# Sigmacom Broadcast



## *Ether*MPX

**SFN Ready**

**NEW VERSION 3**

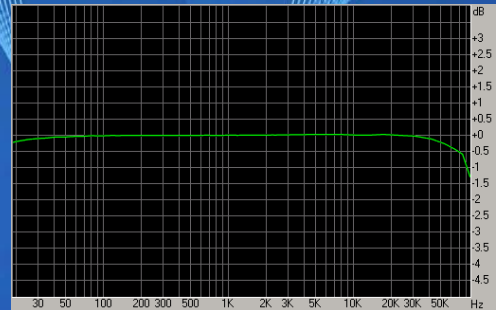**The leaders in MPX and SFN over IP**
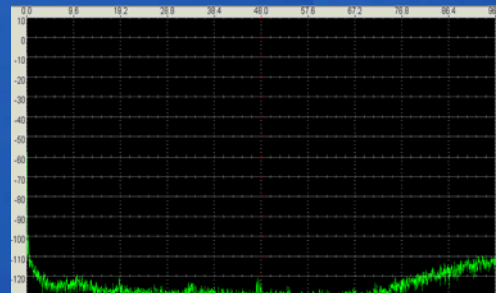http://www.sigmacom.gr

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THE EU

# EtherMPX v3

## Key facts

• We are proud to release the first IP STL in the world, capable to transport Digital MPX (MPX over AES) or analog MPX, or discrete L/R channels
• Linear uncompressed PCM 24-bit audio.
• Very low audio latency: 2,5mS in MPX mode.
• DC coupled analog inputs & outputs. No modulation overshoots due compression or AC coupling.
• Unicast or Multicast operation to feed an entire network of FM transmitters with MPX from one encoder.
• SFN support without GPS. synchronization over PTP (IEEE-1588v2) with better than 8nS accuracy. Decoders provide 10MHz and 1PPS outputs.
• System auto detects transmission delays and compensates them.
• Built-in silence detector, switch over to external AUX analog source in case of IP connectivity failure.
• Perfect match with Sigmacom DDS-30 Exciter, the first in the world that accepts Digital MPX.
• Can be used with high quality 802.11a Ethernet links.
• Decoder provides simultaneously Analog & Digital output for transmitter redundancy.
• Optional aux RS232 serial transparent link (one way).
• Remote control & management via Management Console Software, supporting unlimited number of STLs!
• Easy and friendly LCD user interface in front panel
• Not a computer. Dedicated hardware and software designed for uninterrupted operation in harsh RF environments.
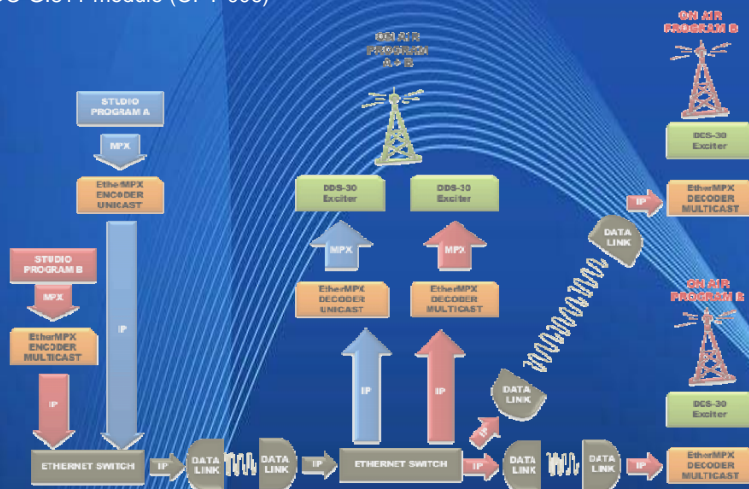
## Available options:

• Support for SFN operation (OPT-001)
• Ultra low latency 1,25mS MPX (OPT-002)
• Second ETH port for SNMP management (OPT-004)
• GPSDO module (OPT-005)
• GPSDO G.811 module (OPT-006)


Frequency response: flat as a cable


Decoder noise floor: as low as -130dBc



With EtherMPX and the flexibility of IP transmission, you can now make complex configurations that could never be imagined with traditional STLs.

Feed unlimited number of EtherMPX decoders with only one encoder operating in multicast mode.

Synchronize all your transmitters with the SFN option of EtherMPX, without the need for GPS receivers and antennas deployment.

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TELECOM INNOVATIONS

**The leaders in MPX and SFN over IP**
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# EtherMPX v3

## Technical specifications

### GENERAL

| | |
|---|---|
| Model name | *Ether*MPX v3 |
| Dimensions | 19″ 1U chassis |
| Power supply | 100-240VAC 50/60Hz, 12W max |
| Operating temp | -20 to +60 Celsius |
| Transport protocol | Proprietary UDP Unicast or Multicast |
| QoS management | IETF RFC2474 compliant |
| Audio compression | None (Linear PCM) |
| Audio resolution | 8 – 24bit for Digital L/R & MPX input<br>24bit for Digital L/R & MPX output<br>24bit for Analog L/R & MPX output |
| Audio sample rate | 8 – 192kHz input for Digital L/R input<br>174-192kHz input for Digital MPX input<br>48kHz internal for Analog L/R input<br>192kHz internal for Analog MPX input |
| Audio latency | L/R mode: 5mS minimum<br>MPX mode: 2,5mS minimum |
| Network usage | L/R mode: 2,37 Mbit/s typ<br>MPX mode: 4,74 Mbit/s typ |
| Audio monitor | Stereo ¼″ Female jack in front panel |

### ENCODER

| | |
|---|---|
| Input name | Port A |
| Input type | Digital electrical interface |
| Connector | XLR-3 female |
| Impedance | 110 Ohm balanced - transformer isolated |
| Supported formats | AES3, IEC60958, S/PDIF |
| Maximum data rate | 12.288 Mbit/s |
| Audio sample rate | 32 - 192 kHz (174-192kHz for D-MPX) |
| Audio sample resolution | 24 bit |

| | |
|---|---|
| Input name | Port B |
| Input type | Analog electrical interface - 2 inputs |
| Connector | 2 x XLR-3 female (balanced R, L/MPX)<br>1 x BNC female (unbalanced MPX only) |
| Impedance | 1 kOhm |
| ADC resolution | 24 bit |
| ADC sample rate | 48kHz for L/R input, 192kHz for A-MPX |
| ADC THD+N | -106dB (0.0005%) |
| ADC Dynamic range | 121 dB (no weighting) |
| Channel separation | 135 dB |
| Reference input | 3.47Vpp (+4dBu) for 0 dBFS |
| Input BW @ 48kHz SR | -0.1dB @ 20 kHz |
| Input BW @ 192kHz SR | -0.1dB @ 80 kHz |

### DECODER

| | |
|---|---|
| Output name | Port A |
| Output type | Digital electrical interface |
| Connector | XLR-3 male |
| Impedance | 110 Ohm balanced, transformer isolated |
| Format | AES3 |
| Maximum data rate | 12.288 Mbit/s |
| Audio sample rate | 48kHz for L/R output, 192kHz for D-MPX |
| Audio sample resolution | 24 bit |

| | |
|---|---|
| Output name | Port B |
| Output type | Analog electrical interface - 2 outputs |
| Connector | 2 x XLR-3 male (balanced R, L/MPX)<br>1 x BNC (female unbalanced MPX only) |
| Impedance | 1 kOhm |
| DAC resolution | 24 bit |
| DAC sample rate | 48kHz for L/R output, 192kHz for A-MPX |
| DAC THD+N | -108dB (0.0004%) at 48kHz L/R out<br>-96dB (0.0015%) at 192kHz A-MPX out |
| DAC SNR | 129dB at 48 or 192kHz |
| DAC Dynamic range | 129 dB (A weighted) at 48 or 192kHz |
| Channel separation | 124 dB at 48kHz L/R output<br>Infinite at 192kHz A-MPX output |
| Reference output | 3.47Vpp (+4dBu) for 0 dBFS |
| Out BW @ 48kHz SR | -0.1dB @ 21.8 kHz |
| Out BW @ 192kHz SR | -0.1dB @ 87.2 kHz |

### SFN Operation

| | |
|---|---|
| Ouputs | 1x10MHz, 1x1PPS |
| Connector | BNC Female |
| Impedance | 50 Ohms |
| Delay compensation | Auto up to 60mS |
| Synchronization | PTP (IEEE-1588v2), 8nS accuracy |

**NOTE: These are preliminary technical specifications and might change without notice. Please do not hesitate to contact us for the most updated information at: support@sigmacom.gr**