



CsIII

Cesium Frequency Standard Model 4310B

KEY FEATURES

- Third Generation Cesium Technology
- 2U Compact Rack Mount
- AC & DC inputs
- Remote Monitoring & Control
- 5 & 10MHz Outputs
- 1PPS Sync input
- 1PPS Output
- <30 lbs
- CE Compliant

OPTIONAL FEATURES

- T1/E1 Outputs
- Portability Kit

Symmetricom's CsIII is a lightweight, compact, economical cesium frequency standard. The technology developed for the CsIII is an evolutionary step forward in the quest for higher stability, lower phase noise and longer life. An ever-increasing base of demanding users in communications, timing, synchronization and other applications take advantage of this performance.

The CsIII is configured with 5 and 10MHz sinewave outputs, a 10MHz TTL output a 1PPS sync input and a 1PPS timing output. All monitoring and control of the unit is done via the serial interface and Symmetricom's proprietary Monitor3 software.

Packaged in a 2U, 19-inch rack mounted chassis, the CsIII weighs less than 30 lbs. An optional portability kit and T1/E1 synthesizer are available for added functionality and versatility.

The CsIII comes standard with a 2-year electronics warranty and 12-year tube warranty.

The CsIII is ideal for SATCOM, Calibration, Metrology and many other Test & Measurement applications that required cesium stability and accuracy.



CsIII Cesium Frequency Standard

CsIII SPECIFICATIONS

ELECTRICAL SPECIFICATIONS

• Frequency outputs

| | |
|-----------------|-------------------------|
| Frequency: | 1 each 5 MHz and 10 MHz |
| Format: | Sine |
| Amplitude: | 1 Vrms |
| Harmonic: | <-40dBc |
| Non harmonic: | <-80dBc |
| Connector: | BNC |
| Load impedance: | 50Ω |
| Location: | rear panel |

| | |
|-----------------|------------|
| Frequency: | 10 MHz |
| Format: | TTL |
| Amplitude: | >2.2V |
| Load impedance: | 50Ω |
| Location: | rear panel |
| Connector: | BNC |

• Timing outputs

| | |
|-----------------|------------------------------------|
| Format: | 1PPS |
| Amplitude: | >3.0V into 50Ω (TTL compatible) |
| Pulse width: | 20μs positive pulse |
| Rise time: | <5ns |
| Jitter: | <1ns rms |
| Connector: | BNC |
| Load impedance: | 50Ω |
| Location: | rear panel |

• Timing inputs

| | |
|-----------------|------------------------------------|
| Sync input: | 1PPS |
| Amplitude: | >3.0V into 50Ω (TTL compatible) |
| Pulse width: | 20μs positive pulse |
| Rise time: | <5ns |
| Jitter: | <1ns rms |
| Connector: | BNC |
| Load impedance: | 50Ω |
| Location: | rear panel |

REMOTE SYSTEM INTERFACE AND CONTROL

RS-232-C (DTE Configuration)

Complete remote control and interrogation of all instrument functions and parameters

| | |
|----------------|---|
| Connector | |
| RS-232-C: | 9-pin male rectangular D subminiature type |
| Location: | rear panel |
| Alarm (Relay): | 9-pin female rectangular D subminiature type |
| Location: | rear panel |

• Performance parameters

| | |
|-------------------------|-----------------|
| Accuracy: | ±1.0E-12 |
| Warm-up time (typical): | 30 minutes |
| Reproducibility: | ±2.0E-13 |
| Settability | |
| Range: | ±1.0E-9 |
| Resolution: | 1.0E-15 |
| Control: | Via RS-232 port |

• Stability

| Averaging Time(s) | Allan Deviation |
|-------------------|-----------------|
| 1 | <1.2E-11 |
| 10 | <8.5E-12 |
| 100 | <2.7E-12 |
| 1,000 | <8.5E-13 |
| 10,000 | <2.7E-13 |
| 100,000 | <8.5E-14 |
| floor | <5.0E-14 |

• SSB Phase noise

| Offset (Hz) | 5MHz output |
|-------------|-------------|
| 1 | <-95dBc |
| 10 | <-130dBc |
| 100 | <-145dBc |
| 1,000 | <-155dBc |
| 10,000 | <-155dBc |
| 100,000 | <-160dBc |

ENVIRONMENTAL & PHYSICAL SPECIFICATIONS

• General Environment

| | |
|-----------------------|------------------|
| Temperature | |
| Operating: | 0°C to 50°C |
| Non-operating: | -40°C to 70°C |
| Humidity: | 95% up to 50°C |
| Magnetic field: | 0 to 2 gauss |
| Altitude (operating): | 0 to 50,000 feet |

• AC Power requirements

| | |
|---------------------------|----------------|
| Operating voltage (±10%): | 100 to 240 VAC |
| Frequency: | 47 to 63 Hz |
| Power | |

| | |
|------------|-----|
| Operating: | 65W |
| Warm-up: | 90W |

• DC Power requirements

| | |
|----------------------------|--|
| 22 to 36 VDC | |
| 36 to 75 VDC | |
| 30W 1.3A @ 24V (Operating) | |
| 65W 2.7A @ 24V (Warm Up) | |

• Dimensions/Weight

| | |
|--------------|-----------------|
| Height: | 3.50" (89.9mm) |
| Width | |
| Front panel: | 19.00" (483mm) |
| Instrument | 17.31" (440mm) |
| Depth: | 15.0" (381mm) |
| Weight: | <30lbs (13.5kg) |
| MTBF: | >130,000 hrs. |

ORDERING INFORMATION

- 24VDC
- 48VDC

Part No.

14534-110
14534-109



CsIII connections



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