LTV IP-CAM HTTP API

(Configuration App Development Guide)

Date 2010-11-23
Version 2

Table of Contents

1. Document History

Date	Version	Auther	Notes
2010.11.23	2	Jeonghun Baek	Reviewer: Conner Sun Add sub-section 3.6.4.1 F/W version Information
2010.08.27	1.b	Hosung Yoon	Reviewer: Conner Sun Add Param 3.1.2 Codec Setup Chagne Param 3.4.1 Alarm Event Setup Add Param value 3.1.1 Camera Setup, ae_mode correct misspell 3.4.4. get_setup.event.statue -> get_setup.event.status
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2009.09.10	Draft	Hosung Yoon	Draft Version

2. Using HTTP API

This API is applied to the version after IP-CAMERA System S/W version 51110.1b.1200.100.
The applicable IP-CAMERA models are NCX series(2000, 1300, 0350), NCD serises, NCDi series, NCB series.
System S/W version and System relative information shall be checked in "3.6.5. System Information"

2.1. Syntax

To use HTTP API in Clinet, request should be made based on following Syntax.

http://<device ip>/cgi-bin/action.fcgi?api=<api_list>&<parameter>=<value>[&<parameter>=<value>...]

* Value encording should follow (RFC 3986: Uniform Resource Identifiers (URI) Generic Syntax)

Item Description:

device ip	ip-camera's IP Address or URL
api_list	CGI Query for setting up each of ip-camera
parameter=value	Name and value for setting up ip-camera. Use "&" to set multiple values at the same time. Parma[0123] means param0, param1, param2, param3 Ex) ...&param0=value0&param1=value1&...

example:

http://192.168.10.100/cgi-bin/action.fcgi?api=get_setup.video.camera

2.2. Get Authentication

This IP-CAMERA suppports "HTTP basic access authentication". Application developer should standard of "basic authentication(RFC 2617)" to use HTTP API.
* Default ID/PW for IP-CAMERA is "ADMIN/1234"

2.3. Return Code

Return Code for HTTP API is as follows.

Return Code	Description
0x00000000	**WEBSVR_ERR_RET_SUCCESS**: HTTP API Request success
0x00000001	**WEBSVR_ERR_RET_RESOURCE**: IP-CAMERA Resource Full
0x00000002	**WEBSVR_ERR_RET_INTERNAL**: IP-CAMERA internal error
0x00000003	**WEBSVR_ERR_RET_PARAMETER**: HTTP API Request Parameter error
0x00000004	**WEBSVR_ERR_RET_AUTH**: HTTP API Request Authentication error

example 1).
request:

http://192.168.10.30/cgi-bin/action.fcgi?api=get_setup.event.mapping

response success:

```
HTTP/1.1 200 OK₩r₩n
Transfer-Encoding: chunked₩r₩n
Content-Type: text/html₩r₩n
Date: Thu, 03 Dec 2009 01:43:38 GMT₩r₩n
Server: lighttpd/1.4.20₩r₩n
₩r₩n
79₩r₩n
return_code=0x00000000₩r₩n
return_message=WEBSVR_ERR_RET_SUCCESS₩r₩n
out_alarm=0₩r₩n
out_motion=0₩r₩n
email_alarm=1₩r₩n
email_motion=1₩r₩n
₩r₩n
0₩r₩n
₩r₩n
```

response error:

```
HTTP/1.1 200 OK₩r₩n
Transfer-Encoding: chunked₩r₩n
Content-Type: text/html₩r₩n
Date: Thu, 03 Dec 2009 01:45:48 GMT₩r₩n
Server: lighttpd/1.4.20₩r₩n
₩r₩n
41₩r₩n
return_code=0x00000003₩r₩n
return_message=WEBSVR_ERR_RET_PARAMETER₩r₩n
₩r₩n
0₩r₩n
₩r₩n
```

* Response uses "Chunked Transfer Coding". Refer to RFC 2616(3.6.1)
* According to RFC 3986, response value should be used after decording

example 2).
request:

```
http://192.168.10.30/cgi-bin/action.fcgi?api=set_setup.event.mapping&out_alarm=1&email_alarm=0&out_motion=1&email_motion=0
```

response success:

```
HTTP/1.1 200 OK₩r₩n
Transfer-Encoding: chunked₩r₩n
Content-Type: text/html₩r₩n
Date: Thu, 03 Dec 2009 01:48:25 GMT₩r₩n
Server: lighttpd/1.4.20₩r₩n
₩r₩n
79₩r₩n
return_code=0x00000000₩r₩n
return_message=WEBSVR_ERR_RET_SUCCESS₩r₩n
out_alarm=1₩r₩n
email_alarm=0₩r₩n
out_motion=1₩r₩n
email_motion=0₩r₩n
₩r₩n
0₩r₩n
₩r₩n
```

response error:

```
HTTP/1.1 200 OK₩r₩n
Transfer-Encoding: chunked₩r₩n
Content-Type: text/html₩r₩n
Date: Thu, 03 Dec 2009 01:50:09 GMT₩r₩n
Server: lighttpd/1.4.20₩r₩n
₩r₩n
41₩r₩n
return_code=0x00000003₩r₩n
return_message=WEBSVR_ERR_RET_PARAMETER₩r₩n
₩r₩n
0₩r₩n
₩r₩n
```

3. HTTP API List

3.1. Video

3.1.1. Camera Setup

Settings for IP-CAMERA's AE(Auto Exposure), AWB(Auto White Balance), D&N(Day and Night) can be read or modified.

Syntax:

```
http://<device ip>/cgi-bin/action.fcgi?api=get_setup.video.camera
http://<device ip>/cgi-bin/action.fcgi?api=set_setup.video.camera&<parameter>=<value>[&<parameter>=<value>...]
```

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
ae_mode	string	6	"auto": AE(Auto Exposure) indoor mode "auto_out": AE outdoor mode "manual": ME(Manual Exposure) mode	Select Active or Inactive of AE function
me_agc	numeric		"0~36"	Select AGC gain on Manual Exposure mode. (unit: dB
me_shutter	numeric		"4~2000"	Select e-Shutter speed on Manual Exposure mode. (unit: 1/value, 1/4~1/2000)
ss_mode	string	3	"on": Slow Shutter ON "off": Slow Shutter OFF	Select Active or Inactive of Slow Shutter
max_agc	numeric	4	"24": MAX Gain is 24dB on AE mode. "36": MAX Gain is 36dB on AE mode.	In AE mode, set maximum AGC value in low illumination (unit: dB)
iris_mode	string	3	"on": Enable DC-iris control on AE mode "off": Disable DC-iris control on AE mode.	In AE mode, select Active or Inactive of DC-iris control. Select "on", in case connect DC-iris on IP-CAMERA.
~~ff_mode~~	~~numeric~~	4	~~"50": Anti-Flicker on 50hz power line.~~ ~~"60": Anti-Flicker on 60hz power line.~~	~~(unit: Hz)~~
blc_ctrl	string	3	"on" or "off"	Select Active or Inactive BackLight Weight Window.
awb_mode	string	6	"auto": AWB(Auto White Balance) mode "manual": MWB(Manual WB) mode	Select AWB or MWB "mwb_mode" is reflected in case user select MWB
mwb_mode	string	11	"indoor": Fixed indoor "outdoor": Fixed outdoor "fluorescent": Fixed fluorescent	White Balance pre-set. *"awb_mode" is reflected in case user select "manual"
dnn_mode	string	5	"auto": Day & Night auto mode "day": Day mode "night": Night mode	Select D&N function
img_sharp	numeric		1~15: sharpness filter strength	Select Image sharpness filter strength. 1, weak ... 15, strong
img_bright	numeric		"0~30", (middle value: 15)	Select Image brightness.
img_contrast	numeric		"0~30", (middle value: 15)	Select Image Contrast.
img_color	numeric		"0~30", (middle value: 15)	Select Image Color
img_hue	numeric		"0~30", (middle value: 15)	Select Image Hue

3.1.2. Codec Setup

Video Codec setup for IP-CAMERA can be read or modified.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.video.codec http://<device ip>/cgi-bin/action.fcgi?api=set_setup.video.codec&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
~~vin~~	~~string~~	~~9~~	~~"2560x1440", "1920x1080",~~ ~~"2560x1920", "1280x1024"~~	~~Set area of image sensor.~~ ~~"2560x1440": BINNING (16:9)~~ ~~"1920x1080": NORMAL (16:9)~~ ~~"2560x1920": BINNING (4:3)~~ ~~"1280x1024": NORMAL (4:3)~~ ~~*attn: vin parameter is related with resolution0, resolution1 (Refer to Table. 1, 2, 3)~~
codec0	string	5	"h264"	Set video stream 0,1 compresstion format *attn: stream 0, 1 correlate (Refer to Table. 1)
codec1	string	5	"none": 2nd video stream OFF "h264", "mjpeg"	

resolution[01]	string	9	"1920x1080", "1920x1080_w", "1280x1024", "1024x768", "1280x720", "1280x720_w", ~~"720x480", "720x576",~~ "704x480", "704x576", "640x480", "352x288", "352x240", "320x240"	Set video stream 0, 1 resolution *attn: stream 0, 1 correlate (Refer to Table. 1)
fps[01]	string	3	"30", "15", "10", "7.5", "6", "5", "4.3", "3.8", "3.3", "3", "2.7", "2.5"	Set Video stream Frame Rate (unit: fps) fps0 and fps1 correlate (Refer to Table. 2)
bitctrl[01]	string	3	"cbr": Constant Bit Rate "vbr": Variable Bit Rate	Set bitrate control This Parameter is related with bitavr If CBR, video image outputs according to setting size of bitavr regardeless of input motion. If VBR, video image size varies from 20% (still-image) up to 200% (dynamic-image) of bitavr setting size in proportion to input image motion
bitavr[01]	numeric		"512~8000"	Set compressed image quality The higher the value, the better quality is. However, compression image size increase. (unit: kbps)
ff_mode	numeric		"50": Anti-Flicker on 50hz power line. "60": Anti-Flicker on 60hz power line.	(unit: Hz)
bandon	string	3	"yes": enable total bandwidth limitation "no": disable total bandwidth limitation	Set limitation of overall bandwidth If "yes", bandwdith value is applied
bandwidth	numeric		"1000 ~ 50000"	(unit: kbps)
mirror_mode	string		"none": no video mirroring "h_mirror": video horizontal mirroring "v_mirror": video vertical mirroring "hv_mirror": video horizontal vertical mirroring	mirroring opreation.

*) In case Parameter for Codec setup is incorrect, IP-CAMERA returns to "WEBSVR_ERR_RET_INTERNAL". (Refer to Table 1. about Setting Parameter)
*) If IP-CAMEARA is in Installation mode(refer to 3.7), it returns to "WEBSVR_ERR_RET_INTERNAL" regardeless of setting parameter
Instation mode should be "off" to set up Codec

3.1.3. AF Setup

AF(Auto Focus) setup for IP-CAMERA can be read or modified.
Only NCD 2000 and 1300 models are supported this API.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.video.af http://<device ip>/cgi-bin/action.fcgi?api=set_setup.video.af&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
af_cmd	string	7	"zoom": zoom in(near), out(far) control "piris": iris control "origin": Lens oirigin control "oneshot": fucus matching	In case of "Zoom", "af_Value" has the 0~600 value "0" is far and "600" is near In case of "piris", "af_value" has the 0~72 value. "0" is iris full open and '72' is iris full close. origin" is lens origin control and don't have the "af_value". "oneshot" is Focus control and don't have the "af_value"
af_value	numeric		Setup value is changed as "af_cmd".	

* AF command(af_cmd) can setup one Command only per one time.

Example)

http://<device ip>/cgi-bin/action.fcgi?api=set_setup.video.af&af_cmd=zoom&af_value=500 http://<device ip>/cgi-bin/action.fcgi?api=set_setup.video.af&af_origin

3.2. Audio

3.2.1. Audio Setup

Audio setup for IP-CAMERA can be read or modified.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.audio.setup http://<device ip>/cgi-bin/action.fcgi?api=set_setup.audio.setup&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
audioon	string	3	"yes": enable audio streaming "no": disable audio streaming	Select active or inactive Audio.
codec	string	4	"ulaw": G.711 u-law audio compression	Setup Audio stream compression format.
mic_volume	numeric		"0~100", step: 5	Setup Audio input (mic) volume. 0: mute, 5~100
spk_volume	numeric		"0~100", step: 5	Setup Audio output (speaker) volume. 0: mute 5~100

3.3. Live

3.3.1 Live Setup

WEB Plug-In Application(ActiveX) setup for IP-CAMERA can be read or modified.

This setting only relates to ActiveX stream Protocol. When user use CMS or general Player, streaming protocol can be selected by RTSP requ regardless of setup condition. Refer to "LTV IP-CAM RTSP API" about RTSP

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.live.setup http://<device ip>/cgi-bin/action.fcgi?api=set_setup.live.setup&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Paramter List:

Parameter	Type	Length	Value	Description
proto	string	7	"udp_uni": RTP unicast "udp_mul": RTP multicast	Select ActiveX live player stream protocol. *attn: this selection only affects ActiveX play.
buffer_time	numeric		"0~90"	(unit: 1/30sec: 0~3sec) *attn: this selection only affects ActiveX play.

* buffer_time)

buffer_time is "0" means realtime. In this case, even it guerantees the lowest latency, Jitter would appear on monitor up to Network situatio

3.4. Event

It provides IP-CAMERA Event(Motion, Alarm) setup

3.4.1. Alarm Event Setup

IP-CAMERA Alarm IN, OUT port setting can be read or modified.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.event.alarm_port http://<device ip>/cgi-bin/action.fcgi?api=set_setup.event.alarm_port&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
in_enable	string	3	"yes": alarm IN port enable "no": alarm IN port disable	Select active or inactive Alarm input port.

in_type	string	2	"no": normal open "nc": normal close	Select sensor type connected to Alarm port.
in_text	string	63		Setup user name at the Alarm port. * When email notification setup, the contents of in_text shall be described in email.
~~out_enable~~	~~string~~	~~3~~	~~"yes": alarm OUT port enable~~ ~~"no": alarm OUT port disable~~	~~Select active or inactive Alarm input port.~~
out_oper	string	8	alarmout: operates with alarm IN. useron: set always alarm out ON. useroff: set always alarm out OFF.	Alarm out opreation
out_mode	string	11	"latched", "transparent"	Select the ways of Alarm output. "latched": If Event occurs, alarm output maintains during out_dwell, "transparent": synchronized by Event and Alarm
out_dwell	numeric		"5", "10", "15", "20", "30", "40", "60", 120", "180", "300"	Setup Alarm output dwell. (unit: second).

3.4.2. Event Map Setup

Settings for problem settlement can be read or modified, in case event occurs in IP-CAMERA

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.event.alarm_mapping http://<device ip>/cgi-bin/action.fcgi?api=set_setup.event.alarm_mapping&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
out_alarm	numeric		"1": enable "0": disable	Select Alarm output when Alarm Event occurs.
email_alarm	numeric		"1": enable "0": disable	Select email notification when Alarm Event occurs.
out_motion	numeric		"1": enable "0": disable	Select Alarm output when Motion Event occurs.
email_motion	numeric		"1": enable "0": disable	Select email notification when Motion Event occurs.

3.4.3. Event Motion Setup

IP-CAMERA's motion relative setting can be read or modified.
IP-CAMERA can select max 4 "user's interest area". Selected area appears in square.
Motion grid size of IP-CAMERA is 12x8

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.event.motion http://<device ip>/cgi-bin/action.fcgi?api=set_setup.event.motion&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length		Value	Description
area[0123]	string	96		"001100...0000", 96 motion mask	* attn: refer to 1)
sensitivity[0123]	numeric			"10~100"	Select sensitivity of motion seonsor (step: 10)

3.4.4. Get Event Status

Search event(Modio, Alarm In, Out) occurrence in IP-CAMERA

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.event.status

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
rise_motion	string	8	"0": No Motion Event "1": Motion Event occur	8 motion area status; Front 4 digits indicate motion area. Rear 4 digits are reservation area. example) "10000000": area0 motion occurrence "01000000": area1 motion occurrence "11110000": area 1,2,3,4 motion occurrence
rise_alarm	string	8	"0": No Alarm Input "1": Alamr Input occur	8 alarm input status; Use front 1 digit. Rear 4 digits are reservation area. "00000000": no alarm_in "10000000": alarm_in occurrence
rise_alarm_out	string	8	"0": No Alarm Output "1": Alarm Output occur	8 alarm ouput status; Use front 1 digit. Rear 4 digits are reservation area. "00000000": no alarm_out "10000000": alarm_out occurrence

3.4.5. Get Event Status using RTP Extension Header (new)

Event occurrence status in IP-CAMEAR is transmittible throughout RTP Extension Header

Refer to page 5 of "LTV IP-CAM RTSP API" about RTP Extension Header

3.5. Network

Network setup for IP-CAMERA can be read or modified.

3.5.1. IP address Setup

IP address setup for IP-CAMERA can be read or modified.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.network.ipsetup
http://<device ip>/cgi-bin/action.fcgi?api=set_setup.network.ipsetup&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
dhcpon	string	3	"yes", "no"	Select DHCP use. If "no", input "ipaddr", "subnet", "gateway" article.
ipaddr	string	15	format: ###.###.###.###	ip-camera IP address
subnet	string	15	format: ###.###.###.###	ip-camera Subnet Mask
gateway	string	15	format: ###.###.###.###	ip-camera gateway address
dns1	string	15	format: ###.###.###.###	primary DNS server address
dns2	string	15	format: ###.###.###.###	secondary DNS server address

* Attention: if "gateway" and "dns" are not setup well, DDNS or email function may not be active.

3.5.2. Service Port Setup

IP-CAMERA's http server and port number of rtsp(real-time streaming protocol, RFC 2326) server can be read or modified.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.network.service
http://<device ip>/cgi-bin/action.fcgi?api=set_setup.network.service&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
httpport	numeric		1~65535	setup http server port
rtspport	numeric		1~65535	setup rtsp server port

3.5.3. RTP Setup

RTP(real-time transport protocol, RFC 1889) port assigned area for IP-CAMERA can be read or modified.
RTP is used as Data channel and RTSP is used as control chanel for Audio/Video streaming.
Setup for Multicast RTP streaming can be read or modified.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.network.rtp http://<device ip>/cgi-bin/action.fcgi?api=set_setup.network.rtp&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
rtpsport	numeric		1024~65524	Select dynamically assigned RTP port range. "rtpsport": input rtp start port, even number "rtpeport": input rtp end prot, odd number * Set numerical difference over 10 between rtp start
rtpeport	numeric		1035~65535	
mcast_ip[01]	string	15	format: ###.###.###.###	Set Multicast IP D class IP or "0", but "0" autogenerate D class IP.
mcast_vport[01]	numeric		1024~65534 or 0	Set Multicast Video Port, but "0" allots automatically.
mcast_aport[01]	numeric		1024~65534 or 0	Set Multicast Audio Port, but "0" allots automatically.
mcast_ttl[01]	numeric		1~255	Set Multicast TTL(Time to Live)

3.5.4. Email Setup

It is possible to read or modify IP-CAMERA's Email setting

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.network.email http://<device ip>/cgi-bin/action.fcgi?api=set_setup.network.email&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
mailon	string	3	"yes": email sending enable "no": email sending disable	Select active or inactive email notification function.
frequency	numeric		"0", "1", "5", "10", "15", "30", "60"	email notification cycle (unit: second)
server	string	63		Set SMTP server name
port	numeric		1~65535	Set SMTP server port
security	string	3	"yes": "no":	Select active or inactive SMTP security.
user	string	63		Set user address for SMTP server
password	string	31		Set user password for SMTP server
from	string	63		Set sender's email address

3.5.5. DDNS Setup

DDNS(Dynamic DNS) setup for IP-CAMERA can be read or modified.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.network.ddns http://<device ip>/cgi-bin/action.fcgi?api=set_setup.network.ddns&<parameter>=<value>

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
ddnson	string	3	"yes": enable DDNS(Dynamic DNS) "no": disable DDNS	Select active or inactive ITX DDNS function. If select "yes", automatically register DDNS.
ddns_hostname	string	63		User setting ddns host name

* If user use DDNS, Gateway and DNS should be set at "3.5.1. IP Address Setup"
* When user use DDNS, connect to http://<MAC>.dvrlink.net is available. (example: http://00115f000000.dvrlink.net)
  It is also possible to connect to http://<ddns_hostname>.dvrlink.net

3.5.6. UPnP Setup

IP-CAMERA's UPnP(Univertial Play and Play) setting can be read or modified.
If activate UPnP, "IP-CAMER" shall be added automatically onto Microsoft Windows' "My network circumstance"

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.network.upnp http://<device ip>/cgi-bin/action.fcgi?api=set_setup.network.upnp&<parameter>=<value>

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
upnpon	string	3	"yes": enable UPnP "no": disable UPnP	Active of Inactive UPnP

3.6. System

IP-CAMERA system setting can be read or modified.

3.6.1. User Setup

Users' address, who can access IP-CAMERA, can be read or modified.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.system.usr http://<device ip>/cgi-bin/action.fcgi?api=set_setup.system.usr&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
action	string	3	"add": add user "del": delete user "edit": modify user information	Input "usrid" in "edit" mode
usrid	string	31		Setup user address
passwd	string	31		Setup user password
groupid	string	5	"ADMIN" or "USER"	Setup user user group "ADMIN": live view, System Setup "USER": live view
email	string	63		Setup user Email (option)
noti	numeric		"0": Email noti off "1": Email noti on	Setup email notification if event occurs (option)

* usrid0 basic setup is "ADMIN", it can not be modified at pleasure

Example of user addtion)

http://<device ip>/cgi-bin/action.fcgi?api=set_setup.system.usr&action=add&usrid=abcd&passwd=1234&groupid=USER[&email=abc@abc.com&noti=1]

Example of user delete)

http://<device ip>/cgi-bin/action.fcgi?api=set_setup.system.usr&action=del&usrid=abcd&passwd=1234&groupid=USER

3.6.2. Date Time Setup

3.6.2.1. Set Time System

It is possible to read or modify IP-CAMERA's TimeZome as well as Time setting

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.system.datetime http://<device ip>/cgi-bin/action.fcgi?api=set_setup.system.datetime&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
dateformat	numeric		"0": YYYY/MM/DD date format "1": MM/DD/YYYY date format "2": DD/MM/YYYY date format	-
timeformat	numeric		"0": 24H time format "1": AM/PM time format	-
autosync	numeric		"0": No activate NTP time "1": activate NTP time by periods	-
ntp_server	string	63	NTP(Network Time Protocol) Server name (Domain Name or IP address)	Setup NTP server name
timezone	string	63	See Table.3	-
dst	numeric		"0": DST(Day-light Saving Time) OFF "1": DST ON	-
cur_gmttime	numeric		unix timestamp (GMT)	"get_setup" only

3.6.2.2. Set Time

Setup IP-CAMERA's time

Syntax:

```
http://<device ip>/cgi-bin/action.fcgi?api=set_setup.system.set_time&<parameter>=<value>[&<parameter>=<value>...]
```

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
method	numeric		"0": activate NTP server and system time "1": setup system time as "gmttime"	-
gmttime	numeric		unix timestamp (GMT)	Setup user time

Setup example - in case use NTP)

api=set_setup.system.set_time&method=0

Setup example - in case setup user's time)

api=set_setup.system.set_time&method=1&gmttime=1259817082

3.6.3. System Name Setup

IP-CAMERA user name can be read or modified.

Syntax:

```
http://<device ip>/cgi-bin/action.fcgi?api=get_setup.system.manage
http://<device ip>/cgi-bin/action.fcgi?api=set_setup.system.manage&<parameter>=<value>[&<parameter>=<value>...]
```

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
sysname	string	63		Setup IP-CAMERA user name

3.6.4. System Information

Possible to read IP-CAMERA's various information

Syntax:

```
http://<device ip>/cgi-bin/action.fcgi?api=get_setup.system.info
```

Method: GET, POST

Response Example:

```
return_code=0x00000000
return_message=WEBSVR_ERR_RET_SUCCESS
brand=ITX
```

```
swver=51110.1a.972.100
hwver=ZN-C2M
macaddr=00:11:5F:F0:03:00
dhcpon=1
ipaddr=192.168.10.30
subnet=255.255.255.0
gateway=192.168.10.1
dns1=168.126.63.1
dns2=222.112.8.34
ddnson=0
ddnsdomain=DVRLINK.NET
install_mode=off
curr_gmttime=1259817082
```

Possible to know IP-CAMERA System S/W(Firmware) Version in "swver"
Possible to know IP-CAMERA's model name in "hwver"
Possible to know IP-CAMEARA's installation mode in "install_mode"

3.6.4.1 F/W version Information

Possible to read IP-CAMERA's Firmware version

Syntax:

```
http://<device ip>/cgi-bin/action.fcgi?api=get_fwver
```

Method: GET, POST

Response Example:

```
return_code=0x00000000
return_message=WEBSVR_ERR_RET_SUCCESS
swver=51110.2.1411.100
```

Possible to know IP-CAMERA System S/W(Firmware) Version in "swver"

3.6.5. System Reboot and Factory Reset

Rebooting or Factory Reset of IP-CAMERA is possible.

Syntax:

```
http://<device ip>/cgi-bin/reboot.cgi?api=reboot
http://<device ip>/cgi-bin/reboot.cgi?api=factory
```

Method: GET, POST

3.7. Install

This IP-CAMERA provides Installation Mode to help installers' convenience

Installation mode)
1. Enter into install mode the first time IP-CAMERA boot
2. Analog Video outputs in Install mode
3. Basic Analog Video Format is NTSC. Put "Reset" button to switch NTSC <--> PAL
4. Impossible to select Video codec relative setup in Install mode (Off Install mode for setting Video Codec)

3.7.1. Installation Setup

Options for IP-CAMERA installation can be read or modified

Syntax:

```
http://<device ip>/cgi-bin/action.fcgi?api=get_setup.system.install
http://<device ip>/cgi-bin/action.fcgi?api=set_setup.system.install&<parameter>=<value>[&<parameter>=<value>...]
```

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
install_mode	string	3	"on": enable installation mode "off": disable installation mode	-

video_format	string	4	"ntsc", "pal"	Ouput format of Analog Video

3.8. SD Card

IP-CAMERA can insert the micro-SD card and we provide SD card setup information like below.
The saved file type in SD card is JPEG.

3.8.1. SD config

IP-CAMERA can define the action when SD card is full.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.recording.config http://<device ip>/cgi-bin/action.fcgi?api=set_setup.recording.config&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
removing	numeric		"0": Auto Removing Enable. "1": Audo Removing Disable.	In case of Auto Removing Enable, if SD card is full, data is erased from oldest data. In case of Auto Removing Disable, if SD card is full, data is not saved any more.
warning	numeric		"0": reserved	Essential reserved value. But this value must be included fallow string, "warning=0".

3.8.2. Event Setup

When happening the Event, JPEG image can be saved in SD card of IP-CAMERA. The setup of this function can be read or written.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.recording.event http://<device ip>/cgi-bin/action.fcgi?api=set_setup.recording.event&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
recon	numeric		"0": The function is not used. "1": The function is used.	
directory	string	15	(default): "event"	Setup name of directory that image is saved in SD card.
prefix	string	15	-	Setup Prefix of image file name.
alarmon	numeric		"0": When happening "Alarm In" event, JPEG is not saved. "1": When happening "Alarm In" event, JPEG is saved.	
motionon	numeric		"0": When happening "Motion" event, JPEG is not saved. "1": When happening "Motion" event, JPEG	
eftvalways	numeric		"0": Save the event always. "1": Save the event during the assgined time only.	When happening the event, setup the save always or assigined time only. In case of "1", Event that happen during assgined time from below is saved.
shour	numeric		0~24 (step: 1)	Setup the start time.
smin	numeric		0~55 (step: 5)	
ehour	numeric		0~24 (step: 1)	Setup the end time.
emin	numeric		0~55 (step: 5)	

3.8.3. Periodical Setup

Periodically JPEG image can be saved in SD card of IP-CAMERA. The setup of this function can be read or written.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.recording.periodical http://<device ip>/cgi-bin/action.fcgi?api=set_setup.recording.periodical&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
recon	numeric		"0": The function is not used. "1": The function is used.	
directory	string	15	(default): "periodical"	Setup name of directory that image is saved in SD card.
prefix	string	15	-	Setup Prefix of image file name.
interval	numeric		"10", "20", "30", "60", "120", "300", "600", "1200", "1800", "3600" (unit: sec)	Setup the period that image is saved.
eftvalways	numeric		"0": Save the event always. "1": Save the event during the assgined time only.	When happening the event, setup the save always or assigined time only. In case of "1", Event that happen during assgined time from below is saved.
shour	numeric		0~24 (step: 1)	Setup the start time.
smin	numeric		0~55 (step: 5)	
ehour	numeric		0~24 (step: 1)	Setup the end time.
emin	numeric		0~55 (step: 5)	

3.9. FTP

IP-CAMERA can install the micro-SD and can approach to SD card thru FTP server.
Additionally IP CAMERA can save the JPEG image to external FTP server by using the FTP client that installed in IP CAMERA.
Below is explanation of this function..

3.9.1. FTP config

FTP server setup is used when Remote FTP client approach to SD that installed in IP-CAMERA.
FTP Client setup is that IP CAMEAR transfer the JPEG image directly to remote FTP server.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.ftp.config http://<device ip>/cgi-bin/action.fcgi?api=set_setup.ftp.config&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
serverd	numeric		"0": Not Execute the FTP server. "1": Execute the FTP server.	FTP Server Enable or Disable setup.
ipaddr	string	15	format: ###.###.###.###	FTP Client setup, external FTP server IP setup
cport	numeric		1025~65535	FTP Client setup, external FTP server port setup(default: 21)
user	string			FTP Client setup, external FTP server use ID setup
passwd	string			FTP Client setup, external FTP server use Password setup
mode	string	8	"passive": currently support only this mode.	

3.9.2. Event Setup

When happening the event, JPEG image can be transferred to external FTP server. The setup of this function can be read or written.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.ftp.event http://<device ip>/cgi-bin/action.fcgi?api=set_setup.ftp.event&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description

recon	numeric		"0": The function is not used. "1": The function is used.	
directory	string	15	(default): "event"	Setup name of directory that image is saved in FTP server.
prefix	string	15	-	Setup Prefix of image file name.
alarmon	numeric		"0": When happening "Alarm In" event, JPEG is not saved. "1": When happening "Alarm In" event, JPEG is saved.	
motionon	numeric		"0": When happening "motion" event, JPEG is not saved. "1": When happening "motion" event, JPEG is saved.	
eftvalways	numeric		"0": Save the event always. "1": Save the event during the assgined time only.	When happening the event, setup the save always or assigined time only. In case of "1", Event that happen during assgined time from below is saved.
shour	numeric		0~24 (step: 1)	Setup the start time.
smin	numeric		0~55 (step: 5)	
ehour	numeric		0~24 (step: 1)	Setup the end time.
emin	numeric		0~55 (step: 5)	

3.9.3. Periodical Setup

Periodically JPEG image can be transferred to external FTP server. The setup of this function can be read or written.

Syntax:

http://<device ip>/cgi-bin/action.fcgi?api=get_setup.ftp.periodical http://<device ip>/cgi-bin/action.fcgi?api=set_setup.ftp.periodical&<parameter>=<value>[&<parameter>=<value>...]

Method: GET, POST

Parameter List:

Parameter	Type	Length	Value	Description
recon	numeric		"0": The function is not used. "1": The function is used.	
directory	string	15	(default): "periodical"	Setup name of directory that image is saved in FTP server.
prefix	string	15	-	Setup Prefix of image file name.
interval	numeric		"10", "20", "30", "60", "120", "300", "600", "1200", "1800", "3600" (unit: sec)	Setup the period that image is saved.
eftvalways	numeric		"0": Save the event always. "1": Save the event during the assgined time only.	When happening the event, setup the save always or assigined time only. In case of "1", Event that happen during assgined time from below is saved.
shour	numeric		0~24 (step: 1)	Setup the start time.
smin	numeric		0~55 (step: 5)	
ehour	numeric		0~24 (step: 1)	Setup the end time.
emin	numeric		0~55 (step: 5)	