

SONIFEX

RB-VHEDD8

3G/HD/SD-SDI De-Embedder, Dolby® E Encoder & Re-Embedder

Catalogue





RB-VHEDD8 3G/HD/SD-SDI De-Embedder, Dolby® E Encoder & Re-Embedder



Category: 3G/HD/SD-SDI Video De-Embedders & Re-Embedders With Dolby Encode/Decode.

Product Function: De-embeds from 1 x SDI stream, Dolby E Encode process using de-embedded channels or 8 digital

audio inputs, re-embeds any audio or Dolby encoded channels to 2 x SDI streams.

Typical Applications: To embed audio in Dolby E encoded format into 2 x SDI streams.

Features: 8 x balanced or unbalanced digital audio inputs, independent input level controls, 2 x independent SDI outputs, Dolby E bitstream output, 8 programmable GPIOs, metadata input, Ethernet or front panel control & configuration.

The RB-VHEDD8 is an SDI audio de-embedder and re-embedder with Dolby® E Encoding capabilities. The unit de-embeds 16 channels of audio from the SDI input and these, together with the external digital audio inputs via the BNC or D-type connectors, are passed to the Dolby® Encoder. Dolby E encodes up to 8 channels of audio into two channels of an AES/EBU digital audio stream which are then embedded onto any of the available groups within each of the two SDI output paths. The outputs from the de-embedder can also be re-embedded into the SDI outputs, along with the encoder inputs. The encoded Dolby E bitstream is also available via a dedicated rear panel output.

The unit has a triple rate SDI receiver with automatic input rate detection and equalisation along with two re-clocked and individually buffered SDI outputs which can be configured independently. It supports the full range of single link 3G, HD and SD

standards from NTSC and PAL up to 1080p 60Hz.

The unit maintains lip-sync through the encode process by delaying the video, embedded audio and any other ancillary

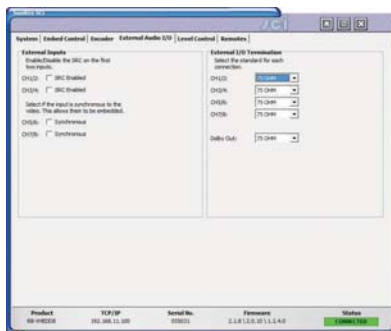


data, including embedded audio, to match the encoding latency. There is minor adjustment of this delay, to allow for errors further up or down the processing chain.

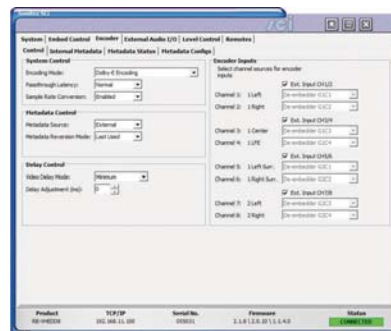
The encoding process metadata can be selected from either the external 9-pin D-type, from metadata embedded into the vertical blanking area of the video input (SMPTÉ 2020), or by internal settings.

The unit is controlled locally through the front panel display and remotely via an Ethernet connection, using the Sonifex SCI software. The embedding channel routing is controlled using these methods also.

Each digital input channel has independent level control, with adjustment from -24dB to +24dB in 0.5dB steps. The digital audio I/O connections are transformer-coupled balanced line interfaces and can be configured to be 75Ω (AES 3I/D) or 110Ω (AES3) impedance through BNC or D-type connectors respectively. These connections



Sci Audio I/O Page.



Sci Encoder Control Page.



Sci Encoder Internal Metadata Page.

are paralleled, allowing one type to be used per input or output.

8 GPIs and 8 GPOs are available on a 25 way D-type socket, whose function can be programmed using the menu, e.g. alarm outputs for loss of input or encoder errors.

Specification For RB-VHEDD8

SDI Specification

SDI Input:	1 x BNC, 3G/HD/SD-SDI
SDI Outputs:	2 x BNC, 3G/HD/SD-SDI, re-clocked
Impedance:	75Ω

Output Alignment Jitter:	<0.2UI (3G <0.3UI)
Output Level:	800mV ±10%
Return Loss:	<15dB at 1500MHz
SDI Supported Standards:	270Mbps, SMPTÉ-259M-C (SD) 1.485 or 1.4835Gbps, SMPTÉ-292M (HD) 2.97 or 2.967Gbps, SMPTÉ-424M (3G), SMPTÉ-425M-A
Supported Video Formats:	525/59.94 (SMPTÉ-125M) 625/50 (ITU-R BT.656) 720p/23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (SMPTÉ-296M) 1035i/59.94, 60 (SMPTÉ-260M) 1080i/50, 59.94, 60 (SMPTÉ-274M) 1080p/23.98, 24, 25, 50, 59.94, 60 (SMPTÉ-274M) 1080pSF/23.98, 24, 25, 29.97, 30 (RP-211) 1080i/50 (SMPTÉ-295M) 1080p/50 (SMPTÉ-295M)
Embedded Audio:	24-bit, 48kHz synchronous SMPTÉ-272M-C & SMPTÉ-299M
Metadata:	SMPTÉ-2020M SMPTÉ-RDD06, 9-Pin D-type socket

Delay Specification	
Video Delay:	1 frame when frame rate ≤ 30 fps, 2 frames when frame rate > 30 fps.
Adjustment:	±10 ms.

Audio Specifications	
Sample Rate:	48kHz for output
Input Sample Rates:	CH1/2 & CH3/4: 32-192kHz CH5/6 & CH7/8: 32-48kHz
I/O Impedance:	75Ω/110Ω selectable
Signal Level (Un-terminated):	Unbalanced: 1Vp-p ±20% Balanced: 6.6Vp-p ±20%

Digital Audio I/O: Inputs:	8 x digital audio input channels via 4 x BNCs or 25 way D-type socket(AES3)
Outputs:	2 output channels via 1 x BNC or 25 way D-type socket (AES3)
Digital Audio Connectors:	5 x BNC 1 x 25-way D-type socket
LTC Input:	1 x BNC (not used)

Operational Control	
Display:	Vacuum fluorescent display
System Navigation:	Rotary selector with integral push-switch

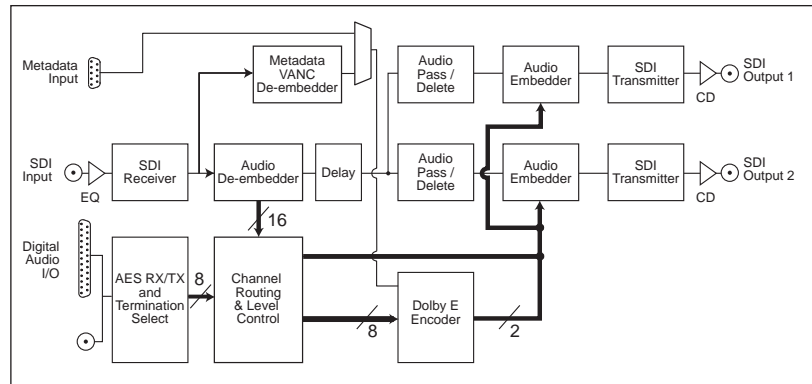
Additional Connections	
Ethernet Port:	10/100Mbps, RJ-45
Remote Input/Output Port:	25-way 'D'-type socket
Power Supply:	Universal filtered IEC, continuously rated 85-264VAC @47-63Hz, fused
Fuse Rating:	Anti-surge fuse 2A 20 x 5mm

Physical Specifications	
Dimensions (Raw):	48cm (W) x 15.8cm (D*) x 4.2cm (H)
Dimensions (Boxed):	59cm (W) x 27.5cm (D) x 11cm (H)
Weight:	23.2" (W) x 10.8" (D) x 4.3" (H) Nett: 1.8kg Gross: 2.3kg Nett: 4.0lb Gross: 5.1lb

* Note that this product is deeper than standard Redboxes

Equipment Type	
RB-VHEDD8	3G/HD/SD-SDI Dolby® E encoder & embedder

Accessories	
RB-RK3:	1U Rear panel rack kit for large Redboxes



RB-VHEDD8 Block Diagram.

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