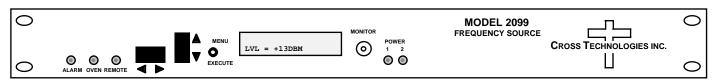


## **DATA SHEET**

2/13/07

# 2099-100XX Frequency Source

The Model 2099-100XX Frequency Source provides four (xx=04), eight (xx=08) or twelve (xx=12) 100 MHz reference outputs from a 0.1 ppm high stability oven controlled crystal oscillator (OCXO). Front panel LEDs indicate alarm (red), oven warm-up (yellow), remote (yellow), and power from the two redundant power supplies (green). The output level is +7 dBm (max), and the 2099-100XX works into either a  $75\Omega$  or  $50\Omega$  load. An available External Reference option (Option E) provides an external reference input which can be used to lock the internal 100 MHz source to a high stability external reference. An LCD display shows the 100 MHz output level (and mode setting, gain, lock reference frequency. Connectors are 50/75 Ohm BNC female. A relay contact closure or open indicates when an alarm occurs. The 2099-100XX is mounted in a 1RU rack mountable chassis with redundant power supplies fed by separate fused  $100-240 \pm 10\%$  VAC AC input connectors and provides RS232/422/485 M&C Interface.



## 2099-100XX

#### **EQUIPMENT SPECIFICATIONS\***

#### **Output Characteristics**

Number of outputs 4, 8 or 12 (including monitor)

Impedance; Return Loss  $50\Omega/75\Omega$ ; >18dB Frequency 100 MHz

Level, adjustable (int ref) -7 dBm to +7 dBm

Gain, adjustable (ext ref) -10 dB to +3 dB (option -E only)

Harmonics < -30 dBC, < -40 typ.

Spurious < -75 dBC

## **External Reference Input Characteristics**

Impedance; Return Loss  $50\Omega/75\Omega$ ; >18dB Level +3 dBm ± 3 dB

## **Oscillator Characteristics**

Over temperature  $\pm 0.03$  ppm max 0°C to +50°C

Aging  $\pm$  0.01 ppm per day;  $\pm$ 0.5 ppm per year Warm up  $\pm$  1.0 ppm in 4 minutes;  $\pm$ 0.1 ppm in 1 hour

Tuning Adjustment ±0.5 ppm

Phase Noise @ Freq | 10Hz | 100Hz | 1kHz | 10kHz | dBC/Hz | <-90 | <-125 | <-145 | <-155

## **Controls, Indicators**

Output Level Adjust direct readout LCD; push-button switches or remote selection

Power Green LEDs

Remote Yellow LED, RS232C/422/485

Oven Warm-Up Yellow LED

Alarm Red LED, External contact closure

Other

10 MHz Connectors BNC (female),  $50\Omega/75\Omega$  impedance

Alarm/Remote Connector DB9 (female) - NO or NC contact closure on Alarm Size 19 inch standard chassis 1.75" high X 12.0" deep

Power Redundant 100-240 ±10% VAC, 410 - 63 Hz, 45 W max. power supplies

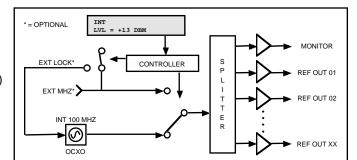
**Options** 

E External Reference Input (includes INTERNAL, EXTERNAL LOCK, and

EXTERNAL LOCK- AUTO modes)

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2099-100XX BLOCK DIAGRAM

<sup>\*10°</sup>C to 40°C; Specifications subject to change without notice