



BROADCASTING PRODUCTS  
CATALOG

**LUMANTEK**



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Lumantek designs, develops and markets complex electronic test & measurement instruments, broadcast transmission and digital media convergence systems geared toward the specialized needs of Digital & Mobile TV, IPTV, Radio; along with Terrestrial and Satellite Broadcasting.

What sets us apart from others is we design our own modulations to ensure superior quality and maximizing value while minimizing unnecessary cost. Further, we have a bold presence in the end-to-end value chain of broadcast and production.

Lumantek is a trusted partner of service providers, enterprises, strategic industries such as automotive, broadcasting, hospitality, manufacturing, providing solutions encompasses the SD/HD content value chain from creation/edit to digital asset management to RF transmission and delivery.

**LUMANTEK**

# ez-Pro VS10

## 10 Inputs 1080p60 Full HD Video Switcher

ez-Pro VS10 is a 10 channels video switcher. It has 8 x 3G-SDI and 2 x HDMI inputs all installed with internal scalers. As output ports, it has 6 x 3G-SDI and 2 x HDMI. Internal scalars facilitate the user connecting video sources from different resolutions.

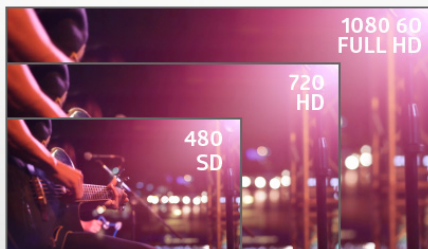
### Customizable video switcher for your preference.

You can choose from many layouts to show the multiview screen. You can move them as you want and name as you want. Configure your own layout through our utility (Win OS or Mac OS), save it on a USB disk, and plug it into VS10 to load your layout.



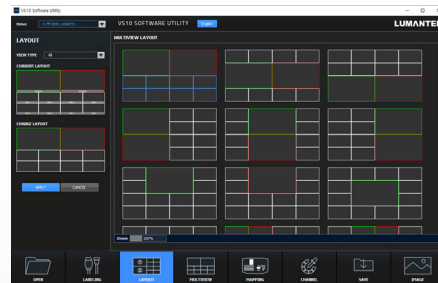
#### ① Button Mapping

Assign video sources to console buttons of your preference.



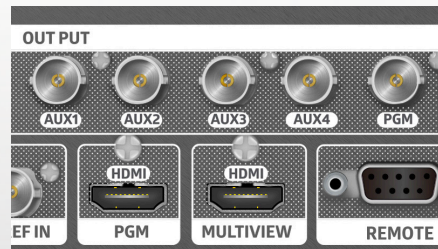
#### All 10 inputs built in Scaler

ez-Pro VS10 comes with internal scalars in all input ports. Adjust freely using our touch screen menu.



#### ② Multiview Layout

Choose different multiview layouts and assign sources as you want!



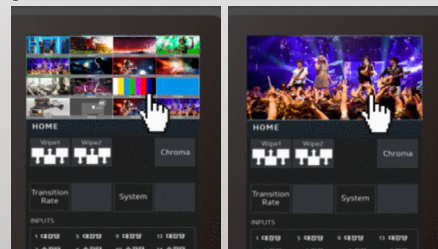
#### 4 x Aux Output

You can use four auxiliary as extra video outputs to gain full broadcasting control. You can also choose different output for the AUX such as Preview, Program, Clean, and Multiview.



#### Intuitive LCD Touchscreen and Joy-stick control

All key menu or functions can be adjusted with touch-screen smoothly and extremely easily operated with rotary switch or Joy stick.



#### Multi-view & Program Output at LCD Screen

LCD screen is able to display Program and Multiview when you touch the screen.





# ez-Pro VS4

## Full HD Switcher

ez-Pro VS4 is a 4 channels video source switcher. Video sources can enter through HDMI and/or SDI ports and can be assigned to HD displays and projectors. Built-in scalers on each inputs can adjust output video resolution even though input sources have different resolutions. ez-Pro VS4 is born for worship, educational activities, wedding, ceremonies, theater, and live concert.



Full HD  
Compact  
Switcher



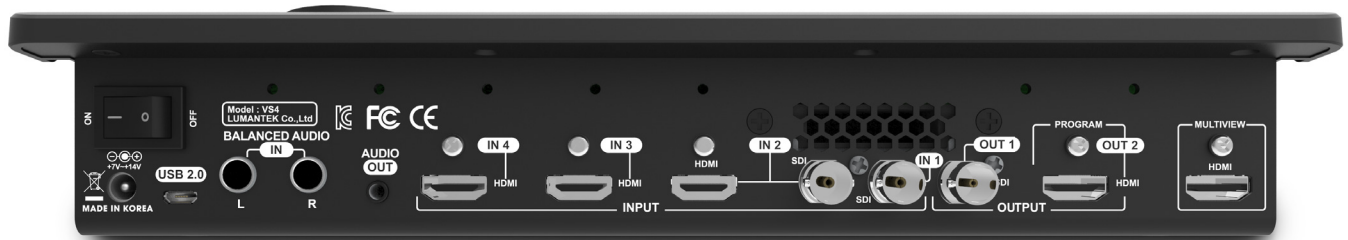
Chroma/  
Luma



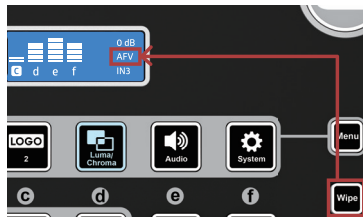
Logo  
(full size)



Picture in  
Picture



*ez-Pro VS4 rear*



#### **Audio Follow Video (AFV)**

You can activate or deactivate Audio-Follow-Video (AFV) mode by using the "WIPE" button. Audio volume automatically crossfade in and out when you switching the input source.



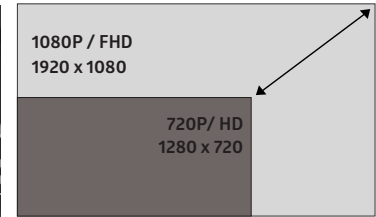
#### **User-Friendly Multiview**

You can monitor all sources at the same time on a screen through ez-Pro VS4. The multiview allows easy monitoring of all video inputs, audio levels, the preview (PVW) and the program (PGM) screen without confusion. Picture-in-Picture (PIP) can also be repositioned and resized through the multiview screen.



#### **Audio Input/ Output**

Stereo Balanced Audio input can be mixed with audio sources from 3G-SDI and HDMI video. Audio embedding and de-embedding supported.



#### **Internal Scalers for SD, HD, Full-HD**

Each video input has a built-in scaler that can be set up to 1080p. The incoming video source resolution will be automatically displayed on the LCD screen. The output program (PGM) can be up/down scaled to any HD resolution up to 1080p.

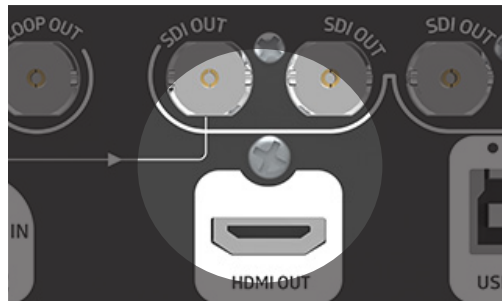


# ez-DSK

## LIVE HD TITLER

ez-DSK allows easy application of computer graphics like subtitles, images, sequences, videos and widgets into your outgoing video source. Overlay method of ez-DSK doesn't take any extra video ports like conventional Fill/Key generators allowing zero delay transmission. It comes equipped with fail safe trigger mechanism to prevent any disruption if any malfunction of the device happens. All outgoing ports re-clock the video source for better quality video. ez-DSK distributes the outgoing source into 4 SDI and 1 HDMI, so it works as a distributor and a converter at the same time.





#### *Distributor and Converter*

ez-DSK distributes the video into 1 Clean source and 5 CG'ed sources (4 SDI & 1 HDMI). You do not need extra distributor or a converter for HDMI output.



#### *CG software, ez-CGER*

Use our dedicated complimentary software, ez-CGER, to create & overlay your CG's. Add images, videos, sequences, texts and more to your videos.

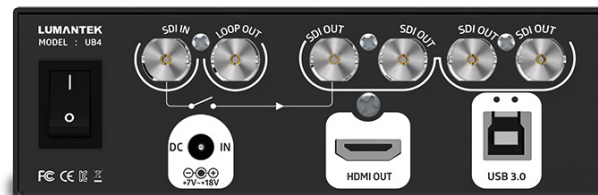


#### *Fail Safe*

Feel safe with our Fail Safe mechanism. Your broadcasting won't fail even with powered off device due to malfunctioning or power outage (1 Output). Also, ez-DSK itself generates streaming source which will prevent any disruptions to subsequent broadcasting equipments even when the original input signals are out.

#### *Zero Delay and Reclocking*

Down stream keying technology overlays the fill key over the outgoing video stream causing zero delay.



ez-DSK

# ez-CGER mini

## ▼ Software Features

Prompt control CG out through short-cut key

Scroll CG (Speed control from 1 to 10)

Channel switching effect

Various image formats support (jpg, gif, png, bmp)

Support sequence

(TGA format file for logo animation insertion and sequence effect)

Support movie clip (WMV, AVI, MP4) & Size control available

Provide various templates (equipped S/W internally)

PIP (Picture in Picture) - Use input as extra channels

PIP crop available

All PIP features are excluded in CGER mini



ez-CGER mini UB2





## USB 3.0 Live CG Fill/Key

ez-CGER mini is a simple and the smallest HD live graphic system for live conference and active video presentation. User can create and present powerful on-screen CG and texts in real time using PC. ez-CGER and CGER software are connected via USB 3.0 and generate fill/key signals to HD-SDI port.

**ez-CGER mini and VS10 are perfect harmony for live titling and graphics.**



All ez-pro VS10 SDI inputs can take in Fill & Key signals. Connect LUMANTEK's "ez-CGER mini" with ez-pro VS10 and broadcast your video with live titling and graphics!

### *Super affordable cost*

With all-in one switcher solution, ez-Cger mini does not require additional equipment such as SDI card, and simply USB plug to your laptop for any HD high resolution event.

### *Fill/ Key SDI out*



### *Movie Layer Inserting through USB 3.0*

Simply insert movie clips layer in your broadcasting contents

*Mini converter type compact design character generator (Live CG Fill/ Key)*

*Easy install through USB 3.0/ CG Output (Fill/ Key output)*

*Support various images and sequences (jpg, png, bmp, gif, tga)*

*Support various movie clip formats (wmv, avi, mp4)*

*Scroll text effect for broadcasting*

*Free software*

*User- friendly UI*

*USB 3.0 Connection and Lap-top PC control / Perfect GUI Support*

# ez-Distributor

## DISTRIBUTION AMPLIFIER 12 X 3G SDI / 2 X HDMI OUT

LUMANTEK's ez-Distributor is a 14 channels distributor in 1RU size. It has 1 x HDMI and 1 x 3G-SDI inputs, and 2 x HDMI and 12 x 3G-SDI outputs. You can embed external audio and deemed incoming video's audio. With the LCD screen, it is very easy to monitor what is being played through the distributor.





### LCD Monitoring

It is easy to check what is being played on the LCD screen. You can also check the audio bar on the screen to find out the audio level.



### 12 x SDI / 2 x HDMI

You have plenty of distribution ports with ez-Distributor.

- 12 x 3G-SDI
- 2 x HDMI 1.3



### Embedded / De-embedded Audio

If you wish to add an external audio to the video which is being distributed, don't worry. ez-Distributor has a pair of XLR port for you to input a different audio. You can also take the sound out of the video.



ez-Distributor

# BAT-SD

## SMALL SDI DISTRIBUTOR

With its size of a mini converter, the BAT Distributor can take in 1 video source and multiply it by 6 output channels. It functions with SD/HD/3G-SDI resolutions with 2 watts of power consumption.

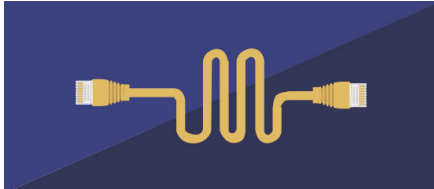






### 1 to 6 Video Distribution

With BAT Distributor, you can multiply your video 6 times. This configuration is perfect when you need to send the same video signal to many monitors.



### Re-Clocking and Amplification

Video signals going through BAT Distributor are amplified and sent out. Meaning, the signals can reach further cable distances from where the BAT Distributor is positioned.



### Low Power Consumption

BAT Distributor operates with 2 watts of power making the maximum heat produced to be 50 degrees Celcius.

### Input Electrical Specifications

Parameter	Units	Min.	Typ.	Max
SDI Input Cable Lengths				
SD- SDI (Belden 1694A)	250	-	m	-
HD - SDI (Belden 1694A)	170	-	m	-
3G - SDI (Belden 1694A)	155	-	m	-
RF Input				
Connector (1 port)	75 ohm, 1 x BNC type female			
Display				
Input SDI Detect	SD(Green), HD/3G(Yellow)			

### Output Electrical Specifications

Parameter	Min.	Max.	Units	Typ.
<b>Rise/ Fall time</b>				
SD- SDI : rise/fall time (20-80%)	-	-	ps	600
HD- SDI : rise/fall time (20-80%)	-	-	ps	100
3G- SDI : rise/fall time (20-80%)	-	-	ps	100
<b>Peck to Peck Voltage Swing</b>				
SD/ HD/ 3G-SDI	720	880	mVpp	800
<b>Overshoot / Undershoot</b>				
SD/ HD/ 3G-SDI	-10	+10	%	-
<b>RF Input</b>				
Connector (1 port)	75 ohm, 1 x BNC type female			

### Output Electrical Specifications

Parameter	Min.	Max.	Units	Typ.
DC Input Power	7	18	V	-
Lowest Power Consumption	-	2	W	-
Dimensions	131 x 99 x 28.4 (except connector) mm			
Weight	370g			

# ez-Line VM16

## 16 x 16 HD - SDI Router

ez-Line (HD-SSDI 16 x 16 Router) supports the standard HD - SDI signal and can configure HD broadcast signal input/ output. Through this unit user can send sharp and clear signals. In addition to this, user can utilize this device function and use variety purposes such as splitter and selector.



### *Right Routers for your applications*

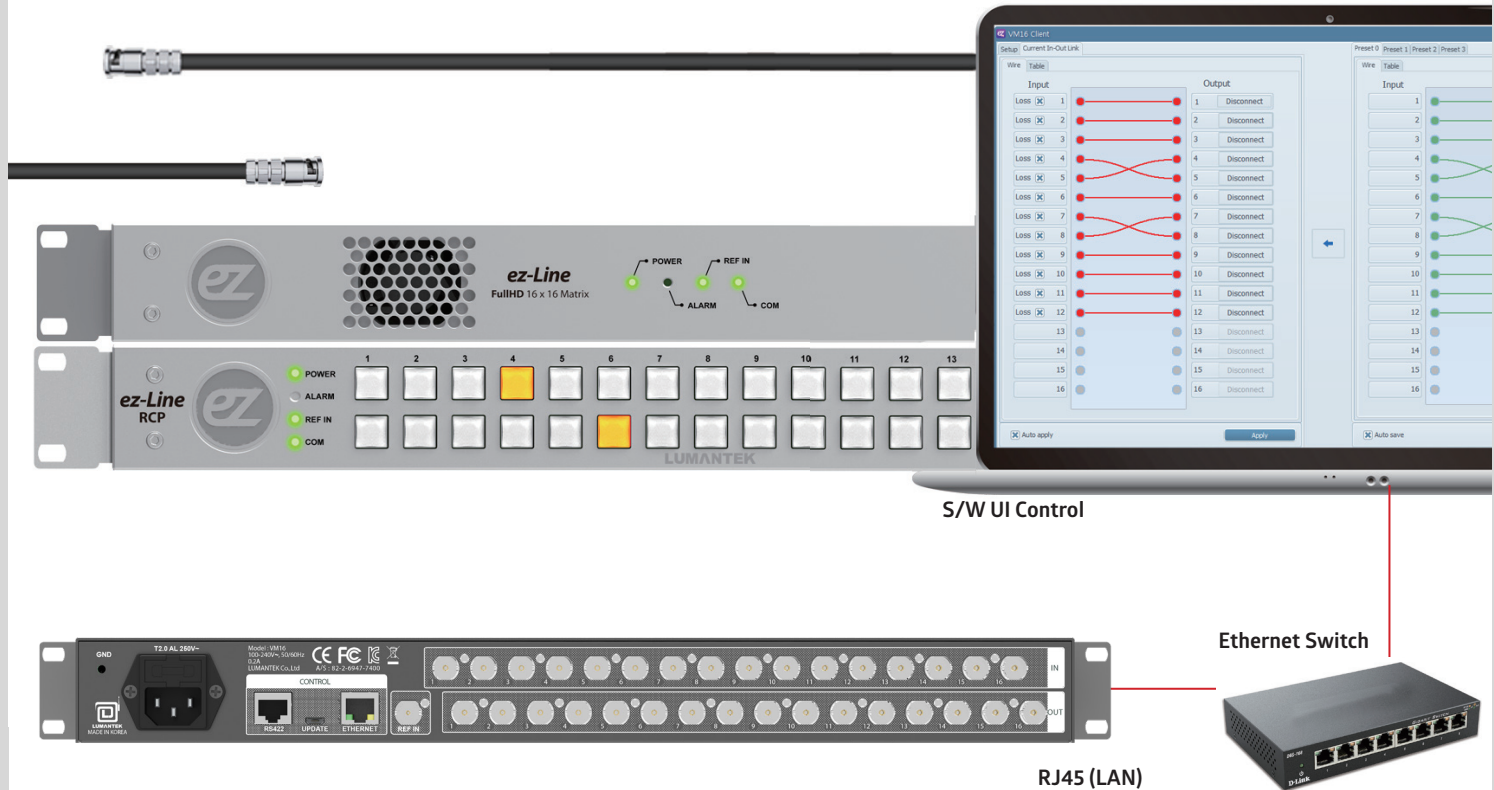
Cost saving simple system  
Build for quality in quality out  
1 RU / Right size for typical AV setups  
Ideal Signal Control Media  
Ethernet control (main unit) compatible

### *Flexibility, Practicality, Compatibility!*

Common 16 x 16 3G SDI in and output layout  
Built to the exact standards in the market  
Durability guaranteed (Robust and reliable)  
SDK & API support for user application

### *Easy RCP control*

Simple web browser control 1RU RCP  
Direct via RS-422 connection  
Best suits your production environment



# ez-SHV+

## SDI TO HDMI CONVERTER WITH DISPLAY

LUMANTEK's ez-SHV+ also has a SDI LOOP output. Through the 2.7-inch LCD screen, you can monitor incoming video. By using the DIP Switch, you can select the resolution from 480i to 1080p. You can also control the LCD Brightness.







### Eye-pattern (Eye-Diagram)

ez-SHV+ is useful for checking the input SDI cable's quality as a simple measurement tool through the displaying of eye-pattern. If the eye-pattern shows thick, then it means input video signal quality is poor.



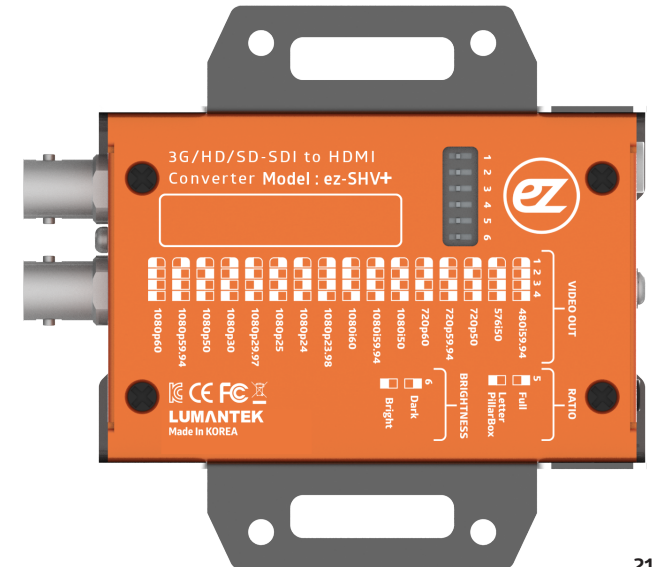
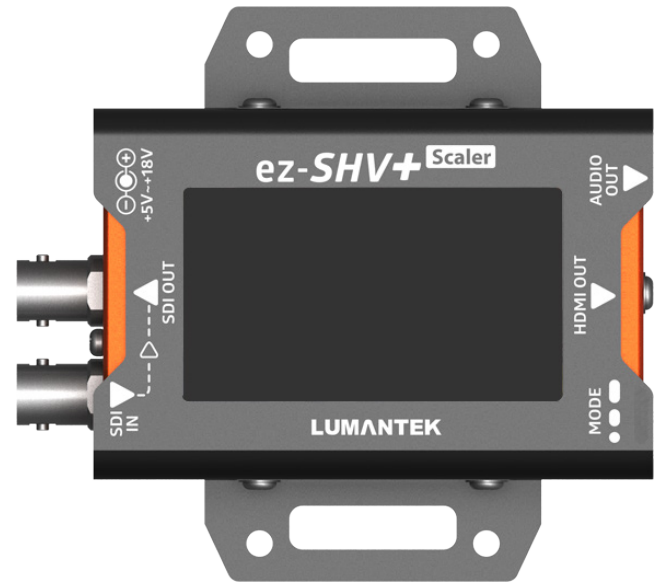
### Mirrored output for teleprompter

It can be vertically flip(mirrored) the HDMI output by pressing the mode switch for more than 6 seconds while the LCD OFF. It is perfect to be used for teleprompter and supports only HD resolutions.



### Audio Level Meter

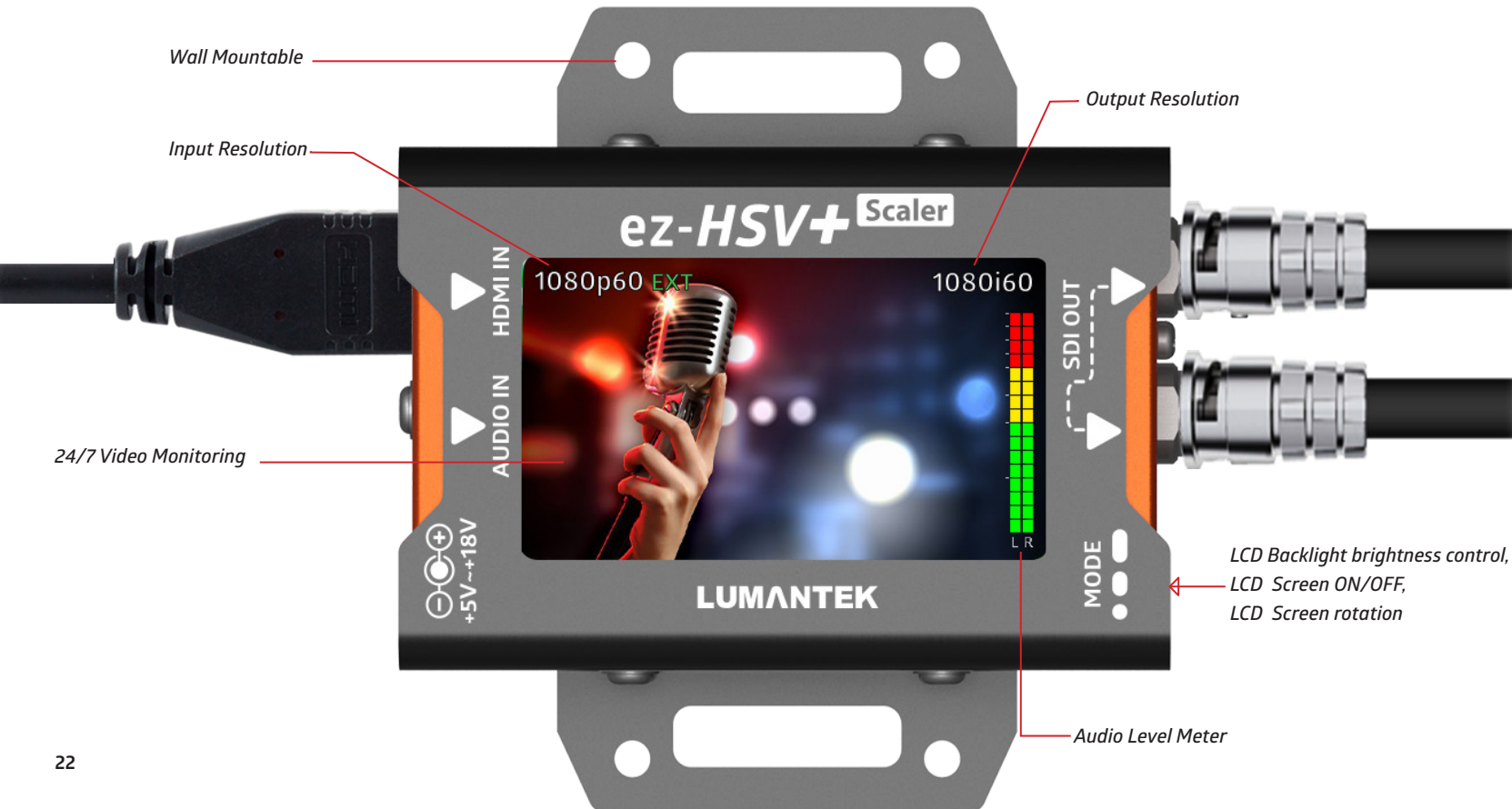
It is easy to check what is being played on the LCD screen. You can also check the sound through the audio level meter on the screen what is being played.



# ez-HSV+

## HDMI TO SDI CONVERTER WITH DISPLAY

Now you can monitor HDMI video with ez-HSV+. Features you can check are audio bar, incoming resolution and scaled out resolution. The ez-HSV+ comes with the capability to embed external audio as well to give you a more convenient way to plan your production scheme.





### 24/7 Video Monitoring

Through the 2.7 inch TFT LCD screen, you can monitor the incoming video and in/output source resolution.



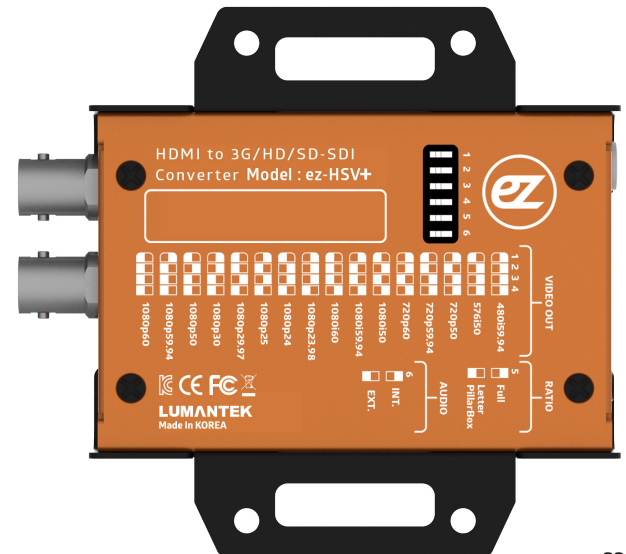
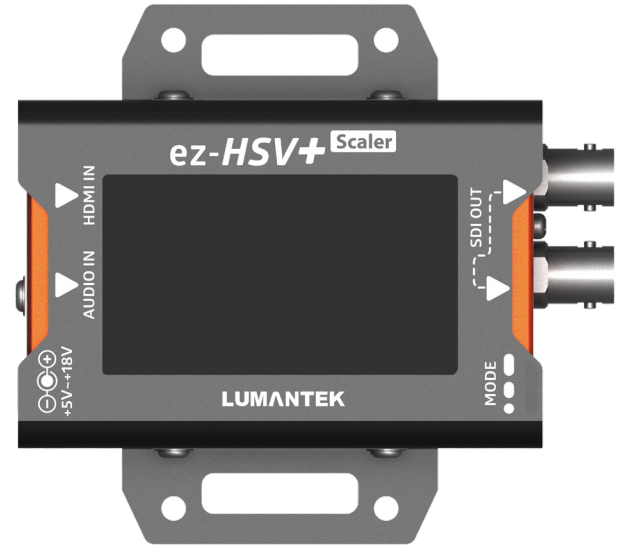
### Audio Level Meter

You can also check the sound through the audio level meter on the screen. No more worries with audio!



### Low Power Consumption

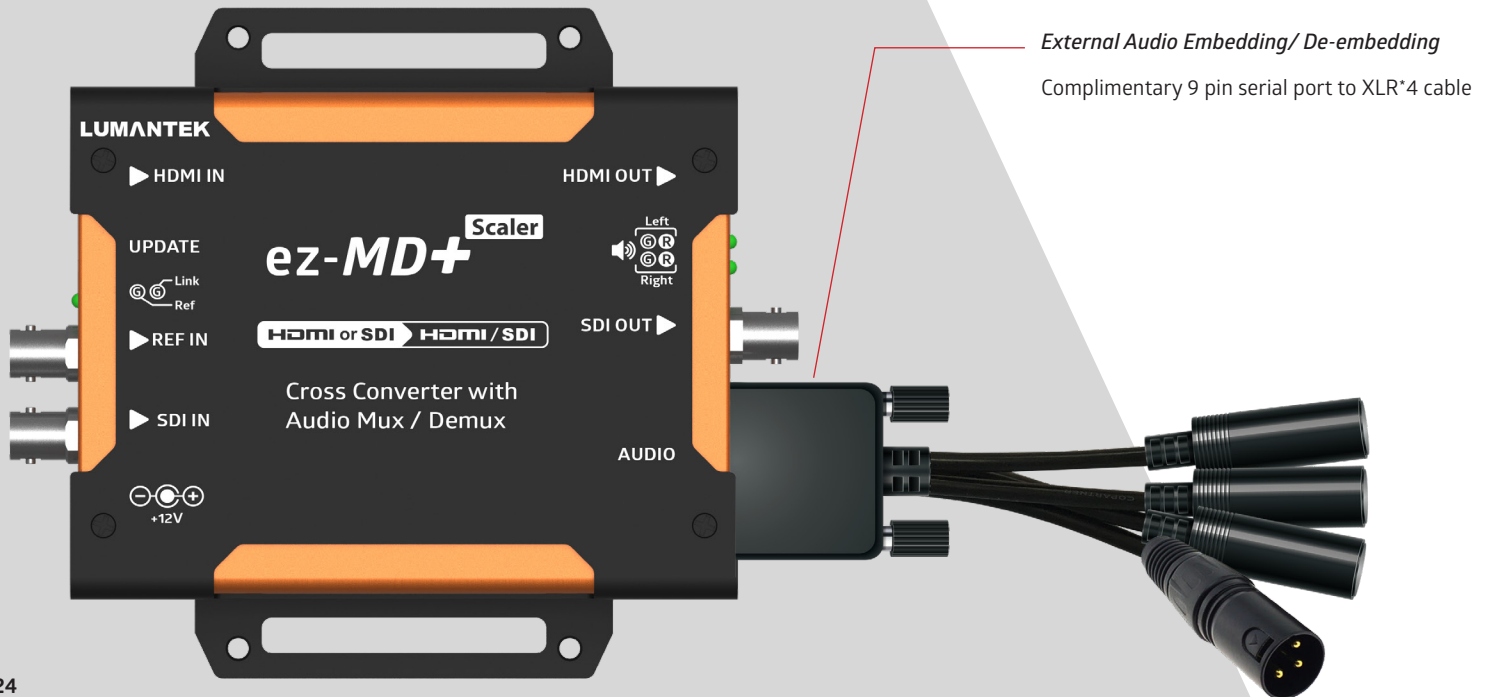
The Maximum power consumption of ez-HSV+ is less than 3 watts. Acceptable voltage ranges from 5v - 18v giving the user more flexibility in connecting power. You can also use a power bank to use this coverter.

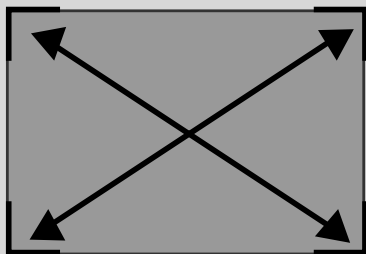


# ez-MD+

## HDMI/SDI CROSS CONVERTER

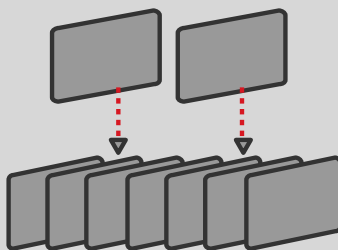
LUMANTEK's ez-MD+ is a compact cross-converter for HDMI to SDI or SDI to HDMI. The genlock system allows synchronizing of signals to combine unpaired output signals. It supports XLR balanced audio support with audio delay controller.





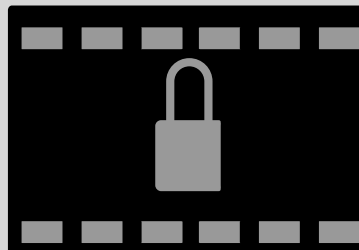
*Scalable Resolutions*

Scaler ez-Converters can change the resolution of the incoming video to any resolution ranging from 480i to 1080p60. Use the 'dip switch' on the side of the converter and match to the right resolution.



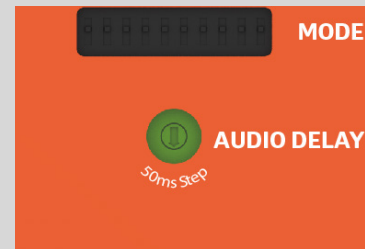
*Frame Synchronizer*

Frame Synchronizer will fill in the gaps or delete excess frames to match the input and output frame rates.



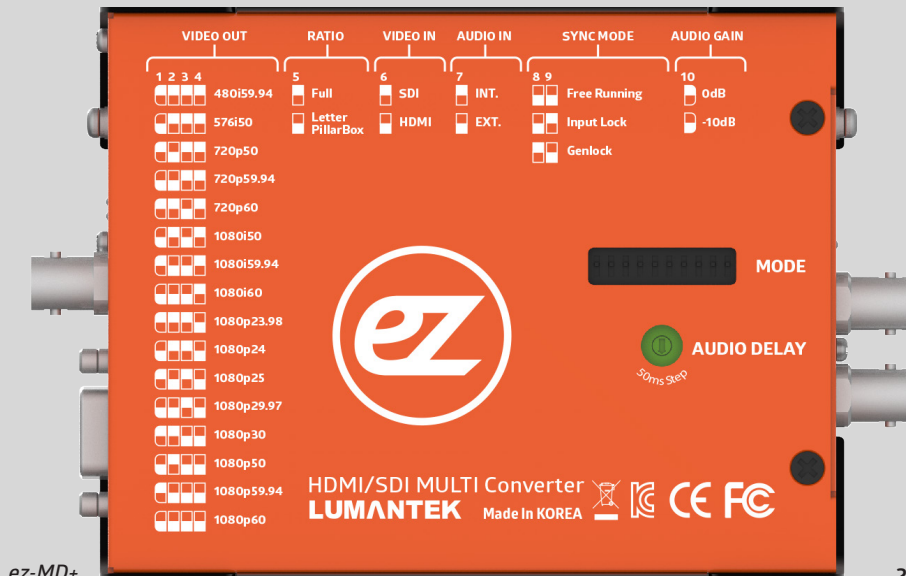
*Genlock*

Genlock system ensures proper synchronizing of the signals when aligning the source with external signal.



*Audio Delay Controller*

Use the rotary switch to control the audio delay to the video.



# ez-Converter

## ez-as+

CVBS to 3G/HD/SD-SDI Converter



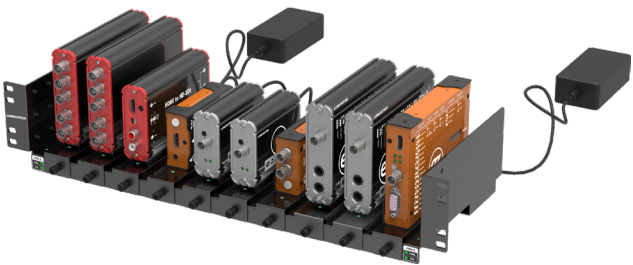
### Input Electrical Specifications

Parameter	Units	Min.	Typ.	Max
<b>Video formats</b>				
NTSC / PAL	-	-	-	-
<b>Audio</b>				
6.35 mm (1/4") Phone Jack (Balanced) x2	-	-	-	-
<b>CVBS</b>				
Connector (1 Port)	-	75ohm, 1 x BNC type female		

### Output Electrical Specifications

Parameter	Units	Min.	Typ.	Max
Video formats				
720 x 480i @59.94	-	-	-	-
720 x 576i @50				
1280 x 720p@50/59.94/60				
1920 x 1080i@50/59.94/60				
1920 x 1080p@23.94/24/25/29.97/30				
1920 x 1080p@50/59.94/60				
Audio sample rate				
48KHz				
SDI Output				
Connector (2port)	-	75ohm, 1 x BNC type female		

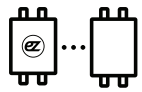
## Rack mount



ez-Converter Rackmount 2 - 3 RU design  
up to 10 units / 2 Power Supplies  
(1 redundant power)  
Dimension : 478 mm(w) x 44mm(h) x 350mm(d)



Low power  
consumption



Compatibility  
with other Brands



Audio  
Sampling

# ez-hs+

HDMI / VGA to 3G/ HD/ SD-SDI Converter



## Input Electrical Specifications

Parameter	Units	Min.	Typ.	Max
Video formats				
HDMI	VGA			
720 x 480i @59.94	640 x 480p @60/72/75/85			
720 x 576i @50	800 x 600p @60/56/72/75/85			
1280 x 720p@50/59.94/60	1024 x 768p @60/70/75/85			
1920 x 1080i@50/59.94/60	1152 x 864p @75			
1920 x 1080p@23.94/24/25/29.97/30	1280x 720p@50/60			
1920 x 1080p@50/59.94/60	1280 x768p@60 @60RB			
	1280 x 800p @60			
	1280 x 960p @60			
	1280 x 1024p @60 /75			
	1360 x 768p @60			
	1440 x 900p @60			
	1400 x 1050p @60/75			
	1600 x 1200p @60			
	1680 x 1040p@60			
	1920 x 1080i @50/60			
	1920 x 1080p @24/50/60			
	1920 x 1200p @60			
Audio				
3.5mm stereo jack x 1	-	-	-	-
HDMI				
Connector (1port)	-	Type A		
VGA				
Connector (1port)	-	D-SUB 15 female		

## Output Electrical Specifications

Parameter	Units	Min.	Typ.	Max
<b>Video formats</b>				
720 x 480i @59.94				
720 x 576i @50				
1280 x 720p@50/59.94/60	-	-	-	-
1920 x 1080i@50/59.94/60				
1920 x 1080p@23.94/24/25/29.97/30				
1920 x 1080p@50/59.94/60				
<b>Audio Output</b>				
48KHz	-	-	-	-
<b>SDI Output</b>				
Connector (2port)	-	75ohm, 2 x BNC type		



ez-sh

3G/HD/SD-SDI to HDMI Converter



Input Electrical Specifications

Parameter	Units	Min.	Typ.	Max
<b>Video formats</b>				
720 x 480i @59.94/60				
720 x 576i @50				
1280 x 720p@50/59.94/60				
1920 x 1080i@50/59.94/60	-	-	-	-
1920 x 1080p@23.94/24/25/29.97/30				
1920 x 1080p@50/59.94/60				
<b>Audio Sample Rate</b>				
48KHz				
<b>SDI Input</b>				
Connector (1 port)	-		75ohm, 1 x BNC type	

Output Electrical Specifications

Parameter	Units	Min.	Typ.	Max
<b>Video formats</b>				
720 x 480i @59.94/60				
720 x 576i @50				
1280 x 720p@50/59.94/60				
1920 x 1080i@50/59.94/60	-	-	-	-
1920 x 1080p@23.94/24/25/29.97/30				
1920 x 1080p@50/59.94/60				
<b>Audio sample rate</b>				
48KHz				
<b>HDMI Output</b>				
Connector (1port)	-		Type A	



ez-hs

HDMI to 3G/HD/SD-SDI Converter



Input Electrical Specifications

Parameter	Units	Min.	Typ.	Max
Video formats				
720 x 480i @59.94/60				
720 x 576i @50				
1280 x 720p@50/59.94/60				
1920 x 1080i@50/59.94/60	-	-	-	-
1920 x 1080p@23.94/24/25/29.97/30				
1920 x 1080p@50/59.94/60				
Audio Sample Rate				
48KHz				
SDI Input				
Connector (1 port)	-		Type A	

Output Electrical Specifications

Parameter	Units	Min.	Typ.	Max
Video formats				
720 x 480i @59.94/60				
720 x 576i @50				
1280 x 720p@50/59.94/60	-	-	-	-
1920 x 1080i@50/59.94/60				
1920 x 1080p@23.94/24/25/29.97/30				
1920 x 1080p@50/59.94/60				
Audio sample rate				
48KHz				
HDMI Output				
Connector (2port)	-		75ohm, 2x BNC type female	

# BAT-Converter

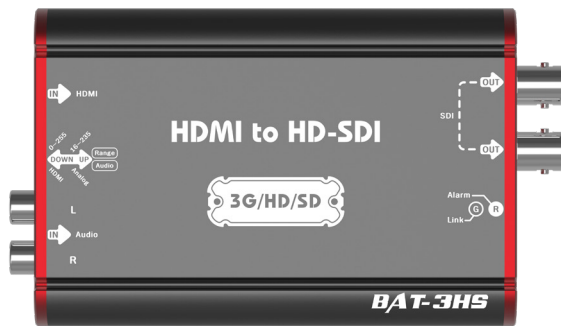


## BAT-AS (Analog to HD-SDI)

Parameter	Typ.
Video formats	720(1440) x 480i @ 59.94/60, 720(1440) x 576i @ 50 1280 x 720p @ 50, 1280 x 720p @ 59.94/60 1920 x 1080i @ 50, 1920 x 1080i @ 59.94/60 1920 x 1080p @ 23.94/24, 1920 x 1080p @ 25, 1920 x 1080p @ 29.97/30
Video Inputs	HD Component (YPbPr) or SD Component/Composite/S-Video, 3x BNC
Video Outputs	SMPTE-259/272/274/292/296/299 HD/SD-SDI with embedded audio outputs, 1 x BNC
Audio Outputs	2 channels unbalanced, 2x RCA
Video ADC	12-Bits
Audio ADC	24-Bits, 48kHz

## BAT-SA (HD-SDI to Analog)

Parameter	Typ.
Video formats	720(1440) x 480i @ 59.94/60, 720(1440) x 576i @ 50 1280 x 720p @ 50, 1280 x 720p @ 59.94/60 1920 x 1080i @ 50, 1920 x 1080i @ 59.94/60 1920 x 1080p @ 23.94/24, 1920 x 1080p @ 25, 1920 x 1080p @ 29.97/30 HD and SD-SDI (auto-selected), SMPTE-259/272/274/292/296/299/424/425
Video Inputs	1x BNC input, 1x BNC loop-through output Selectable Component (YPbPr) or Composite (CVBS and S-Video) by DIP switch NTSC and PAL support
Video Outputs	3x BNC output
Audio Outputs	2 channels RCA-style analog outputs at -10dBv



### BAT-3HS (HDMI to HD-SDI)

Parameter	Typ.
Video formats	720(1440) x 480i @ 59.94/60, 720(1440) x 576i @ 50 1280 x 720p @ 50, 1280 x 720p @ 59.94/60 1920 x 1080i @ 50, 1920 x 1080i @ 59.94/60 1920 x 1080p @ 23.94/24, 1920 x 1080p @ 25, 1920 x 1080p @ 29.97/30 1920 x 1080p @ 50, 1920 x 1080p @ 59.94/60
Video Inputs	HDMI with embedded audio & auto mute when DVI input
Video Outputs	SMPTE-259/272/274/292/296/299/424/425 3G/HD/SD-SDI, 2 x BNC Supports 8 audio channels (4 stereo pairs)
Audio Outputs	- when the input audio sample rate is 48kHz - Supports 2 audio channels (1 stereo pair) - Auto detection of the input audio sample rate

### BAT-3SH (HD-SDI to HDMI)

Parameter	Typ.
Video formats	720(1440) x 480i @ 59.94/60, 720(1440) x 576i @ 50 1280 x 720p @ 50, 1280 x 720p @ 59.94/60 1920 x 1080i @ 50, 1920 x 1080i @ 59.94/60 1920 x 1080p @ 23.94/24, 1920 x 1080p @ 25, 1920 x 1080p @ 29.97/30 1920 x 1080p @ 50, 1920 x 1080p @ 59.94/60
Video Inputs	3G, HD, and SD-SDI (auto-selected), SMPTE-259/272/274/292/296/299/424/425 1x BNC input, 1x BNC loop-through output
Video Outputs	HDMI v1.3a, 24/30/36 bits per pixel, RGB, 2.25Gbps, SD, HD, 1080p50/60 HDMI Standard Type A connector
Video Outputs	HDMI embedded audio, 24 bit, 2 or 8 channels RCA-style analog outputs at -10dBV

# ez-Caster EN8

## 8 Channel Video over IP Encoder

Discover the new ez-Caster EN8! HD quality video distribution solution with H.264 compression.

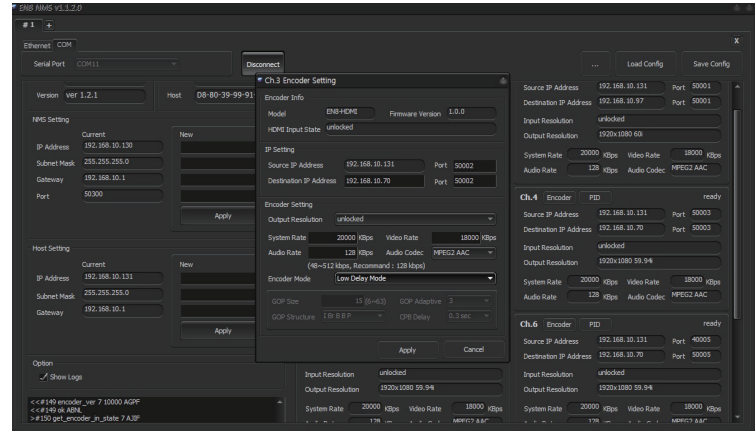
ez-Caster EN8 comes with 8 HDMI channels over IP distribution system and multi-channel encoding feature (up to 1080i60) for video and audio over a standard IP network for excellent quality and low network bandwidth.

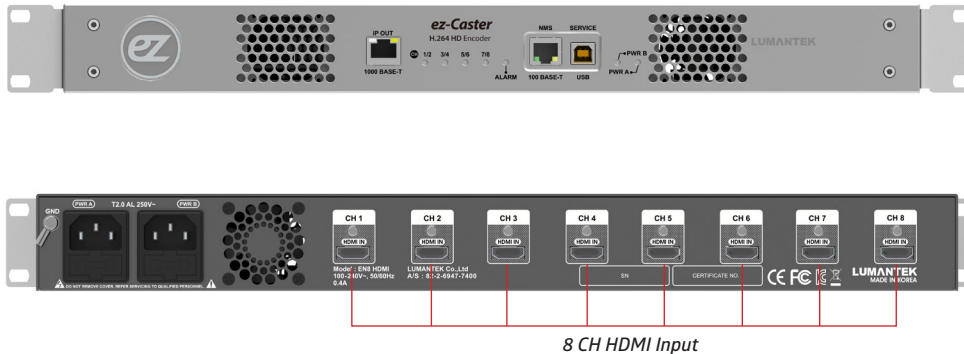
It connects to a maximum number of 8 satellite or cable STB to acquire HD video signals and distributes over an IP based network, such as LAN and Intranet.

It turns a HDMI video stream into a video system network and enables users to view live images and HD videos using video management software on any local IP STB or remote computer in the network.



UI - NMS (Network Management System) for EN8





## Network Management System

### "ez-Caster"

Manage your network with the "ez-Caster" software.

You can control streaming destination I.P. addresses, outgoing resolution, encoding rates (system, video and audio) and audio codecs all in one screen.

### Video Resolution setting

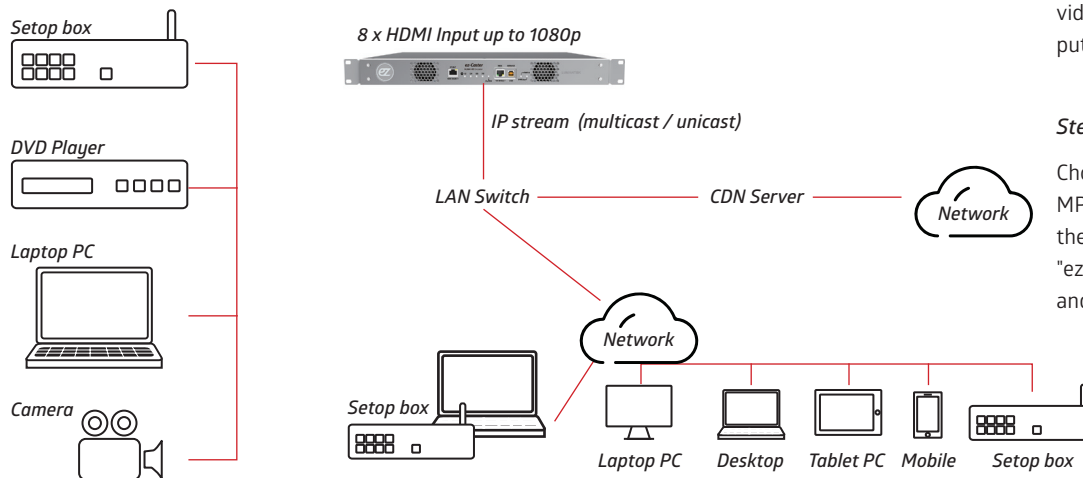
Set the outgoing resolution to the resolution you need. You can choose from 480i60, 720p30, 1080p30, and 1080i60. \*Resolution setting cannot go over the resolution of the input source.

### 8 Ch HDMI over IP Distribution

Maximum inputs of 8 HDMI's can be connected to be streamed (TS over IP). Spread the videos into your network, so your TVs, computers, and laptops can view your videos.

### Stereo Audio Encoding

Choose from MPEG1 Layer2, MPEG2 AAC, and MPEG4 AAC audio codecs before streaming them into your network. Simply use our "ez-Caster" software to change the settings and you are ready to go!

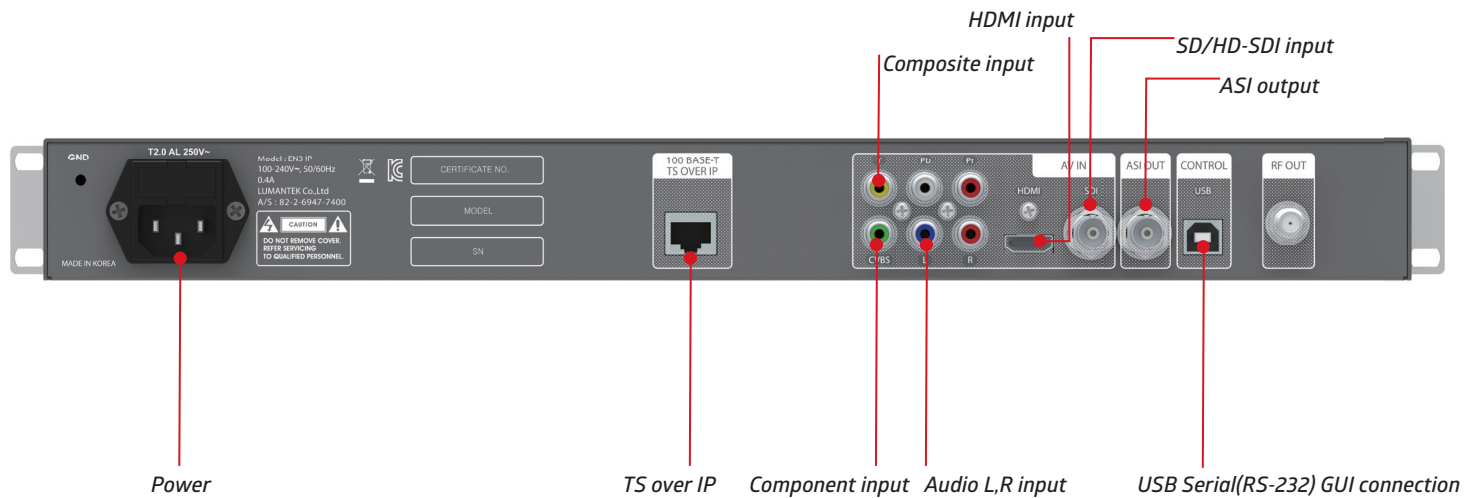


# ez-Caster EN3

## MPEG2/ H.264 HD Encoder

ez-Caster is MPEG2/H.264 HD Encoder in 1RU device system. It has various interfaces (HD-SDI, HDMI, Component, Composite) and external audio. Also it process these input signals and mix it. ez-Caster is MPEG2/H.264 HD Encoder in 1RU device system. It has various interfaces (HD-SDI, HDMI, Component, Composite) and external audio. Also it process these input signals and mix it. Supports variable encoding latency from 150ms ~ 600ms. Encode baseband signal (HD-SDI, HDMI, Component, Composite). Offers the best picture quality compared to the original signal.



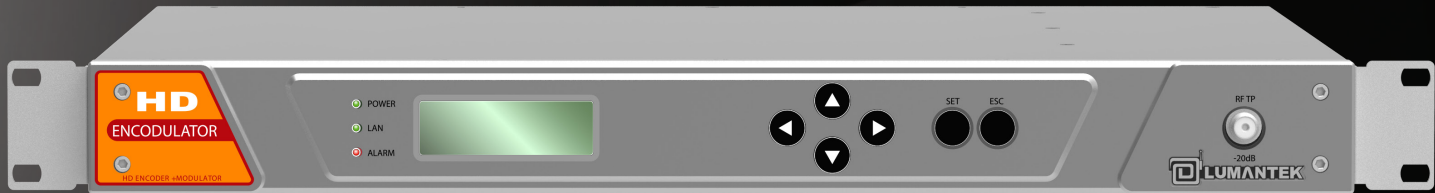


# HD Encodulator

All-in-One HD Encoder + Modulator

HD Encodulator

Create HDTV distribution System  
using various HD/SD/AV sources

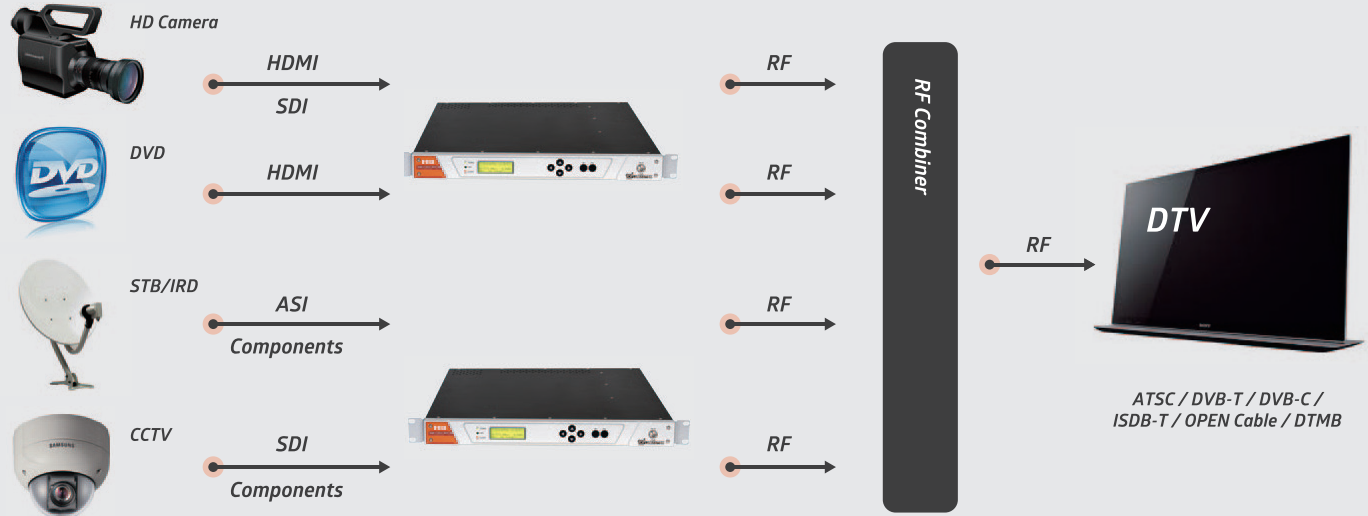




## FEATURES

- Encoder plus DTV modulator in one rack unit case
- Video and audio CODEC selectable: MPEG2 / H.264, PEG1-L2 / AC3 / AAC
- Input ports: HDMI, HD-SDI, Y/Pb/Pr, ASI, Analog Stereo Audio(L/R), SPDIF (optical/coaxial), and AES/EBU
- High power RF output (10dBm for 1ch)
- HD Modulator option (ATSC, QAM, DVB-T, DTMB)
- Internal PSI/PSIP generation or external input through ASI-Input port
- Firmware update and control through web server
- HTTP and SNMP control with 100Base-T

### HD ENCODULATOR Full Diagram



# DTV Analyzer

## High-level TS Analyzer/ Recorder/ Player

Realtime and offline analysis with versatile interface IP, ASI, SMPTE, RF, Offline



*MPEG Analyzer*

Real-time /  
Offline Analyzing



*MPEG Recorder*

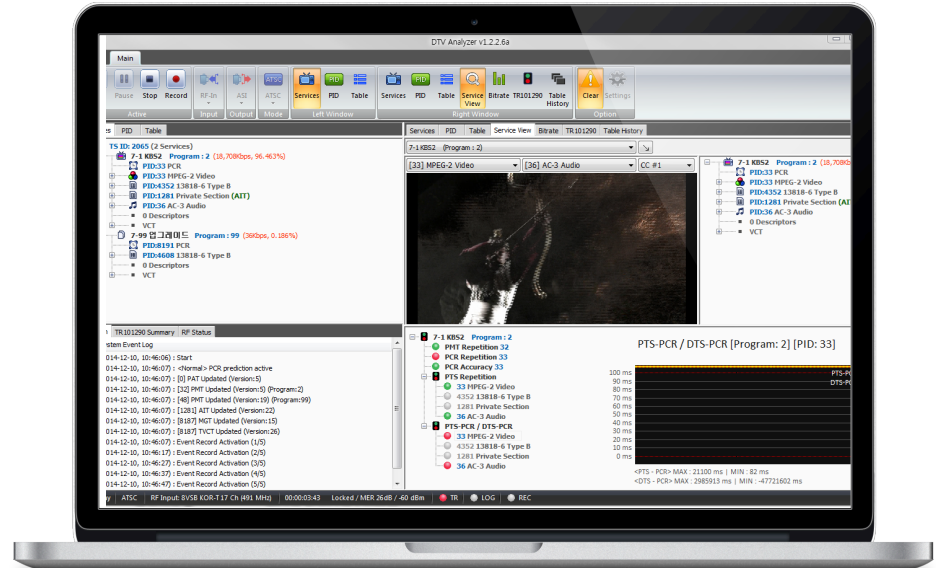
Real-time Record-  
er for SMPTE / SDI



*MPEG Player*

Pre-recorded TS  
Playback

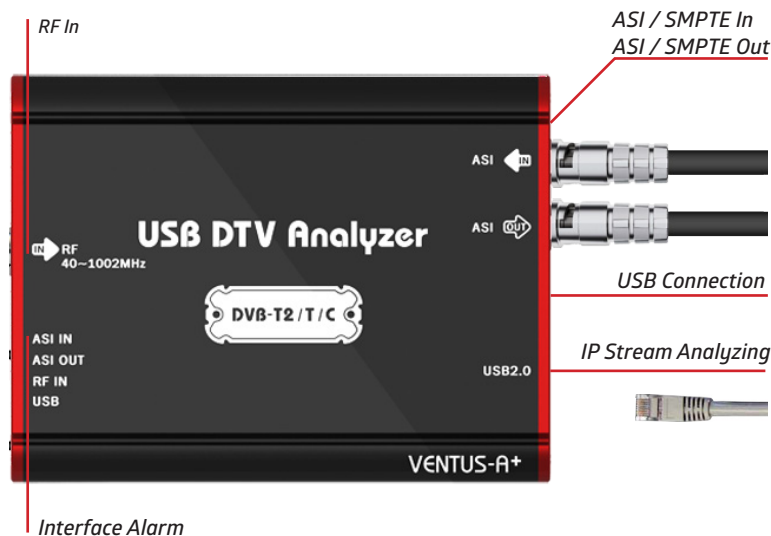
## DVB/ATSC/ QAM-B DTV Analyzer UI



IP/ ASI/ SMPTE/ RF/ Off-line

H/W Specifications (ATSC type)	S/W Specifications (ATSC type)	H/W Specifications (DVB type)	S/W Specifications (DVB type)
<b>Demodulation</b> 8VSB, OpenCable(64QAM, 256QAM)	<b>TS Input</b> ASI, SMPTE310M	<b>Demodulation</b> DVB-T2, DVB-T, DVB-C	<b>TS Input</b> ASI, SMPTE310M, File, IP (UDP/Ts or UDP/RTP/TS), RF
<b>Size</b> 154mm x 77mm x 29mm	<b>TS Out</b> ASI or SMPTE310M (Allow when input is ASI, SMPTE310M)	<b>Size</b> 154mm x 76.8mm x 28.4mm	<b>TS Out</b> ASI or SMPTE310M (Allow when input is ASI, SMPTE310M)
<b>Power</b> USB 2.0 bus powered, no power supply required	<b>Analysis Mode</b> MPEG-2, ATSC, DVB	<b>Power</b> USB 2.0 bus powered, no power supply required	<b>Analysis Mode</b> MPEG-2, ATSC, DVB
<b>RF input connector</b> 75Ω F-Type 1ea	<b>7 Analysis Window Tab</b> Service, PID, Table, Service View, Bit-rate, TR 101 290, Table History	<b>RF input connector</b> 75Ω F-Type 1ea	<b>7 Analysis Window Tab</b> Service, PID, Table, Service View, Bit-rate, TR 101 290, Table History
<b>ASI/SMPTE310M input connector</b> 75Ω BNC 1ea	<b>Closed caption</b>	<b>ASI input connector</b> 75Ω BNC 1ea	<b>Closed caption</b>
<b>ASI input bit-rate</b> 0~108Mbps	<b>Real-time decoder</b>	<b>ASI output connector</b> 75Ω BNC 1ea	<b>Real-time decoder</b>
<b>ASI output bit-rate</b> 0~108Mbps	<b>Recommended system requirements</b>	<b>ASI input bit-rate</b> 0~108Mbps	<b>Recommended system requirements</b>
<b>SMPTE310M input bit-rate</b> 19.392Mbps	CPU : better than Intel Core i3 3.1GHz (Sandy Bridge)	<b>RF Input Frequency Range</b> 40 ~ 1002 MHz	CPU : better than Intel Core i3 3.1GHz (Sandy Bridge)
<b>SMPTE310M output bit-rate</b> 19.392Mbps	RAM : better than 2GB	<b>RF Input Level</b> DVB-T2: +5~-78 dBm DVB-T: +7~-83 dBm DVB-C: +2~-67 dBm	RAM : better than 2GB
<b>RF Input Frequency Range</b> 40 ~ 1002 MHz	OS : Window 7		OS : Window 7
<b>RF Input Level</b> +7 ~ -84 dBm	Resolution : bigger than 1680x1050		Resolution : bigger than 1680x1050

USB type DTV Analyzer (DVB type)



USB type DTV Analyzer (ATSC type)



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