



**2099-100 100MHz Reference**

The 2099-100 100 MHz Reference provides two 100 MHz outputs from a  $\pm 0.1$  ppm high stability oven controlled crystal oscillator. Front panel LEDs provide indication of DC power and oven warm-up. The level is +9 dBm and the 2099-100 works into either a 75 or 50 ohm load. Connectors are BNC female. A relay contact closure or open indicates when the oscillator oven is stabilized. The unit is powered by a 90-260 VAC power supply; and housed in a 1 3/4" X 19" X 14" rack mount chassis.



**Front Panel**

**EQUIPMENT SPECIFICATIONS\***

**Output Characteristics**

Number of outputs	2
Impedance	50 $\Omega$ or 75 $\Omega$
Return Loss	>18 dB
Frequency	100.0000 MHz
Output Level	+9 $\pm$ 1 dBm
Harmonics	< -30 dBC, < -40 typ.
Spurious	< -75 dBC

**Oscillator Stability**

Over temperature	$\pm 0.1$ ppm max 0°C to +50°C
Aging, per day	$\pm 0.01$ ppm
Aging, per year	$\pm 0.5$ ppm
Warm up, in 4 minutes	$\pm 1.0$ ppm
Warm up, in 1 hour	$\pm 0.1$ ppm
Mechanical adjustment	$\pm 1$ ppm

**Oscillator Phase Noise**

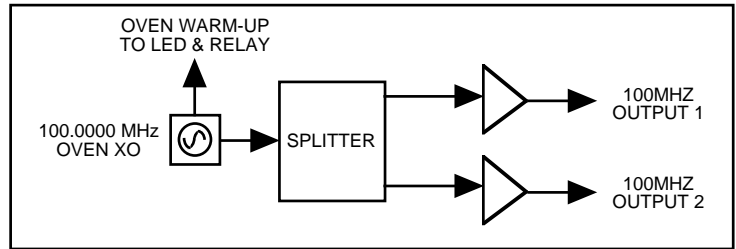
Phase Noise	@ Freq	10Hz	100Hz	1kHz	10kHz
	dBC/Hz	< -90	< -125	< -145	< -155

**Controls, Indicators**

Power	Green LED
Oven Warm Up	Yellow LED, External contact closure

**Other**

100 MHz Connectors	BNC (female)
Connector, Alarm	DB9 - NO or NC contact closure on Alarm
Size	19 inch standard chassis 1.75" high X 14.0" deep
Power	90 - 260 VAC, 47 - 63 Hz, 20 watts max.



**Block Diagram**

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