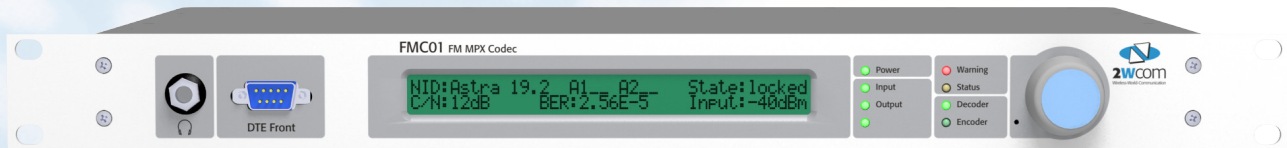


FMC01 - FM MPX Codec

MPX over E1
MPX over IP



 Energy efficient,
no moving parts, no fan

FM MPX Distribution

- High quality FM MPX Distribution via E1 (G.703) or IP
- Optional: Input source switch over between E1 and Gigabit IP in case of failure

Hardware

- Optional: Coder & Decoder in the same equipment
- High end converter (ADC, DAC) for optimal quality

Control

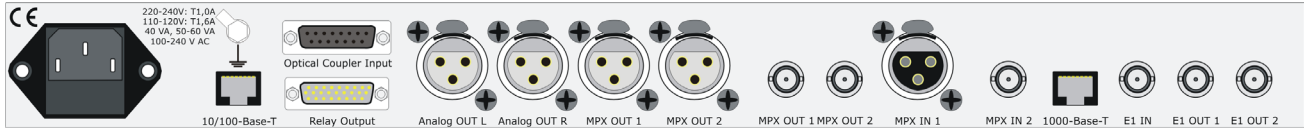
- Full online remote control of all parameters via IP
- Configuration via web user interface for easy setup
- Quick view status page for a fast overview
- SNMP v2c, relays, inputs

Codec

- 100% loss less audio encoding & decoding
- Reed Solomon FEC (Forward Error Correction) to reduce Bit Errors in E1 data stream
- ProMPEG FEC (Practice #3 release 2) to reduce Packet loss and Burst Errors in IP data stream

Monitoring

- Quality parameters via SNMP v2c and relay
- FM Demodulation with L+R XLR and Headphone output Monitoring
- RDS Monitoring and optional Alarm Control (PI, PS)



Rear view FMC01

FMC01 - FM MPX Codec - Technical Details

Encoder Inputs

FM MPX signal

Signal	FM MPX
Frequency response	20 Hz - 60 kHz: <0,05 dB
Input Voltage range	0 ... 14 dBu
Connectors MPX IN	1x XLR, balanced, <20 Ω 1x BNC, 75 Ω, unbalanced

Encoder Outputs

E1

Protocol	G.703, G.704 (on request)
Data rate	2.048 kbps
Coding format	HDB3
Connectors E1 OUT	2x BNC, 75 Ω, unbalanced

Optional: Gigabit IP

Type	10/100/1000 Base-T
Data	MPEG TS or RAW Data via UDP, UDP/ RTP, as Unicast or Multicast IGMPv2

Connectors

Audio

Volume	-32...+6 dB
Headphone	L/R, <10 Ω, 6.3 mm
Analogue	L/R, <20 Ω, balanced, XLR

Decoder Inputs

E1

Protocol	G.703, G.704 (optional)
Data rate	2.048 kbps
Coding format	HDB3
Connectors E1 IN	1x BNC, 75 Ω, unbalanced

Optional: Gigabit IP

Data	MPEG TS or RAW Data via UDP, UDP/ RTP, as Unicast or Multicast IGMPv2
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Decoder Outputs

FM MPX signal

Signal	FM MPX
Frequency Response	20 Hz - 60 kHz: <0,05 dB
Stereo separation	>55 dB
Harmonic distortion	<0,0025 dB
SNR (CCIR-weighted)	>75 dB
SNR (A-weighted)	>90 dB

Connectors MPX OUT	2x XLR, balanced, >10 kΩ 2x BNC, 75 Ω, unbalanced
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Audio

Volume	-32...+6 dB
Headphone	L/R, <10 Ω, 6.3 mm
Analogue	L/R, <20 Ω, balanced, XLR

Codec

Data

Type	100% Loss less audio encoding & decoding
Bit depth	E1: 12-15 bit IP: 12-15 bit (optional: 16-24 bit)
Sample rate	132 kHz (IP: optional: up to 192 kHz)
Encoding type	PCM raw
FEC	E1: Reed Solomon FEC IP: ProMPEG FEC Practice #3 release 2
Bandwidth E1	2,048 Mbit/s
Bandwidth IP	4x4 FEC, add. 15 ms delay: 4,48 Mbit/s 4x4 FEC, add. 149 ms delay: 3,54 Mbit/s 10x10 FEC, add. 133 ms delay: 3,55 Mbit/s 10x10 FEC, add. 933 ms delay: 2,83 Mbit/s

Control & Monitor

Ethernet

Data	Controlling and Setup functions
Connector	RJ45
Type	Auto Switching 10/100 BASE-T
Protocol	HTTP, SNMPv2c, SMTP, UDP, SNTP, TCP

Contact closure

Inputs	7 opto isolated inputs (excludes option: 24 relay contacts) 15 pole sub-D female 12 floating relays (10x SPST, 2x SPDT) (for DC: max. 30 V, 1 A, 10 W) 26 pole sub-D male 24 floating relays (excludes: 7 opto isolated inputs) 1x RS-232C (1 front) service
Outputs	9 pole sub-D male 1200 to 115200 baud, asynchronous
optional:	
Serial	
Data	
Connector	
Transmission rate	

Front panel

LCDisplay	2x 40 characters
Jog Wheel	Impulse, ENTER button
7 LEDs	Power, Input, Output, Warning, Status, Encoder, Decoder

FM & RDS

FM	Internal Demodulation of MPX Signal and output via XLR and Headphone
RDS	Decoding and control of PI and PS on the web frontend, optional decoding of all data via RDS-LAB

General data

Power consumption	20 VA
Case dimensions	19", 1 HU, depth: 310 mm, width: 424 mm, front panel: 484 mm
Weight	<4 kg
Housing	steel plate (aluminum-zinc coated)
Operating temp. range	0...+45 °C
Storage temp. range	-40...+70 °C
Power supply	internal, 90...260 V, 47...63 Hz
Languages	English

Version 22.09.2015
These data are subject to
modification and amendments.
Errors excepted.

