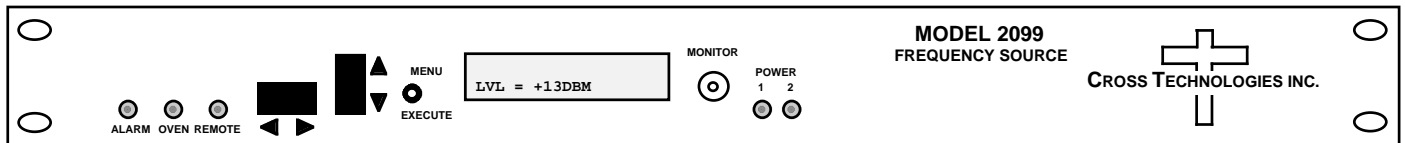


## 2099-100XX Frequency Source

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 75Ω or 50Ω 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 ± 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	50Ω/75Ω; >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	50Ω/75Ω; >18dB
Level	+3 dBm ± 3 dB

#### Oscillator Characteristics

Over temperature	± 0.03 ppm max 0°C to +50°C
Aging	± 0.01 ppm per day; ±0.5 ppm per year
Warm up	± 1.0 ppm in 4 minutes; ±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

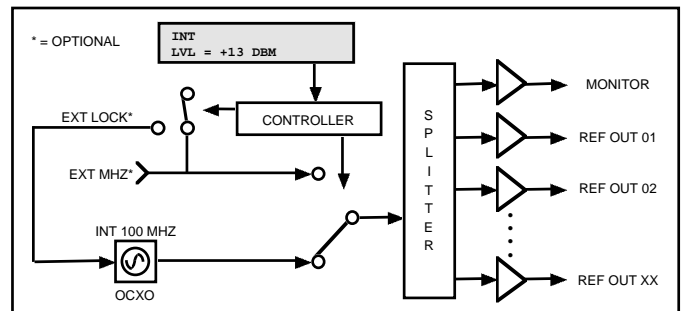
Output Level Adjust	direct readout LCD; push-button switches or remote selection
Power	Green LEDs
Remote	Yellow LED, RS232C/422/485
Oven Warm-Up	Yellow LED
Alarm	Red LED, External contact closure

#### Other

10 MHz Connectors	BNC (female), 50Ω/75Ω 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**

\*10°C to 40°C; Specifications subject to change without notice

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