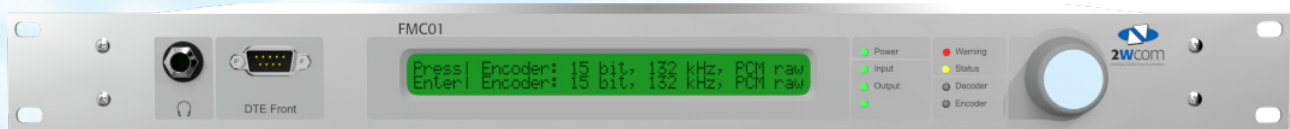


## FMC01 - FM MPX Codec

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

### Hardware

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

### Control

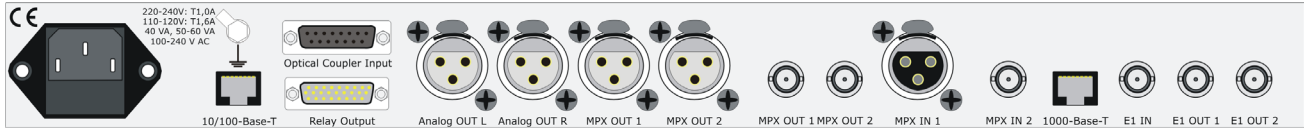
- Full online remote control of all parameters via IP
- Configuration via web user interface for easy setup
- Quick view status page for a fast overview
- SNMP v2c, relays, inputs

### Codec

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

### 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	E1: 20 Hz - 60 kHz: <0,05 dB IP: 20 Hz - 90 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

#### Gigabit IP

Type	10/100/1000 Base-T
Data	MPEG TS or RAW Data via UDP, UDP/ RTP, as Unicast or Multicast IGMPv2
Connectors	RJ45

#### 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

#### 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	E1: 20 Hz - 60 kHz: <0,05 dB IP: 20 Hz - 90 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: 16-24 bit
Sample rate	E1: 132 kHz IP: 192 kHz
Encoding type	PCM raw
FEC	E1: Read 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
Protocol	10/100 BASE-T 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)
Outputs	1x RS-232C (1 front) service 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 02.11.2016  
These data are subject to  
modifications and amendments.  
Errors excepted

