



ISOCAST

FM Digital Modulator
for Analogue Radio



«We live in a world where it's easier to break an atom than a preconceived idea.»

Albert Einstein (1879 - 1955)

WE CAN BREAK YOUR PREJUDICE!



ISOCAST is a FM digital modulator for isochronous and isomodulated professional applications. High-performances are obtained implementing the most advanced digital technologies that allow amplitude demodulation without the traditional analog approach. All signals from low frequency to composite MPX generation and radio-frequency, are completely realized in numerical mode, in order to ensure high-standard quality and reproducibility.

ISOCAST uses direct to channel technology. It takes the L & R audio signals to realize the composite signal by generating the pilot frequency at 19 kHz. Moreover it accepts a digital AES/EBU audio signal in input. **ISOCAST** is also a RDS generator with selectable strings. All the standard message types are supported. User is able to change the RDS content on the fly via a user-friendly WEB interface and/or the standardized UECP serial protocol.

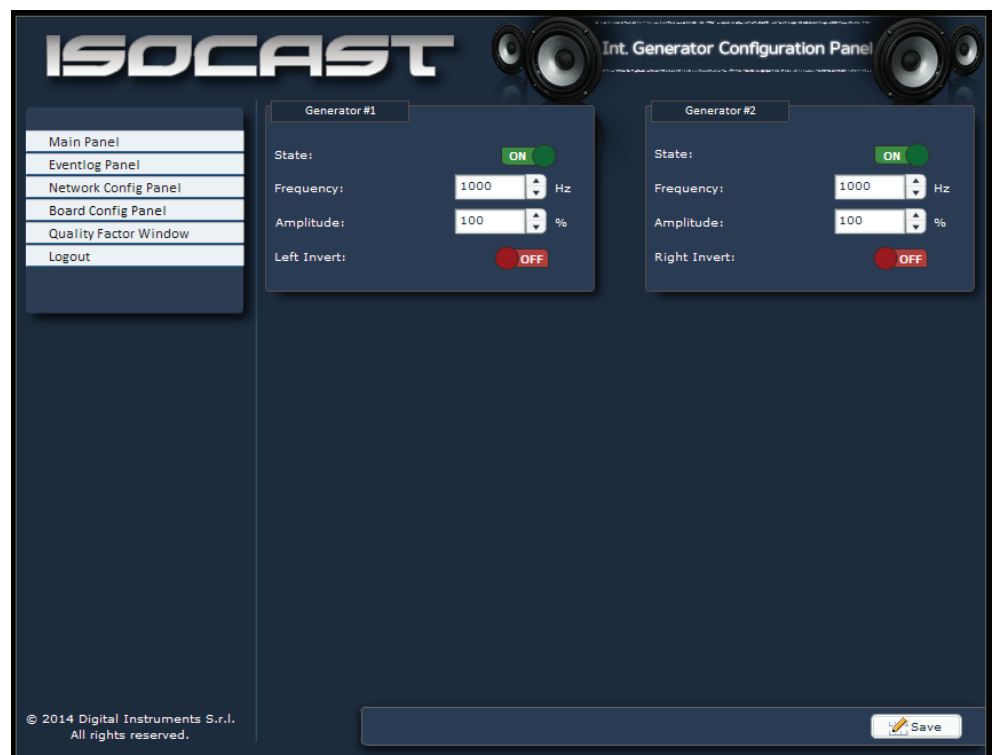
ISOCAST foresees two MPX separated inputs 0 ÷ 100 kHz. It is compatible with widespread HTTP and RTSP streaming protocols and Radiolink-to-FM, supporting PCM, MP3 and AAC codecs.



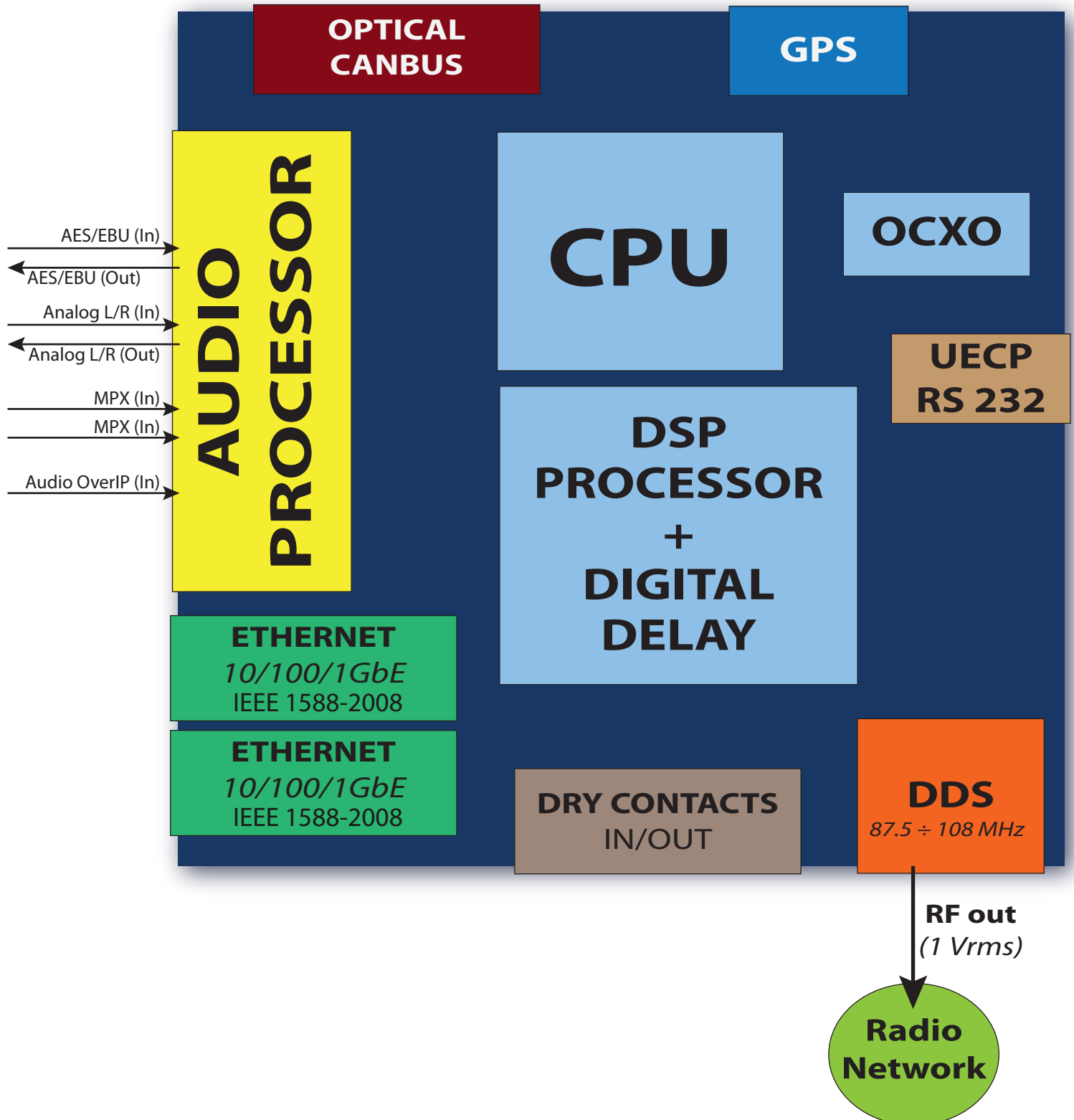
ISOCAST contains a GPS receiver useful for synchronizations and tuning of all signals, ensuring stability at channel frequency as well as assuring the issues related to isomodulation for plants placed in overlapping areas.

ISOCAST is an efficient modulation system. The ductility of applications both for isofrequency networks and FM modulators, allows a flexible use also through serial/IP based remotization, able to support UECP protocol, OverIP, SNMP and Web server. **ISOCAST** could be also used like supervisory control. A set of dry contact available on apparatus back allows remote controls.

- Analog audio input/output balanced on XLR connectors.
- Digital AES-EBU input/output unbalanced on BNC connector.
- 2x MPX input 0 ÷ 100 kHz for auxiliary sub-channels.
- Digital Delay 200 µs/step, max 1sec.
- RDS Open Data Application, Dynamic, UECP Compliant and user customizzabile.
- Audio OverIP.
- Synch OverIP.
- Integrated GPS with external TNC Antenna.
- High-stability OCXO.
- RF Output directly on channel 87.5 MHz ÷ 108 MHz, 1 Vrms.
- Audio digital standard output AES-EBU. (Optional).
- Dry contact system for remote signaling.
- Serial port in standard RS232 compatible UECP.
- 2x Ethernet port with SNMP, UECP overIP, Web server protocol, 10/100/1GbE.
- 2x Synch Over Ethernet port with PTP protocol IEEE 1588-2008 compliant.
- Multi-modal bidirectional optical port for CANBUS transmitter.
- Remote Web management software developed in FLASH environment.



Internal Generator: Configuration Panel.



Modulator section

Connector: BNC
 Frequency range: 87.5 MHz ÷ 108 MHz
 Step: 10 kHz
 Level: 13 dBm (1 Vrms)
 Impedance: 50 Ω

Size section

Dimension: 1 Unit 19"
 Depth: 300 mm (connectors excluded)
 Weight: 1.5 kg ~

Analog audio section

Connectors: XLR
 Passband: 10 Hz ÷ 16.000 Hz +/- 0.1 dB
 Input level: +6 dBu on 600 Ω per tone 400 Hz
 Amplification: 100% modulation - 100 kHz 0 ÷ 9 dB (step 1.0 dB)
 THD: < 0.001%
 S/N: < 96 dB
 Impedance: 600 Ω (balanced by transformer)

Digital audio section

Connector: BNC
 Input level: 1 ÷ 4 V
 Impedance: 120 Ω
 Rate: 32 / 48 / 96 / 192 kHz

MPX section (2x)

Connector: BNC
 Passband: 10 Hz ÷ 100 kHz
 Input level: -6 ÷ +6 dBm
 Impedance: 50 / 120 / 10k Ω

GPS section

Connector: TNC
 Receiver: 12 channels L1 1575.42 MHz
 Tracking: Correlation over 12 satellites
 PPS accuracy: < 50 ns in SA
 Acquisition time: < 4 minutes



TX: Configuration Panel.

Supply

Network: 85 ÷ 265 Vac Plug IEC320 EMI/RFI integrated filter
 Battery: 12 ÷ 48 Vdc EMI/RFI integrated filter

In-Out

Serial port: RS-232 Connector DB9 Male 15 kV (ESD)
 Dry Contact signaling: 4 free contact on Weidmuller connector (step 3.5 mm)
 2x Ethernet port with SNMP, UECP overIP, Web server protocol, 10/100/1GbE
 2x Synch Over Ethernet port with PTP protocol IEEE 1588-2008 compliant
 Multi-modal bidirectional optical port for CANBUS transmitter