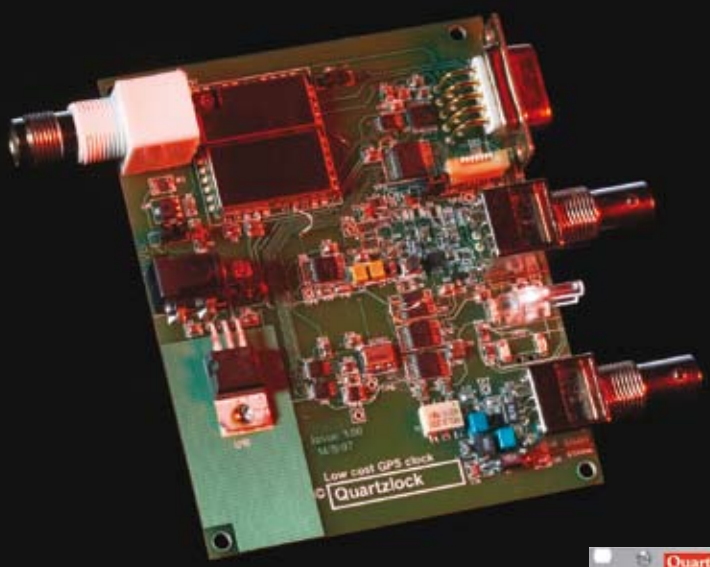
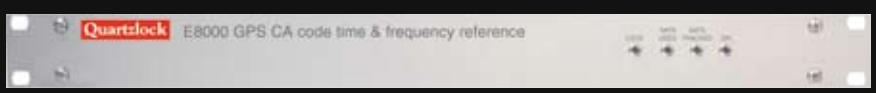
Quartzlock **E8-X**

Breakthrough, Economy GPS Timing & Frequency Standards





Quartzlock E8-X Economy GPS

Description

The Quartzlock E8-X represents a breakthrough in exceptionally low cost, traceable, **calibration-free "off air" frequency & time standards**. These references maintain the high frequency & time accuracy required for demanding applications.

Low distortion 10MHz Sine & 1PPS outputs.

Features

- $1x10^{-12}$ accuracy
- No Drift
- High Stability
- 1 Year Warranty
- Lowest Cost Available
- Very long production life & support. Quartzlock 2A (E8-X predecessor) series has been in production for > 30 years (3 generations)
- Many versions of the E8-X are available. PCB, Mill, Low & Very Low Noise etc.

Benefits

- No Calibration Required
- Traceable Reference, nationally & internationally

Applications:

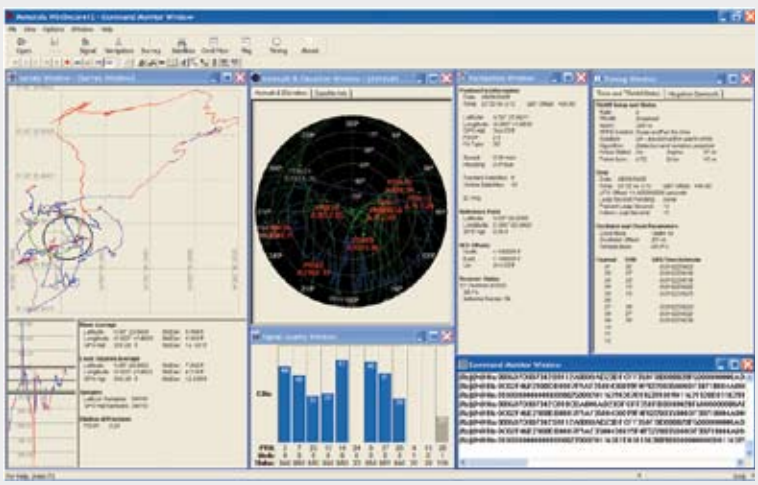
- **Calibration of:** Counters, Frequency Meters, Spectrum & Network Analysers, Synthesizers, & Communication Analysers
- **Reference for:** VHF, UHF & PMR TX, CDMA, Tetra, DTV & DAB
- Production Test Frequency Standard
- Network Time Protocol use in Financial, Utilities, Security & Communications Timing
- OEM
- **Standard for:** Calibration Labs, Radio Workshops, Labs and Stations

Quality:

- Quartzlock's Hydrogen Maser based laboratory is used in production test & QA to ensure compliance with offset and stability specifications.

Survey, Satellite Azimuth & Elevation, Navigation, Timing & Signal Quality Monitoring

These software packages will find educational survey and GMSS applications. Demonstration of the location timing and navigation functions are provided.



Quartzlock GPS instruments have been designed to work with various external software packages such as WinOncore. We accept no responsibility for accuracy or performance of these external programs.

These programmes enable the main parameters of the GPS signals to be easily verified, particularly input signal level and satellites in view.

WinOncore12 has been designed for use as an evaluation and testing tool in conjunction with Motorola's GT, UT and M12 Oncore GPS receivers. This utility will aid the user in initializing and operating the Oncore receiver, displaying, plotting and printing data from the receiver, and recording and replaying data files.

Other Oncore receivers such as the VP, Basic or XT Oncore may also be used with WinOncore12; however, not all of the input and output (I/O) messages are defined. If you are using a receiver which supports I/O messages not defined in WinOncore12, you may customize support for each desired message in the Command Manager.

WinOncore12 supports both NMEA and Motorola Binary protocol, and thus may be used to record live data or playback previously recorded data from a NMEA (*.GPS) file or Motorola Binary (*.bin) file.

WinOncore12 will run under Windows 95/98/2000 and NT.

Timing & Frequency Standards

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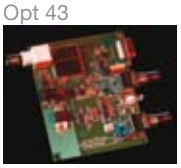
Opt 43



100 x 120mm

E8000

1U rack mount

E8-X

105 x 30 x 125mm

SPECIFICATION		
Outputs	a) Sinewave, 10MHz, 12dBm +/- 2dBm into 50 Ohms Harmonics < -50dBc Spurii <-75dBc b) TTL, 3.3VCMOS, 1pulse per second (4ns std dev)	
Frequency Accuracy	$1x10^{-12}$ Long Term	
Short Term Stability	tau 1s 10s 100s 1000s 10000s	Allan Variance <$2x10^{-10}$ <$4x10^{-10}$ <$5x10^{-11}$ <$2x10^{-11}$ <$5x10^{-12}$
Phase Noise (typ)	1Hz 10Hz 100Hz 1kHz 10kHz	-60 dBc -90 dBc -115 dBc -130 dBc -140 dBc
Lock Indicator	On - Not Locked Off - Locked, Low Phase Error Short flash every second - Locked, High Phase Error	
GPS Indicator	Green - Indicates number of satellites used in time solution Amber - Indicates number of satellites tracked but not used in time solution	
Warm Time	<15 minutes to specified accuracy	
Power Supply & Antenna	6 to 12V dc (ac psu provided) GPS antenna supplied	
Current Consumption	250mA typical	
Size E8-X E8-X PCB OEM E8-X MIL	 105 x 30 x 125mm desktop module 100 x 120mm CNC machined microwave housing	

OPTION 41

Interface	Shared between DPLL and GPS receiver
DPLL	9.6kbaud, RS232, PC compatible (8bits no parity, no handshake)
GPS	9.6kbaud, Motorola binary format (8bits no parity, no handshake)
DPLL Tracking	5mHz to 500mHz typical in 8 binary Bandwidths increments default 20mHz

Low Noise Options (48) (contact Quartzlock)

Short Term Stability		Phase Noise		
tau	Allan Variance	Options	(typ -dBc/Hz) (contact Quartzlock)	
1s	$x10^{-11}$	1Hz	69	90
10s	$x10^{-11}$	10Hz	98	120
100s	$x10^{-12}$	100Hz	120	130
1000s	$x10^{-12}$	1kHz	130	145
10000s	$x10^{-12}$	10kHz	140	145
		100kHz	143	145

Option 43 — **PCB version**

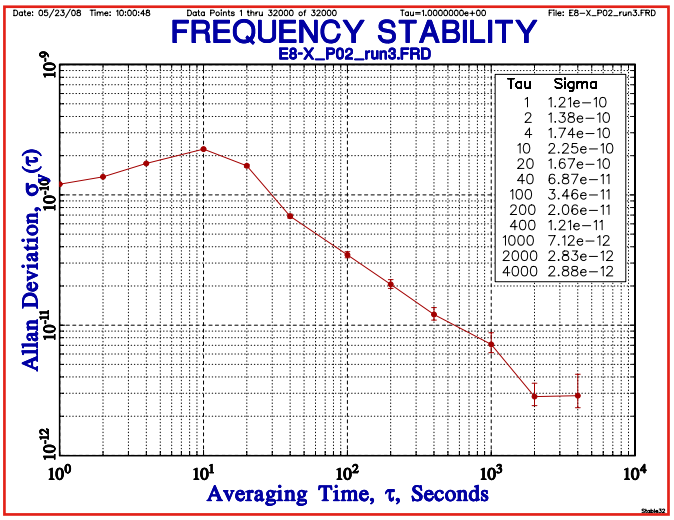
Option 44 for OEM qty use — **OCXO type case enclosure for PCB mounting. 1 output**

Option 45 — **MIL spec environmental in CNC machine housing**

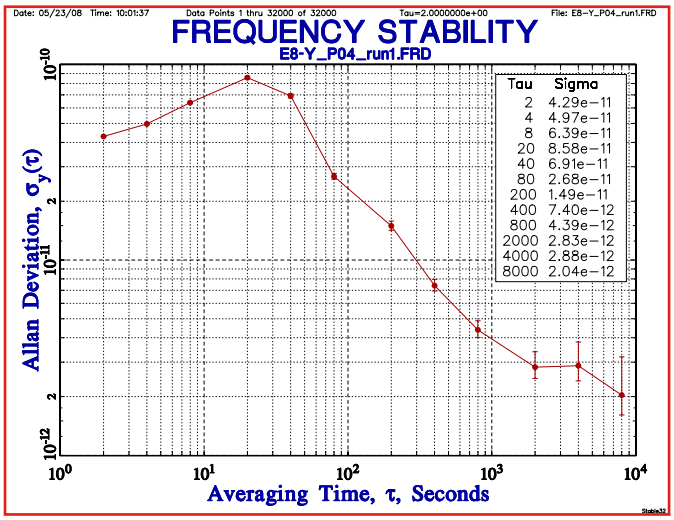
Option 46 — **Antenna & PSU**

Option 47 — **High gain antenna & PSU**

E8-X Short Term Stability



E8-X



E8-X with low noise option

Phase Noise Plots available – contact Quartzlock

Two oscillator options are available to suit customer requirements, see options listed on page 3.

The E8-X may be built into 1U rack format, see E8000.

The E8010 is a GPS disciplined Rubidium in 1U rack format, ask Quartzlock for details.

The E8-X is supplied with wall plug power supplies with international connector fittings. A GPS antenna is supplied.

Contact us:

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