512 Kbps 768000 => 768 Kbps 1000000 => 1 Mbps 1500000 => 1.5 Mbps 2000000 => 2 Mbps 3000000 => 3 Mbps 4000000 => 4 Mbps
s<0~(m-1)>_mpeg 4_maxframe	1, 2, 3, 5, 10, 15, 20, 25, 30 (only for 60Hz)	4/4	set maximum frame rate in fps
s<0~(m-1)>_mjpe	1 ~ 5	4/4	quality of jpeg video.

g_quant			1 is worst quality and 5 is the best quality.
s<0~(m-1)>_mjpe g_maxframe	1, 2, 3, 5, 10, 15, 20, 25, 30 (only for 60Hz)	4/4	set maximum frame rate in fps (for JPEG)

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

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
mute	0, 1	4/4	Enable audio mute 0 => Disable, 1 => Enable
gain	0~31	4/4	Gain of input 31 => +12 dB 30 => +10.5 dB 29 => +9 dB 28 => +7.5 dB 27 => +6 dB 26 => +4.5 dB 25 => +3 dB 24 => +1.5 dB 23 => 0 dB 22 => -1.5 dB 21 => -3 dB 20 => -4.5 dB 19 => -6 dB 18 => -7.5 dB 17 => -9 dB 16 => -10.5 dB 15 => -12 dB 14 => -13.5 dB 13 => -15 dB 12 => -16.5 dB 11 => -18 dB 10 => -19.5 dB 9 => -21 dB 8 => -22.5 dB 7 => -24 dB 6 => -25.5 dB 5 => -27 dB 4 => -28.5 dB 3 => -30 dB 2 => -31.5 dB



			1 => >-33 dB 0 => -34.5 dB
s<0~(m-1)>_codectype	aac4, gamr	4/4	set audio codec type for input aac4 => AAC, gamr => GSM-AMR
s<0~(m-1)>_aac4_bitrate	16000, 32000, 48000, 64000, 96000, 128000	4/4	set AAC4 bitrate in bps 16000 => 16 Kbps 32000 => 32 Kbps 48000 => 48 Kbps 64000 => 64 Kbps 96000 => 96 Kbps 128000 => 128 Kbps
s<0~(m-1)>_gamr_bitrate	4750, 5150, 5900, 6700, 7400, 7950, 10200, 12200	4/4	set AMR bitrate in bps 4750 => 4.75 Kbps 5150 => 5.15 Kbps 5900 => 5.90 Kbps 6700 => 6.7 Kbps 7400 => 7.4 Kbps 7950 => 7.95 Kbps 10200 => 10.2 Kbps 12200 => 12.2 Kbps

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

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

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

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

			of image according to mode settings.
hue	-5 ~ 5	4/4	Preview of adjusting hue of image according to mode settings.

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

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

Group: **ddns**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable or disable the dynamic dns.
provider	NoIP ChangeIP	6/6	NoIP => No-IP.com ChangeIP => ChangeIP.com
<provider>_hostname	string[128]	6/6	Your dynamic camera name.
<provider>_usernameemail	string[64]	6/6	Your user name to login ddns service provider
<provider>_passwordkey	string[64]	6/6	Your password to login ddns service provider

Group: **upnpresentation**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable or disable the UPNP

			presentation service.
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Group: **upnpportforwarding**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<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 is OK, 1 is FAIL, 2 is no IGD router, 3 is no need to do port forwarding

Group: **syslog**

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

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

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
panspeed	-5 ~ 5	1/4	Pan speed -5 ~ 5
tiltspeed	-5 ~ 5	1/4	Tilt speed -5 ~ 5
zoomspeed	-5 ~ 5	1/4	Zoom speed -3 ~ +3
autospeed	1 ~ 5	1/4	Auto pan/patrol speed 1 ~

			5
focusspeed	-5 ~ 5	1/4	Auto focus speed
dwelling	0 ~ 9999	1/4	Time to dwelling when patrol
axisx	-104 ~ 104	1/4	Axis X coordinate, used internally
axisy	-15 ~ 28	1/4	Axis Y coordinate, used internally
pantilt_port	<integer>	1/4	The pan and tilt channel.
pantilt_camid	0 ~ 255	1/4	ID of camera on pan/tilt channel.
zoom_port	<integer>	1/4	The zoom channel.
zoom_camid	0 ~ 255	1/4	ID of camera on zoom channel.
preset_i<0~19>_name	string[40]	1/4	The name of preset location.
preset_i<0~19>_dwelling	0 ~ 255	1/4	The dwelling time of each preset location
cameraid	0~255	1/4	Camera ID to control external PTZ camera
isptz	<boolean>	1/7	To distinguish the video channel if mapping to a PTZ camera
disablemdonptz	<boolean>	1/4	Disable motion detection on PTZ operation

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

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable the privacy mask
win_i<0~4>_enable	<boolean>	4/4	Enable the privacy mask window
win_i<0~4>_name	string[14]	4/4	The name of privacy mask window
win_i<0~4>_left	0 ~ 320	4/4	Left coordinate of window position.
win_i<0~4>_top	0 ~ 240	4/4	Top coordinate of window position.
win_i<0~4>_width	0 ~ 320	4/4	Width of privacy mask window

win_i<0~4>_height	0 ~ 240	4/4	Height of privacy mask window
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Group: **capability**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
api_http_version	0200a	0/7	The HTTP API version.
bootuptime	<positive integer>	0/7	The server bootup time
ndi	0, <positive integer>	0/7	number of digital input
ndo	0, <positive integer>	0/7	number of digital output
naudioin	0, <positive integer>	0/7	number of audio input
naudioout	0, <positive integer>	0/7	number of audio output
nvideoin	<positive integer>	0/7	number of video input
nmediastream	<positive integer>	0/7	number of media stream per channel
nvideosetting	<positive integer>	0/7	number of video settings per channel
naudiosetting	<positive integer>	0/7	number of audio settings per channel
nuart	0, <positive integer>	0/7	number of UART interface
protocol_https	< boolean >	0/7	indicate whether to support http over SSL
protocol_rtsp	< boolean >	0/7	indicate whether to support rtsp
protocol_sip	<boolean>	0/7	indicate whether to support sip
protocol_maxconnection	<positive integer>	0/7	The maximum allowed simultaneous connections

protocol_rtp_multicast_scalable	<boolean>	0/7	indicate whether to support scalable multicast
protocol_rtp_multicast_backchannel	<boolean>	0/7	indicate whether to support backchannel multicast
protocol_rtp_tcp	<boolean>	0/7	indicate whether to support rtp over tcp
protocol_rtp_http	<boolean>	0/7	indicate whether to support rtp over http
protocol_spush_mjpeg	<boolean>	0/7	indicate whether to support server push motion jpeg

Group: **event\_i<0~2>**

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

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

Group: **server\_i<0~4>**

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	6/6	The identification of this entry
type	email, ftp, http, ns	6/6	Indicate the server type. "email" is email server. "ftp" is ftp server. "http" is http server. "ns" is network storage.
http_url	string[128]	6/6	The url of http server to upload.
http_username	string[64]	6/6	The username to login in the server.
http_passwd	string[64]	6/6	The password of the user.
ftp_address	string[128]	6/6	The ftp server address

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

Group: **media\_i<0~4>**

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	6/6	The identification of this entry
type	snapshot, systemlog videoclip	6/6	The media type to send to the server or store by the server.
snapshot_source	<integer>	6/6	Indicate the source of media stream. 0 means the first stream. 1 means the second stream and etc.
snapshot_prefix	string[16]	6/6	Indicate the prefix of the filename.
snapshot_datesuffix	0, 1	6/6	To add date and time suffix to filename or not. 1 means to add date and time suffix. 0 means not to add it.



snapshot_preevent	0 ~ 7	6/6	It indicates the number of pre-event images.
snapshot_postevent	0 ~ 7	6/6	The number of post-event images.
videoclip_source	<integer>	6/6	Indicate the source of media stream. 0 means the first stream. 1 means the second stream and etc.
videoclip_prefix	string[16]	6/6	Indicate the prefix of the filename.
videoclip_preevent	0 ~ 9	6/6	It indicates the time of pre-event recording in seconds.
videoclip_maxduration	1 ~ 10	6/6	The time of maximum duration of one video clip in seconds.
videoclip_maxsize	50 ~ 1500	6/6	The maximum size of one video clip file in Kbytes.

Group: **recording\_i<0~1>**

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	6/6	The identification of this entry
enable	0, 1	6/6	To enable or disable this recoding.
priority	0, 1, 2	6/6	Indicate the priority of this recoding. "0" indicates low priority. "1" indicates normal priority. "2" indicates high priority.
source	<integer>	6/6	Indicate the source of media stream. 0 means the first stream. 1 means the second stream and etc.
weekday	<interger>	6/6	Indicate which weekday is scheduled. One bit represents one weekday. The bit0 (LSB) indicates Saturday. The bit1 indicates Friday. The bit2 indicates Thursday. The bit3 indicates Wednesday. The bit4 indicates Tuesday. The bit5 indicates Monday. The bit6 indicates Sunday. For example, to detect events on Friday and Sunday, set weekday as 66.
begintime	hh:mm	6/6	Begin time of weekly schedule.
endtime	hh:mm	6/6	End time of weekly schedule. (00:00~24:00 means always.)

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prefix	string[16]	6/6	Indicate the prefix of the filename.
cyclesize	<integer>	6/6	The maximum size for cycle recording in Kbytes.
maxfilesize	200~6000	6/6	The max size for one file in Kbytes
dest	0~4	6/6	The destination to store the recording data. "0~4" means the index of network storage.

Group: **path**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
encoder1_start	<boolean>	7/7	Specify the http push server is active for stream 1
encoder2_start	<boolean>	7/7	Specify the http push server is active for stream 2

Group: **https**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
connect	1025 ~ 65535	7/7	Specify the stunnel connect port
enable	<boolean>	6/6	To enable or disable this secure http
status	-2 ~ 1	6/6	Specify the https status. -2 => invalid public key -1 => waiting for certificated 0 => not installed 1 => active
countryname	string[2]	6/6	Country name in certificate information
stateorprovincename	string[128]	6/6	State or province name in in certificate information
localityname	string[128]	6/6	The locality name in certificate information
organizationname	string[64]	6/6	Organization name in certificate information
unit	string[32]	6/6	Unit name in certificate information.
commonname	string[64]	6/6	Common name in certificate information
validdays	0 ~ 9999	6/6	Certification valid period

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## Drive the digital output

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

**Method:** GET/POST

Syntax:

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

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

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

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

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

## Query status of the digital input

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

**Method:** GET/POST

Syntax:

<code>http://&lt;servername&gt;/cgi-bin/dido/getdi.cgi?[di0][&amp;di1][&amp;di2][&amp;di3]</code>
---

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---

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

Return:

```
HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: <length>\r\n
\r\n
[di0= <state>]\r\n
[di1= <state>]\r\n
[di2= <state>]\r\n
[di3= <state>]\r\n
```

where <state> can be 0 or 1.

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

Request:

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

Response:

```
HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: 7\r\n
\r\n
di1=1\r\n
```

## Query status of the digital output

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

**Method:** GET/POST

Syntax:

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

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

Return:

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```
HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: <length>\r\n
\r\n
[do0= <state>]\r\n
[do1= <state>]\r\n
[do2= <state>]\r\n
[do3= <state>]\r\n
```

where <state> can be 0 or 1.

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

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

Response:  
HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: 7\r\n
\r\n
do1=1\r\n

## Capture single snapshot

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

**Method:** GET/POST

Syntax:

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

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

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

<b>quality</b>	1~5	3	The quality of image
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Server will return the most up-to-date snapshot of selected channel and stream in JPEG format. The size and quality of image will be set according to the video settings on the server.

Return:

```
HTTP/1.0 200 OK\r\n
Content-Type: image/jpeg\r\n
[Content-Length: <image size>\r\n]

<binary JPEG image data>
```

## Account management

**Note:** This request requires administrator privilege

**Method:** GET/POST

Syntax:

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

PARAMETER	VALUE	DESCRIPTION
method	add	Add an account to server. When using this method, "username" field is necessary. It will use default value of other fields if not specified.
	delete	Remove an account from server. When using this method, "username" field is necessary, and others are ignored.
	edit	Modify the account password and privilege. When using this method, "username" field is necessary, and other fields are optional. If not specified, it will keep original settings.
username	<name>	The name of user to add, delete or edit
userpass	<value>	The password of new user to add or that of old user to modify. The default value is an empty string.

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privilege	<value>	The privilege of user to add or to modify.
	viewer	viewer's privilege
	operator	operator's privilege
	admin	administrator's privilege
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> can be a full URL path or relative path according the the current path. If you omit this parameter, it will redirect to an empty page.

## System logs

**Note:** This request require administrator privilege

**Method:** GET/POST

Syntax:

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

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

Return:

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

## Upgrade firmware

**Note:** This request requires administrator privilege

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Method: POST

Syntax:

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

**Post data:**

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

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

## IP filtering

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

**Method:** GET/POST

Syntax:

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

PARAMETER	VALUE	DESCRIPTION
Method	addallow	Add a set of allow IP address range to server. Start and end parameters must be specified. If the index parameter is specified, it will try to add starting from index position.
	adddeny	Add a set of deny IP address range to server. Start and end parameters must be specified. If the index parameter is specified, it will try to add starting from index position.
	deleteallow	Remove a set of allow IP address range from server. If start and end parameters are specified, it will try to remove the matched IP address. If index is specified, it will try to remove the address from given index position. [start, end] parameters have higher priority then the [index] parameter.



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

## Get SDP of streaming

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

**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 method.

## Open the network streaming

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

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Syntax:

For http push server (mjpeg):

<code>http://&lt;servername&gt;/&lt;network_http_s&lt;0~m-1&gt;_accessname&gt;</code>
---

For rtsp (mp4), user needs to input the url below for a rtsp compatible player.

<code>rtsp://&lt;servername&gt;/&lt;network_rtsp_s&lt;0~m-1&gt;_accessname&gt;</code>
---

"m" is the stream number.

For detailed streaming protocol, please refer to "data format" documents.

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