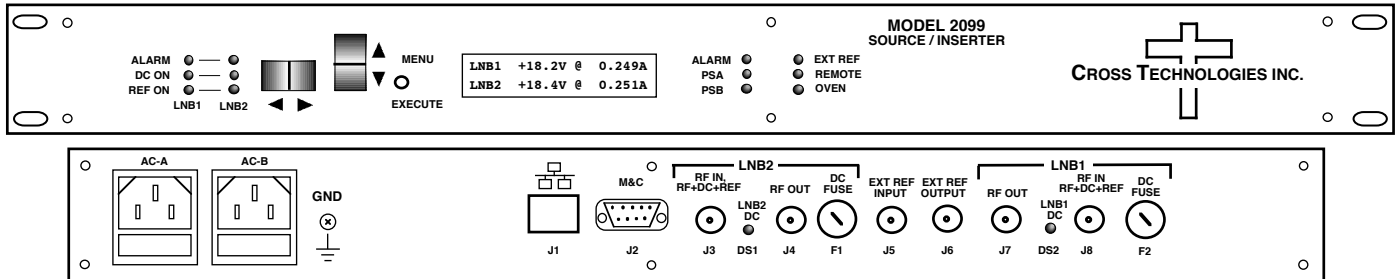


## 2099-18 10MHz, 18V Source/Inserter, Redundant Power

The 2099-18 10 MHz Source/Inserter **provides** a 10 MHz,  $\pm 0.01$  ppm oven controlled crystal oscillator (OCXO) with circuitry to insert the 10MHz signal and **+18 VDC** on **two** L-band lines for two LNBS. Multi-function switches select **+18 VDC LNB power for insertion on either/both LNB lines**, internal or External (**Option E**) 10 MHz, and insertion of 10 MHz on the L-band lines. LEDs indicate DC power (green), Reference insertion (green), alarm (red), remote operation (yellow), and OCXO oven warm-up (yellow). The External Reference option (**Option E**) provides an external reference input which can be used to lock the internal 10 MHz source to a high stability external frequency reference or it may be inserted directly into the L-Band lines. Remote control allows remote configuration of front panel commands and monitoring **LNB1 and LNB2** voltage and current. Parameter selection and **each** LNB voltage and current appear on the LCD display. Connectors are BNC female for RF and 10 MHz input and output signals. **Redundant** AC power is 100-240  $\pm 10\%$  VAC, 47-63 Hz. The chassis is 1 RU, 12" deep.



Front and Rear Panels (Shown with options E and Ethernet)

### EQUIPMENT SPECIFICATIONS\*

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

##### Output Characteristics (on L-band RF)

Level	+2 dBm $\pm$ 2 dB
Harmonics	<-30 dBC, <-40 dBC typ
Level to non-insert end	<-20 dBm, <-30 dBm typ
<b>Input/Output Characteristics (on BNC connectors)</b>	
Impedance, Return Loss	50 $\Omega$ /75 $\Omega$ , 14 dB
Level	+3 dBm $\pm$ 3 dB
Harmonics (Output)	< -30 dBC, < -40 dBC typical

##### Oscillator

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

Phase Noise @ Freq	10 Hz	100 Hz	1kHz	10kHz
> dBC/Hz	110	140	149	149

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

##### Controls, Indicators

INT/EXT 10 MHz Select	FP Switch or M&C select; <b>Ext. Yellow LED</b>
10 MHz Insert Select	FP Switch or M&C select; <b>Green LED</b>
<b>LNB1, LNB2</b> Insert	FP Switch or M&C select; <b>Green, rear Yellow LED</b>
<b>LNB1, LNB2</b> Volts, Amps	Front panel display and M&C
Power, Alarm, Ref.	Green LED; Red LED; Green LED
Oven, Ext Ref, Remote	Yellow LED; Yellow LED; Yellow LED

##### Other

RF Connectors	BNC, 50 $\Omega$ (female)
10 MHz Connectors	<b>BNC, 50 (female) (WORKS FOR 50<math>\Omega</math> OR 75<math>\Omega</math>)</b>
Alarm/Remote Connector	DB9 (female) - NO or NC closure on Alarm
Size	19 inch, 1RU chassis 1.75"H X 12.0"D
Power, <b>Redundant Std.</b>	100-240 $\pm 10\%$ VAC, 47-63 Hz, <b>50</b> watts max

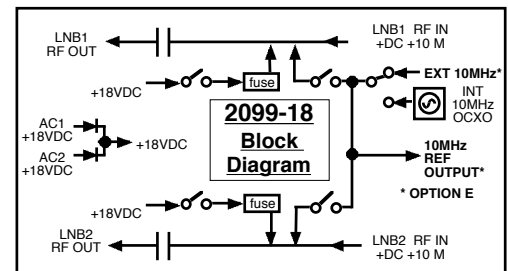
#### ----- L-band Insertion -----

##### RF Input/Output Characteristics

Frequency	950 - 2150 MHz and 10 MHz
Impedance	50 $\Omega$
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	$\pm 1.0$ dB, 950 - 2150 MHz; $\pm 0.5$ dB, 36 MHz BW

##### LNB1, LNB2 DC Power Characteristics

Voltage/Current	+18 $\pm$ 1 VDC, 0.5 A, max.
Load Regulation	$\pm 5\%$



#### E - Ext 10 MHz ref, Auto Det & Restore Comm. Interface/Standard RS232

W8 - Ethernet; w/Web Browser (WB)  
W18 - Ethernet; w/WB & SNMP  
W28 - Ethernet; w/TCP/IP, Telnet®  
W828 - W8 +W18 +W28

#### RF Connectors/Impedance

B - 75 $\Omega$  BNC  
F - 75 $\Omega$  F-type  
SS- 50 $\Omega$  SMA

**OPTION S**

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