4411A GPS Disciplined Crystal Oscillator Reference

**KEY FEATURES**
- Provides Five Timing Signal Types
  - 1PPS: 4 TTL Outputs
  - 10 MHz: 4 Sinewave Outputs
  - 1 TTL Output
  - IRIG-B: 4 Modulated Outputs
  - 2 DC Level Shift Outputs
- Front Panel Time Display
- Front Panel LEDs Indicate System Status
- Ethernet Monitoring
- Stratum 1 via GPS

The 4411A is a time and frequency recovery system that generates precise signals traceable to UTC. It utilizes a GPS disciplined crystal oscillator frequency reference to provide timing outputs characterized by the short-term stability of the crystal reference and the long-term stability of GPS.

The versatility of the 4411A makes it suitable for a variety of applications. It provides multiple copies of 5 different timing signals on the rear of the 1U-high, 19” rack-mount chassis.

Year, day, and time-of-day are displayed on the front panel. The standard Ethernet connection simplifies integration with complex systems by allowing health and status information to be monitored remotely.
4411A Specifications

ELECTRICAL SPECIFICATIONS

• GPS Antenna input: BNC female with 5 V on center conductor

• 10 MHz Sine output [4]
  Connector: BNC female
  Level: 13 ± 1 dBm
  Impedance: 50 ± 5 Ω
  SSB Phase noise
    1 Hz: -85 dBc/Hz
    10 Hz: -115 dBc/Hz
    100 Hz: -135 dBc/Hz
    1 kHz: -145 dBc/Hz
    10 kHz: -150 dBc/Hz
  Long term stability in Holdover: <5x10^-10 per month

• 10 MHz TTL Output [1]
  Connector: BNC female
  Level: 3 V into 50Ω

• 1PPS Output [4]
  Connector: BNC female
  Level: 3 V into 50Ω
  UTC Offset accuracy: 50 ns RMS
  Holdover accuracy: 15 µs over 24 hours

• IRIG-B Modulated output [4]
  Connector: BNC female
  Timecode: IRIG-B 123
  Level: 3 Vpp into 50Ω
  Impedance: 50 ± 5 Ω
  Accuracy: 7 ± 2 µs relative to 1PPS

• IRIG-B DC Level shift output [2]
  Connector: BNC female
  Timecode: IRIG-B 003
  Level: 4.4 V into 50Ω

ENVIRONMENTAL & PHYSICAL SPECIFICATIONS

• Temperature range: 0°C-50°C (operating)
• Humidity: 0-95% Non-condensing (operating)
• AC Input: 90 – 264 V AC, 85 W, 47 – 63 Hz
• Dimensions: 1.75” [4.45 cm] H x 19” [48.26 cm] W x 12” [30.48 cm] D
• Weight: 9 lb [4 kg]

OPTIONS

• 001 GPS Antenna
• 002 30 m GPS Antenna cable
• 003 60 m GPS Antenna cable
• 004 Lightning arrester