REFERENCE GUIDE

Cisco Small Business

Network Camera Exported CGI Commands

Models WVC210, PVC2300, and WVC2300

OL-18006-01

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About This Document

This document describes Common Gateway Interface (CGI) commands that are used in the WVC210, PVC2300, and WVC2300 camera software. The CGI commands are documented for advanced users who want to integrate camera controls into complex software solutions. Such solutions could include third-party web sites designed for security or home monitoring.

CGI Command Style

- Enter all CGI commands in lowercase.
- In CGI Commands, angle brackets indicate information that you need to provide.
  - Example: <IP> means enter your IP address.
- In CGI Responses, angle brackets can indicate formatting.
  - Example: <cr> means “new line.”
- In CGI Responses, angle brackets can indicate data returned.
  - Example: <SPD DATA> means “SPD data returned.”
- In CGI Responses, square brackets indicate one or more choices that can be returned.
  - Example: [on|off] means either on or off will be returned.

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User-Level CGI Commands

Video and Image Commands

Streaming MPEG4 Video and Audio

Method: GET

URL: `http://<ip>/img/video.asf or http://<ip>/img/video.asx (Vista OS)`

Use: A “video.asf” file is returned through the HTTP protocol.

Return:

```
HTTP/1.0 200 OK\r\n
…
content-type: application/octet-stream\r\n
…
<MPEG-4 video data>
```

Streaming Motion JPEG Video (No Audio)

HTML Page for the End User

Method: GET

URL: `http://<ip>/img/mjpeg.htm`

Use: When an IP camera is configured with MPEG4 resolution 160x120, MJPEG 640x480, this command outputs a 160x120 video in the VLC player.

Return:

```
HTTP/1.0 200 OK\r\n
…
content-type: text/html\r\n
…
<MJPEG video data>…
```

Server Push Page for the Programmer

Method: GET

URL:

`http://<ip>/img/video.mjpeg[?size=value][&framerate=<value>]` (utility)

`http://<ip>/img/mjpeg.cgi[?size=value][&framerate=<value>]` (OCX)

The `http://<ip>/img/mjpeg.cgi` command will become obsolete. Some web browsers cache the first incoming JPEG image and do not refresh the following incoming JPEG images. Please use the command `http://<ip>/img/mjpeg.htm` to stream JPEG video instead.

Use:

The parameters (size and framerate) are for read-only reference. To configure video resolution and framerate see **“Network Camera Configuration File Spec V1.03,” on page 49**.

If there is no parameter input, the camera returns the MJPEG streaming within the current codec settings.

The camera checks the request parameters (*size* or *framerate*) within the current codec settings. If the requested parameters matched the current setting, then the camera returns the MJPEG stream by the Server Push method. If the requested parameters do not match the current setting, then the camera returns an error.

The camera checks the request User-Agent parameter in the HTTP header to identify the client type. The camera regards the client as Microsoft Internet Explorer (MSIE) if the string "MSIE" is included. The camera regards the client as Cisco Object Linking and Embedding (OLE) Custom Control (OCX) if the strings "CameraActiveX," "Cisco210Viewer," or "Cisco210AlertCfg," are included. All others are regarded as PushServer.

Return (OK):

If the client is MSIE:

```
HTTP/1.0 200 OK\r\n
...
content-type: image/jpeg\r\n
...
<MJPEG data>
```

If the client is Cisco OCX:

```
HTTP/1.0 200 OK\r\n
...
<MJPEG video or AUDIO data>
```

Motion JPEG for OCX

To support the audio stream feature, there is an extra header at beginning of the data stream (mjpeg/audio) to describe the frame information and sending status. The extra header contains 48 bytes; the fields are shown in the following table:

Location	Parameter	Value and String
0-3	Magic String	The string to identify the header. Must be “MJPG.”
4-7	Frame Size	The frame size in bytes.
8-9	Width	The JPEG width.
10-11	Height	The JPEG height.
12-15	Sent Size	The size of the sent frame in bytes.
16-17	Slice Size	The size of the slice in bytes.
18-21	Timestamp	The time stamp of the frame. The time stamp of the first frame is always 0.
22	Frame Type	The frame type. 0x01 (01): JPEG 0x02 (02): G.726 Audio
23-24	Bit Rate	The audio bit rate. 0x02 (02): G.726, 2 KBPS
25	Version	The version number. 0x01
26-45	Time String	The ASCII string to present the current camera time. (Not used)
46-47	Reserved	Reserved

Example: A normal JPEG frame.

Image size is 5930, width is 320, height is 240, sent data size is 2000, slice size is 2000, timestamp is 0, frame type is 1 (JPEG), version number is 1. The header will look like as follows:

4D 4A 50 47 | 2A 17 00 00 | 40 01 | F0 00 | D0 07 00 00

D0 07 | 00 00 00 00 | 01 | 02 00 | 01 | 00 00 00 00 00 00

00 00 00 00 00 00 00 00 00 00 00 00 00 00 | 00 00

(2000 bytes JPEG data)

All other clients are regarded as the PushServer:

```
HTTP/1.0 200 OK\r\n
…
content-type: multipart/x-mixed-released;boundary=<xxx>\r\n
--<xxx>
content-type:image/jpeg\r\n
content-length: <image-size>\r\n\r\n
<jpeg image date>
--<xxx>
content-type:image/jpeg\r\n
content-length: <image-size>\r\n\r\n
<jpeg image date>
...
--<boundary>--
```

Return (Error):

```
HTTP/1.0 400 Bad Request\r\n
…
content-type: text/plain\r\n
\r\n
current_ resolution=A\r\n
current_framerate=B\r\n
```

Where *A* is one of the following:

Image Resolution:

1: 160x120

2: 320x240

3: 640x480

Where *B* is one of the following:

1-30 FPS

Mobile Device Snapshot

Method: GET

URL: `http://<ip>/img/mobile.cgi`

Return: A 160x120 JPEG image (with video quality "very low") is returned to the user.

```
HTTP/1.0 200 OK\r\n
…
content-type: image/jpeg\r\n
…
<JPEG image data>
```

Method: GET

URL: `http://<ip>/img/mobile.htm`

Return:

```
<html>
<head>
<title>Network Camera - Live Video</title>
<META HTTP-EQUIV="Pragma" CONTENT="no-cache">
<META HTTP-EQUIV="Cache-Control" CONTENT="no-cache">
<meta HTTP-EQUIV="Expires" CONTENT="Mon, 06 Jan 1990 00:00:01
GMT">
</head>
<body>
<IMG SRC="/img/mobile.cgi">
</body>
</html>
```

Snapshot

Method: GET

URL: `http://<ip>/img/snapshot.cgi?[size=<value>][&quality=<value>]`

Where *size* is one of the following:

Image Resolution:

1: 160x120

2: 320x240

3: 640x480

Where *quality* is one of the following:

1: Very high

2: High

3: Normal

4: Low

5: Very low

Example 1:

To make a snapshot of a 640x480 high quality JPEG image from network camera 192.168.1.99:

`http://192.168.1.99/img/snapshot.cgi?size=3&quality=1`

Example 2:

To make a snapshot of a JPEG image from network camera 192.168.1.99 (with current resolution and quality):

`http://192.168.1.99/img/snapshot.cgi`

Example 3:

To make a snapshot of a low quality JPEG image with current resolution from the network camera 192.168.1.99:

`http://192.168.1.99/img/snapshot.cgi?quality=4`

Return:

A JPEG image is returned to the client with user-specified resolution and quality.

```
HTTP/1.0 200 OK\r\n
…
content-type: image/jpeg\r\n
…
<JPEG image data>
```

Session Description Protocol (SDP)

NOTE MPEG-4 video only, not for MJPEG video

Method: GET

URL: `http://<ip>/img/media.sdp`

Return: A Session Description Protocol (SDP) file is returned.

```
HTTP/1.0 200 OK\r\n
…
<SDP data>
```

Audio Upload (Uploading Audio Streaming to the Camera)

Method: POST

URL: `http://<ip>/img/g726.cgi` G.726 audio stream (16Kbps)

URL: `http://<ip>/img/g711a.cgi` G.711 a-law audio stream

URL: `http://<ip>/img/g711u.cgi` G.711 u-law audio stream

Example (client side):

```
POST http://192.168.1.99/img726.cgi HTTP/1.0\r\n
Authorization: Basic YWRtaW46YWRtaW4= \r\n
\r\n
```

Return (OK):

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

Client starts to upload the audio stream.

Return (Unauthorized):

```
HTTP/1.0 401 Unauthorized\r\n
```

RTP/RTSP (MPEG-4 video only, not for MJPEG video)

A user can stream video and audio through the following URLs:

Video and audio: `rtsp://<ip>/img/media.sav`

Video only: `rtsp://<ip>/img/video.sav`

Audio only: `rtsp://<ip>/img/audio.sav`

The user needs to specify one of the supported RTP protocols:

- Unicast RTP
- Multicast RTP
- RTP over RTSP (RTP over TCP)
- RTP over RTSP over HTTP (HTTP tunnel)

Specifying an RTP protocol depends on the configuration of your specific media player. Refer to the instructions contained within your media player.

Return: Video and/or audio is returned.

Player Commands

Query

Method: GET

URL: `http://<ip>/util/query.cgi`

This command shows all camera hardware capabilities; for example if the camera has an I/O port or if it has speakers.

Return:

```
HTTP/1.0 200 OK \r\n
…
content-type: text/plain\r\n
\r\n
hostname= WVC210 \r\n
description=description string\r\n
defname= WVC210 \r\n
mac=00C002123456\r\n
resolutions=640*480,320*240,160*120\r\n
mpeg4_resolution=[640|320|160]\r\n
mjpeg_resolution=[640|320|160]\r\n
mic_in=[on|off]r\n
speaker_out=[on|off]\r\n
ptctrl=[on|off]\r\n
ioctrl=[on|off]\r\n
serial=[off|pelco]\r\n
privacy_button=[on|off]\r\n
pir_sensor=[on|off]\r\n
wlled=[on|off]\r\n
wps_pin_code=00000048\r\n
company_name= Cisco \r\n
model_number= WVC210 \r\n
```

URL: `http://<ip>/img/query.cgi`

This command shows hardware capabilities specific to users and their privileges. For example, a particular user may be able to use Speaker Out, but cannot control the I/O ports.

Return:

```
HTTP/1.0 200 OK \r\n
…
content-type: text/plain\r\n
\r\n
mic_in=[on|off]r\n
speaker_out=[on|off]\r\n
ptctrl=[on|off]\r\n
ioctrl=[on|off]\r\n
```

P/T Commands—Operator (For P/T Models, WVC210 Only)

Move

Method: GET

URL: `http:/<ip>/pt/ptctrl.cgi?mv=<direction>,<degree>,<speed>,<speed2>`

NOTE Currently, the WVC210 cannot support speed parameters.

Parameters:

direction	U	Move Up
	D	Move Down
	L	Move Left
	R	Move Right
	UR	Move Up-Right
	UL	Move Up-Left
	DR	Move Down-Right
	DL	Move Down-Left
	H	Move to Home (calibration HOME) position
	X	recalibration
degree	1-n	Vertical/horizontal movement degree
speed, speed2	1-10	Speed levels reserved for future use

Return: A **200 OK** is returned to the web browser when this command is received.

Direct PT

Method: GET

URL: `http://<ip>/pt/ptctrl.cgi?position=<x-position>,<y-position>,<speed>,<speed2>`

NOTE Currently, the WVC210 cannot support speed parameters.

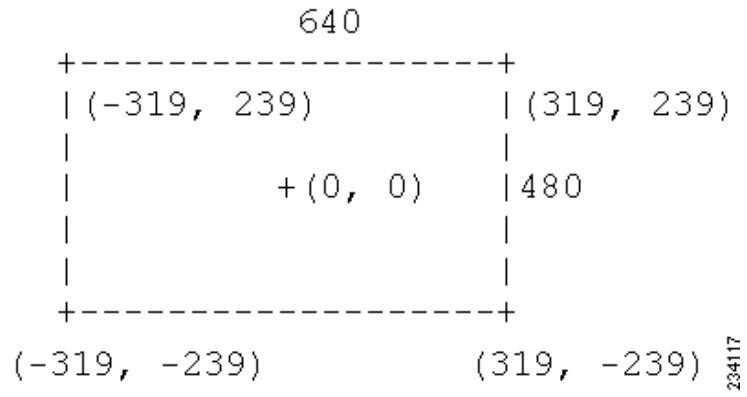
Move the center to (X, Y) position.

Parameters:

x-position	Horizontal coordinates (as follow)
y-position	Vertical coordinates (as follow)
speed, speed 2	Speed levels (reserved for future use.)

Coordinates:

The home (0, 0) position is located at the center. For example, at 640x480 resolution, the horizontal position, x, is expressed as an integer value from –319 to 319 and ascends from left to right. The vertical position, y, is expressed as an integer value from -239 to 239 and ascends from top to bottom.



Return: A **200 OK** is returned to the web browser when this command is received.

Preset Commands

Method: GET

URL: `http://<ip>/pt/ptctrl.cgi?preset=<cmd>,<para_1>`

Provides up to 9 preset positions. And the preset position name is up to 16 ASCII characters.

Parameters

Command	para_1	Comments
all		Get all preset names. A text format response is returned to the client. PT1=<name1><cr> PT2=<name2><cr> ... PT9=<name9><cr>
move	100	Pre-defined Motion Detection position.
	101	Patrol.
	102	Auto-pan.
	103	User defined HOME position.
	1-9	Move to the preset "number" position.
set	103	Set current position to user-defined HOME position.
	1-9	Set current position to the preset position.

Return: A **200 OK** is returned to the web browser when this command is received.

P/T Commands (For Supporting RS-485 Device Models PVC2300 and WVC2300 Only)

Move

Move toward user defined direction or move to preset positions.

Method: GET

URL: `http:/<ip>/pt/ptctrl.cgi?cmd=<direction>,<speed>`

Parameters:

direction	Move toward user-defined direction.	
	U	Move Up
	D	Move Down
	L	Move Left
	R	Move Right
	The P/T will stop after 1 second of the move action.	
speed	Move Speed (Optional)	
	1-10	10 is the fastest speed.

Return: A **200 OK** is returned to the web browser when this command is received.

P/T Speed

Set the pan direction speed.

Method: GET

URL: `http://<IP>/pt/ptctrl.cgi?cmd=set_pan_speed,<speed>`

Parameters:

speed	Move Speed	
	1-10	10 is the fastest speed.

Return: A **200 OK** is returned to the web browser when this command is received.

Tilt Speed

Set the tilt direction speed.

Method: GET

URL: `http://<IP>/pt/ptctrl.cgi?cmd=set_tilt_speed,<speed>`

Parameters:

speed	Move Speed	
	1-10	10 is the fastest speed.

Return: A **200 OK** is returned to the web browser when this command is received.

Preset Position

Set current position to be a preset position (within the preset name).

Method: GET

URL: `http://<IP>/pt/ptctrl.cgi?cmd=set_preset,<name>`

Parameters:

name	Preset name (16 characters). You can currently save up to 9 preset positions.

Return: A **200 OK** is returned to the web browser when this command is received.

Clear Preset Position

Delete a specific preset position (by the preset name).

Method: GET

URL: `http://<IP>/pt/ptctrl.cgi?cmd=clr_preset,<name>`

Parameters:

name	Preset name (16 characters).

Return: A **200 OK** is returned to the web browser when this command is received.

Move to the Preset Position

Move the P/T device to a specific preset position (by the preset name).

Method: GET

URL: `http://<IP>/pt/ptctrl.cgi?cmd=goto_preset,<name>`

Parameters:

name	Preset name (16 characters).

Return: A **200 OK** is returned to the web browser when this command is received.

Get the Preset Lists

Get the name list of all presets.

Method: GET

URL: `http://<IP>/pt/ptctrl.cgi?cmd=get_preset_list`

Return:

```
HTTP/1.0 200 OK\r\n
…
content-type: text/plain\r\n
\r\n
PT1=<name1>\r\n
PT2=<name2>\r\n
......
PT9=<name9>\r\n
\r\n
```

Set Home Position

Set current position as the user-defined home position.

Method: GET

URL: `http://<IP>/pt/ptctrl.cgi?cmd=set_home`

Return: A **200 OK** is returned to the web browser when this command is received.

Move to Home Position

Move to the user-defined home position.

Method: GET

URL: `http://<IP>/pt/ptctrl.cgi?cmd=goto_home`

Return: A **200 OK** is returned to the web browser when this command is received.

Set Patrol

Configure the patrol with a sequence of preset positions and a specific delay time (up to 9 preset positions).

Method: GET

URL: `http://<IP>/pt/ptctrl.cgi?cmd=set_patrol,<parameter>`

Parameters:

parameter	Position and Delay Time for Patrol Action	
	Preset_name,Delay_time;Preset_name,Delay_time;...;Preset_name,Delay_time;	
	Preset_name	The preset name in the “set_preset” command.
	Delay_time	The delay time before the camera goes to the next preset position (in seconds).

Return: A **200 OK** is returned to the web browser when this command is received.

Clear Patrol

Clear the patrol configuration.

Method: GET

URL: `http://<IP>/pt/ptctrl.cgi?cmd=clr_patrol`

Return: A **200 OK** is returned to the web browser when this command is received.

Start Patrol

Start the patrol action (if configured).

Method: **GET**

URL: `http://<IP>/pt/ptctrl.cgi?cmd=goto_patrol`

Return: A **200 OK** is returned to the web browser when this command is received.

I/O Port Commands—Operator (For Supporting I/O Port Models PVC2300 and WVC2300 Only)

Control I/O ports

Method: GET

URL: `http://<ip>/io/ioctrl.cgi?<parameter>=<value>[&<parameter>=<value>]`

Parameters:

output_1	Output port 1	
	0	Off
	1	On
	The On state and Off state are defined in the configuration file.	
output_2	Output port 2	
	0	Off
	1	On
	The On state and Off state are defined in the configuration file.	

Return: A **200 OK** is returned to the web browser when this command is received.

Query I/O Port Status

Method: GET

URL: `http://<ip>/io/query_io.cgi`

Return: The network camera returns a web page that contains the following messages.

```
Status: 200 OK \r\n
content-type: text/plain\r\n\r\n
input_1=[0|1]\r\n <- 1= High; 0= Low
input_2=[0|1]\r\n <- 1= High; 0= Low
output_1=[0|1],[P|S]\r\n <- 1= High; 0= Low , P = Pulse, S = Static
output_2=[0|1],[P|S]\r\n\r\n <- 1= High; 0= Low , P = Pulse, S = Static
```

Day/Night Switch (IR Filter) Commands—Operator (For Supporting IR Filter Models PVC2300 and WVC2300 Only)

Control Day/Night Switch

Method: GET

URL: `http://<ip>/io/filterctrl.cgi?<parameter>=<value>`

Parameters:

filter	Switch the filter to the desired mode.	
	0	Day Mode
	1	Night Mode

Return: The network camera returns a web page that contains the following messages.

```
HTTP/1.0 200 OK\r\n
…
content-type: text/plain\r\n
Return-Value: OK\r\n
\r\n
```

Query Day/Night Switch Status

Method: GET

URL: `http://<ip>/io/query_filter.cgi`

Return: The network camera returns a web page that contains the following messages.

```
HTTP/1.0 200 OK \r\n
…
content-type: text/plain\r\n
\r\n
filter=[0|1]\r\n <- 0= Day; 1= Night
\r\n
```

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Admin-Level CGI Commands

Query Firmware Version

Method: GET

URL: `http://<ip>/adm/sysinfo.cgi`

Return: The camera returns a Web page that contains the following messages.

```
HTTP/1.0 200 OK \r\n
…
content-type: text/plain\r\n
\r\n
Firmware Version: V1.0.0R01\r\n
Serial Number: SQJ00G100001\r\n
```

Reboot

Method: GET

URL: `http://<ip>/adm/reboot.cgi`

Return:

```
HTTP/1.0 200 OK \r\n
…
content-type: text/plain\r\n
\r\n
OK\r\n
```

Restore to Factory Defaults

Method: GET

URL: `http://<ip>/adm/reset_to_default.cgi`

Return:

```
HTTP/1.0 200 OK \r\n
…
content-type: text/plain\r\n
\r\n
OK\r\n
```

Get/Set Group Parameters

Get group parameters

Method: GET

URL: `http://<IP>/adm/get_group.cgi?<parameter>=<value>`

Parameter	Description
Group	**1** To get all group settings: group_name (The group name is case insensitive.) **2** To get a specific setting from a group: group_name.parameter_name All Group and Parameter names are defined in the **"Network Camera Configuration File Spec V1.03," on page 49**.

Return:

Group settings are returned as below.

```
HTTP/1.0 200 OK\r\n
…
content-type: text/plain\r\n
...
\r\n
<parameter pair>\r\n
<parameter pair>\r\n
...\r\n
```

Where <parameter pair> is <parameter_name>=<parameter_value>.

Set group parameters

Method: GET

URL: `http://<IP>/adm/set_group.cgi?<parameter>=<value>[&<parameter pair>…]`

Parameter	Description
Group	Group name is specified here. (The group name is case insensitive.)

Return:

Successful request returns all group parameters or the specified parameters as below.

```
HTTP/1.0 200 OK\r\n
…
content-type: text/plain\r\n
...
\r\n
OK\r\n
<parameter pair>\r\n
<parameter pair>\r\n
...\r\n
```

Get/Set System Date and Time

Method: GET

URL: `http://<ip>/adm/date.cgi`

Parameter	Value and Description
action	Get/Set the system date and time. get= Get the system date and time. set= Set the system date and time.
time_zone	The index value in the time zone table (read-only). Refer to the **"Network Camera Configuration File Spec V1.03," on page 49**.
year	Year (2005~2037)
month	Month (1~12)
day	Day (1~31)
hour	Hour (0~23)
minute	Minute (0~59)
second	Second (0~59)

Return:

Successful request returns all group parameters or the specified parameters as below.

```
HTTP/1.0 200 OK\r\n
…
content-type: text/plain\r\n
...
\r\n
OK\r\n
<parameter pair>\r\n
<parameter pair>\r\n
...\r\n
```

Upgrade Firmware

Method: POST

URL: `http://<ip>/adm/upgrade.cgi`

Message body:

```
...
...
<boundary=...>
...
<FW binary data encoded in base64 format>
```

The client must wait as least 5 minutes to make sure all flashes have been programmed.

Return: A firmware upgrade progress window is returned.

Upload/Download Configuration File

Download Configuration File

Method: GET

URL: `http://<ip>/adm/admcfg.cfg`

Return:

```
HTTP/1.0 200 OK \r\n
…
content-type: application/configuration\r\n
\r\n
<configuration file encoded in Base64 format>
```

All data in the configuration file are encoded in a Base64 format. Please refer to **"Example: Base-64 Encoder/Decoder Sample Codes," on page 44**.

Upload Configuration File

Method: POST

URL: `http://<ip>/adm/upload.cgi`

Message body:

```
…

<boundary=...>
<configuration file encoded in Base64 fvormat>
```

All data in the configuration file are encoded in a Base64 format. Please refer to **"Example: Base-64 Encoder/Decoder Sample Codes," on page 44**.

The camera is automatically rebooted after receiving the configuration file.

Return:

```
HTTP/1.0 200 OK \r\n
…
content-type: text/plain\r\n
\r\n
OK\r\n
```

Download Logs

Method: GET

URL: `http://<ip>/adm/log.cgi`

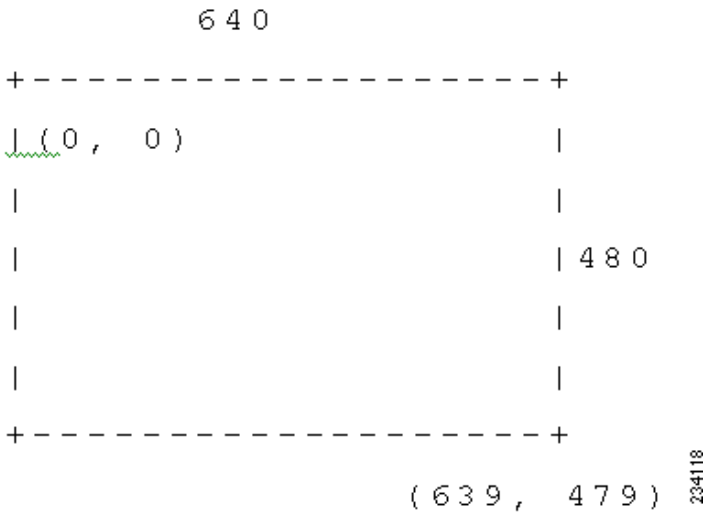
Return:

```
HTTP/1.0 200 OK \r\n
…
content-type: text/plain\r\n\r\n
…
<log data>
```

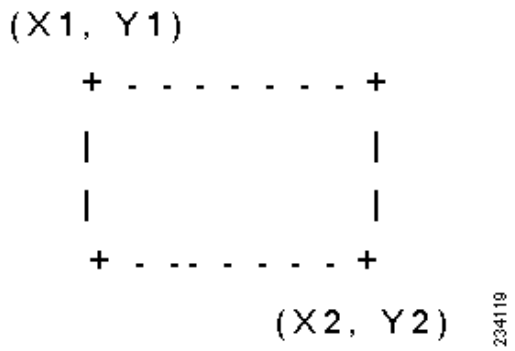
Motion Detection Commands

You can configure motion detection in four specific areas. Each area can have its own name and its own threshold setting. When the movement indicators exceed the user-configured threshold, a motion detection event occurs. The following are the definitions of the detected area coordinates.

- The home (0, 0) position is located at the left-top corner.
- The scale is for 640 x 480 resolution.
- The horizontal position, x, is expressed as an integer value from 0 to 639 and ascends from left to right.
- The vertical position, y, is expressed as an integer value from 0 to 479 and ascends from top to bottom.



For each configured coordinate, the left-top corner is the start position. The right-bottom corner is the stop position:



NOTE The replied coordinate always maps to the 640 x 480 scale, regardless of the current streaming resolution.

Get Motion Detection Settings

Method: GET

URL: `http://<IP>/adm/get_group.cgi?group=MOTION`

Please refer to **"Get group parameters," on page 30**.

Parameter:

Parameter	Description
Group	This is a required parameter & value to let the CGI know the request is for "motion detection" group.

Return:

All group settings or one group setting is returned as shown below:

```
HTTP/1.0 200 OK\r\n
…
content-type: text/plain \r\n
...
\r\n
md_mode=[0|1] \r\n<--  0=Off, 1=On
md_point=X,Y\r\n
md_switch1=[0|1] \r\n<--  0=Off, 1=On
md_name1=Full screen \r\n<--  12 ASCII characters
md_window1=X1, Y1, X2, Y2 \r\n<--  Relative to 640x480
resolution
md_threshold1=127 \r\n<--  Threshold: 0 - 255
md_switch2=[0|1] \r\n
md_name2=Window_2 \r\n
md_window2=X1, Y1, X2, Y2 \r\n
md_threshold2=127 \r\n
md_switch3=[0|1] \r\n
md_name3=Window_3 \r\n
md_window3=X1, Y1, X2, Y2 \r\n
md_threshold3=127\r\n
md_switch4=[0|1] \r\n
md_name4=Window_4 \r\n
md_window4=X1, Y1, X2, Y2 \r\n
md_threshold4=127 \r\n
\r\n
```

Set Motion Detection Settings

Method: GET

URL: `http://<IP>/adm/set_group.cgi?group=MOTION&<parameter>=<value>...`

Please refer to **"Set group parameters," on page 31**.

Parameter	Value and Description
md_mode	Set motion detection. ▪ 0 = Off ▪ 1 = On
md_point	The position of motion under PT mode. The format is X,Y. The range is: ▪ X= -63 to 63 ▪ Y= -36 to 28
md_switch1 ... md_switch4	Set motion detection window, per window: ▪ 0 = Off ▪ 1 = On
md_name1 ... md_name4	Name of the motion detection area 1 - 4.
md_window1 ... md_window4	Set the coordinates of motion detection window N (relative to resolution 640x480). The format is X1,Y1,X2,Y2. The range of X is from 0 to 639. The range of Y is from 0 to 479.
md_threshold1 ... md_threshold4	Set the threshold of motion detection window N. The range is from 0 to 255.

Return:

```
HTTP/1.0 200 OK\r\n
…
content-type: text/plain\r\n
\r\n
OK\r\n
```

Notes:

If you are not using Microsoft Internet Explorer, the OCX software requires:

- Use “md_switch1” as the switch for “full screen” or “sub-windows.”
- The parameter “md_window1” is always set to size 640x480.
- If “md_switch1=1” is set, then the camera needs the whole screen for video detection. The user cannot configure the rest of the sub windows.
- If “md_switch1=0”, then the camera detects in the sub window area, “md_window 2-4.”

Motion Vector Data

Motion Vector Data is used to include the motion vector values in the streaming packets.

Whether the streaming method is ASF (through HTTP) or RTP (through UDP), the streaming data includes information that lets the client side software judge whether the motion event is triggered or not.

The data is located in the padding bytes of the streaming data.

For more information about the data format in the streaming packet, refer to the next section.

Padding Data Format

The purpose of the padding data field is to let the PC side software (ActiveX or Utility) parse the padding data to get the relevant information.

The firmware (camera side) should always pad the data if it supports some features (even is disabled).

The following padding data starts from the first byte of the padding area (after the normal streaming frames).

Padding format:

4 Bytes	1 Byte	1 - 4 Bytes	XXX Byte	1 Byte	1 - 4 Bytes	XXX Byte	....	2 Bytes
Total Length	Command _1	Length	Data	Command _2	Length	Data		Padding End

Rules:

The first four bytes of padding define the total padding length, including these four bytes and the “Padding End” (from 1st byte to the last byte, including length and end command).

The following padding data is divided into three parts:

- Padding command (1 byte)
- Padding length for the specific command (1 - 4 bytes)
- Padding data for the specific command

The length of the “padding length” depends on the command range.

- A. 0x00 - 0xBF — The length field is in “1 byte.”
- B. 0xC0 - 0xDF — The length field is in “2 bytes.”
- C. 0xE0 - 0xFF — The length field is in “4 bytes.”

The last two bytes are the *Padding End (0xBF00)* command. It equals *command=END + length=0*.

The padding command can be in any sequence.

Command	Description
0x01	Motion Detection Padding. The data length is 13. Byte 1 — Motion detection is enabled or not (main switch) and if it is in the effect schedule or not. ▪ 0x00 = 0 = Off ▪ 0x01 = 1 = On and not in effect schedule ▪ 0x11 = 17 = On and in effect schedule Byte 2 - 5 — Current motion indicator of the detected window 1 - 4 ▪ 0 - 255 Byte 6 - 9 — Current threshold of the detected window 1 - 4 ▪ 0 - 255 Byte 10 - 13 —Motion detect window 1 - 4 is enabled or not. ▪ 0 = Off ▪ 1 = On
0xBF	End-Of-Padding. The data length is 0. There's no additional padding after this command (0xBF00).

Example:

The padding contains motion detection data only:

Length				Cmd	Length	On/Off	Indicator				Threshold				Window On/Off				End	
0x00	0x00	0x00	0x15	0x01	0x0D	0 off	20	30	129	0	128	128	128	128	1	1	1	0	0xBF	0x00

0x15 = 21 (total length = 21 bytes)

The padding contains some long commands. For example, command 0xC1 needs length 500 data.)

Length				Cmd	Length		Total= 500 Bytes								End	
0x00	0x00	0x01	0xFD	0xC1	0x01	0xF4	Data...	Data	Data	....	....	...	...	...	0xBF	0x00

0x1FD = 509 (total length = 509 bytes)

0x01F4 = 500 (length of command 0xC1 = 500 bytes)

Example: Base-64 Encoder/Decoder Sample Codes

```
// Standard BASE64 table
  // char keyStr[] =
"ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456
789+/=";
  // SerComm BASE64 table
  char keyStr[] =
"ACEGIKMOQSUWYBDFHJLNPRTVXZacegikmoqsuwybdfhjlnprtvxz0246813
579=+/";


  //------------------------------------------------------
  //  Description:   Encrypt the input data with the base64
  //  Input:
  //                 char i_buf[]- input buffer
  //  Output:
  //                 char o_buf[]- output buffer
  //  Return:
  //                 encrypted string length
  //------------------------------------------------------
  int encode64(char i_buf[], char o_buf[])
  {
  char chr1 = (char)0;
```

```
char chr2 = (char)0;
char chr3 = (char)0;
//These are the 3 bytes to be encoded

int enc1 = 0;
int enc2 = 0;
int enc3 = 0;
int enc4 = 0; //These are the 4 encoded bytes
int i = 0, j = 0; //Position counter

do { //Set up the loop here
chr1 = i_buf[i++]; //Grab the first byte

if(i < strlen(i_buf))
chr2 = i_buf[i++]; //Grab the second byte

if(i < strlen(i_buf))
chr3 = i_buf[i++]; //Grab the third byte

//Here is the actual base64 encode part.
//There really is only one way to do it.

enc1 = chr1 >> 2;
enc2 = ((chr1 & 3) << 4) | (chr2 >> 4);
enc3 = ((chr2 & 15) << 2) | (chr3 >> 6);
enc4 = chr3 & 63;

if(chr2 == (char)0) {
enc3 = enc4 = 64;
}
else if(chr3 == (char)0) {
enc4 = 64;
```

```
}

o_buf[j++] = keyStr[enc1];
o_buf[j++] = keyStr[enc2];
o_buf[j++] = keyStr[enc3];
o_buf[j++] = keyStr[enc4];

// OK, now clean out the variables used.
chr1 = chr2 = chr3 = (char)0;
enc1 = enc2 = enc3 = enc4 = (char)0;
} while (i < strlen(i_buf)); //And finish off the loop

//Now return the encoded values.
return j;
}

//------------------------------------------------------
//  Description:   decrypt the input data with the base64
//  Input:
//                 char i_buf[]- input buffer
//  Output:
//                 char o_buf[]- output buffer
//  Return:
//                 decrypted string length
//------------------------------------------------------
int decode64(char i_buf[], char o_buf[]) {
//These are the 3 bytes to be encoded
char chr1 = (char)0;
char chr2 = (char)0;
char chr3 = (char)0;

//These are the 4 encoded bytes
```

```
  int enc1 = 0;
  int enc2 = 0;
  int enc3 = 0;
  int enc4 = 0;

  int i = 0, j = 0; //Position counter

  do { //Here's the decode loop.
  //Grab 4 bytes of encoded content.
  enc1 = (int)(strchr(keyStr, i_buf[i++]) - keyStr);
  if(i < strlen(i_buf))
  enc2 = (int)(strchr(keyStr, i_buf[i++]) - keyStr);
  if(i < strlen(i_buf))
  enc3 = (int)(strchr(keyStr, i_buf[i++]) - keyStr);
  if(i < strlen(i_buf))
  enc4 = (int)(strchr(keyStr, i_buf[i++]) - keyStr);

  //Heres the decode part. There's really only one way to do
it.
  chr1 = (enc1 << 2) | (enc2 >> 4);
  chr2 = ((enc2 & 15) << 4) | (enc3 >> 2);
  chr3 = ((enc3 & 3) << 6) | enc4;

  o_buf[j++] = (char)chr1;

  if (enc3 != 64) {
  o_buf[j++] = (char)chr2;
  }

  if (enc4 != 64) {
  o_buf[j++] = (char)chr3;
  }
```

```
//now clean out the variables used
chr1 = (char)0;
chr2 = (char)0;
chr3 = (char)0;

enc1 = 0;
enc2 = 0;
enc3 = 0;
enc4 = 0;
} while (i < strlen(i_buf)); //finish off the loop

//Now return the decoded values.
return j;
}
```

A

Network Camera Configuration File Spec V1.03

Configuration File Format

Syntax:

```
[group1]\n
parameter1=value1\n
parameter2=value2\n
…
[group2]\n
parameter1=value1\n
parameter2=value2\n
…
[group3]\
n parameter1=value1\n
parameter2=value2\n
```

[MANUFACTURE] Group

All internal use configuration settings are maintained in this group. This group is not included in the download configuration file.

Parameter	Value and Description
release_date	Firmware release date (for internal use only; value cannot be modified).
def_name	Default device (host) name.
default_ip	Default IP address (xxx.xxx.xxx.xxx/yyy.yyy.yyy.yyy) Where xxx.xxx.xxx.xxx is the IP address; yyy.yyy.yyy.yyy is the default gateway IP address.

Parameter	Value and Description
summer_chg	The current auto DST status. The choices are: ▪ 0 — Have not changed the DST time ▪ 1 — Have changed the DST time
conf_status	The current configuration file status. The choices are: ▪ 0 — Not configured ▪ 1 — Configured
max_user	The maximum number of users.

[SYSTEM] Group

Parameter	Value and Description
cfg_ver	The configuration file version number (internal use only; value cannot be changed.) A user-uploaded configuration file is ignored if its version number is not supported by the firmware. Restore all settings to the factory default if the uploaded firmware does not support the current configuration file version.
host_name	The camera name. The allowed range is up to 16 characters, [_0-9A-Za-z], and space characters. This parameter is equal to the Device ID field on the web interface of the camera.
comment	Set the camera description. It can include up to 32 ASCII and space characters.
time_format	Set the time format. The choices are: ▪ 24-hour ▪ 12-hour (AM/PM) (reserved)

Parameter	Value and Description
date_format	Set the date format: ▪ 0 — (reserved) ▪ 1 — (reserved) ▪ 2 — DD/MM/YYYY
time_zone	Set your time zone. There are 76 time zone areas (0-75) see **"Time Zone List," on page 75**.
daylight_saving	Set auto daylight saving time. The choices are: ▪ 0 — Off ▪ 1 — On
ntp_mode	Synchronize the time with the NTP server. The choices are: ▪ 0 — Off ▪ 1 — On
ntp_server	Set the NTP server address (up to 64 characters).
led_mode	Set LED operation. The choices are: ▪ 0 — Off ▪ 1 — On

Parameter	Value and Description
language_id	Choose your language. The choices are: ▪ 0x00 — English ▪ 0x01 — English ▪ 0x02 — French ▪ 0x03 — German ▪ 0x04 — Swedish_SE ▪ 0x05 — Spanish ▪ 0x06 — Italian ▪ 0x07 — Portugal ▪ 0x08 — Denmark ▪ 0x09 — Dutch ▪ 0x14 — American English (Default) ▪ 0x15 — Simplified Chinese ▪ 0x16 — Traditional Chinese ▪ 0x17 — Australian English ▪ 0x18 — Japanese ▪ 0x19 — Korean

[LOG] Group

Parameter	Value and Description
syslog_mode	Set the SYSLOG feature. The choices are: ▪ 0 — Off ▪ 1 — On
syslog_server	Set the SYSLOG server address. It can include up to 64 characters.

[NETWORK] Group

Parameter	Value and Description
ip_addr	Set the current camera IP address (`1.0.0.1-255.255.255.254`).
netmask	Set the current netmask (`128.0.0.0-255.255.255.254`).
gateway	Set the default gateway address (`1.0.0.1-255.255.255.254`).
dhcp	Set the camera IP address mode. The choices are: ▪ 0 — Fixed IP address ▪ 1 — DHCP client (Default)
dns_type	Set the DNS server type. The choices are: ▪ 0 — The DNS server IP addresses are assigned by the DHCP server. This is the default. ▪ 1 — User-specified DNS server IP addresses.
dns_server1	Set the primary DNS server address (`1.0.0.1-255.255.255.254`).
dns_server2	Set the secondary DNS server address (`1.0.0.1-255.255.255.254`).

[WIRELESS] Group

Parameter	Value and Description
wlan_type	Set the wireless network type. The choices are: ▪ 0 — Ad hoc 1 ▪ 1— infrastructure
wlan_essid	Set the wireless SSID. It can include up to 32 ASCII characters and is case sensitive.

Parameter	Value and Description
wlan_channel	Set the channel number. The range is from 0 to 13; 0 indicates auto.
wlan_domain	Set the wireless domain. The choices are: ▪ 1 — Africa ▪ 2 — Asia ▪ 3 — Australia ▪ 4 — Canada ▪ 5 — Europe ▪ 6 — Spain ▪ 7 — France ▪ 8 —Israel ▪ 9 — Japan ▪ 10 — Mexico ▪ 11 — South American ▪ 12 — USA
wlan_security	Set the wireless security. The choices are: ▪ 0 — None ▪ 1 — WEP mode ▪ 2 — WPA/WPA2-PSK mode ▪ 3 — WPA PSK TKIP mode ▪ 4 — WPA PSK AES mode ▪ 5 — WPA2 PSK TKIP mode ▪ 6 — WPA2 PSK AES mode ▪ 7 — WPA enterprise ▪ 8 — WPA PSK ▪ 9 — WPA2 PSK
wep_authtype	Set the WEP authentication type. The choices are: ▪ 1 — Open system ▪ 2 — Shared key (WEP mode only)

Parameter	Value and Description
wep_mode	Set WEP key mode. The choices are: ▪ 1 — 64-bit (10HEX) ▪ 2 — 128-bit (26 HEX) ▪ 3 — 64-bit (5 ASCII) ▪ 4 — 128-bit (13 ASCII)
wep_index	Set the active WEP key number. The choices are: ▪ 1 — WEP key 1 ▪ 2 — WEP key 2 ▪ 3 — WEP key 3 ▪ 4 — WEP key 4
wep_ascii	Set the WEP passphrase. Can be 1-32 characters.
wep_kep1	Set WEP key 1.
wep_kep2	Set WEP key 2.
wep_kep3	Set WEP key 3.
wep_kep4	Set WEP key 4.
wpa_ascii	Set the WPA passphrase key. Can be from 8 to 63 characters.
connection_mode	Set the wireless type during device boot up. The connection mode is reset to the default value after it is used. The default is 0. ▪ 0 — If a connection is available over the Ethernet interface, the device uses Ethernet; otherwise, it uses wireless. ▪ 1 — The device use wireless whether a connection is available over the Ethernet or not. ▪ 2 — The device enters WPS PBC mode over wireless whether a connection is available over the Ethernet or not. ▪ 3 — The device enters WPS PIN code mode over wireless whether a connection is available over the Ethernet or not.

Parameter	Value and Description
wmm	Set WMM mode. The choices are: ▪ 0 — Disable ▪ 1 — Enable
wpa_ep_auth_type	Set the WPA/WPA2 Enterprise authentication type. The choices are: ▪ 1 — EAP-TLS ▪ 2 — EAP-TTLS
wpa_tls_user	Set the EAP-TLS user name. It can include up to 64 ASCII characters.
wpa_tls_priv_keypass	Set the EAP-TLS private key password. It can include up to 64 ASCII characters.
wpa_ttls_auth_type	Set the EAP-TTLS authentication type. The choices are: ▪ 1 — MSCHAP ▪ 2 — MSCHAPv2 ▪ 3 — PAP ▪ 4 — EAP-MD5 ▪ 5 — EAP-GTC
wpa_ttls_user	Set the EAP-TTLS User name. It can include up to 64 ASCII characters.
wpa_ttls_pass	Set the EAP-TTLS user password. It can include up to 64 ASCII characters.
wpa_ttls_anony_name	Set the EAP-TTLS/EAP-TLS anonymous name. It can include up to 64 ASCII characters.

[DDNS] Group

Parameter	Value and Description
ddns_mode	Set the DDNS feature. The choices are: ▪ 0 — Off (Default) ▪ 1 — On
ddns_service	Set the DDNS service name ▪ 1 — DynDNS.org (Default) ▪ 2 — TZO.com ▪ 3 — Reserved ▪ 4 — FreeDNS ▪ 5 — 3322
ddns_account	Set the DDNS account name. It can include up to 64 ASCII characters.
ddns_password	Set the DDNS account password. It can include up to 32 ASCII characters.
ddns_host_name	Set the DDNS host name. It can include up to 128 ASCII characters.
ddns_hour	Set the start time (hour) to update IP address to the DDNS server. The range is from 0 to 23.
ddns_minute	Set the start time (in minutes) to update the IP address to the DDNS server. The range is from 0-59.
ddns_update_unit	Set the scheduling update unit. ▪ 1 — Minute ▪ 2 — Hour ▪ 3 — Day (Default)
ddns_update_period	Set the scheduling update interval (> 0). The default value is 1 day.

[RTSP_RTP] Group

Parameter	Value and Description
rtsp_port	Set the RTSP port number. Can be 554, 1024 to 65535.
rtp_port	Set the RTP port. Can be 1024-65535. The default is 5000.
rtp_size	Set the RTP packet size. Can be 400-1400.
mcast_enable	Set the RTP/RTSP multicast mode. Options are: ▪ 0 — Disable (Default) ▪ 1 — Enable
mcast_video_addr	Set the video multicast address. The default value is `224.2.0.1`.
mcast_video_port	Set the video port number. The value can be 1024-65534; even values only.
mcast_audio_addr	Set the audio multicast address. The default value is `224.2.0.1`.
mcast_audio_port	Set the audio port number. The value can be 1024-65534; even values only.
mcast_hops	Set the multicast time to leave value. The value can be 1-255.
mcast_group_name	Set the multicast group name (up to 64 characters). Allowed values are ASCII characters and space characters. The default name is WVC210.

[UPNP] Group

Parameter	Value and Description
upnp_mode	Set the uPnP feature. The choices are: ▪ 0 — Off ▪ 1 — On (Default)

[EMAIL] Group

Parameter	Value and Description
smtp_enable	Set the SMTP server mode. The choices are: ▪ 0 — Disable ▪ 1 — Enable (Default)
smtp_server	Set the SMTP server address. It can include up to 64 characters.
smtp_port	Set the SMTP port number. The range is from 1 to 65535. The default is 25.
smtp_auth	Set the authentication method. The choices are: ▪ 0 — None ▪ 1 — SMTP
smtp_account	Set the STMP/POP server login name. It can include up to 32 characters.
smtp_password	Set the SMTP/POP server password. It can include up to16 characters.
smtp2_enable	Set the SMTP2 server mode. The choices are: ▪ 0 — Disable (Default) ▪ 1 — Enable
smtp2_server	Set the SMTP2 server address. It can include up to 64 characters.
pop2_server	Set the POP2 server address. It can include up to 64 characters.
smtp2_port	Set the SMTP 2 port number. The range is from 0 to 65535. The default is 25.
smtp2_auth	Set the SMTP2 Authentication method. The choices are: ▪ 0 — None ▪ 1 — SMTP

Parameter	Value and Description
smtp2_account	Set the STMP/POP2 server login name. It can include up to 32 characters.
smtp2_password	Set the SMTP/POP2 server password. It can include up to16 characters.
from_addr	Set the From email address. It can include up to 48 characters.
to_addr1 ... to_addr3	Set the Send to email address. It can include up to 48 characters.
send_email	Set E-mail choices: Choices are A, B, or C: A — Send to address 1 ▪ 0 — No ▪ 1 — Yes B — Send to address 2 ▪ 0 — No ▪ 1 — Yes C — Send to address 3 ▪ 0 — No ▪ 1 — Yes
subject	Set the E-mail subject. It can include up to 48 ASCII characters.

[FTP] Group

Parameter	Value and Description
ftp1	Set the FTP Uploading feature. The choices are: ▪ 0 — Off ▪ 1 — On
ftp1_server	Set the FTP server IP address. It can include up to 64 characters.
ftp1_account	Set the FTP login name. It can include up to 32 characters.
ftp1_passwd	Set the FTP server login password. It can include up to 16 characters.
ftp1_path	Set the FTP server login default path. It can include up to 64 characters.
ftp1_passive	Set FTP passive mode. The choices are: ▪ 0 — Off ▪ 1 — On
ftp1_port	Set the FTP control port number. The default value is 21.
ftp2	Set the FTP uploading feature. The choices are: ▪ 0 — Off ▪ 1 — On
ftp2_server	Set the FTP server IP address. It can include up to 64 characters.
ftp2_account	Set the FTP login name. It can include up to 32 characters.
ftp2_passwd	Set the FTP server login password. It can include up to16 characters.
ftp2_path	Set the FTP server login default path. It can include up to 64 characters.

Parameter	Value and Description
ftp2_passive	Set FTP 2 passive mode. The choices are: ▪ 0 — Off ▪ 1 — On
ftp2_port	Set the FTP control port number. The default value is 21.

[VIDEO] Group

Parameter	Value and Description
time_stamp	Set the time stamp. The choices are: ▪ 0 — Off ▪ 1 — On
text_overlay	Set the text overlay. The choices are: ▪ 0 — Off ▪ 1 — On
text	Set the text overlay string. It can include up to 20 ASCII characters.
power_line	Set the power line frequency. The choices are: ▪ 60 — 60Hz ▪ 50 — 50Hz
color	Set the color balance. The choices are: ▪ 0 — Auto ▪ 1 — Indoor ▪ 2 — White light ▪ 3 — Yellow light ▪ 4 — Outdoor ▪ 5 — Black & white

Parameter	Value and Description
exposure	Set the exposure/brightness. The range is from 1-7, where 7 is the brightest.
sharpness	Set the sharpness. The range is from 1-7, where 7 is the sharpest.
flip	Flip (rotate) the image: The choices are: ▪ 0 — Off ▪ 1 — On
mirror	Mirror the image. The choices are: ▪ 0 — Off ▪ 1 — On

[MPEG4] Group

Parameter	Value and Description
resolution	Set the resolution. The choices are: ▪ 1 — 160x120 ▪ 2 — 320x240 (Default) ▪ 3 — 640x480
quality_type	Set the video quality control. The choices are: ▪ 0 — Fix bit rate ▪ 1 — Fix quality
quality_level	Set the quality. The choices are: ▪ 1 — Very low ▪ 2 — Low ▪ 3 — Normal (Default) ▪ 4 — High ▪ 5 — Very high
bit_rate	Set the bit rate. The choices are: ▪ 1 — 64K ▪ 3 — 128K ▪ 4 — 256K ▪ 5 — 384K ▪ 6 — 512K ▪ 7— 768K ▪ 8 — 1Mb/s ▪ 9— 1.2 Mb/s
frame_rate	Set the framerate. The range is from 1 to 30 FPS. The default value is 30.

[JPEG] Group

Parameter	Value and Description
resolution	Set the resolution. The choices are: ▪ 1 — 160x120 ▪ 2 — 320x240 (Default) ▪ 3 — 640x480
quality_level	Set the quality. The choices are: ▪ 1 — Very low ▪ 2 — Low ▪ 3 — Normal ▪ 4 — High ▪ 5 — Very high
frame_rate	Set the frame rate. The range is from 1 to 30 FPS.

[MOBILE] Group

Parameter	Value and Description
mobile_support	Enable Mobile Streaming. The choices are: ▪ 0 — Off ▪ 1 — On
resolution	Set the resolution. Only option is: 1 — 160x120.
quality_type	Set the video quality control. The choices are: ▪ 0 — Fix bit rate (Default) ▪ 1 — Fix quality
quality_level	Set the quality. The choices are: ▪ 1 — Very low ▪ 2 — Low ▪ 3 — Normal ▪ 4— High ▪ 5 — Very high
bit_rate	Set the bitrate. The choices are: ▪ 0 — 32K (Default) ▪ 1 — 64K ▪ 2 — 96K ▪ 3 — 128K ▪ 4 — 256K
frame_rate	Set the frame rate. Can be from 1 to 15 FPS. The default value is 15.
mobile_access	Set the access code for mobile access.

[AUDIO] Group

Parameter	Value and Description
audio_in	Set Audio-in (for a microphone). The choices are: ▪ 0 — Off ▪ 1 — On
in_volume	Set audio-in volume using client software. The range is from 1 to 16.
in_audio_type	Set the Audio-in codec. The choices are: ▪ 0 — G.711 A-law ▪ 1 — G.711 u-law (Default) ▪ 2 — Reserved
audio_out	Set audio-out (for an external speaker). ▪ 0 — Off ▪ 1 — On
out_volume	Set audio-out volume using client software. The range is from 1 to 16.
out_audio_type	Set the audio-out codec. The choices are: ▪ 0 — G.711 A-law ▪ 1 — G.711 u-law (Default) ▪ 2 — Reserved
audio_mode	Set audio mode. The choices are: ▪ 0 — disable ▪ 1 — enable
operation_mode	Set audio operation mode settings. The choices are: ▪ 0 — Simplex - listen ▪ 1 — Simplex – talk (Default) ▪ 2 — Half duplex ▪ 3 — Full duplex

[USER] Group

Parameter	Value and Description
login_check	Set authentication check. The choices are: ▪ 0 — No ▪ 1 — Yes
admin_timeout	Set the management login time-out value in seconds. 0 — Disable n= n minutes (Default value is 2)
admin_name	Set the administrator login name. It can include up to 32 characters.
admin_password	Set the administrator login password. It can include up to 64 characters.
user1 ... user20	Set user name and password. The name can include up to 32 characters and the password can include up to 64 characters. ▪ user1 — name1, password1 through ▪ user20 — name20, password20
audio_in_ctrl	Set audio in control (MIC-in). The choices are: ▪ 0 — No ▪ 1 — Yes Example: 1,0,1,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 Out of 20 users, users 1, 3, and 5 have audio-in access rights.

Parameter	Value and Description
audio_out_ctrl	Set audio out control (Speaker-out). The choices are: ▪ 0 — No ▪ 1 — Yes Example: 1,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1 Out of 20 users, users 1, 3, and 20 have audio-out access rights.
pt_ctrl	Set pan & tilt. The choices are: ▪ 0 — No ▪ 1 — Yes Ex: 1,0,1,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0 Out of 20 users, users 1, 3, and 6 have pan & tilt access rights.
adm_ctrl	Set administrator access. The choices are: ▪ 0 — No ▪ 1 — Yes Example: 1,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0 Out of 20 users, users 1, 3, and 19 can control I/O ports.

[MOTION] Group

Parameter	Value and Description
md_mode	Set motion detection. The choices are: ▪ 0 — Off ▪ 1 — Always on (Default)
md_point	Set the position of motion under PT mode. The format is X,Y. See **"Motion Detection Commands," on page 37** for more information. ▪ The range of X is -63 to 63. ▪ The range of Y is -36 to 28.
md_switch1 ... md_switch4	Set motion detection, per window. The choices are: ▪ 0 — Off ▪ 1 — On
md_name1 ... md_name4	Name of the motion detection area 1-4. Name can include up to 12 ASCII characters.
md_window1 ... md_window4	The coordinates of motion detection window N (relative to resolution 640x480). The format is X1,Y1,X2,Y2. The range of X is: 0 to 639. The range of Y is 0 to 479. See **"Motion Detection Commands," on page 37** for more information.
md_threshold1 ... md_threshold4	Set the threshold of the motion detection window N. The range is from 0 to 255.

[EVENT] Group

Parameter	Value and Description
event_trigger	When a user has checked the box to enable the email or FTP alert, the event trigger is enabled. ▪ 0 — Off ▪ 1 — On
event_interval	Set the interval in minutes before detecting the next event in minutes. Range can be from 1 to 15. It is recommended to use the increments as presented on the camera web interface: 1, 2, 3, 4, 5, 10, or 15 minutes.
event_mt	Set actions triggered by motion detection. Choices are A, B, C, or D. ▪ A — Send E-mail 0 — No 1 — Yes ▪ B — FTP upload 0 — No 1 — Yes ▪ C — Reserved ▪ D — Reserved
event_attach	Set the image type. The choices are: ▪ 0 — MPEG-4 ▪ 1 — JPEG

Parameter	Value and Description
event_mpeg4	Set the captured event in MPEG-4 format. Choices are A, B, or C, where: ▪ A — File type. Can be one of the following: 0 — (Reserved) 1 — mp4 2 — 3gp 3 — avi (Default) ▪ B — Pre-captured video length in seconds. The range is from 0 to 4 seconds. ▪ C — Post-captured video length in seconds. The range is from 1 to 5 seconds. The total of B+C must be than 5 seconds.
event_jpeg	Set the captured event in JPEG format. Choices are A, B, or C, where: ▪ A — JPEG photo numbers (1-4) ▪ B — Pre-captured video length in seconds. The range is from 0 to 4 seconds. ▪ C — Post-captured video length in seconds. The range is from 1 to 5 seconds. The total of B+C must be than 5 seconds.

[QOS] Group

Parameter	Value and Description
qos_enable	Set the QoS mode. The choices are: ▪ 0 — Disable ▪ 1 — Enable
qos_dscp	Set the QoS DSCP value. The range is 0 to 63. The default is 12.

[PTZ] Group

Parameter	Value and Description
PtzMode	Set pan and tilt control. The choices are: ▪ 0 — Off ▪ 1 — On
PtzMdMutex	Set pan and tilt options during motion detection. The choices are: ▪ 0 — Disable Pan/Tilt while motion detection is enabled. ▪ 1 — Disable Motion Detection when camera is out of set motion detection area. ▪ 2 — Allow motion Detection in all position.
GotoMdPosIdleEn	Set the flag to control whether the camera goes to the set motion detection area after the idle timer ends. The choices are: ▪ 0 — Disable ▪ 1 — Enable
GotoMdPosIdleVal	Set the idle timer. The range is in seconds, from 60 to 900.
Preset1Name ... Preset9Name	Set the name of preset position n. It can include up to 16 ASCII characters.
Preset1Position ... Preset9Position	Set the coordinates (x,y) of preset position n. The format is X,Y. The range for X is -63 to 63. The range for Y is -36 to 28.

Patrol1Position	Group a total of 20 positions. Form is as follows:
	`<preset position#>,<time in seconds>;`
	`<preset position#>,<time in seconds>;...`
	For preset position, use the pt_position name. For time in seconds, the range if from 5 to 60 seconds.

PredefineHome	Set the user defined HOME position (x,y).

[SMBC] Group

Parameter	Value and Description
smbc_enable	Enable the SMB client for an event. The choices are: ▪ 1 — enabled ▪ 0 — disabled (Default)
smbc_server	Set the SMB server for an event. It can include up to 64 characters.
smbc_path	Set the path in the SMB server for event. It can include up to 128 characters.
smbc_account	Set the user name to access the SMB server for an event. It can include up to 64 characters.
smbc_passwd	Set the user name to access the SMB server for an event. It can include up to 64 characters.
smbc_rec_enable	Set the SMB client for regular recording. ▪ 1 — enabled ▪ 0 — disabled (Default)
smbc_rec_server	Set the SMB server for regular recording. It can include up to 64 characters.
smbc_rec_path	Set the path in the SMB server for regular recording. It can include up to 128 characters.
smbc_rec_filesize	Set the recording maximum file size (KBytes). The default is 10MBytes.
smbc_rec_mode	Set the recording file mode/style. The choices are: ▪ 0 — Record by the single file, and replace the old. (Default) ▪ 1 — Record by the multiple files, and named by timestamp.
smbc_rec_account	Set the user name to access the SMB server for regular recording. It can include up to 64 characters.

Parameter	Value and Description
smbc_rec_passwd	Set the password to access the SMB server for regular recording. It can include up to 64 characters.

Time Zone List

The daylight saving time zone areas are marked with an asterisk *.

Index Value	Time Zone
0	(GMT-12:00) International Date Line West
1	(GMT-1 1:00) Midway
2	(GMT-10:00) Hawaii
3	*(GMT-09:00) Alaska
4	*(GMT-08:00) Pacific Time (US & Canada), Tijuana
5	(GMT-07:00) Arizona
6	*(GMT-07:00) Chihuahua, La Paz, Mazatlan
7	*(GMT-07:00) Mountain Time (US & Canada)
8	(GMT-06:00) Central America
9	*(GMT-06:00) Central Time (US & Canada)
10	*(GMT-06:00) Guadalajara, Mexico City, Monterrey
11	(GMT-06:00) Saskatchewan
12	(GMT-05:00) Bogota, Lima, Quito
13	*(GMT-05:00) Eastern Time (US & Canada)
14	(GMT-05:00) Indiana (East)
15	*(GMT-04:00) Atlantic Time (Canada)
16	(GMT-04:00) La Paz

Index Value	Time Zone
17	*(GMT-04:00) Santiago
18	*(GMT-03:30) Newfoundland
19	*(GMT-03:00) Brasilia
20	(GMT-03:00) Buenos Aires, Georgetown
21	*(GMT-03:00) Greenland
22	*(GMT-02:00) Mid-Atlantic
23	*(GMT-01:00) Azores
24	(GMT-01:00) Cape Verde Is.
25	(GMT) Casablanca, Monrovia
26	*(GMT) Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London
27	*(GMT+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
28	*(GMT+01:00) Belgrade, Bratislava, Budapest, Ljubljana, Prague
29	*(GMT+01:00) Brussels, Copenhagen, Madrid, Paris
30	*(GMT+01:00) Sarajevo, Skopje, Warsaw, Zagreb
31	(GMT+01:00) West Central Africa
32	*(GMT+02:00) Athens, Istanbul, Minsk
33	*(GMT+02:00) Bucharest
34	*(GMT+02:00) Cairo
35	(GMT+02:00) Harare, Pretoria
36	*(GMT+02:00) Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius
37	(GMT+02:00) Jerusalem
38	*(GMT+03:00) Baghdad
39	(GMT+03:00) Kuwait, Riyadh

Index Value	Time Zone
40	*(GMT+03:00) Moscow, St. Petersburg, Volgograd
41	(GMT+03:00) Nairobi
42	*(GMT+03:30) Tehran
43	(GMT+04:00) Abu Dhabi, Muscat
44	*(GMT+04:00) Baku, Tbilisi, Yerevan
45	(GMT+04:30) Kabul
46	*(GMT+05:00) Ekaterinburg
47	(GMT+05:00) Islamabad, Karachi, Tashkent
48	(GMT+05:30) Chennai, Kolkata, Mumbai, New Delhi
49	(GMT+05:45) Kathmandu
50	*(GMT+06:00) Almaty, Novosibirsk
51	(GMT+06:00) Astana, Dhaka
52	(GMT+06:00) Sri Jayawardenepura
53	(GMT+06:30) Rangoon
54	(GMT+07:00) Bangkok, Hanoi, Jakarta
55	*(GMT+07:00) Krasnoyarsk
56	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi
57	*(GMT+08:00) Irkutsk, Ulaan Bataar
58	(GMT+08:00) Kuala Lumpur, Singapore
59	(GMT+08:00) Perth
60	(GMT+08:00) Taipei
61	(GMT+09:00) Osaka, Sapporo, Tokyo
62	(GMT+09:00) Seoul
63	*(GMT+09:00) Yakutsk
64	*(GMT+09:30) Adelaide

Index Value	Time Zone
65	(GMT+09:30) Darwin
66	(GMT+10:00) Brisbane
67	*(GMT+10:00) Canberra, Melbourne, Sydney
68	(GMT+10:00) Guam, Port Moresby
69	*(GMT+10:00) Hobart
70	*(GMT+10:00) Vladivostok
71	(GMT+11:00) Magadan, Solomon Is., New Caledonia
72	*(GMT+12:00) Auckland, Wellington
73	(GMT+12:00) Fiji, Kamchatka, Marshall Is.
74	(GMT+13:00) Nuku'alofa
75	(GMT-04:30) Caracas,

B

Additional Information

Regulatory Compliance and Safety Information

Regulatory Compliance and Safety Information for this product is available on Cisco.com at the following location:

www.cisco.com/go/smallbusiness

Warranty

Warranty information that applies to this product is available on Cisco.com at the following location:

www.cisco.com/go/warranty

End User License Agreement (EULA)

Licensing information that applies to this product is available on Cisco.com at the following location:

www.cisco.com/go/warranty

C

Support Contacts

Support contact information for this product is available on Cisco.com at the following location:

www.cisco.com/go/smallbusiness

or

http://www.cisco.com/en/US/support/tsd_cisco_small_business_support_center_contacts.html