



**1/4/16 chs HDMI/HD-SDI H.264
IPTV Encoder**

Model: RF-MINI-ENCO-HDMI-30XsHD-Tx



single channel version



4 channels version



16 channels version

Product Profile

RF-MINI-ENCO-HDMI-30XsHD-Tx series has the function of supporting 1/4/16 channels HDMI/HD-SDI video capture, generate dual stream of h.264 encoding output and the AAC audio format. The product has high integration and reasonable price. From any HDMI input source such as a camera or switcher, generates an H.264-encoded stream compliant with RTSP, HTTP, UDP and RTMP protocols.

RF-MINI-ENCO-HDMI-30XsHD-Tx series boasts an all-hardware compression chip for real time encoding with advanced audio and meta data handling – all packaged in a portable device with low power consumption, which makes it possible to take encoding from the server rooms into the field for professional and industrial applications with easy integration to education, health care, IPTV, conference, remote education, news interview, banking, transportation and other industries.

RF-MINI-ENCO-HDMI-301sHD-Tx series can deliver H.264-encoding video streams to various servers, such as Adobe Flash Server, Wowza Server, Windows Media Server and some other

servers base on UDP/RTSP/RTMP/HTTP/HLS protocols. Now, we have been improving our product.

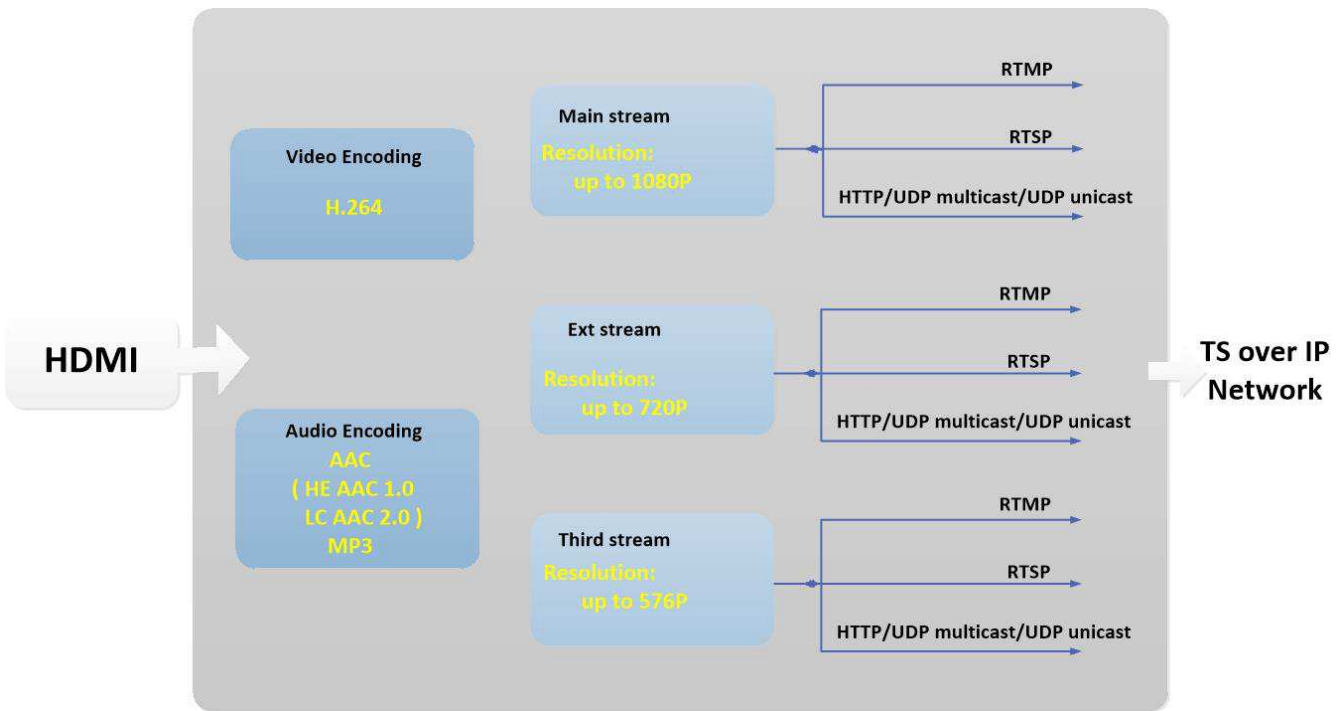
Features

- ❖ HDMI (HDCP), HD-SDI, Blue Ray HD input
- ❖ Number of input channels: Single, Quad, Sixteen
- ❖ Full HD 1080P60, 1080I60, 1080P50, 1080I50, 720P60, 720P50, 576P, 576I, 480P, 480I
Multiple resolution HDMI signal input
- ❖ H.264, BP/MP/HP hardware encoding
- ❖ 3 streams out, Each HDMI input source simultaneously support up to 1080P
- ❖ **Support multi protocol output, RTSP, RTMP, HLS(option) one of HTTP/UDP multicast/UDP unicast protocol out simultaneously**
- ❖ support insert picture LOGO, only BMP format. Please name it: logo.bmp
- ❖ AAC, MP3, G.711 and other audio coding format
- ❖ Support RTMP push flow (classic mode and URL mode) , ONVIF protocol
- ❖ **Web page video preview function, facilitate the implementation of adjustment**
- ❖ Network interface using 1000M full duplex mode
- ❖ HD-to-SD downscale conversion
- ❖ Support CBR and VBR mode, 50Kbps ~ 12Mbps
- ❖ Low power design
- ❖ WEB Management
- ❖ Easy-to-Use System Management

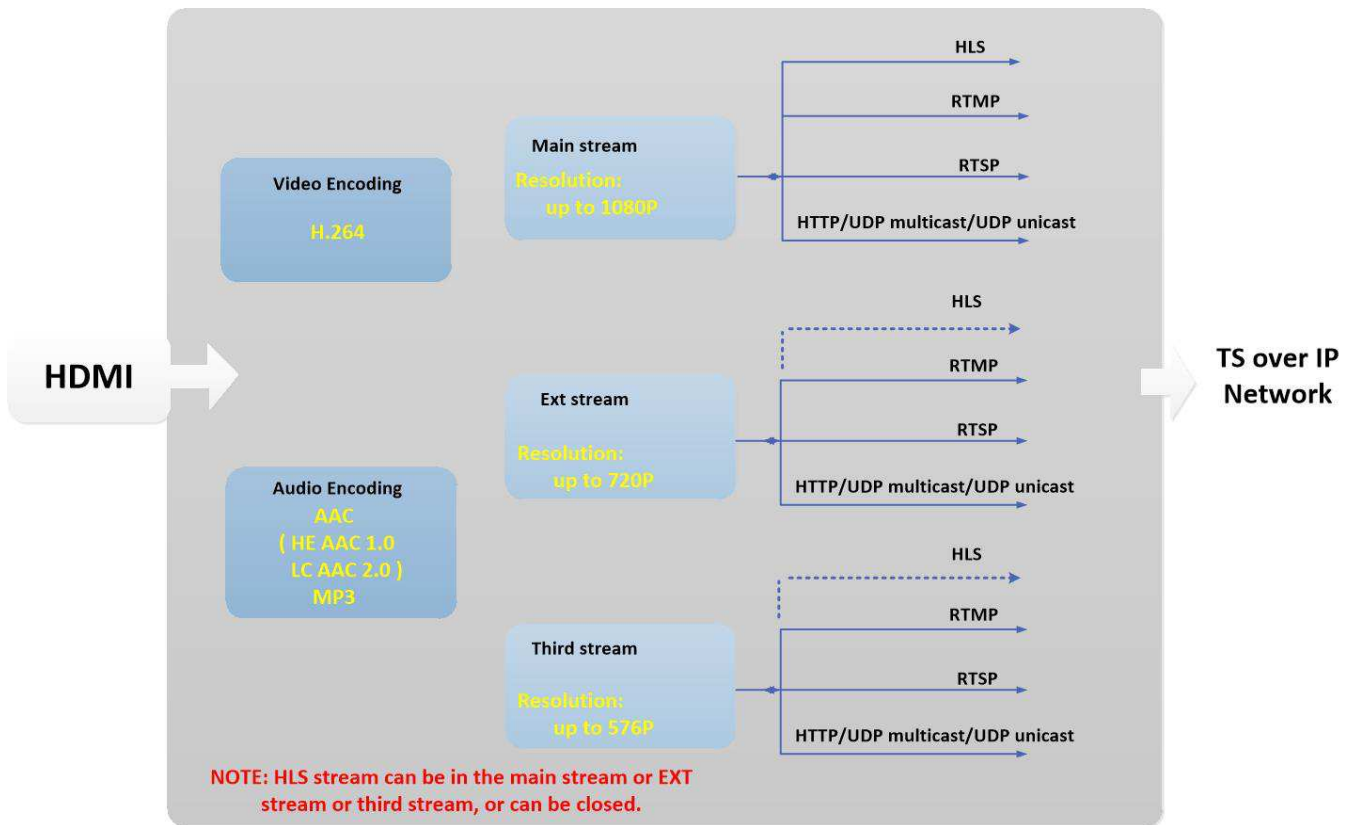
Main Applications

- ❖ IPTV, conference, remote education
- ❖ Backhaul/Monitoring for Broadcasters
- ❖ VOD, multiscreen headend
- ❖ Point-to-Point video contribution
- ❖ Streaming Full Motion Video to Desktop, TV and Mobile Devices over bandwidth-limited pipes

Diagram



high configuration version:



Technical Specifications

Inputs	
Video inputs	1/4/16 HDMI (HD-SDI option) input
	<u>Progressive</u> 1920x1080 @ 60/59.94/50/24/23.98 Frames per second 1280x720 @ 60/59.94/50 Frames per second <u>Interlaced</u> 1920x1080i 29.97/25 frames per second Video Input Format is Auto-Detected
Audio inputs	HDMI Embedded audio Unbalanced analog stereo input via 1/8" (3.5mm) jack (option)
Outputs	
IP Output type	RJ45 providing 1000Base-T Ethernet with Static or DHCP addressing;
Protocol	RTMP TS RTSP(UDP, TCP) TS HTTP HLS(option) UDP TS ONVIF
Multi-Screen	Up to 3 channels High def. and any resolution of streams simultaneously out in each HD Source inputs
Users Interface	
Computer Based control	HTTP via standard PC or web browser using Command Center. The simple Control API and SDK is also available to programmers to create their own application
Pre-processing	
Image setting	Video adjustments (Brightness, contrast, Saturation, Hue)
Frame rate	from 5fps to 45fps
Image insertion	OSD insertion

Enhancement filter	Deinterlacing; Noise reduction; Sharpening; Visual Optimizing; Filtering		
Video Encode			
Bitrate mode	Constant (CBR), Variable (VBR)		
H.264	Resolutions	First stream	1920*1080, 1280*720, 1024*576, 850*480, 720*576, 704*576, 640*480, 640*360, auto
		Second Stream	1280*720, 800*450, 720*576, 720*408, 704*576, 640*480, 640*360, 352*288, 320*240, 320*180, auto
		3 rd Stream	720*576, 720*408, 704*576, 640*480, 640*360, 352*288, 320*240, 320*180, auto
	Encode Frame Rates	Encode frame rates representing 1:1, 1/2 and 1/4 of the input frames rates are supported Note that the maximum encoded frame rate is 30fps when input resolution is 1920x1080	
	H.264 Encode	MPEG-4 AVC/H.264 (ISO/IEC 14496-10 MPEG-4 AVC – Rec. ITU-T H.264) Baseline Profile L3 Main Profile L3 and L4 High Profile L4 and L4.2	
	Video Bitrate	100kbps to 12Mbps	
Bitrate of Res.	Resolution	H.264 encoding	
	720x576 (D1)	800-1500kbps	
	1080x720p (HD)	1200-2500kbps	
	1920x1080p (Full HD)	3500-6000kbps	
Audio Encode			
Audio encoding	AAC, MP3		
Bit Rates	Range from 48 kbps to 256 kbps, Adjustable		
Resample Rate	48Khz, 44.1Khz		
Audio Channel	L+R, L, R		

Environment	
Power Supply	12V 2A (compact), 110V/220V (1/3RU)
Power consumption	<5W (compact), 80W (1/3RU)
Dimensions of box (L*W*G)	180x110x50 mm (compact), 520*370*200 mm (3RU)
Dimensions of device (L*W*G)	146.5 x 25 x100.5 mm (compact), 490*310*140 mm (3RU)
Gross Weight	630G (compact), 10.5KG (3RU)
Net Weight	380G (compact), 8.5KG (3RU)
temperature	Operation: 0 -50°C (32 -122°F)
	Storage: -40-70°C (-40-158°F)

NOTE: This model has 2 version, normal version and high configuration version. The high configuration version support HLS protocol..

Web Interface

Status

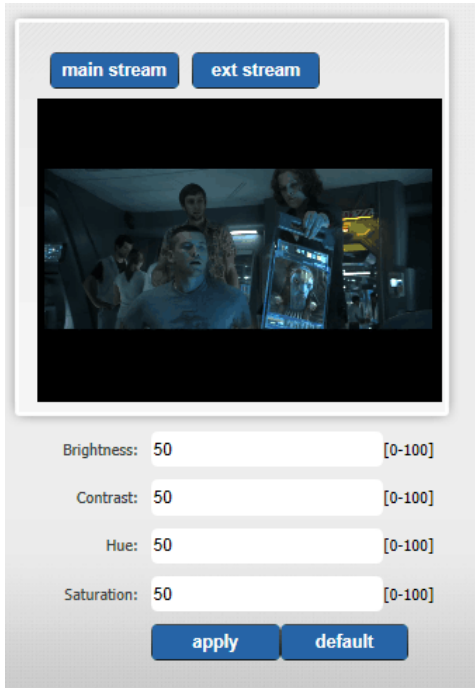
Status page displays the current encoder running status information:

The screenshot shows the 'HD live broadcast box' web interface. At the top right, there is a language dropdown menu set to 'English'. The interface is divided into several sections:

- Device status:**
 - Device ID: 0A10160825000163
 - Device version: 20160829
 - Video info: 1080P60
 - Interrupt count: 25529
 - Lost count: 2
 - Audio status: enable
 - Audio count: 40851456
- Audio info:**
 - Audio input: HDMI audio
 - Audio sample(hz): 48000
 - Audio channel: 2
 - Resample(hz): 48000
 - Encode: AAC
 - Bitrate(bps): 48000
- Main stream:**
 - Resolution: 1920*1080
 - RTSP: rtsp://192.168.1.168:554/main
 - TS: http://192.168.1.168:80/main
 - RTMP: disabled
 - Encode: H.264
 - Encode ctrl: CBR
 - FPS: 30
 - Bitrate(kbps): 2048
- Extended stream:**
 - Resolution: 720*480
 - RTSP: rtsp://192.168.1.168:554/ext
 - TS: http://192.168.1.168:80/ext
 - RTMP: disabled
 - Encode: H.264
 - Encode ctrl: CBR
 - FPS: 30
 - Bitrate(kbps): 1024
- 3rd stream:**
 - Resolution: 720*480
 - RTSP: rtsp://192.168.1.168:554/3rd
 - TS: http://192.168.1.168:80/3rd
 - RTMP: disabled
 - Encode: H.264
 - Encode ctrl: CBR
 - FPS: 30
 - Bitrate(kbps): 1024

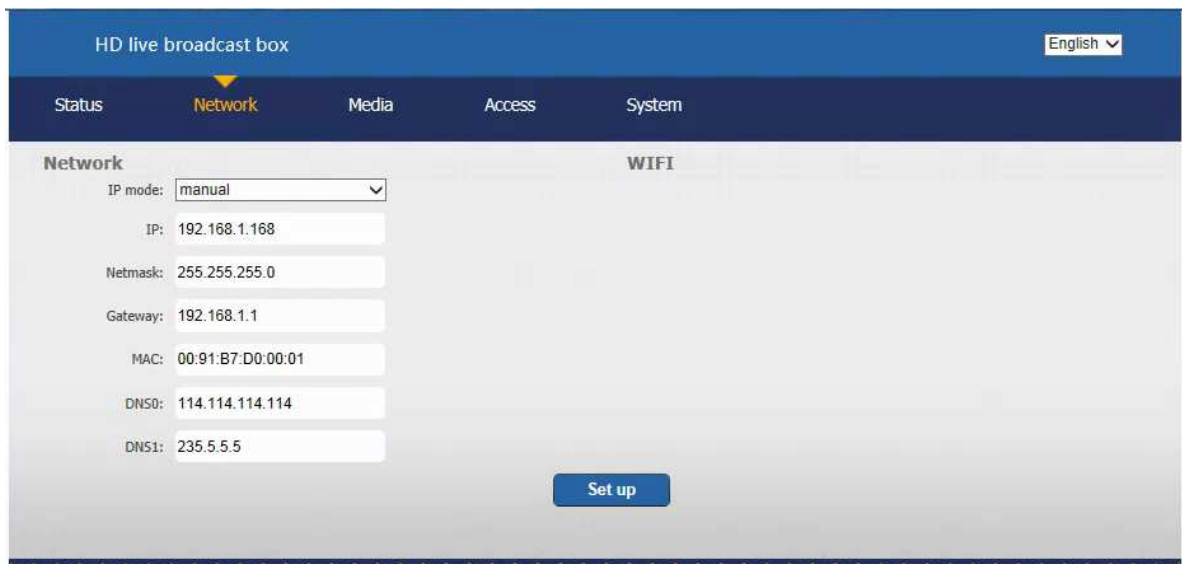
On the right side, there is a video preview window with three tabs: 'main stream', 'ext stream', and '3rd stream'. The 'main stream' tab is selected, showing a black screen with a small orange traffic cone icon. Below the preview are four sliders for video adjustments: Brightness (50), Contrast (50), Hue (50), and Saturation (50), each with a range of [0-100]. At the bottom of these sliders are 'apply' and 'default' buttons.

At the bottom of the interface, there is a navigation bar with five tabs: 'Status' (highlighted in red), 'Network', 'Media', 'Access', and 'System'.



Network

Network settings page display and modify the current encoder network address and related parameters, modify the network parameters need to restart to take effect:



Media

Media setting page includes the main stream and Ext stream video coding parameter setting, OSD, logo setting

HD live broadcast box

English

Media

Audio input: HDMI audio
Resample(hz): disable L+R
Audio encode: AAC 48kbps

Volume: default
Mirror&Flip: Disable
Deinterlace: Disable

apply

Main media

Encode: H.264
Encode profile: main profile
Resolution: auto
FPS(fps): 30 [5-60]
GOP: 60 [10-180]
Bitrate ctrl: CBR
Bitrate(kbps): 2048 [50-12000]

apply

Ext media

Encode: H.264
Encode profile: main profile
Resolution: 720x480
FPS(fps): 30 [5-60]
GOP: 60 [10-180]
Bitrate ctrl: CBR
Bitrate(kbps): 1024 [50-12000]

apply

Main OSD

Text: [] Disable

apply

Ext OSD

Text: [] Disable

apply

Main LOGO

BMP: [] Disable

apply

Ext LOGO

BMP: [] Disable

apply

3rd media

Encode: H.264
Encode profile: main profile
Resolution: 720x480
FPS(fps): 30 [5-60]
GOP: 60 [10-180]
Bitrate ctrl: CBR
Bitrate(kbps): 1024 [50-12000]

apply

3rd stream OSD&LOGO

Text: [] Disable

apply

BMP: [] Disable

apply

Status Network **Media** Access System

ACCESS

Access settings page can be turned on and off RTMP push streaming, RTSP live streaming, HTTP video stream, UDP multicast and UDP unicast protocol, and modify the relevant protocol parameters, etc.

HD live broadcast box English

Service Info

HTTP Port: 80
TS Mode: vlc
RTSP Port: 554 (UDP)
RTSP audio: AAC or MP3
Set up

Main RTMP

RTMP: URL Mode (Disable)
RTMP URL: rtmp://
Set up

Ext RTMP

RTMP: URL Mode (Disable)
RTMP URL: rtmp://
Set up

Main stream

RTSP: /main (Enable) (as:/main)
HTTP: /main (Enable) (as:/main)
Unicast: 192.168.1.160 (Disable)
Unicast port: 6000
Multicast: 238.0.0.1 (Disable)
Multicast port: 6010
Set up

Ext stream

RTSP: /ext (Enable) (as:/ext)
HTTP: /ext (Enable) (as:/ext)
Unicast: 192.168.1.161 (Disable)
Unicast port: 6020
Multicast: 238.0.0.2 (Disable)
Multicast port: 6030
Set up

3rd stream

RTSP: /3rd (Enable) (as:/3rd)
HTTP: /3rd (Enable) (as:/3rd)
Unicast: 192.168.1.162 (Disable)
Unicast port: 6040
Multicast: 238.0.0.3 (Disable)
Multicast port: 6050
Set up

3rd RTMP

RTMP: URL Mode (Disable)
RTMP URL: rtmp://
Set up

Status **Network** **Media** **Access** **System**

HLS stream

Service Info

HLS select: Close
Main stream
Ext stream
3rd stream

HTTP Port:

TS Mode: ffmpeg ▼

Main RTMP

RTMP: Classic Mode ▼ Disable ▼

System

Network settings page can modify the device ID number, modify the administrator password, upgrade the encoder firmware, restore the factory settings and restart the encoder and other functions:

HD live broadcast box English ▼

Device ID:
Device ID: 0A10160719000095
Modify

Reset password
New password:
Confirm password:
Modify

Upgrade
Current version: 20160810
Firmware: 浏览...
Upgrade

System
Reset
Reboot

Status Network Media Access System