APPLICATION PROGRAM INTERFACE MANUAL

VS-2001-ENC

HDMI OVER IP H.264 ENCODER APPLICATION PROGRAM INTERFACE

BLACK BOX®

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CHAPTER 1: COMMANDS LIST OVERVIEW

1.1 GBCONFIG COMMANDS/GBCONFIG

TABLE 1-1. GBCONFIG COMMANDS/GBCONFIG

COMMAND FORMAT	DESCRIPTION
gbconfig --hdcp-enable	Open or off HDCP
gbconfig --name	Set the alias of device
gbconfig --vbr-max-bitrate	Set the rate of video encode
gbconfig --cbr-avg-bitrate	Set the rate of video encode
gbconfig --ip-mode	Set IP Address Mode
gbconfig --ip4-addr	Set Static IP Address
gbconfig --net-mask	Set IP Address mask
gbconfig --gateway-ip	Set Gateway
gbconfig --audio-enc-type	Set the format of audio encode
gbconfig --aac-enc-bitrate	Set the rate of ACC encode
gbconfig --stream-enable	Set the encode stream on or off
gbconfig --media-transport	Set the transmit format of encode stream
gbconfig --media-dest-ip	Set the IP address of encode stream
gbconfig --media-dest-port	Set the port of encode stream
gbconfig --max-enc-res	Set the maximum encode resolution
gbconfig --enc-fps	Set the maximum encode frame rate
gbconfig --enc-gop	Set the GOP value
gbconfig --rate-limit-enable	Set the rate limit
gbconfig --enc-rc-mode	Set the video encode mode
gbconfig --vbr-max-qp	Set the maximum QP value of vbr
gbconfig --vbr-min-qp	Set the minimun QP value of vbr
gbconfig --line-out --mute	Set the analog audio output mute
gbconfig --cast-mode	Set the distribution mode of encode stream
gbconfig --cast-type	Set the IP distribution type of encode stream
gbconfig -s, --show	Show the current configuration contents of one configured item
gbconfig -h, --help	Show the help information
gbconfig --rs232-param	Set the RS-232 parameter of SinkPower
gbconfig --rs232-hex-cmd-enable	Set RS-232 of SinkPower command Hex mode enable or disable
gbconfig --sinkpower-mode	Set the work mode of SinkPower

CHAPTER 1: COMMANDS LIST OVERVIEW

1.2 GBCONTROL COMMAND/GBCONTROL

TABLE 1-2. GBCONTROL COMMAND/GBCONTROL

COMMAND FORMAT	DESCRIPTION
gbcontrol --blink-led	The LED of status flashes for 10 seconds at 5 Hz

1.3 GBSHOW COMMAND/GBSHOW

TABLE 1-3. GBSHOW COMMAND/GBSHOW

COMMAND FORMAT	DESCRIPTION
gbshow --version	Show the software version
gbshow --macaddr	Show the MAC address of display device
gbshow --input-resolution	Show the video resolution of input device
gbshow --output-resolution	Show the resolution of encode output
gbshow --input-audio	Show the audio format of input
gbshow --output-audio	Show the audio format of encode output
gbshow --uptime	Show the device startup time
gbshow --boot-times	Show the device startup times

1.4 OTHER COMMANDS

TABLE 1-4. OTHER COMMANDS

COMMAND FORMAT	DESCRIPTION
gbstatus	Get the status information
reset_to_default.sh	Restore to factory default settings
sinkpower {on|off}	Power on/off control commands

CHAPTER 2: COMMANDS LIST DETAILS

2.1 GBCONFIG COMMANDS/GBCONFIG

2.1.1 GBCONFIG --HDCP-ENABLE

TABLE 2-1. GBCONFIG --HDCP-ENABLE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --hdcp-enable {y|n}
Response	None
Description	Set the HDCP mode of the encoder HDMI input port, Y is the default
Example	Command: gbconfig --hdcp-enable y Response: None

2.1.2 GBCONFIG --NAME

TABLE 2-2. GBCONFIG --NAME

PARAMETER	DESCRIPTION
Direction	telnet users side
Command	gbconfig --name namestring
Response	
Description	Set the alias of the encoder, this alias is used when bonjour is discovered, the configuration will take effect after the encoder reboots. namestring includes letters, numbers,"-","_". 4KEncoder-MACADDR is the default
Example	Command: gbconfig --name MyVS-2001-ENC Response: None

2.1.3 GBCONFIG --VBR-MAX-BITRATE

TABLE 2-3. GBCONFIG --VBR-MAX-BITRATE

PARAMETER	DESCRIPTION
Direction	telnet users side
Command	gbconfig --vbr-max-bitrate VideoEncBitRate
Response	None
Description	Set the video encode rate, the unit of rate is in kbps, the range is [64, 40960], 20000 is the default
Example	Command: gbconfig --vbr-max-bitrate 10000 Response: None

2.1.4 GBCONFIG --CBR-AVG-BITRATE

TABLE 2-4. GBCONFIG --CBR-AVG-BITRATE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --cbr-avg-bitrate VideoEncBitRate
Response	None
Description	Set the video encode rate in CBR mode, the unit of rate is in kbps, the range is [64,40960], 10000 is the default
Example	Command: gbconfig --cbr-avg-bitrate 10000 Response: None

2.1.5 GBCONFIG --IP-MODE

TABLE 2-5. GBCONFIG --IP-MODE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	bconfig --ip-mode {autoip|static|dhcp}
Response	None
Description	Set the mode of IP address, it can be configured to static or dhcp. Static is the default. Restart to take effect after it is modified
Example	Command: gbconfig --ip-mode static Response: None

2.1.6 GBCONFIG --IP4-ADDR

TABLE 2-6. GBCONFIG --IP4-ADDR

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --ip4-addr ip4addr
Response	None
Description	Set the IP address, it will be efficient when the IP mode is on static; restart to take effect after modified. The default IP address is 192.168.1.39
Example	Command: gbconfig --ip4-addr 192.168.1.11 Response: None

2.1.7 GBCONFIG --NET-MASK

TABLE 2-7. GBCONFIG --NET-MASK

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --net-mask netmask
Response	None
Description	Set the IP address mask, it will be efficient when the IP mode is on static; restart to take effect after it is modified. The default is 255.255.255.0
Example	Command: gbconfig --net-mask 255.255.0.0 Response: None

2.1.8 GBCONFIG --GATEWAY-IP

TABLE 2-8. GBCONFIG --GATEWAY-IP

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --gateway-ip gateway
Response	None
Description	Set the gateway, it will be efficient when the IP mode is on static; restart to take effect after it is modified. The default is none
Example	Command: gbconfig --gateway-ip 192.168.1.1 Response: None

2.1.9 GBCONFIG --AUDIO-ENC-TYPE

TABLE 2-9. GBCONFIG --AUDIO-ENC-TYPE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --audio-enc-type {lpcm|aac}
Response	None
Description	Set the audio encode format, lpcm or aac, lpcm is the default
Example	Command: gbconfig --audio-enc-type aac Response: None

2.1.10 GBCONFIG --AAC-ENC-BITRATE

TABLE 2-10. GBCONFIG --AAC-ENC-BITRATE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --aac-enc-bitrate { 32|48|64|96|128|192|240}
Response	None
Description	Set the encode rate of aac, it will take effect when the audio-enc-type is aac, the unit is in kbps; Optional values are 32, 48, 64, 96, 128, 192, 240, the default is 240
Example	Command: gbconfig --aac-enc-bitrate 128 Response: None

2.1.11 GBCONFIG --STREAM-ENABLE

TABLE 2-11. GBCONFIG --STREAM-ENABLE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --stream-enable {y|n}
Response	None
Description	Set the encode stream open or off, y is the default
Example	Command: gbconfig --stream-enable y Response: None

2.1.12 GBCONFIG --PROGRAM-NUMBER

TABLE 2-12. GBCONFIG --PROGRAM-NUMBER

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --program-number ProgramNumberVal
Response	None
Description	Set the program number of the TS code stream, the range is [1,65535]
Example	Command: gbconfig --program-number 2 Response: None

2.1.13 GBCONFIG --STREAM-ENABLE

TABLE 2-13. GBCONFIG --STREAM-ENABLE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --media-transport {tsoverudp|tsoverrtp}
Response	None
Description	Set the transmit method of streaming media, tsoverudp or tsoverrtp, and tsoverrtp is the default
Example	Command: gbconfig --media-transport tsoverudp Response: None

2.1.14 GBCONFIG --MEDIA-DEST-IP

TABLE 2-14. GBCONFIG --MEDIA-DEST-IP

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --media-dest-ip MediaIpAddr
Response	None
Description	Set the target IP address of streaming media, when the current IP address is multiple unicast, the streaming media is on multiple mode; when the IP address is single cast, the streaming media is on single mode. 226.1.1.1 is the default
Example	Command: gbconfig --media-dest-ip 226.1.1.2 Response: None

2.1.15 GBCONFIG --MEDIA-DEST-PORT

TABLE 2-15. GBCONFIG --MEDIA-DEST-PORT

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --media-dest-port MediaPort
Response	None
Description	Set the target port of streaming media, the range is [1025,65534], 12350 is the default. When RTSP is selected and on multiple unicast mode, the port will be configured
Example	Command: gbconfig --media-dest-port 12000 Response: None

2.1.16 GBCONFIG --MAX-ENC-RES

TABLE 2-16. GBCONFIG --MAX-ENC-RES

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --max-enc-res {480p|576p|720p60|1080p|2160p}
Response	None
Description	Set the max resolution of the encoder, 2160P is the default
Example	Command: gbconfig --max-enc-res=480p Response: None

2.1.17 GBCONFIG --ENC-FPS

TABLE 2-17. GBCONFIG --ENC-FPS

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --enc-fps [1,60]
Response	None
Description	Set the encode frame rate of the encoder, 60 is the default
Example	Command: gbconfig --enc-fps=60 Response: None

2.1.18 GBCONFIG --ENC-GOP

TABLE 2-18. GBCONFIG --ENC-GOP

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --enc-gop [1,65535]
Response	None
Description	Set the encode GOP of the encoder, 60 is the default
Example	Command: gbconfig --enc-gop=60 Response: None

2.1.19 GBCONFIG --ENC-RC-MODE

TABLE 2-19. GBCONFIG --ENC-RC-MODE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --enc-rc-mode {vbr|cbr}
Response	None
Description	Set the encode mode of the encoder, vbr is the default
Example	Command: gbconfig --enc-rc-mode=vbr Response: None

2.1.20 GBCONFIG --RATE-LIMIT-ENABLE

TABLE 2-20. GBCONFIG --RATE-LIMIT-ENABLE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --rate-limit-enable [y|n]
Response	None
Description	Set the encoder rate limit enable to on or off, off is the default
Example	Command: gbconfig --rate-limit-enable y Response: None

2.1.21 GBCONFIG --VBR-MAX-QP

TABLE 2-21. GBCONFIG --VBR-MAX-QP

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --vbr-max-qp (vbr-min-qp,51]
Response	None
Description	Set the VBR max QP value, 51 is the default
Example	Command: gbconfig --vbr-max-qp 51 Response: None

2.1.22 GBCONFIG --VBR-MIN-QP

TABLE 2-22. GBCONFIG --VBR-MIN-QP

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --vbr-min-qp (0,51]
Response	None
Description	Set the VBR min QP value, 51 is the default
Example	Command: gbconfig --vbr-min-qp 0 Response: None

2.1.23 GBCONFIG --LINE-OUT --MUTE

TABLE 2-23. GBCONFIG --LINE-OUT --MUTE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --line-out --mute {y|n}
Response	None
Description	Set the output analog audio mute, n is the default
Example	Command: gbconfig --line-out --mute=y Response: None

2.1.24 GBCONFIG --CAST-MODE

TABLE 2-24. GBCONFIG --CAST-MODE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --cast-mode {auto|static}
Response	None
Description	Set the media cast mode, auto or static. The cast type will be multicast and the media dest ip will be auto generated in auto mode. The cast type and media dest ip will be the value set by the user
Example	Command: gbconfig --cast-mode auto Response: None

2.1.25 GBCONFIG --CAST-TYPE

TABLE 2-25. GBCONFIG --CAST-TYPE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --cast-type {multicast|unicast}
Response	None
Description	Set the media cast ip type, multicast or unicast. NOTE: This settings will be efficient when cast mode is static
Example	Command: gbconfig --cast-type unicast Response: None

2.1.26 GBCONFIG --RS232-PARAM

TABLE 2-26. GBCONFIG --RS232-PARAM

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --rs232-param RS232-PARAM
Response	None
Description	Set the parameter of SinkPower command, the format is b-dps, b is Baud rate, d is data rate, p is parity, s is stop bit
Example	Command: gbconfig --rs232-param 115200-8n1 Response: None

2.1.27 GBCONFIG --RS232-HEX-CMD-ENABLE

TABLE 2-27. GBCONFIG --RS232-HEX-CMD-ENABLE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --rs232-hex-cmd-enable {y|n}
Response	None
Description	Set RS-232 of SinkPower command Hex mode enable or disable
Example	Command: gbconfig --rs232-hex-cmd-enable y Response: None

2.1.28 GBCONFIG --SINKPOWER-MODE

TABLE 2-28. GBCONFIG --SINKPOWER-MODE

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig --sinkpower-mode {cec|rs232|both}
Response	None
Description	Set the work mode of SinkPower, cec means sending CEC command only, rs232 means sending RS-232 command only, both means not only sending CEC commands, but also sending RS-232 command; cec mode is by default
Example	Command: gbconfig --sinkpower-mode rs232 Response: None

2.1.29 GBCONFIG -S

TABLE 2-29. GBCONFIG -S

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig -s, --show param
Response	The current value of parameter corresponding configuration items
Description	Get the current value of one configuration item
Example	Command: gbconfig -s --name Response: VS-2001-ENC

2.1.30 GBCONFIG -H

TABLE 2-30. GBCONFIG -H

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbconfig -h, --help
Response	Show the help information
Description	Show the gbconfig commands help information
Example	Command: gbconfig -h Response: Usage: gbconfig [options] Options: --hdcp-enable[=VALUE] [y/n], HDCP enable switch --input-mode[=VALUE] [normal/test], input mode for hdmi --name=[VALUE] localname for bonjour --vbr-max-bitrate[=VALUE] [2000,30000], video encode max bitrate in kbps --ip-mode[=VALUE] [dhcp/static] --ip4-addr[=VALUE] ip4 addr --net-mask[=VALUE] ip4 netmask --gateway-ip[=VALUE] gateway ip --audio-enc-type[=VALUE] [lpcm/aac] audio encode type --aac-enc-bitrate[=VALUE] [32,48,64,96,128,192,240] aac encode bitrate in kbps --stream-enable[=VALUE] [y/n] encoder encode and stream enable switch --program-number[=VALUE] [1,65535] ts program number --media-transport[=VALUE] [tsoverudp,tsoverrtp] encoder streaming media transport type --media-dest-ip[=VALUE] encoder streaming media's dest ip --media-dest-port[=VALUE] [1025,65534],encoder streaming media's dest port --enc-resolution[=VALUE] [auto,480p,576p,720p60,1080p30,1080p60], video encode resolution -s, --show show the value for the specified items -h, --help show this message Example: gbconfig --name MyEncoder gbconfig --ip-mode=static --ip4-addr=192.168.1.11 --net-mask=255.255.0.0 gbconfig -s --name gbconfig --show --ip4-addr --net-mask

2.2 GBCONTROL COMMAND/GBCONTROL

2.2.1 GBCONTROL --BLINK-LED

TABLE 2-31. GBCONTROL --BLINK-LED

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbcontrol --blink-led
Response	None
Description	Control the LED of encoder flashing for 10 seconds at 5 Hz
Example	Command: gbcontrol --blink-led Response: None

2.3 GBSHOW COMMAND/GBSHOW

2.3.1 GBSHOW --VERSION

TABLE 2-32. GBSHOW --VERSION

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbshow --version
Response	Firmware version
Description	Get the firmware version
Example	Command: gbshow --version Response: vx.x.x

2.3.2 GBSHOW --INPUT-RESOLUTION

TABLE 2-33. GBSHOW --INPUT-RESOLUTION

PARAMETER	DESCRIPTION
Direction	telnet users side
Command	gbshow --input-resolution
Response	Current resolution of HDMI input, for example: 1366_768_60720p_60
Description	Get the current resolution of HDMI input
Example	Command: gbshow --input-resolution Response: 1366_768_60

2.3.3 GBSHOW --MACADDR

TABLE 2-34. GBSHOW --MACADDR

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbshow --macaddr
Response	The MAC address of the encoder, for example: 34:1B:22:FF:FF:C4
Description	Get the MAC address of device
Example	Command: gbshow --macaddr Response: 34:1B:22:FF:FF:C4

2.3.4 GBSHOW --OUTPUT-RESOLUTION

TABLE 2-35. GBSHOW --OUTPUT-RESOLUTION

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbshow --output-resolution
Response	Current resolution of encode output, for example: 1366_768_60⁄720p_60
Description	Get the MAC address of device
Example	Command: gbshow --output-resolution Response: 1280_768_60

2.3.5 GBSHOW --INPUT-AUDIO

TABLE 2-36. GBSHOW --INPUT-AUDIO

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbshow --input-audio
Response	Current input audio format, such as lpcm
Description	Get the current input audio format
Example	Command: gbshow --input-audio Response: lpcm

2.3.6 GBSHOW --OUTPUT-AUDIO

TABLE 2-37. GBSHOW --OUTPUT-AUDIO

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbshow --output-audio
Response	Current output audio format, such as aac
Description	Get the current output audio format
Example	Command: gbshow --output-audio Response: aac

2.3.7 GBSHOW --UPTIME

TABLE 2-38. GBSHOW --OUTPUT-AUDIO

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbshow --uptime
Response	System start running time, in seconds
Description	Get the system start running time
Example	Command: gbshow --uptime Response: 1888

2.3.8 GBSHOW --BOOT-TIMES

TABLE 2-39. GBSHOW --BOOT-TIMES

PARAMETER	DESCRIPTION
Direction	telnet users side -> Device
Command	gbshow --boot-times
Response	System startup times
Description	Get the system startup times
Example	Command: gbshow --boot-times Response: 15

2.4 SERIAL CONTROL

TABLE 2-40. SERIAL CONTROL

PARAMETER	DESCRIPTION
Serial parameter setting [v1.2]	
Command	soip2 -S -b RS232-PARAM
Description	-S: Just means set the parameter RS232-PARAM: Format: b-dps b: baud rate d: data bits p: parity s: stop bit
Obtain the serial parameter setting [v1.2]	
Command	soip2 -G
Response	baud rate: BAUD-RATE data bits: DATA-BITS parity type: PARITY stop bits: STOP_BITS HEX mode: HEX
Description	-G: Just means get the serial parameter BAUD-RATE: Baud rate DATA-BITS: Data bits PARITY: Parity STOP-BITS: Stop bits HEX: Hex mode, “true” or “false”
Send serial content	
Command	soip2 -f /dev/ttyS0 -b RS232-PARAM [-r] [-n] -s “CONTENT”
Description	RS232-PARAM: Format: b-dps b: baud rate d: data bits p: parity s: stop bit [-r]: Attach a <CR> to the end of “CONTENT” [-n]: Attach a <LF> after <CR> or to the end of “CONTENT” CONTENT: The RS-232 content you want to send

APPENDIX: DISCLAIMER/TRADEMARKS

A.1 DISCLAIMER

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