



CsIII

Cesium Frequency Standard

KEY FEATURES

- Third Generation Cesium Technology
- Remote Monitor & Control via RS-232 port
- RF Outputs of 5 MHz & 10 MHz
- 1 PPS Output
- No Calibration Necessary—No Aging
- Long Cesium Beam Tube Life Span
- Compact 2U Rack Mount
- Lightweight <30 Pounds
- Optional E1 & T1 Output
- Portable Version Also Available

MAJOR APPLICATIONS

- Primary Reference Source
- Calibration Standard
- Satellite Tracking Stations
- Positioning and Navigation
- Master Reference for Broadcast Communications

INTRODUCTION

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.

Packaged in a 2U, 19-inch rack mounted chassis; the CsIII weighs less than 30 lbs. Standard features include 5 and 10MHz sine wave outputs, a 1 PPS output and an RS-232 interface used to monitor and control the unit. Optional T1/E1 telecom outputs and a portability kit are also available.

TEST AND MEASUREMENT

Test and measurement applications depend on the versatility of the CsIII. As a house standard, there is no better method for calibration of equipment. The CsIII can be optionally configured with a portability kit that allows for easy transportation to field based locations. The light weight and multiple outputs of the CsIII make it an ideal instrument for base station calibration.



CsIII Cesium Frequency Standard

CsIII Specifications

ELECTRICAL SPECIFICATIONS

- RF output

Frequency:	1 each 5 MHz and 10 MHz
Amplitude:	1 Vrms
Harmonic:	<-40dBc
Spurious:	<-80dBc
Connector type:	BNC
Load impedance:	50Ω
Location:	rear panel

- 1 PPS output / 1 PPS SYNC Input

Frequency:	One pulse per second
Amplitude/wave shape:	>3.0 V pk into 50Ω [TTL compatible]
Width:	20 μs
Rise time:	<5 ns
Jitter:	<1 ns rms
Connector type:	BNC
Location:	rear panel

- 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)	5 MHz output	10 MHz output
1	<-95dBc	≤-90dBc
10	≤130dBc	≤-125dBc
100	≤145dBc	≤-135dBc
1,000	≤155dBc	≤-145dBc
10,000	≤155dBc	≤-145dBc
100,000	≤160dBc	≤-150dBc

- 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

ENVIRONMENTAL & PHYSICAL SPECIFICATIONS

- Panel indicators

Power:	Green LED indicates there is power to the instrument
Lock:	Green LED indicates proper operation
Major alarm:	Red LED indicates improper operation

- Remote system interface and control

RS-232-C: (DTE configuration) Connector	Remote control and interrogation of all instrument functions and parameters
RS-232-C: Alarm:	9-pin male rectangular D subminiature type 9-pin female rectangular D subminiature type one form-C contact

- Temperature

Operating:	0° C to 55° C
Non-operating:	-40° C to +70° C

- AC power requirements

Operating voltage:	90 to 132 V 180 to 265 V
Frequency range: Power	47 to 63 Hz

Operating:	65W
Warm-up:	90W

- DC power requirements*:

22 to 36VDC
30W 1.3A @24V (operating)
65W 2.7A @24V (warm-up)

*48VDC (36-75VDC) power supply option available

- Dimensions

Height:	3.50" (88.9 mm)
Width	

Front panel:	19.00" (483 mm)
Instrument:	17.31" (440 mm)
Depth:	15.0" (381 mm)

- Weight:

<30 lbs. (13.5 kg)

OPTIONS

- Tube warranty extension to 12 years
- Portability conversion kit
- Dual 1544 kbps output
- Dual 2048 kbps (G.703/6) outputs plus 2.048MHz (G.703/10)

Part No.

TEW
PCK
DS1
E1



CsIII connections



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