



# TSC 4400

## GPS Disciplined Rb Oscillator

### KEY FEATURES

- Provides a Coherent Timing Signal Set
  - 1PPS: 4 Outputs
  - 10 MHz: 4 Outputs
  - IRIG-B: 4 Outputs
- Network Time Protocol (NTP) Server
- Capable of Steering an External Frequency Reference
- Front Panel LEDs Indicate System Status
- Status Information via Ethernet
- Operates with L1/L2 GPS Frequencies
- Includes GPS Antenna

The TSC 4400 is a time recovery system capable of generating precise timing signals traceable to UTC(USNO). It utilizes a GPS disciplined rubidium frequency reference to provide timing outputs characterized by the short-term stability of the atomic reference and the long-term stability of GPS.

The versatility of the TSC 4400 makes it suitable for a variety of applications. It is capable of steering external frequency references (e.g.: cesium) via RS232 to further improve timing performance. Its size allows for two units to be mounted side by side in a standard 19" rack providing full redundancy for those applications requiring uninterrupted timing signals.

The Ethernet connection also simplifies integration with complex systems by allowing health and status information to be monitored remotely.

The TSC 4400 can be configured to custom requirements.

Please contact Symmetricom with any specific requirements.



TSC 4400 GPS Disciplined Rb Oscillator

# TSC 4400 Specifications

## ELECTRICAL SPECIFICATIONS

- 10 MHz Output
  - Connector: SMA female
  - Level:  $1 \pm 0.1$  V RMS
  - Impedance:  $50 \pm 5\Omega$
  - SSB Phase noise (Rb)
    - 1 Hz -95 dBc/Hz
    - 10 Hz -130 dBc/Hz
    - 100 Hz -140 dBc/Hz
    - 1 kHz -150 dBc/Hz
    - 10 kHz -155 dBc/Hz
    - 100 kHz -155 dBc/Hz
- 1PPS Output
  - Connector: SMA female
  - Level: 3.0 V
  - Impedance:  $50 \pm 5\Omega$
  - UTC offset accuracy: 15 ns RMS
  - Holdover accuracy:
    - 50 ns @ 6 hours
    - 100 ns @ 12 hours
    - 300 ns @ 24 hours
- IRIG-B Output
  - Connector: SMA female
  - Timecode: IRIG-B 123
  - Impedance:  $50 \pm 5\Omega$
  - Accuracy:  $<5 \mu\text{s}$

## ENVIRONMENTAL & PHYSICAL SPECIFICATIONS

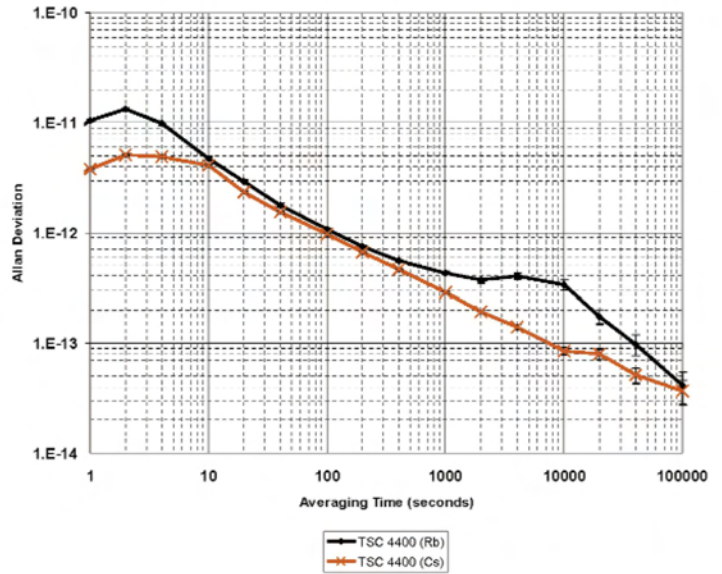
- Temperature: 0°C to 50°C
- Humidity: 0 to 95% non-condensing
- AC Input: 90 – 264 V AC, 85 W, 47 – 63 Hz
- Dimensions: 3.5" (8.89 cm) H x 9.5" (24.13 cm)W x 22" (55.88 cm) D
- Weight: 12 lb (5.5 kg)
- Color: Parchment White

## CONFIGURATION OPTIONS

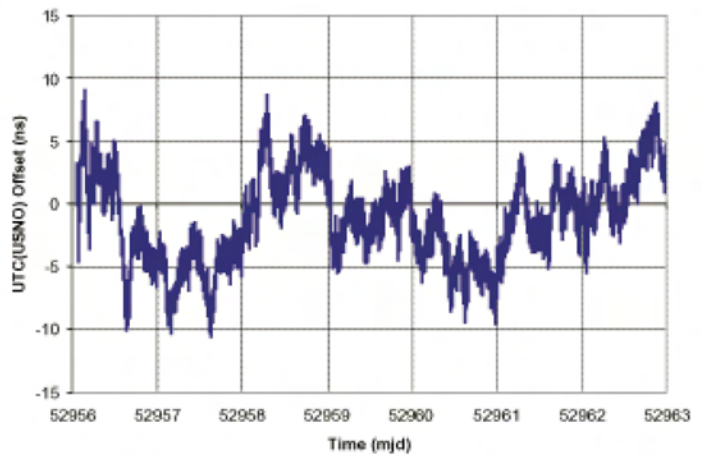
- Dual frequency receiver
  - 4400 Standard product
  - 4400-01 With rack Mount chassis
  - 4400-02 Fully redundant, includes rack mount
- Single frequency receiver
  - 4400-03 Single frequency L1 receiver
  - 4400-04 With rack mount chassis
  - 4400-05 Fully redundant, includes rack mount

## ACCESSORIES

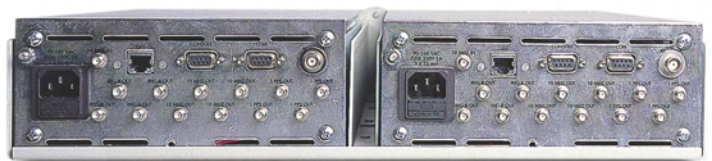
- OP001 30 m GPS antenna cable
- OP002 60 m GPS antenna cable
- OP003 Lightning arrester



Typical Performance (10 MHz)



Typical Performance (1PPS)



Rear View



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