

Quartzlock

Passive Hydrogen Maser

PRECISE TIME & FREQUENCY STANDARD




Better short & long term stability combined than Cesium □ No wear out physics package
□ Half Lifetime COA of Cesium □ Long Lifetime □ Unique - the only Passive Hydrogen Maser available
IEM Kvarz - world's largest producer of Hydrogen Masers

CH1-76 May 2001

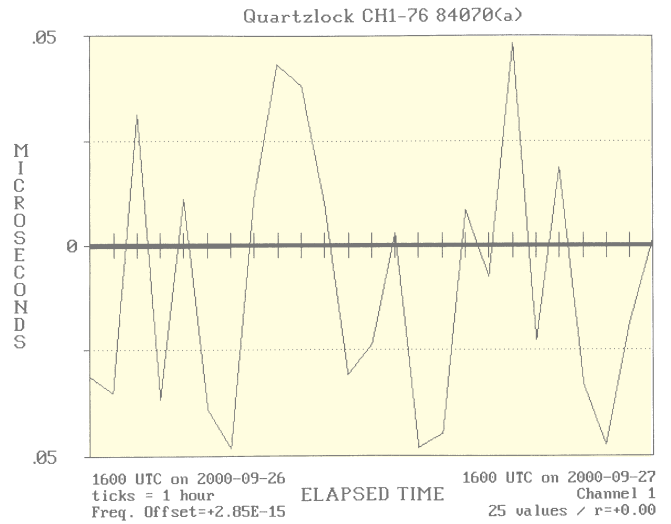
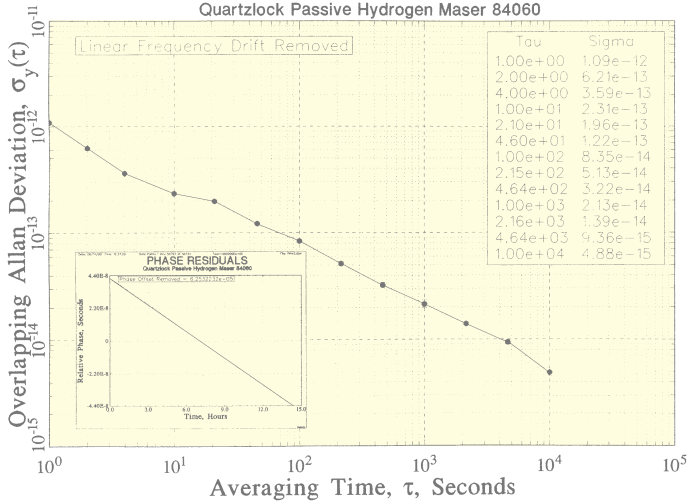
TIME & FREQUENCY STANDARD

ELECTRICAL PERFORMANCE

Frequency Outputs	(2) 5MHz, sine, 50 ohms, 1±0.2 Vrms (2) 1Hz, (1 pps), 50 Ohms, >2.5V peak Pulse Width: 10 to 20ms Rise Time: ≤30ns Jitter: ≤100ps	
Clock Synchronisation	Automatic within 200ns of ref. pulse Amplitude: 2.5 to 5V	
Stability, 5MHz Outputs	Averaging Time, τ (s)	Allan Variance, $\sigma_y(2, \tau)$
	1	≤1.5E-12
	10	≤5E-13
	100	≤1.5E-13
	1000	≤5E-14
	1hour	≤2E-14
	1 day	≤1E-14
	(Although this is a rugged instrument which operates within +5 to 40°C ambient, the quoted specifications apply while the instrument is confined to a ±1°C ambient temperature change)	
Temperature/Frequency Coefficient	≤2E-14/°C	
Drift	≤1E-15/Day	
Accuracy	≤1.5E-12 over 5 years	
Frequency Trim Range	At least 1E-10	
Setting Resolution	1E-14 Steps	
Retrace	≤3E-14 after 24 hours of operation	
Phase Noise 5MHz	Offset from Carrier (Hz)	Phase Noise (dBc)
	1	-100
	10	-120
	100	-140
	1000	-150
	10000	-150
Spurs	Harmonics: ≤-30 dBc Non-Harmonics: ≤-100 dBc	
Power Input - ac	220 VAC, ±10%, 100, 120 V±10%, 240 V+5-10%; 45-65 Hz	
Power Input - dc	As an alternative to ac the unit can be powered by an external 22-30 Vdc supply.	
Automatic Battery Backup	In case of ac failure the instrument switches to the dc input line.	
Power Consumption	ac - <140 VA, dc - <90 watts	
Warm-up Time	≤10 hours to lock. (typ 6 hrs)	
Operating Temperature	+5 to +35°C	
Storage Temperature	-50°C to +50°C	
Magnetic Field Sensitivity	≤2.5E-14/ Gauss	
Pressure	630 to 795 mm Hg (84 TO 106 kPA)	
Humidity	Up to 80% at 25°C	
Size	11"H x 19"W x 22"D (28cm x 48cm x 56cm)	
Weight	120 lbs (55 kg)	
Warranty	1 year. (2....5 year options)	
Service Life	15 years	

FREQUENCY STABILITY

Quartzlock Passive Hydrogen Maser 84060



50 SALES REPRESENTATIVES WORLDWIDE
Service & Sales Facilities in CIS, EU, PRC, SE ASIA and USA

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ISO 9001



NIST Traceable Standard

NPL Referenced

5x dti Smart Awards