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MXS-EVO is a multi-output generator for high stability Time & Frequency signals, aimed to synchronization of systems and devices in many areas like Broadcast, Defence, Space, Telecommunication etc.

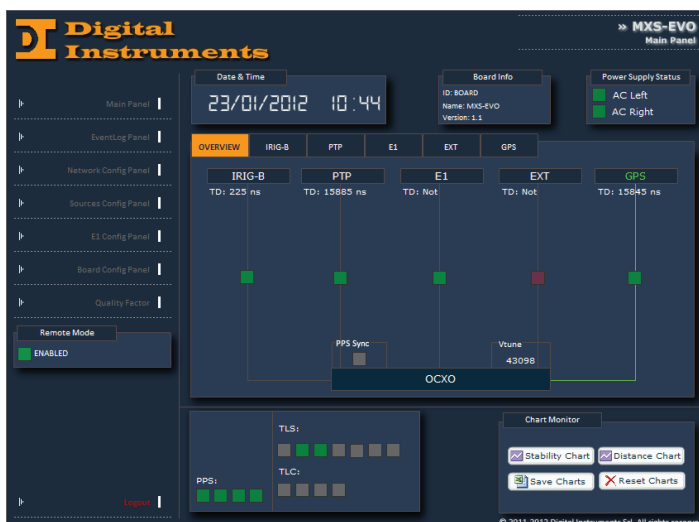
The unit has 12 programmable outputs designed to make the equipment adaptable to different situation and meet user's needs. Furthermore it has an Ethernet interface for Time Protocol Synchronization (NTP or PTPv2 Grandmaster Clock).

The unit is also capable of two (1 input and 1 output) optical ST connectors designed for IRIG B.

MXS-EVO can get external reference input from E1/T1, 1 PPS, 1 to 50 MHz analogue, IRIG Time code, PTP IEEE-1588v2 in addition to GPS receiver, in order to have maximum reliability that is completed by dual independent Power Supply Unit.

This equipment is managed by web based GUI, and/or SNMP. For local configuration LCD and keypad can be used. Feature of MXS-EVO is also the possibility to characterize the quality of the sources provided to the equipment through the analysis of the $\Delta f/f$ ratio of each source.

MXS-EVO acts as measuring system too. Statistical analysis and related distributions, transit time, variance of transit time and many other applications, are implemented in basic version, allowing the end user the ability to choose and evaluate both source from which the equipment is enslaving, both the degradation of synchronization information in the transport network.



The analysis is supported by a graphical display of $\Delta f/f$ ratio vs. time. In addition it's possible view the delay (nsec) between PPS generated by internal GPS Receiver and the four different sources, both on web and LCD display.

When locked to GPS, MXS-EVO became a cost effective G.811 source for SDH, SONET or PTSN applications. Thanks to high stability OCXO, MXS-EVO is able to provide excellent holdover performance.

Features**2**

- Zilog eZ80F91 @ 50 MHz CPU
- 2 MB SRAM
- Embedded RZK + ZTS Operative System
- 1x 10/100 Network interface via RJ45
- Support up to 1.000 NTP Client (NTP) and 10 Request per second PTP/IEEE1588v2
- Integrated GPS Receiver
- Multi Reference Input
- High Stability OCXO
- Rb as option
- IEEE1588v2, NTP and SyncE compliant
- NTP Time Server
- 12x individual configurable outputs
- 1x PPS
- IRIG B 00X
- IRIG B 12X
- E1/T1 with SSM
- 2.048 MHz
- 10 MHz
- Optical I/O IRIG B
- Dual hot replaceable PSU
- LCD, Crosspad and status LED's for Local Management
- Integrated Web Server and SNMP for Remote Management

Gps Section

· Receiver	1.575,42 MHz - 12 channels
· Tracking	12 satellites correlation
· PPS accuracy	< 50 ns
· Antenna connector	TNC
· Acquisition time	4 minutes
· Local oscillator	OCXO
· Stability when locked	To GPS 1×10^{-12} (after 24 hours) – Ageing in holdover $\pm 1 \times 10^{-10}$ day

Auxiliary Input references	Auxiliary input Frequencies : 1 ÷ 50 MHz autodetect via BNC, E1 (G.703/9) or T1 via BNC, PTP/IEEE-1588v2 via RJ45 connector.
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PTP Section

· Protocol	IEEE1588-2008 (PTPv2)
· Role	Grandmaster Clock Source (with GPS) or slave

NTP Section

· Protocol	NTPv4
· Role	Role: Master Clock Stratum 1

Optical Section	1x Optical multimode I/O via ST connector
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Programmable Outputs	12 outputs (via BNC) programmable between following menu <ul style="list-style-type: none">· PPS· IRIG B DCLS· IRIG B AM· E1 (G.703/9) / T1 both with SSM management· 2.048 MHz (G.703/13)· 10 MHz (Low Phase Noise, -140 dBc/Hz @ 1kHz)
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Network Interface	1 x 10/100 BaseT Ethernet
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Status Info	5 status led's, RS232 via DB9, SNMP (Simple Network Management Protocol), WEB Interface.
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Power Supply	2 x Independents PSU, AC: 85 ÷ 265 VAC, DC: 12 ÷ 48 VDC, Power Consumption <50 W.
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