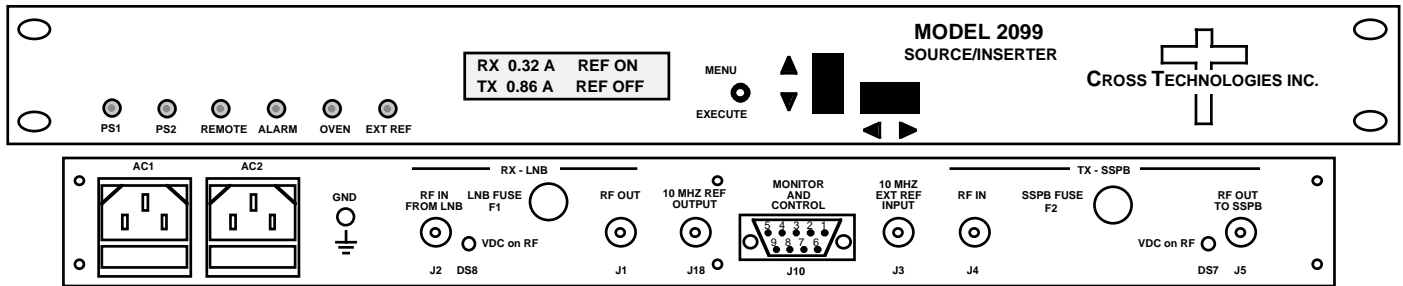


2099-218 10MHz Source/Inserter, Redundant 18V

The 2099-218 10 MHz Source/Inserter is a 10 MHz, ± 0.01 ppm oven controlled crystal oscillator (OCXO) with circuitry to insert the 10MHz signal and DC voltage on L-band lines for an LNB and SSPB. Multi-function push button switches select **Internal, Auto (Auto switches to internal when external source < -2 dBm), or External** 10 MHz and insertion of 10 MHz on the L-band lines. LEDs indicate DC power (green), alarm (red), remote operation (yellow), and OCXO oven warm-up (yellow). Remote control allows remote configuration of front panel commands and monitoring LNB and SSPB current. Parameter selection and LNB and SSPB current appear on the LCD display. Connectors are BNC female for RF and 10 MHz external input and output signals. LNB or SSPB +18 VDC can be inserted on the RF lines by installing the fuses. **Redundant** AC power is 100-240 $\pm 10\%$ VAC, 47-63 Hz. The unit is 1 RU, 16" deep.



Front and Rear Panels

EQUIPMENT SPECIFICATIONS*

-----10 MHz Reference-----

Output Characteristics (on L-band RF)

Level	+2 dBm ± 2 dB
Harmonics	<-30 dBC, <-40 dBC typ
Level to non-insert end	<-20 dBm, <-30 dBm typ

Input/Output Characteristics (on BNC connectors)

Impedance, Return Loss	50 Ω /75 Ω , 16 dB
Level	+3 dBm ± 3 dB
Harmonics (Output)	< -30 dBC, < -40 dBC typ.

(Auto switches to internal when external source < -2 dBm)

Internal Oscillator

Stability	± 0.01 ppm max over temp
Aging, per day	± 0.001 ppm
Aging, per year	± 0.1 ppm
Warm up, 4 minutes	± 0.1 ppm
Warm up, 1 hour	± 0.01 ppm
Tuning Adjust	± 0.5 ppm

Phase Noise @ F (Hz) >	10	100	1K	10K
dBC/Hz	110	140	149	149

-----Chassis / Other-----

Controls, Indicators

INT/AUTO/EXT 10M Sel.	direct readout LCD; manual or remote selection
10 MHz Insert Select	direct readout LCD; manual or remote selection
LNB, SSPB Current	direct readout, remote monitor
Power, Alarm, Remote	Green LED; Red LED; Yellow LED;
Oven Warm-up, Ext Ref	Yellow LED; Yellow LED
Remote	RS232C, 9600 baud

Other

RF Connectors	F Type, 75Ω (female)
10 MHz Connectors	BNC, 75 / 50 (female)
Alarm/Remote Connector	DB9 (female) - NO or NC closure on Alarm
Size	19 inch, 1RU chassis 1.75"H X 16.0"D
Power	100-240 $\pm 10\%$ VAC, 47-63 Hz, 90 watts max

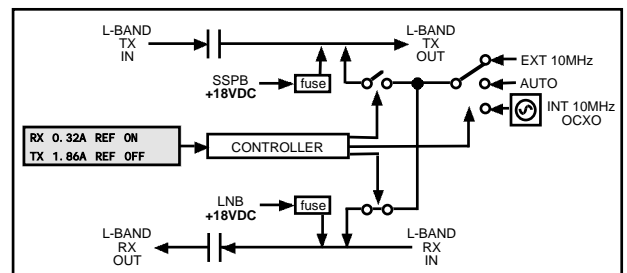
-----RX and TX L-band Insertion-----

RF Input/Output Characteristics

Frequency	950 - 2150 MHz
Impedance	75Ω
Return Loss	>12 dB, 0.95-1.5 GHz
	>10 dB, 1.5-2.15 GHz
Insertion Loss	< 1 dB, 0.95-1.5 GHz
	< 2 dB, 1.5-2.15 GHz
Frequency Response	± 1.0 dB, 950 - 2150 MHz;
	± 0.5 dB, 36 MHz BW

LNB, SSPB DC Power Characteristics

Voltage/Current	LNB +18 VDC, $\pm 10\%$, 0.5 A. max.
	SSPB +18 VDC, $\pm 10\%$, 1.0 A. max.
	Call for other voltages
Load Regulation	$\pm 5\%$



Block Diagram

Available Options

- Q - RS485/RS422 Remote Interface
- W8 - ETHERNET Remote Interface
- W18 - ETHERNET W/SNMP Remote Interface
- Connectors/Impedance
- D- 50 Ω BNC (RF)**

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