



8040B

Rubidium Frequency Standard

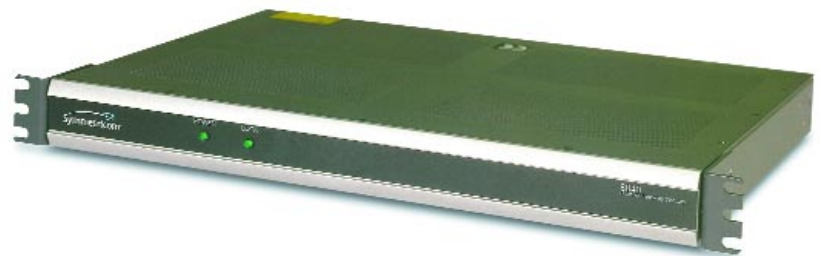
KEY FEATURES

- Power Conditioning
- Aging $<5.0E-11$ Per Month
- Output Flexibility
- Compact 1U Rack Mount or Bench Top
- Wide Temperature Range 0°C to 50°C

Symmetricom's 8040B Rubidium Frequency Standard is a high performance 10MHz frequency standard in a 1U high, 19 inch rack mount plug and play package. Based on many years of refinement, the 8040B rubidium physics package is a design that offers high reliability supported by tens of thousands of fielded units.

The standard instrument offers a universal power supply, status monitors, external frequency control and one 10MHz output. A wide range of optional outputs are available.

These standard and optional outputs make the 8040B flexible enough to meet most any application requiring the stability of a rubidium instrument.



8040B Rubidium Standard

8040B Specifications

ELECTRICAL SPECIFICATIONS

- RF output
 - Frequency: 10MHz Sinewave
 - Amplitude: 0.5Vrms
 - Load impedance: 50Ω @10MHz
 - Harmonic signals ≤-40dBc
 - Non-Harmonic signals ≤-80dBc
- Short Term Stability
 - τ = 1s <2.5E-11
 - τ = 10s <8.0E-12
 - τ = 100s <2.5E-12
- Phase Noise (SSB) 10MHZ
 - 1 Hz -75dBc
 - 10 Hz -89dBc
 - 100 Hz -128dBc
 - 1000 Hz -140dBc
 - 10kHz -147dBc
- Aging
 - monthly (after 1 month): <5.0E-11/month
 - 10 years: <1.0E-9
- Frequency accuracy at shipment: ±5.0E-11 (25° C)
- Frequency retrace: ±2.5E-11
(after 24 hrs power on @ 25° C & up to 48 hrs power off)
- Frequency control
 - Internal trim range: ≥±1.5E-9(0V 1.5E-9)
 - (trimpot)
 - External trim range: ≥±1.5E-9(0V to +5V)
 - (electronic)
- Warm-up:

	(at -20° C)	(at 25° C)
Time to lock	<8.7 min	<5.6 min
Time to <1.0E-9	<10.2 min	<7.3 min
Time to <4.0E-10	<12.7 min	<10.6 min
- Status monitor
 - Analog: VCXO volts, lamp volts
(20 kΩ impedance, filtered)
 - Digital: LOCK monitor: 5V CMOS load
 - Lock: >2.5V (TTL high)
 - Unlock: <0.2V (TTL low)
- Connector: 9 Pin "D" on rear panel

ENVIRONMENTAL SPECIFICATIONS

- Operating temperature: 0° C to 50° C
- Temperature coefficient: <3.0E-10
- Storage temperature: -55° C to +85° C
- Altitude
 - Operating: -200' to 40,000'
 - Non-operating: -200' to 70,000'
- Magnetic field sensitivity, DC (2 Gauss Max): ±4.0E-11/GAUSS
- Power supply requirements (85 to 264 VAC)

	Warm-up	Quiescent (25° C)
Maximum:	60 W	25 W
Typical:	45 W	15 W
- Dimensions
 - Height: 1.75" (4.44 cm)
 - Width: 19" (48.26 cm)
 - Depth: 12" (30.48 cm)
- Weight: <6 lbs. (2.7 Kg)

OPTIONS

- RF buffer providing 1MHz, 5MHz, 10MHz, 1 Vrms sine
 - Two 1PPS outputs (synchronizable), one 1PPS sync input, one each 1, 5 & 10MHz
 - Three 1 MHz sine wave outputs, R41
 - Three 5 MHz sine wave outputs, R42
 - Three 10 MHz sine wave outputs, R43
- Consult factory for additional output configurations

Part No.

EU1
R03
R41
R42
R43



8040B connections



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