

# Full HD HEVC(H.265)/H.264 Hardware IPTV Encoder



Model: MagicBox HD4 series



MagicBox HD401: Single channel HDMI/AV, HDMI/VGA/YPbPr/AV,  
HDSDI input



**MagicBox HD404: 4 channels HDMI/AV, HDMI/VGA/YPbPr/AV, HDSDI input**



**MagicBox HD416: 16 channels HDMI/AV, HDSDI input**

## Product Profile

**Magicbox HD4** series can support 1/4/16 channels input, it is the world's New Generation HEVC H.265/H.264 hardware encoder in a professional grade, compact streaming appliance. Its advanced HEVC compression enables users to stream broadcast quality 1080p video with up to 50% bandwidth savings compared to today's H.264 standards.

The product has the function of supporting 1/4/16 channels HDMI/AV, HDMI/VGA/YPBR

/AV, HDSDI video capture, generate dual stream of h.264/h.265 encoding output and the MP3, AAC audio format. The product has high integration and reasonable price which can generate an H.265-encoded stream compliant with RTSP, HTTP, UDP, RTP, and RTMP (HLS option) protocols.

**Magicbox HD4** 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 next generation HEVC 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.

### **Next-Generation HEVC/H.265 Streaming Reduces IPTV Bandwidth Costs**

Whether it's from live news broadcasting in the field, Point-to-Point contribution of HD video, live streaming from or within sports venues or fast move picture - demand for high quality real-time video anywhere, anytime is growing. The increase of video services translates to rising expenses for purchasing more satellite, cellular or other dedicated network bandwidth. The Encoder's cutting edge HEVC compression and streaming capabilities allows broadcasters, IPTV providers, AV teams, corporate IT to reduce Operating Expenses (OPEX) for video streaming projects while managing demand for more video services and requests for higher quality video on existing bandwidth capability.

### **Flexible Connectivity Options with H.264 Backward Compatibility**

Integrating with any video environment - the Encoder offers the largest selection of input types in the industry including HD/SD-SDI, HDMI and Composite video as well as analog and digital audio (embedded and discrete). A built-in video matrix enables routing of video sources to both the HEVC and H.264 compression cores for generating streams in both H.265 and H.264 formats. The on-board hardware scaler can be used for real-time downscaling, frame-sampling and flexible cropping options delivering the most optimized video output for your application.

### **The Most Complete HEVC Offering for IPTV and Situational Awareness Video**

The Encoder can be used as stand-alone or integrated seamlessly into an End to End HEVC solution, DIBSYS's comprehensive HEVC product offering includes encoders and streaming appliances, IPTV decoding appliances, video portal for distribution, archiving and playback, desktop and mobile video players with SDK for integration projects. Take advantage of the revolutionary compression technology for deploying bandwidth-efficient video solutions that dramatically reduce bandwidth costs, extend high quality video reach to disadvantaged users and allow more content to be streamed on existing network capacity.

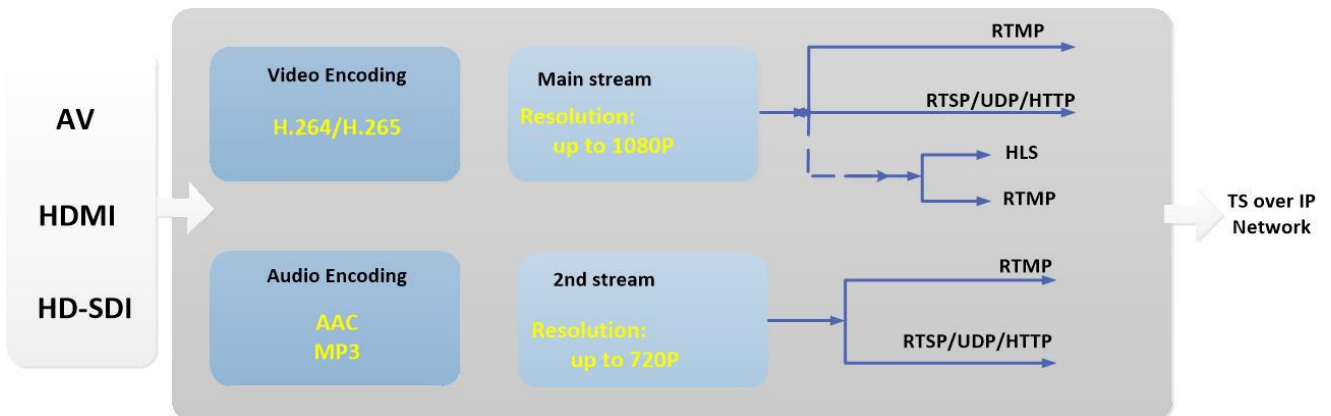
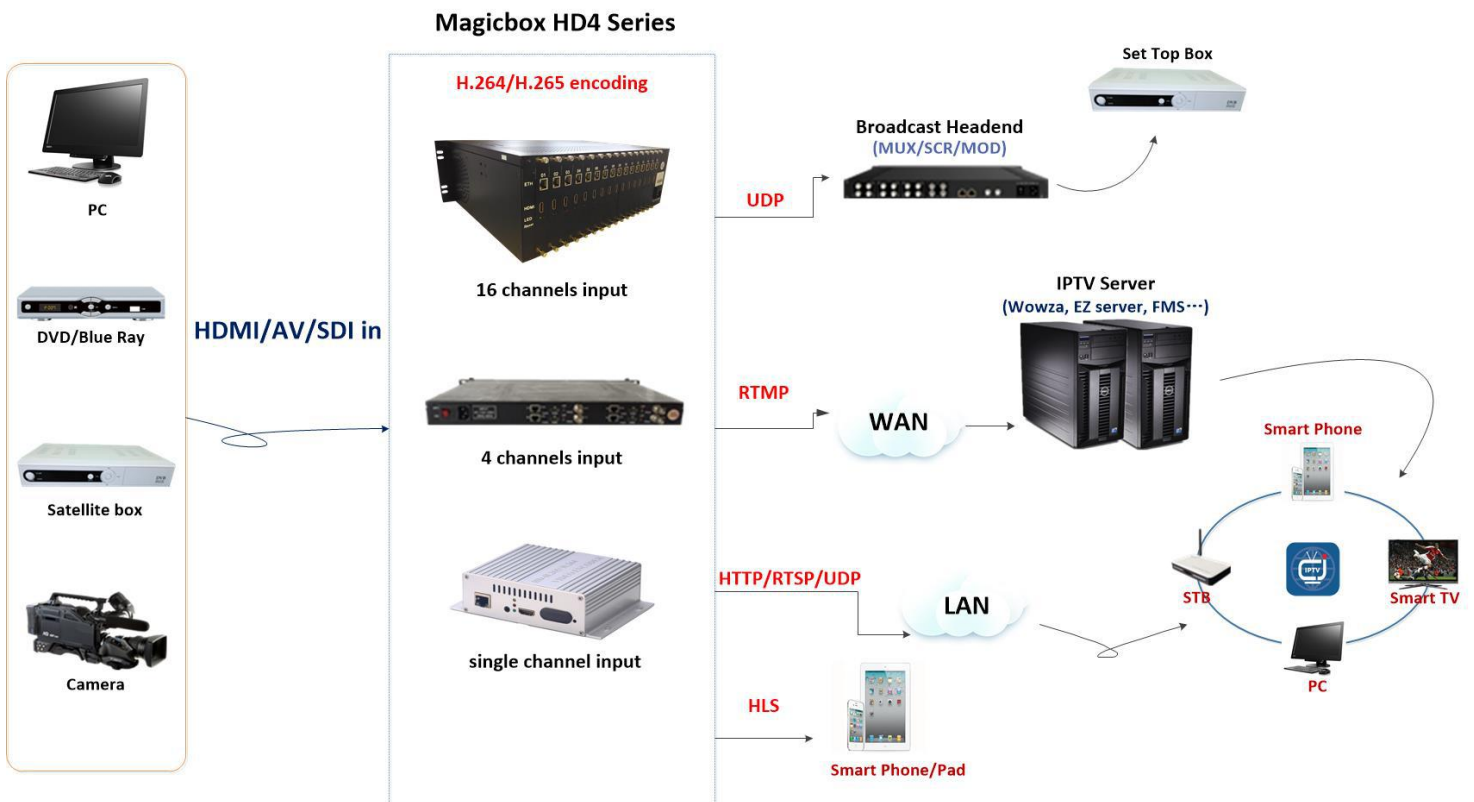
## Features

- ❖ HDMI/AV, HDMI/VGA/YPBR/AV, HDSDI Inputs per module
- ❖ Two Protocol, Bitrate, Resolution, Profile per HDMI Source Input
- ❖ support insert picture LOGO, only BMP format. Please name it: logo.bmp
- ❖ Will come into effect as soon as it is set up, no need to restart.
- ❖ Dual streams out, Each HDMI input source simultaneously support one channel up to 1920x1080p Full HD and one channel 1280x720 HD output
- ❖ Next-generation HEVC / H.265 compression reduces network bandwidth by up to 50% compared to H.264
- ❖ Three hardware version, 1 channel Compact, 4 channels 1RU, and 16 channels 3RU
- ❖ Support the standard flow driven architecture of Microsoft (the WDM architecture), Support the WMENCODER of Microsoft
- ❖ Each channel stream can simultaneously support any one among the UDP/RTSP/RTP/HTTP protocol, including RTMP protocol output, HLS optional
- ❖ Plug in Internet line, work without HD collection card
- ❖ Support simultaneous display of one computer and multiple devices
- ❖ Supports both HEVC and H.264 – built for the future without losing support for legacy receivers/decoders
- ❖ HD-to-SD downscale conversion
- ❖ Support CBR and VBR mode
- ❖ Low power design
- ❖ WEB Management
- ❖ Easy-to-Use System Management

**NOTE: Since the RTMP H265 protocol has not come out, if you need RTMP protocol under the H.265 format, please contact us for details and customization.**

## 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



## Technical Specifications

Inputs	
<b>Video inputs</b>	1/4/16*HDMI/AV (support HDCP protected ), 1/4*HDMI/VGA/YPBR/AV , 1/4/16*HDS DI
	<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
<b>Audio inputs</b>	1/4/16x HDMI(AV) Embedded audio 1/4/16x HDS DI Embedded audio Unbalanced analog stereo input via 1/8" (3.5mm) jack ( <b>option</b> )
Outputs	
<b>IP Output type</b>	RJ45 providing 100/1000Base-T Ethernet with Static or DHCP addressing; <b>Wifi (option)</b> 2.4Ghz, 802.11n is compatible with IEEE802.11g, IEEE802.11b, the effective transmission distance:30m
<b>Protocol</b>	RTMP TS RTSP(UDP, TCP) TS HTTP UDP TS HLS (option)
<b>Multi-Screen</b>	Up to 2 channels High def. and any resolution of streams simultaneously out in each HD Source inputs
Users Interface	
<b>Computer Based control</b>	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	
<b>Image setting</b>	Video adjustments (Brightness, contrast, Saturation, Hue)
<b>Frame rate</b>	from 5fps to 30fps
<b>Image insertion</b>	OSD insertion

<b>Enhancement filter</b>	Deinterlacing; Noise reduction; Sharpening; Visual Optimizing; Filtering			
<b>Video Encode</b>				
<b>Bitrate mode</b>	Constant (CBR), Variable (VBR)			
<b>H.264</b>	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	
	Encode Frame Rates	Encode frame rates representing 1:1, ½ and ¼ 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		
<b>H.265</b>	H.265 Encode	MPEG-H HEVC (ISO/IEC 23008-2) Main Profile Level 4.1 (4:2:0 8-bits)		
	Video Bitrate	16kbps to 12Mbps		
	Key Interval	5-200		
	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	
Encode Frame Rates	Encode frame rates representing 1:1, ½ and ¼ of the input frames rates are Supported Note that the maximum encoded frame rate is 30fps when input resolution is 1920x1080			
<b>Bitrate of Res.</b>	Resolution	H.264 encoding	h.265 encoding	

	720x576 (D1)	800-1500kbps	400-800kbps
	1080x720p (HD)	1200-2500kbps	800-1500kbps
	1920x1080p (Full HD)	3500-6000kbps	1500-2500kbps
<b>Audio Encode</b>			
<b>Audio encoding</b>	AAC, MP3		
<b>Bit Rates</b>	Range from 48 kbps to 256 kbps		
<b>Resample Rate</b>	32Khz, 44.1Khz		
<b>Audio Channel</b>	L+R, L, R		
<b>Environment</b>			
<b>Hardware type</b>	Compact	1RU	3RU
<b>Power Supply</b>	+12V	220V	220V
<b>Power consumption</b>	6W	<28W	<100W
<b>Dimensions of box (L*W*G)</b>	160mm*160mm*90mm	550mm*410mm*200mm	580mm*490mm*270mm
<b>Dimensions of device (L*W*G)</b>	150mm*100mm*40mm	490mm*310mm*45mm	490mm*370mm*150mm
<b>Gross Weight</b>	0.7kg	5.04kg	5.04kg
<b>Net Weight</b>	0.35kg	3.36kg	6.54kg
<b>temperature</b>	Operation: 0 -50°C (32 -122°F)		
	Storage: -40-70°C (-40-158°F)		



## Order Information

Model	Interface
Magicbox HD401 (compact)	1*HDMI/AV, HDMI/VGA/YPBR/AV, HDSDI input
Magicbox HD404 (1RU)	4*HDMI/AV, HDMI/VGA/YPBR/AV, HDSDI input
Magicbox HD416 (3RU)	16*HDMI/AV, HDSDI input

### Contact us



Email: [sales@dibvision.com](mailto:sales@dibvision.com)  
 Website: [www.dibvision.com](http://www.dibvision.com)  
 Tel: +86 571 8971 4581  
 Fax: +86 571 8971 4580  
 Skype: dibdvb