# H.264 HD HDMI Encoder for IP TV

## LM-HE01

## **Operation Instructions**



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#### **Dear Customer**

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

#### **1. FEATURES**

- Support H.264 encoding.
- Support UDP, HTTP, RTSP, RTMP, ONVIF protocol.
- Support MPEG1 Audio Layer 2.
- > CBR/VBR rate: 16Kbps~16Mbps.
- > 1000M network interface uses full duplex mode.
- Support up to 720p, 1080p@60HZ HD video input.
- > Support image parameter settings.
- > WEB interface management authority.
- Support remote management in WAN (WEB).
- > Support resolution customized settings.
- > Support one key to restore the factory configuration.

#### 2. PACKAGE CONTENTS

- 1). Main Unit. H.264 HD HDMI Encoder
- 2). 1x Power adapter DC 12V
- 3). Operating Instruction manual

#### **3.HARDWARE DESCRIPTION**



- Note: 1. Reset to the factory default setting: press "Reset" for 10 seconds till all three indicators go out.
  - 2. LAN: default IP is 192.168.1.168 for the unit.

#### **4.Typical Application**



#### 5. Environment Configuration

#### 5.1 Software

#### 5.1.1 Change the IP Address of PC

Assign the PC (or laptop) IP address on the computer: "Control Panel" $\rightarrow$  "Network Connections" $\rightarrow$  "Local Area Connections Status" $\rightarrow$  "Properties" $\rightarrow$  "Internet Protocol (TCP/IP)" $\rightarrow$ Type the IP address with 192.168.1.XX (0-255) and Subnet mask with 255.255.255.0. After that press OK to save the configuration.

Connect using: Realtek RTL8139C+ Fast Ethemet N Configure	You can get IP settings assigned this capability. Otherwise, you ne the appropriate IP settings.	automatically if your network supports ed to ask your network administrator for
This connection uses the following items:	Obtain an IP address autom	natically
QoS Packet Scheduler	Subsethe following IP address	s:
Network Monitor Driver	IP address:	192.168.1.11
Tintemet Protocol (TCP/IP)	Subnet mask:	255 . 255 . 255 . 0
< ]	Default gateway:	· · ·
Install Uninstal Properties	Obtain DNS server address	automatically
Description	Co Use the following DNS serv	er addresses:
wide area network protocol that provides communication	Preferred DNS server:	168 . 95 . 1 . 1
	Alternate DNS server:	168 . 95 . 192 . 1
Show icon in notrication area when connected     Notify me when this connection has limited or no connectivity	<u> </u>	

#### 5.1.2 Login for configuration

Enter the unit IP 192.168.1.168 on browser, to open the web GUI. Login with default user name and pass word as admin. Like below, into the home page.

Attp://192.168.1.168/	- Windows Internet Explorer			
	92.168.1.168/	<ul> <li>▼ 😣 ↔ ×</li> <li>▲ 百度</li> </ul>	搜索	+ ۹
🖕 收藏夹 🔾 正在连封	度	📄 🕼 • 🖻 • 🖃 🖶 •	页面(P) ▼ 安全(S) ▼	工具(0) ▼ 😢 ▼ 🎬
	Windows 安全 位于 pbox 的服务器 192.168 警告: 此服务器要求以不安全的的基本认证。 admin ••••••] 记住我的	3.1.168 要求用户名和密码。 约方式发送您的用户名和密码(没有安全) 	× 主接	*
等待 http://192.168.1.168/		● Internet   保护模式:		▼ <sup>®</sup> 100% ▼

#### 5.1.3 Check the stream address

As below, the stream address is in the red frame.



H264 Encoder	Main stream		
Status	FPS:	30	[5-60]
Encoder	GOP:	30	[5-300]
Main stream 🔸	Bitrate(kbit):	1800	[32-32000]
Substream1	Encoded size:	same as the input 💌	
Substream2	H.264 Level:	high profile	
Substream3	Bitrate control:	vbr 💌	
Audio			
Advanced	TS URL:	/f) te	Enable 💌
OSD	HLS URL:	/0 m3u8	Enable V
	FLV URL:	/0 fly	Enable V
System	RTSP URL	/0	Enable 💌
	Multicast IP:	238.0.0.1	Enable V
	Multicast port:	1234	[1-65535]
	RTMP PUBLISH URL:	rtmp://192.168.1.50/live/0	Disable 💌

#### 6.2 Audio setting

Click encode  $\rightarrow$  Audio  $\rightarrow$  Setting the parameters  $\rightarrow$  Click apply

O H.264 Encoder	
H264 Encoder	Audio
Status	Samplerate: 44100 💌
Encoder	Encoder: AAC 💌
Main stream	Bitrate :
Substream1	Apply
Substream2	
Substream3	
Audio 🔸	ONVIF Audio
Advanced	
OSD	G711A Over RTSP: Disable
System	

#### 6.3 Advanced

Click Encoder $\rightarrow$ Advanced $\rightarrow$ Setting all the parameter $\rightarrow$ Click apply.

/ H.264 Encoder	
H264 Encoder	
	Audio
Status	TS Muxer: Compatible with VLC
Encoder	<b>TS once pack:</b> [3-128]
Main stream	TS Password Enable: Disable
Substream1	Apply
Substream2	
Substream3	
Audio	CSC
Advanced	
OSD	CSC: Disable 💌
	Contrast: [0-255],Default:64
System	Apply

#### 7. OSD Setting

7.1 Streaming OSD Setting

	Main stream		
Status	Alpha:	100	[0-128]
Encoder	Text1:		Disable 💌
OSD	Font size:	36	[8-72]
Main stream	X:	10	[0-1920]
Substream1	Y:	10	[0-1080]
Substream2	Text2:		Disable 💌
Substream3	Font size:	36	[8-72]
LOGO upload	X:	10	[0-1920]
System	Y:	62	[0-1080]
C) CICH.	LOGO:	Disable	

#### Click OSD $\rightarrow$ Network $\rightarrow$ Setting all the Parameter $\rightarrow$ Click apply, as below picture show

#### 7.2 LOGO uploading

Click logo upload  $\rightarrow$  provide the logo picture as the requirements  $\rightarrow$  Click Apply

🖉 H.264 Encoder		🏠 マ 🗟 マ 🗔 東 東面(2) マ 安全(3)
H264 Encoder	LOGO upload	Languar
Status		
Encoder	logo1.bmp:	湘览 file size should < 500kbyte, 0xF1F1F1 is transparent color. The file name is logo1.bmp.
OSD	Upload	
Main stream	logo2.bmp:	浏览 file size should < 500kbyte, 0xF1F1F1 is transparent color. The file name is logo2.bmp.
Substream1	Upload	
Substream2		
Substream3		
LOGO upload		
System		

#### 8. System

#### 8.1 Network

Click system  $\rightarrow$  Network  $\rightarrow$  Setting all the parameter  $\rightarrow$  Click apply.

H264 Encod <u>er</u>			
	Network		
Status	internet access		
Encoder	DHCI	P: Disable 💌	
	н	<b>192.168.0.168</b>	
OSD	Netmas	c 255.255.255.0	
System	Gatewa	y: 192.168.0.1	
Network <	MAG	00:13:14:15:2E:97	
Change Password	<u></u>		
Serial to TCP	DNS		
Upgrade	DNS	1: 61.139.2.69	
Reset	DNS	2: 8.8.8.8	
Reboot			
	Port		
	HTTP Por	t: 8080	[1-65500]
	RTSP Por	t: 8554	[1-65500]

#### 8.2 Change password

System $\rightarrow$ Change password $\rightarrow$ Set your password $\rightarrow$ Apply

H264 Encoder	Change password
Status	Old password :
Encoder	New password :
OSD	Confirm new password :
System	Apply
Network	
Change password	
Serial to TCP	
Upgrade	
Reset	
Reboot	

**8.3 Reset** System→Reset→Reset

H264 Encoder	Reset
Status	Click this button to reset all settings of the encoder to the default state of the factory
Encoder	Reset
OSD	
System	
Network	
Change Password	
Serial to TCP	
Upgrade	
Reset <	
Reboot	

#### 8.4 Reboot

 $System \rightarrow Reboot \rightarrow Reboot (please refresh the web after 1 minute)$ 

H264 Encoder	Reboot
Status	Click on the button to reboot the encoder.
Encoder	Reboot
OSD	
System	
Network	
Change password	
Upgrade	
Reset	
Reboot <	

#### 9. Application

9.1 User Application Example

#### 9.1.1 Web Video Preview

Status→Main stream→Preview

H.264 Encoder	AND REAL ADDRESS. MILLION MARK COMPAREMENTS AND ADDRESS.		
🕒 🗢 🙋 http://192.168.1.168	3/indexE.html	- 📴 + 🗙 🖉 EB-T	• م
🖕 收藏夹 🛛 🍰 💿 Software Inform	ner 📶 hao123_上网从这里开始 🥶 如何获取显示器的EDID信 📴 建议网站 🔻 👩 百度一下 🔊 历史解密 🔊 百度一下,你就知道		
€ H.264 Encoder		🏠 🔹 🗟 🔹 🖃 🌞 🔹 页面的	· 安全(S) • 工具(Q) • 🚱 •
			Language: English 💌
H264 Encoder	Status		
	outuo		
Chatura	Status		
Status	Running Time:0000-00-00 00:33:06		
Encoder	CPU Usage:33% (If CPU usage always more than 85%, please close some stream.)		E
	Memory Usage:30.7M/89.1M		
OSD	Input Size:1920x1080p@60		
	Collected Video Frames:42364		
System	Lost Video Frames:2		
	Audio Samplerate:48000		
	Main stream		
	Encoding Type:1920x1080@30		
	Bitrate(kbit):1800		
	TS URLhttp://192.168.1.168/0.ts		
	HLS URL:http://192.168.1.168/0.m3u8		
	FLV URL:http://192.168.1.168/0.flv		
	RTSP URL:rtsp://192.168.1.168/0		
	RTMP PUBLISH URL:Disable		
	Multicast URL:udp://@238.0.0.1:1234		
	Preview(Delay 2000ms)		
	The second se		
	Substream1		
	Encoder size:1280x720@30		
	Bitrate(kbit):1800		
슬라 슬라	TO LIDE Disable	Internet   保持構式・禁田	
7 DHM		ALL 11 COL 12 COL 1961-01 280/LD	TH

Belowing picture is the preview effect:

11			-
H.264 Encoder	。hao123上网从这里开始 ● 知時就報金示器的EDID信 》 注以网络 ▼ 包 目度 - ト 包 历史解验 包 目度 - ト,你就知道	🏠 🕶 🗟 👻 🖙 👼 🕶 页面图 🕶 安全(S) 🕶 🔅	工具(0) -
H264 Encoder			glish 💌
	Status		
	Status FLV Preview	×	
Status	Running Time:0001		
020	Memory Usage:30		
030			
	Main stream		
	RTMP PUBLISH U		
	Multicast URL udp///@238.0.0.1.1234		
	Substream1		
	Bitrate(kbit) 1800		

#### 9.1.2 VLC Play

Connect HDMI source to the HD encoder, open VLC media player (Download website:



http://www.videolan.org/), Click "Media", then click"Open Network Stream".

Enter Stream URL which showed from the page of Main stream. Click "play", You can successfully play the video stream encoded from this device.

Open Media		
File Disc Network	📑 Capture <u>D</u> evice	
Network Protocol		
Flease enter a network UKL: http://192.168.0.168/0.m3u8		ii.
http://www.example.com/stream.a rtp://@:1234 mms://mms.examples.com/stream.a rtsp://server.example.org:8080. http://www.yourtube.com/watch?	avi /test.sdp v=gg64x	
]Show more options		Play V Cancel



#### 9.2 Multi Local User Application Multicast Way

If many local users need watch the video of same HD encoder at the same time, we suggest using multicast. Enable the multicast IP, then re-power the HD encoder.

	Main stream		
Status	FPS:	30	[5-60]
Encoder	GOP:	30	[5-300]
Main stream 🔸	Bitrate(kbit):	1800	[32-32000]
Substream1	Encoded size:	same as the input 💌	
Substream2	H.264 Level:	high profile	
Substream3	Bitrate control:	vbr 💌	
Audio	10000000000000000000000000000000000000		
Advanced		/0 to	Enable
OSD	HLS URL:	/0 m3u8	Enable
Suctor	FLV URL:	/0.flv	Enable
System	RTSP URL:	70	Enable
	Multicast IP :	238.0.0.1	Enable
	Multicast port:	1234	[1-65535]
	RTMP PUBLISH URL:	rtmp://192.168.1.50/live/0	Enable
		rtmp://in/xxx/xxx.or.ttmp://user.pa	ss@in/yyy/yyy

There is a multicast URL in the Status page, copy it into the VLC Player. This address can be visited by many visitors at the same time



#### 9.3 Local Surveillance System Application NVR Connection

1. Confirm if NVR support H.264 decoder. Since using ONVIF, you need enable the "RTSP" function as below picture.

	Main stream		
Status	FPS:	30	[5-60]
Encoder	GOP:	30	[5-300]
Main stream 🔸	Bitrate(kbit):	1800	[32-32000]
Substream1	Encoded size:	same as the input 💌	
Substream2	H.264 Level:	high profile	
Substream3	Bitrate control:	vbr 💌	
Audio			
Advanced	TS URL:	/0.ts	Enable 💌
OSD	HLS URL:	/0.m3u8	Enable 💌
System	FLV URL:	/0.flv	Enable 💌
	RTSP URL:	/0	Enable 💌
	Multicast IP :	238.0.0.1	Enable 💌
	Multicast port:	1234	[1-65535]

2. If you need the NVR recognize the Audio of HD Encoder, you still need enable the Audio as below picture:

H.264 Encoder	
H264 Encoder	Audio
Status	Samplerate: 44100 💌
Encoder	Encoder: AAC 💌
Main stream	Bitrate :
Substream1	Apply
Substream2	
Substream3	
Audio 🔸	ONVIF Audio
Advanced	
OSD	G711A Over RTSP: Disable
	Apply
System	

Note: If you've finished above setting and still can't open the video , we suggest you do wnload the standard testing tool to test the ONVIF function of HD Encoder ( Down load a ddress <a href="http://url.cn/2ESQRcn">http://url.cn/2ESQRcn</a>)

#### 9.4 Remote Multi User Application RTMP Connection

If many users from different location need watch the source of the same HD Encoder, we suggest you use RTMP.

Our product support belowing Free platform: NGINX, RED5 MEDIA SERVER etc. Charged platform: ADOBE MEDIA SERVER5 and http://mudu.tv/ etc.

Since the current RTMP protocol only support H.264 function, you need set the HD Enco der as H.264, set the RTMP Address and enable it as below picture. Re-Start the HD en coder after finishing the setting.

Stream now BE	TA		
Events			
	~	OFFLINE	
e CHANNEL	~		
III ANALYTICS	~		
CREATE	~		
Help and feedback	k	•(×	<b>\$</b> []
		Create highlight Change thumbnail	
		BASIC INFO STREAM OPTIONS CARDS	
		Live	
		Add description	
		Schedule next stream	
		Category	
		Gaming +	
		Game title (recommended)	
		Privacy	
		Public *	
			Advanced setting
		ENGODED OFFIC	
		ENCODER SETOP	
		Server URL	
		Server URL rtmp://a.rtmp.youtube.com/live2	
		Server URL rtmp://a.rtmp.youtube.com/live2 Stream name/key	

1264 Encoder	Main stream		
Status	FPS:	30	[5-60]
Encoder	GOP:	30	[5-300]
Main stream 🔸	Bitrate(kbit):	1800	[32-32000]
Substream1	Encoded size:	same as the input 💌	
Substream2	H.264 Level:	high profile	
Substream3	Bitrate control:	vbr 💌	
Audio			
Advanced	TS URL:	/0.ts	Enable -
OSD	HLS URL:	/0.m3u8	Enable 💌
System	FLV URL:	/0.flv	Enable -
System	RTSP URL:	/0	Enable 💌
	Multicast IP :	238.0.0.1	Enable 💌
	Multicast port:	1234	[1-65535]
	RTMP PUBLISH URL:	rtmp://192.168.1.50/live/0	Disable 💌
		tmp://in/vvv/vvv or tmp://user.pa	ee@in/vvv/vvv

Note: If you have finished above setting and still can't open the video, please check as below:

1. Check the collected data of HD Encoder, if it shows 0, then the HD Encoder connectio n is failed; you need check if the hardware connection is correct.

2. Check the RTMP connection status, if it shows unconnected, you need check if the Ne twork setting is correct (You need set the IP Address to have access to the internet)

H264 Encoder	Status
Status	Status
	Running Time:0000-00-00 00:14:22
Encoder	CPU Usage:32% (If CPU usage always more than 85%, please close some s
	Memory Usage:30.2M/89.1M
OSD	Input Size:1920x1080p@60
Queter	Collected Video Frames:51588
System	Lost Video Frames:2
	Audio Samplerate:48000
	Main stream
	Encoding Type: 1920x1080@30
	Bitrate(kbit):1800
	TS URLhttp://192.168.0.168/0.ts
	HLS URL:http://192.168.0.168/0.m3u8
	FLV URL:http://192.168.0.168/0.flv
	RTSP URL:rtsp://192.168.0.168/0
	RTMP PUBLISH URL(Not Connected):rtmp://192.168.1.50/live/0
	Multicast URL:udp://@238.0.0.1:1234
	Preview(Delay 2000ms)

#### MAINTENANCE

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner of benzine to clean this unit.

#### PRODUCT SERVICE

1) **Damage requiring service:** The unit should be serviced by qualified service personnel if:

(a)The DC power supply cord or AC adaptor has been damaged;

(b)Objects or liquids have gotten into the unit;

(c)The unit has been exposed to rain;

(d)The unit does not operate normally or exhibits a marked change in performance;

(e)The unit has been dropped or the cabinet damaged.

2) **Servicing Personnel:** Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.

3) **Replacement parts:** When parts need replacing ensure the service uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.

4) **Safety check:** After repairs or service, ask the service to perform safety checks to confirm that the unit is in proper working condition.

#### WARRANTY

If your product does not work properly because of a defect in materials or workmanship, our Company (referred to as "the warrantor") will, for the length of the period indicated as below, (Parts(2)Year, Labor(90) Days) which starts with the date of original purchase ("Limited Warranty period"), at its option either(a) repair your product with new or refurbished parts, or (b) replace it with a new of a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labor" Limited Warranty period there will be no charge for labor.

During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

#### MAIL-IN SERVICE

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.

#### LIMITED WARRANTY LIMITS AND EXCLUSIONS

This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage.

The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRNTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable,

travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.)

PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.