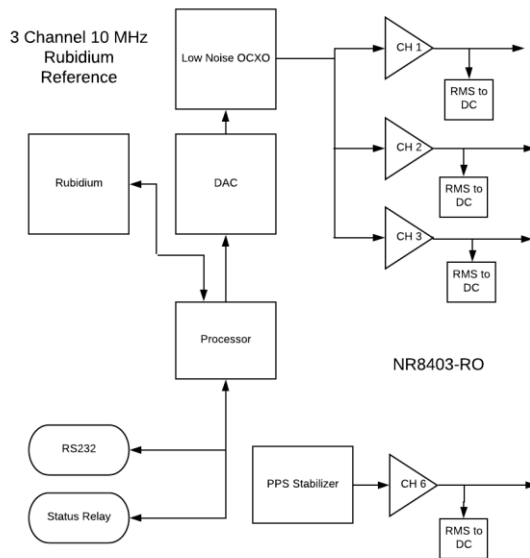


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NR8403-RO

Three Channel Low Noise Rubidium Reference



OCXO Based Reference

Holdover < $\pm 5 \times 10^{-11}$ /month

Phase Noise

Offset Frequency (Hz)	Typical (dBc / Hz)
10	-125
100	-155
1K	-160
10K	-160

This reference brings exceptional stability in an economical package. There are three 10 MHz outputs plus a PPS and NMEA. External locking options allows the unit to be locked to an external PPS or 10 MHz reference. The unit is available as a 10 MHz reference or 50 MHz.

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Output	10 MHz, 0.4 Vrms ±0.1, into 50 Ohms	
Harmonic Distortion	< -30 dBc	
Power	DC options and AC power adapter available- < 15 W start, < 10 W steady state	
Alert	20Vdc/Vac, 0.1 Amp relay contacts- relay closed for normal condition, BNC	
Rubidium Atomic		
Accuracy at shipment	+/-5.0E-11	
Warm-up time	<15 minutes	
Time to achieve accuracy	<±1E-9<20 minutes	
Aging - monthly	<±5E-11	
Retrace	<±1.0E-10 after 1 Hour	
Stability: Allan Deviation		
1s	<3E-10	
10s	<1E-10	
100s	<3E-11	
SSB Phase noise for 10Mhz		
	Standard	Low Noise Option
10Hz	< -95	<-110dBc
100Hz	<-125	<150dBc
1000Hz	<-140	<-155dBc
10000Hz	<-145	<-160dBc
PPS (simulated)		
Amplitude for 1PPS	3.3 Vdc CMOS (5 Vdc option)	
Pulse width for 1PPS	Programmable 1 to 500ms in 1 ms steps	
Rise time for 1PPS	<10 ns (faster edge available)	
Connector	BNC	
Load Impedance	50 Ohm	
Location	rear	
Remote interface & control		
Protocol	RS232 NMEA-0183	
Connector	DB-9	
Location	Rear panel	
Protocol	Bit plus stop	
Standard Baud Rates	Selectable 4800, 9600, 19200, 38400, 57600 or 115200 bps	



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Main Power		
DC input	-60 to +60 in three ranges	
Power	<6 W (steady state < 10 W)	
Warranty	1 year	

Environmental and Mechanical

Operating Temperature	0 to 50°C non-condensing
Storage Temperature	-40 to 70°C
Height	1.58"
Width	6"
Depth	6" exclusive of connectors
Weight	1.5 lbs

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