

H.264/H.265 HD Encoder

User Manual

Website: www.orivision.com.cn

Email: support@zydz-china.com

Foreword

Thanks for using our products, Please contact us if you have any questions .

Applicable Model

This manual applies to following models:

Model	Picture	Technical Parameters	Size/Weight
H.265 HD Encoder (HDMI / VGA / SDI interface is optional)			
HDMI 4K Encoder ZY-EH501		Video Encoding:H.265&H.264 Input : HDMIx1, Audiox1 Output : RJ45 , HDMIx1 Max Resolution: 3840x2160@30HZ/60HZ	16.6x13x2.8cm 0.3kg
HDMI HD Encoder ZY-EH201/ZY-EH301		Video Encoding:H.265&H.264 Input : HDMIx1, Audiox1 Output : RJ45 Ethernet, Max Resolution: 1920x1080@30HZ/60HZ	16.5x8.5x2.5cm 0.21kg
HDMI HD WIFI Encoder ZY-EH201W/ZY-EH301W		Video Encoding:H.265&H.264 Input : HDMIx1, Audiox1 Output : RJ45 Ethernet, WIFI Max Resolution: 1920x1080@30HZ/60HZ	16.5x8.5x2.5cm 0.21kg
SDI HD Encoder ZY-ES201/ZY-ES301		Video Encoding:H.265&H.264 Input : SDIx1, Audiox1 Output : RJ45 Ethernet, SDI x1 Max Resolution: 1920x1080@30HZ/60HZ	16.5x8.5x2.5cm 0.21kg
SDI HD WIFI Encoder ZY-ES201W/ZY-ES301W		Video Encoding:H.265&H.264 Input : SDIx1, Audiox1 Output:RJ45 Ethernet, SDIx1, WIFI Max Resolution: 1920x1080@30HZ/60HZ	16.5x8.5x2.5cm 0.21kg
VGA HD Encoder ZY-EV201		Video Encoding:H.265&H.264 Input : VGAx1, Audiox1 Output : RJ45 Ethernet Max Resolution: 1920x1080@30HZ/60HZ	16.5x8.5x2.5cm 0.21kg

VGA HD WIFI Encoder ZY-EV201W		Video Encoding:H.265&H.264 Input : VGAX1, Audiox1 Output : RJ45 Ethernet,WIF Max Resolution: 1920x1080@30HZ/60HZ	16.5x8.5x2.5cm 0.21kg
SDI 1ch HD Encoder-1U ZY-ES211/ZY-ES311		Video Encoding:H.265&H.264 Input :SDIx1, Audiox1 Output : RJ45 Ethernet,SDIx1 Max Resolution: 1920x1080@30HZ/60HZ 1U Chassis	48.2x20x4.4cm 1.5kg
SDI 4ch HD Encoder-1U ZY-ES214/ZY-ES314		Video Encoding:H.265&H.264 Input :SDIx4, Audiox1 Output : RJ45 Ethernet,SDIx4 Max Resolution: 1920x1080@30HZ/60HZ 1U Chassis	48.2x20x4.4cm 1.5kg
3U Standard chassis		Video Encoding:H.265&H.264 Input:HDMI/SDI/VGA x16, Audio x16 Output:RJ45 Ethernet x16 Max Resolution: 1920x1080@30HZ/60HZ 3U Chassis	44.5X30X13.3cm 8kg
H.264 HD Encoders (HDMI / VGA / SDI interface is optional)			
HDMI 4K Encoder ZY-EH401		Video Encoding:H.264 Input : HDMIx1 Output : RJ45 Ethernet, HDMIx1 Resolution: Up to 3840x2160@30HZ	16.6x13x2.8cm 0.3kg
HDMI HD Encoder ZY-EH101		Video Encoding:H.264 Input : HDMIx1 , Built-in audio Output : RJ45 Ethernet Resolution: Up to 1920x1080@30HZ/60HZ	16.6x13x2.8cm 0.3kg
HDMI HD WIFI Encoder ZY-EH101W		Video Encoding:H.264 Input : HDMIx1 , Built-in audio Output : RJ45 Ethernet , WIFI Resolution: Up to 1920x1080@30HZ/60HZ	16.6x13x2.8cm 0.3kg

HDMI HD Encoder With HDMI loopout ZY-EH111		Video Encoding:H.264 Input : HDMx1 , Audiox1 Output : RJ45 , HDMix1 Resolution: Up to 1920x1080@30HZ/60HZ	16.6x13x2.8cm 0.3kg
HDMI HD WIFI Encoder With HDMI loopout ZY-EH111W		Video Encoding:H.264 Input : HDMx1 , Audiox1 Output : RJ45 , HDMix1,WIFI Resolution: Up to 1920x1080@30HZ/60HZ	16.6x13x2.8cm 0.3kg
HDMI CVBS HD Encoder ZY-EHC001		Video Encoding:H.264 Input : HDMix1 , CVBSx1, Audio x 1 Output : RJ45 Ethernet Resolution: Up to 1920x1080@30HZ/60HZ	18.2x16.2x2.8cm 0.3kg
HDMI CVBS HD WIFI Encoder ZY-EHC001W		Video Encoding:H.264 Input : HDMix1 , CVBSx1, Audio x 1 Output : RJ45 Ethernet ,WIFI Resolution: Up to 1920x1080@30HZ/60HZ	18.2x16.2x2.8cm 0.3kg
VGA HD Encoder ZY-EV111		Video Encoding:H.264 Input : VGAX1 , Audiox 1 Output : RJ45 Ethernet ,VGA x1 Resolution: Up to 1920x1080@30HZ/60HZ	19x11x3cm 0.3kg
HDMI 1ch Encoder-1U ZY-EH121		Video Encoding:H.265&H.264 Input :HDMix1, Audiox1 Output : RJ45x1,HDMI x1 Max Resolution: 1920x1080@30HZ/60HZ 1U Chassis	48.2x20x4.4cm 1.5kg
HDMI 4ch Encoder-1U ZY-EH114		Video Encoding:H.265&H.264 Input :HDMix4, Audiox1 Output : RJ45x1,HDMI x4 Max Resolution: 1920x1080@30HZ/60HZ 1U Chassis	48.2x20x4.4cm 1.5kg

3U Standard chassis		Video Encoding:H.264 Input:HDMI/SDI/VGA x16, Audio x16 Output:RJ45 Ethernet x16 Max Resolution: 1920x1080@30HZ/60HZ 3U Chassis	44.5X30X13.3cm 8kg
---------------------	---	--	-----------------------

Statement:

We have tried best to ensure the integrity and accuracy of the contents of the manual, but the technical error, operation error and printing error cannot be fully avoided. if any doubt or dispute, please refer to our final interpretation.

The user manual will be updated in real time without special notice.

This user manual is provided only for reference guide for users, which cannot guarantee exact same as the real product. Please refer to the real product.

About Default

The factory default administrator account of the device: **admin**

The factory-default user password of the device: admin

The factory default IP address of the device: 192.168.0.31

1 Product Overview

The H.264/H.265 Encoder is a hardware device used for high-definition video signal (720P / 1080P, etc.) encoding and network transmission, using the latest and high-efficient HD digital video compression technology H.264/H.265, with the characteristics of reliable, high-definition, low bitrate and low latency. Input the HDMI/SDI/VGA high-definition video signal to conduct the encoding process, after compression processing of DSP chip, output the standard TS network stream, the launch of product fills the gap in this industry, which is a direct replacement for the traditional capture card or software coding method, using hard-coded, the system is more stable, and image quality is more perfect, which can be used in a wide variety of needs for high-definition video and high-resolution and high frame rate acquisition-based IP network transmission, its powerful scalability makes it more easier to respond to the needs of different industries and can be used as live video encoder. Industrial controlled, precision design, small size, easy installation, the power is less than 5W, which is more energy and more stable.

2 Product features

- High-performance hardware encoding
- support H.265 video coding efficiency
- support H.264 BP/MP/HP
- support AAC / G.711 Advanced Audio Coding format quality
- CBR / VBR rate: 16Kbps ~ 12Mbps
- 1000M network interface uses full duplex mode
- mainstream and secondary stream can be pushed to different server
- Supports up to 720P, 1080P @ 60HZ HD video input
- Support image parameter settings
- support HDCP protocol and Blu-ray
- support HTTP, UTP, RTSP, RTMP, RTP, ONVIF protocol
- the mainstream and side stream use the different network protocol for transmission
- WEB interface, English and Chinese is optional for configuration interface
- WEB interface management authority
- Support remote management in WAN(WEB)
- Support resolution customized settings
- Support one key to restore the factory configuration
- Support SDK , secondary development

3 Applications

1. 4G mobile broadcast HD front capturing
2. The HD video broadcast server
3. Video Server for video Conference System
4. Digital Standard HD stream server
5. The live video teaching system front-end capturing
6. IPTV system front-end capturing
7. The WeChat broadcast system front-end capturing
8. The medical video broadcast and recording system
9. Support access to DVR/NVR

4 Interface instruction

4.1 The interface of H.264 HDMI encoder and WIFI encoder are the same:



4.2 The interface of H.264 SDI encoder and WIFI encoder are the same:



4.3 H.264 VGA Encoder:



4.4 HDMI CVBS HD Encoder:



4.5 The interface of H.265 HDMI encoder and WIFI encoder are the same:



4.6 The interface of H.265 SDI encoder and WIFI encoder are the same:



4.7 The interface of H.264 VGA encoder and WIFI encoder are the same:



- A. Power input----- 12V/DC (12V/1A, 5V/2A)
- B. Initialization button ----- It is used to reset the device . After power on , hold it on for about 15 seconds to reset the device to default IP 192.168.0.31
- C. Video input----- Input HD HDMI, SDI, VGA, Audio signals
- D. 1000M Ethernet port
- E. Status Indication:
 - 1) It will flash while holding on the reset button. It means reset successfully when the lights off .
 - 2) Slow Flashing means the video input , image capturing and compression is normally working .
 - 3) If the indicator light keeps on, it means the image acquisition and compression is with some problem .
 - 4) If the indicator flashes slowly but the stream can not be played , it means maybe there' s problem with the streaming server

5 WEB SETTINGS

Step 1: Reset & initialization

Input the power supply to turn on encoder and hold a pin to press RST on the encoder for 10 seconds, it will be restarted and initialized. The default Route IP of dash board is 192.168.0.31 after initialization.

Step 2: Change the administrator' s computer IP (in case of WIN 7)

Set the administrator' s computer IP as : 192.168.0.* to avoid IP conflicting with dashboard IP 192.168.0.31. (mark "*" numbers range will be 0-254 except 31)

Step 3: Login Dash board in IE

Enter **192.168.0.31** in URL address,

Default user Name: admin

Default password: admin

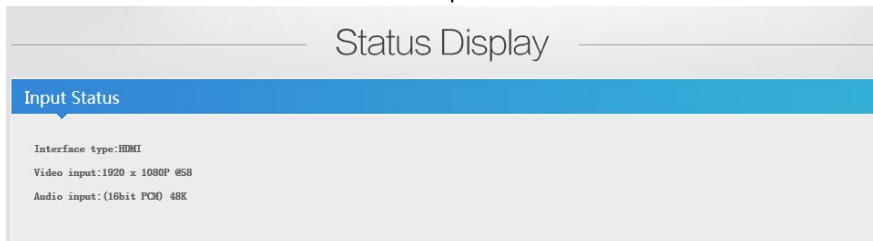


5.1 Status Display

When you access to the web-interface, you can choose the language on the right top : Chinese/English



Input status: when you input the HD signal source, it will show resolution of video input , if it' s blank here , it means there no video input .



Mainstream Status: it will show the resolution of the mainstream you set and multicast address . you can stream the multicast address by VLC or other streaming software .

Mainstream Status

Video input: (H.264) 1920 * 1080 @30
Audio input: (AAC) 2ch 48K 128000
Multicast address:

Second stream Status: it will show the resolution of the second stream you set and multicast address . you can stream the multicast address by VLC or other streaming software.

Secondstream Status

Video input: (H.264) 1920 * 1080 @30
Audio input: (AAC) 2ch 48K 128000
Multicast address:

Mainstream Live View: you can play the stream address by your computer if you installed the VLC2.2.1 .

Mainstream Live View

RTSP stream address: rtsp://192.168.0.168:554/main
HTTP stream address: http://192.168.0.168:8000/main

Second stream Live View: you can play the stream address by your computer if you installed the VLC2.2.1 .

Secondstream Live View

RTSP stream address: rtsp://192.168.0.168:554/ext
HTTP stream address: http://192.168.0.168:8000/ext

CVBS Live View: you can play the stream address by your computer if you installed the VLC2.2.1 .

CVBS Live View

RTSP stream address: rtsp://192.168.0.168:554/cvbs
HTTP stream address: http://192.168.0.168:8000/cvbs

5.2 Network Settings

You can set network with Ethernet or WIFI, only device with WIFI can set WIFI connecting .

Network settings

Net type: Ethernet

DHCP: Disable

IP: 192.168.0.168

Netmask: 255.255.255.0

Gateway: 192.168.0.1

DNS0: 112.4.0.55

DNS1: 114.114.114.114

MAC: 00:11:22:33:44:12

WIFI settings

Wifi Status: Not conneted

Wifi IP: 192.168.0.32

Wifi Netmask: 255.255.255.0

Wifi Gateway: 192.168.0.1

Wifi Encryption: None

Wifi ESSID:

Wifi Password:

Set up

- A. The Default IP of the device is 192.168.0.31. if IP setting is forgotten after changing. You can reset it to default IP follow step 1 above.
- B. If you don' t use a network cable , and when you reboot the device, it will access to WIFI status if it' s with WIFI . Please kindly note the features for wifi version.

The instructions of wifi network, three connections:

- A. Ethernet : only connected by Ethernet (default configuration)
- B. Wifi: only connect with wifi (If you entered the wrong password or SSID when you are in the wifi mode that will cause the system unable to connect wifi. Then you cannot open the web-pages. Pleas press the reset button to restore the default settings to solve the problem.)
- C. Auto: it will automatically detect if you have ethernet or wifi .

5.3 Mainstream encoding

Mainstream encoding settings

Main stream settings

Enc type: H.264

Profile: main profile

Frame rate: 30 [5-60]

Bitrate mode: vbr

Group of picture: 30 [5-200]

Output size: auto

MinQp: 1 [1-51]

MaxQp: 30 [MinQp-51]

MaxBitrate: 500 [16-12000] (K)

Set up

Main stream setting:

- Enc type: H.264 & H.265 is optional (note: H.264 version can only choose H.264)
- Profile: baseline profile / main profile / high profile (note: H.265 version choose main profile)
- Frame rate: 5-60 (when the input resolution is 720i/50,1080i/50, the frame rate will choose 25)
- Bitrate mode: VBR / CBR
- Group of picture: 5-200, it shows picture quality, default setting is advisable .
- Bitrate: 16-1200K (Network bandwidth setting)

Note: You can modify the above parameters without rebooting the encoder

Mainstream protocol settings

HTTP:	/main	Enable v	Format: /main (begin with "/")
HTTP port:	8000	[1-65535]	
RTSP:	/main	Enable v	Format: /main (begin with "/")
RTSP port:	554	[1-65535]	
Multicast IP:	232.255.42.42	Disable v	
Multicast port:	1234	[1-65535]	
RTMP server ip:	video.mudu.tv	Enable v	
RTMP server port:	1935	[1-65535]	
RTMP app name:	watch		
RTMP stream name:	dtkn6q		
RTMP user name:			
RTMP password:			
ONVIF:	Enable v		

Set up

Mainstream protocol settings:

HTTP: /main enable/disable

HTTP port: 1-65535 optional

RTSP: /main enable/disable

RTSP port: 1-65535 optional

Multicast IP : 232.255.42.42 disable/RTP/UDP optional

Multicast port: 1-65535 optional

RTMP server IP : can set by stream media server .

RTMP server port: 1-65535 optional

RTMP app name: can set by yourself

RTMP stream name: can set by yourself

Onvif : enable/disable

5.3 OSD Settings

OSD settings

Text1 X:	550	[0-1920]
Text1 Y:	100	[0-1080]
Font1 size:	72	[8-72]
Alpha1:	128	[0-128]
Color1:	Black	
Bg1:	Transparent	
Text1:		
Text2 X:		[0-1920]
Text2 Y:		[0-1080]
Font2 size:		[8-72]
Alpha2:		[0-128]
Color2:	Black	
Bg2:	Transparent	
Text2:		

Note: You can insert two couples of words and three pictures simultaneously in mainstream

Text1 X: 0-1920 is optional, display the left and right position of the text

Text1 Y: 0-1080 is optional, display the up and down position of the text

Font1 size: 8-72 is optional

Alpha1: 0-128 is optional,

Color1: choose the color you want to display

Bg1: choose background color of the text on the video

Text1: input the content of the text you want

Picture1: [v]
Picture1 X: [4-1920]
Picture1 Y: [4-1080]
Alpha: [0-128]
Picture1 name:
Upload picture1: (only support *.bmp file)

Picture2: [v]
Picture2 X: [4-1920]
Picture2 Y: [4-1080]
Alpha2: [0-128]
Picture2 name:
Upload picture2: (only support *.bmp file)

Pictures Setting

Picture1: disable/ enable (disable: no images enable: display the images)

Pictures X: 4-1920 is optional **to set the** left and right position of the picture

Pictures Y: 4-1080 is optional to set the up and down position of the picture

Alpha: 0-128 is optional

Picture1 name: display the name of the picture1

Upload picture1: choose to upload the image, support *.bmp format of the picture less than 1M

Explanation:

- 1、 The set of the three pictures that can be inserted are the same.
- 2、 Transparent background of the picture setting: R - 177, G - 204, B - 233

测试图片1

Image quality setting

Brightness: 0-100 is optional (to adjust the brightness of the image)

Contrast: 0-100 is optional (to adjust the contrast of the image)

Hue: 0-100 is optional (to adjust the hue of the image)

Saturation: 0-100 is optional (to adjust the saturation of the image)

Image quality settings

Brightness:	50	[0-100] Default value: 50
Contrast:	50	[0-100] Default value: 50
Hue:	50	[0-100] Default value: 50
Saturation:	50	[0-100] Default value: 50

Set up

5.4 Second stream settings

Note: the way of the setting is same with mainstream code setting

5.5 CVBS encoding Settings

CVBS encoding settings

Second stream settings

Enc type:	H.264	
Profile:	main profile	
Frame rate:	30	[5-60]
Bitrate mode:	cbr	
Group of picture:	30	[5-200]
Output size:	auto	
Bitrate:	2048	[16-12000] (K)
Fluctuate:	Auto	

Set up

Secondstream protocol settings

HTTP:	/ext	Enable ▼	Format: /ext (begin with "/")
HTTP port:	8000	[1-65535]	
RTSP:	/ext	Enable ▼	Format: /main (begin with "/")
RTSP port:	554	[1-65535]	
Multicast IP:	232.255.42.41	Disable ▼	
Multicast port:	2234	[1-65535]	
RTMP server ip:	192.168.0.4	Disable ▼	
RTMP server port:	1935	[1-65535]	
RTMP app name:	live		
RTMP stream name:	ext		
RTMP user name:			
RTMP password:			

Set up

5.6 Audio Encoding Settings

Audio bitrate: 48k, 64k, 128k, 160k, 192k, 256k

Audio type: AAC

Audio digital gain: 2x,4x,8x, used to adjust volume

Audio input mode: digital/analog

Audio encoding settings

Audio encoder

Audio bitrate:	128000
Audio type:	AAC ▼
Audio resample:	44.1K ▼
Audio Digital Gain:	Disable ▼
Audio input mode:	Digital ▼

Set up

5.7 System Setting

Change password: You can modify the web password by this .

System Settings

Change password

New user name:

New password:

Confirm new password:

System information: it shows device SN and firmware version .

(the serial numbers of the device are set by factory, if you want to modify it , please contact the us)

System information

Device SN:

Firmware ver:

Upgrade setting:

Note: choose the zip rar file, no need to unzip the file . Do not refresh the webpage when you upgrade the system .

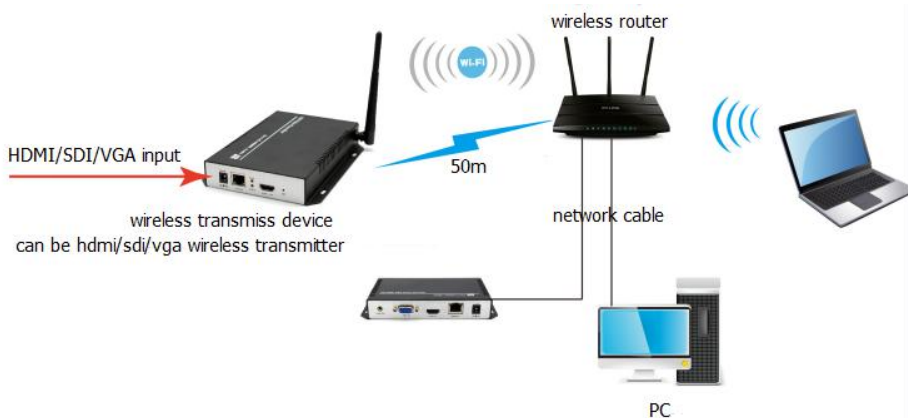
Upgrade settings

Upgrade system: 未选择任何文件 (do not multip uploading, do not power off or refresh the page)

System setting: reboot the device and reset the device to default parameters .

System settings

6 WIFI Setting



Connection shown above, when you want to configure the HD encoder, you need set the fixed IP of the compute first

6.1 Wireless router settings

Set up the user name of the wireless router

Set up the password of the wireless router, pay attention to choose the encryption type:
WPA-PSK

SSID	8888	* ?
VLAN	1	▼
SSID Broadcast	☒	
Security Mode	WPA-WPA2	▼
Data Encryption	TKIP+AES	▼
Maximum Number of Users	64	<1-64>
Apply Return		

6.2 HD wireless Encoder settings

Connect the HD Encoders by the network cable, then open the IE to enter the network setting interface. Settings as shown below:



WIFI settings

Wifi Status: Not conneted

Wifi IP: 192.168.0.32

Wifi Netmask: 255.255.255.0

Wifi Gateway: 192.168.0.1

Wifi Encryption: None ▼

Wifi ESSID:

Wifi Password:

Set up

Note:

- 1) Default IP of wifi is 192.168.0.32 . When wifi connected successfully, then you can access to the web control panel by 192.168.0.32 .
- 2) Wifi Encryption : WPA/WPA2 (Note: Some wireless routers have different encryption mode, please select WPA/WPA2 of the encryption)
- 3) Input the password of the wireless router .