

MM08E - Audio IP/ASI/DVB Encoder

Professional multi-format and multi-channel audio encoder for AoIP and DVB applications



Transport stream outputs (DVB/MPEG-2 TS)

- 1-8x TS over UDP/IP with Program and Service Tables
- 2x TS over ASI interface according to ETSI EN 300 468 with Program and Service Tables

IP Streaming outputs

- Rock solid network connection even in stress conditions according to standards RFC 3550, RFC, 3551, RFC 3640, RFC 2250
- Professional Audio over IP streaming
- Forward Error Correction: Pro MPEG FEC
- Dual Streaming on two physically separated ethernet ports
- Optional: **Stream4Sure**: 2wcom streaming technology with different codecs/qualities and seamless switching of up to 4 streams

Audio encoding

High quality multi-format audio encoding:

- MPEG 1/2 Layer 1,2 and 3, G.711, G.722, MPEG 2/4 AAC-LC, HEv1, HEv2, AAC-LD, Linear PCM
- Optional: Enhanced aptX

Ancillary Data

- Synchronized and embedded in Audio over IP stream (RTP/UDP)
- As private stream with its own PID
- As ancillary data in audio elementary stream

Control

- Remote control with various possibilities – HTTP, Telnet, NMS, SNMP
- Revised configuration via web user interface for easier setup
- SNMP v2c, relays, inputs

Special

- Livewire support with routing protocol (LWRP), advertisement, GPIO
- Energy efficient 24/7 broadcast quality
- RDS decoding (built in RDS/UECP decoder)
- Embedded Auxiliary data (RBDS/RDS or PAD) and GPIO forwarding
- On request: Perfect network synchronization for SFN applications

High sophisticated monitoring and alarm concept

- IP and MPEG parameters via SNMP v2c and relay
- Headphone output
- SNMP, Alarm, source switch & event logging



Rear view MM08E - DVB Audio IP Encoder

MM08E - DVB Audio IP Encoder – Technical Details

Audio encoder

Codecs

Standard	MPEG 1/2 Layer 2, 3 MPEG 2/4 AAC LC/LD, HEv1&v2 Linear PCM
Optional:	E-aptX ask for other codecs
Sample Rates	32 kHz, 44.1 kHz, 48 kHz

Contact closure

Inputs	16x 26 pole sub-D male
Outputs	3+1 floating relays 3 Relays SPST (Form A) 1 Relay SPDT (Form C) (for DC: max. 30 V, 0.5 A) 26 pole sub-D male

Interfaces

Audio

Digital (in)	8x Stereo AES/EBU, 110 Ω balanced integrated XLR
Analogue (in)	4x Stereo L/R, <20 Ω balanced integrated XLR
Livewire	4x AES67 via RTP/UDP
Headphone (out)	L/R, <10 Ω, 6.3 mm
Gain	-32...+6 dB
Dynamic range	16 Bit, >89 dB 24 Bit >130 dB
Frequency response	0.1 dB; 20 Hz .. 20 kHz
Total harmonic distortion (THD)	Digital: < 0.00002 % Analogue: < 0.002 %
Signal to noise ratio - SNR (CCIR weighted, QPEAK)	Digital: > 120 dB Analogue: > 83 dB

Ethernet

Data	Audio, serial data and GPIO transmission, Controlling and Setup functions
Connector	3x RJ45 (2x data, 1x ctrl)
Type	Auto Switching 10/100/1000 BASE-T
Protocol	RTP/RTCP/UDP, IGMP, ICMP, DHCP, HTTP, SNMPv2c, NTP, TCP

ASI

Data	MPEG2 TS
Connector	2x BNC 270 Mbps

Serial

Interface	9x RS-232C (1 front, 8 rear) Sub D-15
Data	Private data, MPEG ancillary data, UECP/RDS (acc. to TR 101 154)e
Transmission rate	1200 to 115200 baud, asynchronous
USB	1x USB 2.0 Interface for service, configuration and firmware

Time Synchronization (on request)

1PPS, 10 MHz	SMA connector
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Control & monitor

User interface	Integrated WebGUI, LCDisplay
Protocols	HTTP, SNMPv2c, UDP, RTCP, FTP, ICMP, IGMP, NTP
USB	USB 2.0 Interface for service, configuration and firmware updates

Front panel

LCDisplay	Graphical, 264x64 pixel
Jog wheel	Impulse, Enter button
4 Duo LEDs	Power, Input, Output, Warning
RS-232C (Front)	1x serial interface for setup data and setup function

General data

Power consumption	40 VA
Case dimensions	19", 1 HU, depth: 310 mm, width: 424 mm, front panel: 484 mm
Weight	<5 kg
Housing	steel plate (aluminum-zinc coated)
Operating temp. range	0...+45°C
Storage temp. range	-40...+70°C

Power supply

2 hot swap power supplies required from this selection:	
Red. 230 VAC (hot swap)	90...260 VAC, 47...63 Hz aut. switchover
Red. 48 VDC (hot swap)	40...60 VDC Neutrik powerCON, aut. switchover
Languages	English

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These data are subject to
modifications and amendments.
Errors excepted

