Magickit

Professional Live Broadcast Full interface Encoder Decoder Transcoder

SDI HDMI CVBS DVI

MagicKit is a full interface: HD-MI/VGA/DVI/CVBS/ YPBPR/ SDI all in one device, including encoding decoding and transcoding. When you use it, you can select the corresponding function input and output port to achieve the function what you need.

It supports web management and also you can install an APP on your Android phone to manage the device which can help you manage more easily.

MagicKit with **Three function**s: The first function, HD-MI/ VGA/DVI/CVBS/ YPBPR/SDI to IP H.264/H.265 **encoding** with HD-MI/VGA/CVBS/SDI loop out. The second function, IP input to HD-MI/VGA/CVBS/SDI output , H.264/H.265 **decoding** output, HD-MI output support up to UHD/4K. The third function, support IP to IP **transcoding**, support IP procotol conversion and H.264 H.265 mutual conversion. Support RTSP/HTTP/UDP/RTMP/RTMPS/HLS/RTP/SRT protocols. Also the encoding and decoding can work simultaneously, support PIP function.

MagicKit with its powerful functions can be widely used in education, health care, IPTV, conference, remote education, news interview, banking, transportation and other industries. This is a cost-effective and functional choice for customers who need encoder, decoder, transcoder devices but do not need use them in the same time.

Key Features

- Encode, Decode, Transcode Integrate in One Device
- 6 kinds of interface input: HD-MI/VGA/DVI/CVBS/ YPBPR/SDI
- Support HD-MI/VGA/CVBS/SDI looping, different resolution output
- both HEVC and H.264 video encoding
- WINDOWS, LINUX operating systems supported
- Support HTTP/HLS/RTSP/RTP/RTMP/RTMPS/SRT, HTTP/UDP unicast, multicast and other protocols
- RTMP protocol supports adding user and password functions
- two interface encoding simutaneously, for example SDI, HD-MI input simultaneously
- PIP function supported in Encode+decode mode
- English/Chinese OSD insert, and OSD rolling
- Support QR function, Livexapp remote management
- support resolution customizable
- Support DHCP automatically get IP, One-key recovery, version upgrade and remote maintenance
- Support No Video Signal Coding
- come into effect as soon as it is set up, no need to restart
- Support hard disk record and storage
- support IO and RS485
- HD-to-SD downscale conversion
- Support CBR and VBR mode
- Low power design
- WEB Management

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TECHNICAL SPECIFICATIONS

Encoding Mode

Video Inputs

HD-MI/VGA/DVI/CVBS/ YPBPR/SDI

Video packaging mode	mode A: FFMPEG; Mode B: VLC

OUTPUTS

IP Output type	RJ45 providing 100/1000Base-T Ethernet with Static or DHCP addressing;
Protocol	RTMP, RTMPS, RTSP, HTTP, UDP, HLS, SRT Multi-cast (number of clients may vary from 3 to 10)
Multi-profile	Dual streams out for Each encoding input source simultaneously support one channel up to 1920x1080p Full HD and one channel 1280x720 HD output
Frame rate	@30/60 fps

H.265/HEVC Video Encoding

Bitrate mode	VBR, CBR
Key interval	5-200
resolution customizable	support
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
H.265 encoding	MPEG-H HEVC (ISO/IEC 23008-2) Main Profile Level 4.1 (4:2:0 8-bits)
Video Bitrate	100kbps to 12Mbps
Encode Frame Rates	Encode frame rates representing 1:1, ½ and ¼of the input frames rates are Supported

Bitrate of Res.

720x576 (D1)	200-500kbps
1080x720p (HD)	800-2000kbps
1920x1080p (Full HD)	1000-2500kbps

H.264/MPEG-4 Part 10 (AVC) Video Encoding

Bitrate mode	VBR, CBR
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

Bitrate of Res.

1080x720p (HD)	1500-2500kbps
1920x1080p (Full HD)	3000-5000kbps
Video Bitrate	16kbps to 12Mbps

Audio Encoding

Audio encoding	AAC, MP3, LC AAC, HE AAC, G711(Only RTSP)
Bit Rates	Range from 48 kbps to 256 kbps
Resample Rate	32Khz, 44.1Khz
Audio Channel	L+R, L, R

Decoding Mode

Video Inputs

IP streaming support RTSP/HTTP/UDP/RTMP/HLS/RTP/SRT protocol

Decoding source	URL, P2P, SDK
Progressive	
	1920x1080 @ 60/30/25/24 Frames per second 1280x720 @ 60/50 Frames per second

OUTPUTS

	SDI/HD-MI/CVBS/VGA output
Resolution	3840*2160/2048*1152/1920x1080p/ 1280x720p/720*576P/640*480
NOTE	below 720P resolution, support CVBS decoding

H.264/H.265 Video decoding

Bitrate mode	VBR, CBR
Resolution	3840*2160/2560*1600, 2560*1440, 2048*1152, 1920*1080, 1280*720, 1024*576, 850*480, 720*576, 704*576, 640*480, 640*360, auto
Decode Frame Rates	Decode frame rates representing 1:1, ½ and ¼ of the input frames rates are supported

maximum decoded frame rate is 60fps when input resolution is 1920x1080

Decoding Profiles	H.264 BASELINE PROFILE / H.265 BASELINE PROFILE H.264 MAIN PROFILE / H.265 MAIN PROFILE H.264 HIGH PROFILE / H.265 HIGH PROFILE
Video Bitrate	5-20Mbps
Decoding Controls	2.0, 3.0, 3.1, 4.0, 4.1 Level Support Variable bit rate Support Average max/min data rate controls Deblocking Filter
Key Interval	5-200

Audio decoding

Audio decoding	AAC, MP3
Bit Rates	Range from 48 kbps to 256 kbps
Resample Rate	32Khz, 44.1Khz
Audio Channel	L+R, L, R

Transcoding Mode

Inputs/Outputs

Connector Type	One RJ45 100/1000M Ports for IP streaming and Control GUI
IP Protocol	MPEG-TS(SPTS) Over IP input TS Over RTP/RTSP/HTTP UDP/IP (Unicast and Multicast) RTMP(Flash) HTTP Live streaming Apple HLS (m3u8) SRT 2 different IP protocol out per Transcoding Channel

Video Transcoding

Input:

MPEG-4 AVC HP@L4.0, HP@L4.2 (HD)
MPEG-4 AVC MP@L3.0 (SD)
MPEG-4 AVC HP@L4.0, HP@L4.2 (HD)
MPEG-4 AVC MP@L3.0 (SD)
MPEG-H HEVC (ISO/IEC 23008-2)

Output:

MPEG-4 AVC HP@L4.0, HP@L4.2 (HD)
MPEG-4 AVC MP@L3.0 (SD)
MPEG-4(HIGH/MAIN /Baseline)
MPEG-H HEVC (ISO/IEC 23008-2)

Video Format

Input:

1920x1080P@60FPS/50FPS/30FPS/25FPS/24FPS,
1080x720P@60FPS/50FPS,
720x576P@50FPS, 720x480P@60FPS, PAL, NTSC

Output:

30~60fps @ 1920x1080P,1680x1200P,1600x900P, 1440x1050P,1440x900P,1360x768P,1280x720P, 1280x800P,1280x768P,1024x768P,1024x576P, 960x540P, 584x480P, 800x600P, 720x576P, 720x540P, 720x480P, 720x404P, 720x400P, 704x576P, 640x480P, 640x360P, 480x270P, 416x240P, auto

H.265/HEVC Transcoding Bitrate of Res.

720x576 (D1)	800-1000kbps
1080x720p (HD)	1500-3000kbps
1920x1080p (Full HD)	3500-6000kbps
Video Bitrate	16kbps to 12Mbps

Audio Transcoding

Audio encoding	AAC, MP3, LC AAC, HE AAC, G711(Only RTSP)
Bit Rates	Range from 48 kbps to 256 kbps
Resample Rate	32Khz, 44.1Khz
Audio Channel	L+R, L, R

General

Audio Inputs

Processes first two channels of audio embedded in HD-MI/SDI input signal
Unbalanced analog stereo input via 1/8" (3.5mm) jack(option)

Pre-processing

Frame rate	from 5fps to 60fps
Image insertion	OSD insertion, text OSD, Custom Location

5 different Modes

Encoding Mode	
Decoding Mode	
Transcoding Mode	
Encoding + Decoding	
Encoding + Loop	HD-MI/VGA/DVI/CVBS/YPBPR/SDI input with another resolution SDI/HD-MI/CVBS/VGA loop out 720*576i60hz-- PAL 720*480i-50Hz---NTSC

Control

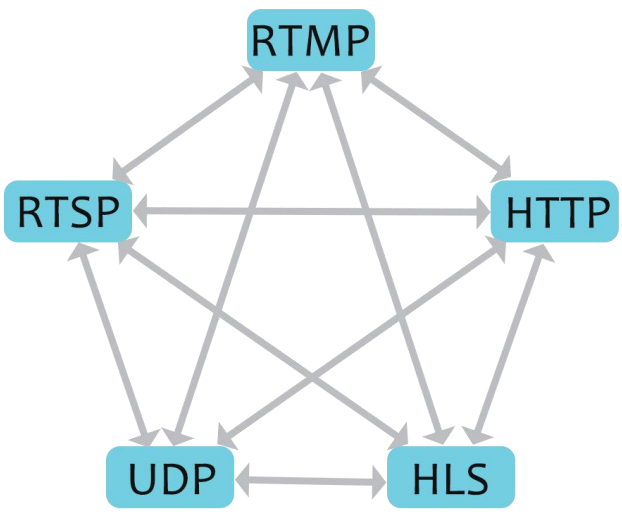
	1000M Base T Ethernet, RJ45,auto-negotiation Management via Web
Language	English/Chinese
RS485	Cloud Platform Control

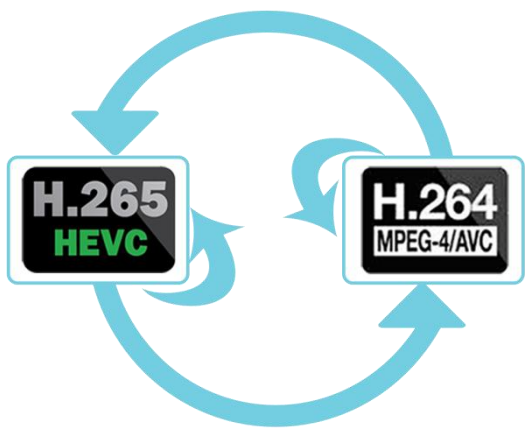
Environment

Power Supply	DC-12V
Power consumption	12W
Operation temperature	0 -50°C (32 -122°F)
Storage temperature	-40-70°C (-40-158°F)
Dimensions	305mm x 105mm x 50mm
Weight	1.0kg

Main Application

- Low Bitrate Video and audio compression transmit
- H.264/HEVC digital TV Broadcast decoding/encoding/transcoding
- IPTV, conference, remote education
- Point to point transmission
- Backhaul/Monitoring for Broadcasters





Encoder

HDMI
VGA
DVI
CVBS
YPBPR
SDI

H.264./H.265 video encoding → IP OUT (HTTP/HLS/RTSP/RTMP/SRT/UDP) 2 different protocol IP out

downscale conversion → HDMI/VGA/CVBS/ SDI LOOP OUT (different resolution)

Decoder

IP

H.264./H.265 video decoding → HDMI/VGA/CVBS/ SDI OUT

Transcoder

IP

protocol/resolution/h.265/h.264
any to any transcoding → IP OUT (HTTP/HLS/RTSP/RTMP/SRT/UDP) 2 different protocol IP out