

MM08E

IP / MPEG encoder

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



MM08E – Audio IP/ASI/DVB encoder



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



Technical details 1/2



Audio (encoder)

Codexs

Standard	MPEG 1/2 Layer 2, 3 MPEG 2/4 AAC LC/LD, HEV1&v2 Linear PCM
Optional:	E-aptX ask for other codexs
Sample Rates	32 kHz, 44.1 kHz, 48 kHz

Interfaces

Performance

Digital (in)	8x Stereo AES/EBU, 110 Ω balanced integrated XLR
Analog (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	Depends on sample rate – e.g. 48 kHz: 0,1 dB; 20 Hz ... 22,5 kHz

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 Connector	MPEG2 TS 2x BNC 270 Mbps
-----------------------	-----------------------------

Serial

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



Technical details 2/2

Interfaces

Time synchronization (on request)

1PPS, 10 MHz SMA connector

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

Control & monitor

Ethernet

User interface Integrated WebGUI,
LCDisplay

Protocol 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

Material Steel plate
(aluminium-zinc coated)

Operating temp. range 0...+45°C

Storage temp. range -40...+70°C

Languages English

Power supply

Standard Two external hot
swappable redundant
power supplies (230 VAC
or 48 VDC),
aut. switchover

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