VEGA-2000

Supported CGI Commands and Parameters

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Content

1. Overview

1.1 About This Document

This document defines the CGI commands supported by VEGA-2000 (Full HD HEVC/H.264 Real-time Encoder Module).

2. Set/Inquiry CGI Commands

2.1 Set Command

The **Set** command is used for changing configuration of the module. When using these commands, the syntax is as described below. It is possible to transmit several parameters at one time to the same CGI name (The part of <cgi> of Syntax). In this case, it is necessary to insert "&" between each <*parameter*>=<*value*>.

Method

GET/POST

Syntax

`http://`<*VEGA2000-ip-address*>`/command/`<*cgi*>`?`<*parameter*>`=`<*value*>`[&`<*parameter*>`=`<*value*>`...]`

or

`http://`<*VEGA2000-ip-address*>`/command/`<*cgi*>`?`<*parameter*>`=`<*value1,value2,..., valueN*>`]`

Parameters

Refer to “3. CGI Commands” for details.
Note that angle brackets in the table in the “3. CGI Commands”, “<” and “>”, mean that a string between one pair of angle brackets is just a symbol for numbers, but not parameter name itself. For example, if a parameter name is described as `SampleParam<n>`, for actual usage, `SampleParam1`,`SampleParam2`, ... are valid expressions.

2.2 Inquiry Command

The **Inquiry** command is used for getting current status of the module. Any item with “INQ” in the supported parameter list (See Section 3) can be inquired as to its current status. As a response format, "standard format" and "JS parameter format" can be selected by using a slightly different syntax as described below.

Method

Syntax

```
http://<VEGA2000-ip-address>/command/inquiry.cgi>?inqjs=<Inquiry>[&inqjs=<Inquiry>
...]
```

The response is as follows in the case of “JS parameter format”.

```
HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: <len>\r\n
\r\n
var <parameter>=”<value>”\r\n
var <parameter>=”<value>”\r\n
var <parameter>=”<value>”\r\n
:
:
:
```

3. CGI Commands

In this chapter, the default value of a parameter is highlighted as for your reference.

3.1 System

InqParam : command/inquiry.cgi?inqjs=system

For example

```
http://<VEGA2000-ip-address>/command/system.cgi?NtpEnable=off&DateTime=110117192016
http://<VEGA2000-ip-address>/command/inquiry.cgi?inqjs=system
http://<VEGA2000-ip-address>/command/system.cgi?NtpEnable=on&NtpServer=172.20.1.100&TimeZone=GMT+8
```

Parameter	Set/Inq	Value	Description
Model Name	Inq	VEGA-2000	Returns the model name of the module.
Serial Number	Inq	ES_Sample	Return the serial number of the module.
Software Ver.	Inq	0.0.1b3924	Return the software version.
NtpEnable	Set/Inq	*on* *off*	Enables or disables NTP synchronize on: enable off: disable (default)
NtpServer	Set/Inq	*NTP Server*	Set IP address of NTP server
TimeZone	Set/Inq	*GMT-12* *GMT-11* *GMT-10* *GMT-9* *GMT-8* *GMT-7* *GMT-6* *GMT-5* *GMT-4* *GMT-3* *GMT-2* *GMT-1* *GMT* *GMT+1* *GMT+2* *GMT+3* *GMT+4* *GMT+5* *GMT+6* *GMT+7*	Selecting a Time Zone (Time Zone default is GMT+8)

		GMT+8 *GMT+9* *GMT+10* *GMT+11* *GMT+12*	
DateTime	Set/Inq	*MMDDhhmmYYYY*	Set system clock manually. (Format: MMDDhhmmYYYY)

3.2 Video

SetCGI : command/video.cgi?Parameter=Value
InqParam : command/inquiry.cgi?inqjs=video

For example

`http://<VEGA2000-ip-address>/command/video.cgi?`***ImageCodec1***`=h265&`***FrameRate***`=30&· · · · ·`
`http://<VEGA2000-ip-address>/command/inquiry.cgi?inqjs=`***video***

Parameter	Set/Inq	Value	Description
ImageCodec1	Set/Inq	*h265* *h264*	Sets the video codec of stream1. h265: H.265 (default value for ImageCodec1) h264: H.264 (note ImageCodec1 does not support "off")
ImageCodec*<n>* *(n:2,3)*	Set/Inq	*h265* *h264* *off*	Sets the video codec of stream*<n>*. h265: H.265 h264: H.264 off: disable (default value for ImageCodec*2&3)*
ImageSize*<n>* *(n:1,2,3)*	Set/Inq	*320,184* *352,288* *640,360* *640,480* *704,576* *720,480* *720,576* *960,540* *1024,756* *1280,720* *1920,1080*	Sets image size of video stream corresponding to the ImageCodec<n>. *Value1,Value2*: *Value1* is horizontal pixel, *Value2* is vertical pixel of the output image. (stream 1 default is 1920x1080)

FrameRate<*n*> *(n:1,2,3)*	Set/Inq	*1* *2* *3* *4* *5* *6* *8* *10* *12* *15* *16* *20* *25* *30* *50* *60*	Sets frame rate (frame per second) of video stream corresponding to the ImageCodec<*n*>. (stream1 default is 60fps)
IFrameInterval<*n*> *(n:1,2,3)*	Set/Inq	*1* *2* *3* *4* *5*	Sets the I-Frame interval in second. 1: 1 sec. (default)
CBR<*n*> *(n:1,2,3)*	Set/Inq	*on* *off*	Enables or disables the CBR function of ImageCodec<*n*>. on: enable (default) off: disable, means VBR is used
BitRate<*n*> *(n:1,2,3)*	Set/Inq	*64* *128* *256* *384* *512* *768* *1000* *1500* *2000* *3000* *4000* *5000* *6000* *7000* *8000* *16000* *24000* *32000*	Sets the bit rate of ImageCodec<*n*> in kbps. This parameter is effective only when CBR<*n*> is set to 'on'. 6000: 6Mbps (stream1 default) 3000: 3Mbps (stream2 default) 1500: 1.5Mbps (stream3 default)

***Quality**<n>* *(n:1,2,3)*	Set/Inq	*1 to 10*	Sets the VBR quality of ImageCodec*<n>*. This parameter is effective only when CBR*<n>* is set to 'off'. 1: the lowest 7: (default) 10: the highest
***H264Profile**<n>* *(n:1,2,3)*	Set/Inq	*high* *low* *baseline*	Sets the profile of H.264 for ImageCodec*<n>*. This parameter is effective only when ImageCodec *<n>* is set to 'h264'. high: High profile (default) low: Main profile baseline: Baseline profile
VideoInput	Set/Inq	*hdmi* *sdi*	Sets this parameter according to the input of video source. (see NOTE 1) hdmi : hdmi sdi : sdi
OSDEnable	Set/Inq	*on* *off*	Enables or disables OSD of ImageCodec*1* on: enable off: disable (default)
OSDfile	Inq	*OSD file*	Returns uploaded OSD file.

[NOTE 1]
If User plugs in both SDI and HDMI , the parameter of VideoInput can be setting by user.
If User plugs in either SDI or HDMI , VEGA2000 will set the VideoInput automatically.

3.3 Audio

SetCGI : command/video.cgi?Parameter=Value
InqParam : command/inquiry.cgi?inqjs=video

For example

http://*<VEGA2000-ip-address>*/command/video.cgi?***AudioIn**=internal*&***AudInCodec**=32000*&· · · · ·
http://*<VEGA2000-ip-address>*/command/video.cgi?***AudioIn**=external*&***MicLineSelect**=mic*&***AudSampleRate**=44100*&***AudInCodec**=96000*
http://*<VEGA2000-ip-address>*/command/inquiry.cgi?inqjs=***video***

Parameter	Set/Inq	Value	Description
AudioIn	Set/Inq	*internal* *external*	Select *internal or* external audio jack. *internal*: SDI/HDMI audio *external*: external audio jack

MicLineSelect	Set/Inq	*mic* *line*	Sets the ext. audio input signal level. This field is only available while AudioIn is '*external* '. Module will provide voltage bias for Microphone if selected mic: Microphone line: Line
AudInCodec	Set/Inq	*32000* *64000* *96000* *128000*	Sets the bit rate of audio in kbps. 32000: 32Mbps 64000: 64Mbps 96000:96Mbps 128000:128 Mbps
AudSampleRate	Set/Inq	*16000* *32000* *44100* *48000*	Sets the sample rate of audio. This field is only available while AudioIn is '*external* '. 16000: 16 KHz 32000: 32 KHz 44100: 44.1 KHz 48000: 48 KHz

3.4 Network

- **Status**

InqParam : command/inquiry.cgi?inqjs=network

For example

`http://<VEGA2000-ip-address>/command/inquiry.cgi?inqjs=`***network***

Parameter	Set/Inq	Value	Description
MAC Address	Inq	*0 to 17 characters*	Returns MAC Address of VEGA-2000.
Ethernet Status	Inq	*10half* *10full* *100half* *100full*	Returns the transmission status of the Ethernet. : 10Mbps, Half duplex : 10Mbps, Full duplex : 100Mbps, Half duplex : 100Mbps, Full duplex
Auto-MDI/MDIX	Inq	*AutoMDI* *MDI-x*	Returns the status of MDI type.
IP address	Inq	*IPv4 address*	Shows the current IPv4 address of VEGA-2000. When DHCP is 'off', the value of IP is

			applied.
Subnet Mask	Inq	*IPv4 address*	Shows the current IPv4 subnet mask. When DHCP is 'off', the value of Subnet mask is applied.
Default Gateway	Inq	*IPv4 address*	Shows the current IPv4 address of the default gateway. When DHCP is 'off', the value of Gateway is applied.
LinkLocal IP address	Inq	*IPv4 address*	Shows the link local IPv4 address.
Primary DNS Server	Inq	*IPv4 address*	Shows the current IP address of the primary DNS server.
Secondary DNS Server	Inq	*IPv4 address*	Shows the current IP address of the secondary DNS server.

- **IPv4 Setting**

SetCGI : command/network.cgi?Parameter=Value
InqParam : command/inquiry.cgi?inqjs=network

For example

http://<*VEGA2000-ip-address*>/command/network.cgi?***Dhcp***=*off*&**Ip**=*192.168.0.100*&***Subnetmask***=*255.255.255.0*&**Gateway**=· · · · ·
http://<*VEGA2000-ip-address*>/command/inquiry.cgi?inqjs=***network***

Parameter	Set/Inq	Value	Description
Dhcp	Set/Inq	*on* *off*	Enables or disables DHCP function. : enable : disable When DHCP is disabled, the values of IP, Subnet mask and Gateway should be required at the same time like '/command/network.cgi?Dhcp=off&Ip=192.168.0.100&Subnetmask=255.255.255.0&Gateway= '.
Ip	Set/Inq	*IPv4 address*	Sets the static IPv4 address of VEGA-2000.
Subnet Mask	Set/Inq	*IPv4* subnet mask	Sets the static IPv4 subnet mask of VEGA-2000.
Default Gateway	Set/Inq	IPv4 address of default Gateway	Sets the static IPv4 address of the default Gateway.
DomainSuffix	Set Inq	*0 to 127 characters*	Sets the domain suffix.
HostName	Set Inq	*0 to 63 characters*	Sets the host name.

3.5 Record

SetCGI : command/record.cgi?Parameter=Value
InqParam : command/inquiry.cgi?inqjs=video

For example

```
http://<VEGA2000-ip-address>/command/record.cgi?Recording=2&RecordingPath=/media/sda1
http://<VEGA2000-ip-address>/command/inquiry.cgi?inqjs=video
http://<VEGA2000-ip-address>/command/inquiry.cgi?inqjs=storage_status
```

Parameter	Set/Inq	Value	Description
Recording	Set/Inq	*0* *1* *2* *3* *4* *5* *6* *7*	Sets the record channels. 0 : stop to record 1: record ch1 2: record ch2 3: record ch1 & ch2 4: record ch3 5: record ch1 & ch3 6: record ch2 & ch3 7: record ch1 & ch2 & ch3
RecordingPath	Set/Inq	get from ***storage_status*** inquiry command	Sets recording path. ex: /media/sda1 or /media/sdb1
storage_status	Inq	*X*	*[* *{"Filesystem": "/dev/sda1",* *"Size": "1.9G",* *"Used": "892.8M",* *"Available": "1014.2M",* *"Use%": "47%",* *"MountedOn": "/media/sda1"}* *]*

3.6 Snapshot

SetCGI : command/record.cgi?Parameter=Value
InqParam : command/inquiry.cgi?inqjs=storage_status

For example

```
http://<VEGA2000-ip-address>/command/record.cgi?Snapshot=&SnapshotPath=/media/sda1
http://<VEGA2000-ip-address>/command/inquiry.cgi?inqjs=storage_status
```

Parameter	Set/Inq	Value	Description
SnapshotPath	Set/Inq	get from ***storage_status*** inquiry command	Sets snapshot path. ex: /media/sda1 or /media/sdb1
storage_status	Inq	*X*	*[* *{"Filesystem": "/dev/sda1",* *"Size": "1.9G",* *"Used": "892.8M",* *"Available": "1014.2M",* *"Use%": "47%",* *"MountedOn": "/media/sda1"}* *]*

3.7 Stream Protocol

SetCGI : command/stream.cgi?Parameter=Value
InqParam : command/inquiry.cgi?inqjs=stream

For example

http://<*VEGA2000-ip-address*>/command/stream.cgi?***Channel2Protocol1=TSoverIP&Channel2TSprotocol1=udp&Channel2TSclientIP1=172.17.14.8&Channel2TSclientPort1=1500***
http://<*VEGA2000-ip-address*>/command/stream.cgi?***Channel1Protocol1=HLS&Channel1HLSduration=5***
http://<*VEGA2000-ip-address*>/command/stream.cgi?***Channel1Protocol3=RTMP&Channel1RTMPurl3=rtmp://a.rtmp.youtube.com/live2&Channel1RTMPkey3=7r4b-vxuv-j3uz-c9wq***
http://<*VEGA2000-ip-address*>/command/stream.cgi?***Channel1Protocol1=ZIXI&Channel1ZixiStreamId1=advantech&Channel1ZixiPassword1=&Channel1ZixiMaxbps1=8000&Channel1ZixiMaxlatency1=1000&Channel1ZixiTLSCert1=enable&Channel1ZixiEncryption1=none&Channel1ZixiHost1_1=demo.zixi.com,172.17.4.62,2088,,0&Channel1ZixiHost1_2=demo.zixi.com,172.17.5.20,2088,,0***
http://<*VEGA2000-ip-address*>/command/inquiry.cgi?inqjs=***stream***

Parameter	Set/Inq	Value	Description
Channel<*x*>***Protocol***<*y*> *x: 1;2;3(channel)* *y: 1;2;3(protocol)*	Set/Inq	TSoverIP HLS RTMP ZIXI off	Set stream protocol TSoverIP : TS over IP HLS : HLS RTMP : RTMP ZIXI : ZIXI off : disable TS/HLS/RTMP
Channel<*x*>***TSprotocol***<*y*> *x: 1;2;3(channel)* *y: 1;2;3(TSprotocol)*	Set/Inq	*udp* *tcp*	Set TS protocol udp : UDP tcp : TCP

Channel<x>***TSclientIP***<y> *x: 1;2;3(channel)* *y: 1;2;3(TSclientIP)*	Set/Inq	*TSclientIP*	Set clientIP of TS. **[NOTE 4]**
Channel<x>***TSclientPort***<y> *x: 1;2;3(channel)* *y: 1;2;3(TSclientPort)*	Set/Inq	*TSclientPort*	Set clientport of TS
Channel<x>***HLSduration*** *x: 1;2;3(channel)*	Set/Inq	*2 to 10*	Sets the duration of HLS 2: the lowest 10: the highest(default)
Channel<x>***RTMPurl***<y> *x: 1;2;3(channel)* *y: 1;2;3(*RTMPurl*)*	Set/Inq	*RTMPurl*	Set url of RTMP
Channel<x>***RTMPkey***<y> *x: 1;2;3(channel)* *y: 1;2;3(*RTMPkey*)*	Set/Inq	*RTMPkey*	Set key of RTMP
MulticastEn	Set/Inq	*on* *off*	Enable RTSP Multicast
Channel<x>***MulticastIP*** *x: 1 (channel)*	Set/Inq	*MulticastIP*	Set Multicast IP of RTSP. **[NOTE 4]** (only channel1 can set)
Channel<x>***MulticastPort*** *x: 1;2;3(channel)*	Set/Inq	*MulticastPort*	Set Multicast Port of RTSP
Channel<x>***ZixiStreamId***<y> *x: 1 (channel)* *y: 1 (ZixiStreamId)*	Set/Inq	*ZixiStreamId*	Set stream ID of ZIXI
Channel<x>***ZixiPassword***<y> *x: 1 (channel)* *y: 1 (ZixiPassword)*	Set/Inq	*ZixiPassword*	Set password of ZIXI
Channel<x>***ZixiMaxbps***<y> *x: 1 (channel)* *y: 1 (ZixiMaxbps)*	Set/Inq	*ZixiMaxbps*	Set max bitrate of ZIXI
Channel<x>***ZixiMaxlatency***<y> *x: 1 (channel)* *y: 1 (ZixiMaxlatency)*	Set/Inq	*ZixiMaxlatency*	Set max latency of ZIXI
Channel<x>***ZixiTLSCert***<y> *x: 1 (channel)* *y: 1 (ZixiTLSCert)*	Set/Inq	*enable* *disable*	Set TLS certification of ZIXI
Channel<x>***ZixiEncryption***<y> *x: 1 (channel)* *y: 1 (ZixiEncryption)*	Set/Inq	*none* *aes128* *aes192* *aes256*	Set encryption type of ZIXI
Channel<x>***ZixiHost***<y>_<z> *x: 1 (channel)*	Set/Inq	*ZixiHost*	Set host of ZIXI. **[NOTE 5]**

y: 1 (ZixiHost) *z: 1;2 (ZixiHost)*			

- **How to play mpeg-ts**
  (1) Install ffmpeg in window
    A. download static version https://ffmpeg.zeranoe.com/builds/
    B. Uncompress and put it in property place
    C. Set system environment path

  (2) ffplay -i udp://***clientIP***:***clientport***
  ffplay -i tcp://***clientIP***:***clientport***?listen

[NOTE 1] If TS protocol set to TCP, please execute ffplay first and set CGI command.
[NOTE 2] "*ClientIP*" means the PC IP.
[NOTE 3] No support HEVC in flv only support H264.
[NOTE 4] Multicast streaming Address : 224.0.0.0 to 239.255.255.255.
[NOTE 5] ZIXI Host format: <output IP address>,<NIC>,<out port>,<limit bitrate>
e.g. demo.zixi.com,any,2088,,0

3.8 Wifi Dongle ID

InqParam : command/inquiry.cgi?inqjs=wifi_dongle

For example

`http://<VEGA2000-ip-address>/command/inquiry.cgi?inqjs=`***wifi_dongle***

Parameter	Set/Inq	Value	Description
Wifi_dongle	Inq	Wifi dongle vender ID and device ID	<vender ID>:<Device ID> ex: 2001:3314

3.9 4G-LTE Dongle

InqParam : command/inquiry.cgi?inqjs=4g_lte

For example

http://<*VEGA2000-ip-address*>/command/inquiry.cgi?inqjs=***4g_lte***

Parameter	Set/Inq	Value	Description
4g_lte	Inq	Device Name IMEI IMSI Hardware Version Software Version LAN MAC Address WAN IP Address TotalConnectTime	[{"DeviceName": "E3372 ", "Imei": "866850020682382 ", "Imsi": "466924201473263 ", "HardwareVersion": "CL2E3372HM ", "SoftwareVersion": "22.200.05.00.379 ", "MacAddress1": "BA:AB:BE:34:00:00 ", "SignalIcon": "3 ", "WanIPAddress": "10.44.123.146 ", "TotalConnectTime": "1585027 "}]

3.10 Cropping

SetCGI : command/video.cgi?Parameter=Value
InqParam : command/inquiry.cgi?inqjs=video

For example

http://<*VEGA2000-ip-address*>/command/video.cgi?**enable_crop1**=1&**crop_area_x1**=0&**crop_area_y1**=60&**crop_area_w1**=1920&**crop_area_h1**=960

Parameter	Set/Inq	Value	Description
enable_crop<*n*> *(n:1,2,3)*	Set/Inq	0 1	0:disable 1:enable
crop_area_x<*n*> *(n:1,2,3)*	Set/Inq	0~1920	X-coordinate of the upper-left corner. The value must be 16-pixel-aligned.

crop_area_y<*n*> *(n:1,2,3)*	Set/Inq	0~1080	Y-coordinate of the upper-left corner. The value must be 2-pixel-aligned.
crop_area_w<*n*> *(n:1,2,3)*	Set/Inq	0~1920	Width of cropping.
crop_area_h<*n*> *(n:1,2,3)*	Set/Inq	0~1080	height of cropping.