

GPS Timing & Frequency Reference

- ❑ Accurate to 25ns RMS UTC
- ❑ No Drift
- ❑ High Stability
- ❑ Internationally Traceable Standard



The Quartzlock E8-X represents a breakthrough in exceptionally low cost, tracable, calibration-free “GPS” frequency & time standards. These very low cost references maintain the high frequency & time accuracy required for demanding applications. This product is available as a PCB level component.

Features

- 1×10^{-12} accuracy
- 12 Channel GPS Receiver with TRAIM
- 10MHz Output
- 1PPS Output

Benefits

- No calibration required
- 12 Channel GPS Receiver provides high accuracy UTC Time & Frequency Reference
- Very cost effective
- 1 year warranty
- Compact form factor

Applications

- Production Test Frequency Reference
- Time & Frequency standard for calibration & RF Laboratories
- Frequency Standard for counters, signal generators, Spectrum & Network Analysers
- Time & Frequency Reference for satellite communications ground stations CDMA, LTE, DTV & DAB

Specification

Outputs	a) Sinewave	10MHz, 12dBm +/- 2dBm into 50 Ohms
	Harmonics Spurii	<-50dBc <-75dBc
	b) TTL 3.3VCMOS	1pulse per second 4ns standard deviation
Frequency Accuracy	1x10 ⁻¹² Long Term	
Short Term Stability	tau	Allan Variance (typ)
	1s	<2x10 ⁻¹⁰
	10s	<4x10 ⁻¹⁰
	100s	<5x10 ⁻¹¹
	1000s 10000s	<2x10 ⁻¹¹ <5x10 ⁻¹²
Phase Noise (typ)	1Hz	-60 dBc
	10Hz	-90 dBc
	100Hz	-115 dBc
	1kHz	-130 dBc
	10kHz	-140 dBc
Lock Indicator	On - Not Locked Off - Locked, Low Phase Error Short flash every second - Locked, High Phase Error	
	GPS Indicator	
GPS Indicator	Green - Indicates number of satellites used in time solution	

Warm Time	<15 minutes to specified accuracy	
Power Supply	15V dc (ac psu provided) Active GPS	
Antenna	antenna supplied (5m lead). High gain antenna option with 20m lead.	
Current Consumption	250mA typical	
Size	E8-X	105 x 30 x 125mm desktop module
	Option 43	100 x 120mm
USB Option	Ask Quartzlock	
Option 43 (E8-X or Y)	PCB version	
Option 46	Antenna & PSU (5m antenna lead) (for the E8-X OEM)	
Option 47	High gain antenna & PSU (20m antenna lead)	

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