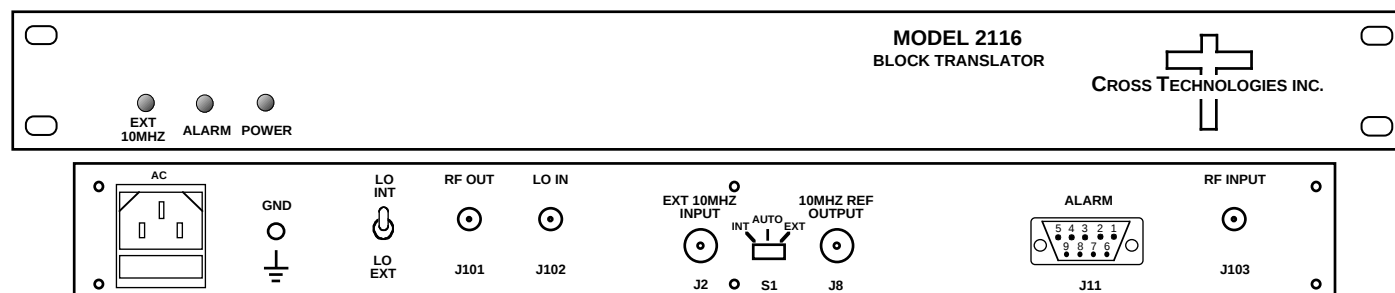


2116-288T190 Block Translator, 27.8 - 28.8 GHz to 18.0 - 19.0 GHz, 9.80 GHz LO

The 2116-288T190 Block Translator converts 27.8 - 28.8 GHz to 18.0 - 19.0 GHz with a local oscillator at 9.80 GHz. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is -30 dB. Connectors are 2.92mm female for RF In, Super SMA female for RF Out and BNC female for the external reference input and reference output. A three-way switch controls which 10 MHz reference is being used. When in the AUTO position, the internal reference is used unless a +3 dBm, 10MHz reference signal is connected to the external reference input. **External LO option W89 allows an external 9.8 GHz LO at +14 dBm $\pm$ 2dB level**, switched by a SPDT toggle switch. It is powered by a 100-240 $\pm$ 10% VAC power supply, and mounted in a 1 3/4" X 19" X 14" rack mount chassis.



Front and Rear Panels (Shown with Option W89)

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance / Return Loss	50 Ω / 12 dB, typ., 10dB min.
Frequency	27.8 to 28.8 GHz
Input Level range	-10 to 0 dBm
Input 1 dB compression	+10 dBm

Output Characteristics

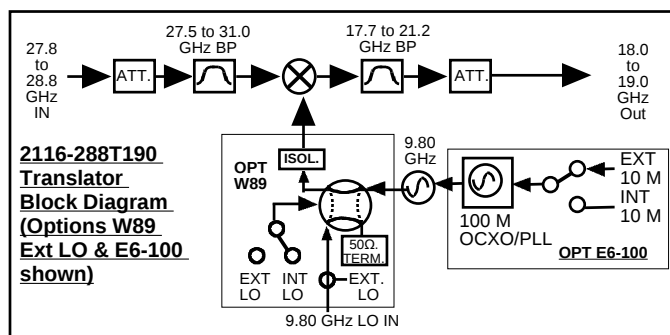
Impedance/Return Loss	50 Ω / 15 dB, typ., 14dB min.
Frequency	18.0 to 19.0 GHz
Output Level Range	-40 to -30 dBm
Output 1 dB compression	-20 dBm

Channel Characteristics

Gain	-30 dB $\pm$ 2 dB at Fc
Input/Output Isolation	>50 dB, min
Intermodulation	>50 dBC for two carriers each at -5 dBm in
Spurious, Inband	SIGNAL RELATED<-50 dBC,typ., -40 dBC max; SIGNAL INDEPENDENT<-80 dBm;
Spurious, Out of band,2XLO	<-45 dBm, at 19.6 GHz at the output
Frequency Response	$\pm$ 2.0 dB, over frequency band; $\pm$ 0.5 dB, 40 MHz BW
Frequency Sense	Non-inverting

LO Characteristics (Phase noise shown with Option E6-100)

LO Frequency	9.80 GHz
Frequency Accuracy	$\pm$ 0.05 ppm max over temp internal reference
10 MHz In/Out Level	+3 dBm $\pm$ 3 dB



Available Options

E6-100 Int 100MHz ref. locked to ext 10 MHz
W41 -20 to +50 degrees C operation
W89 - Ext. LO, switched & terminated

Contact Cross for other options

Phase Noise @ F (Hz) >	10	100	1K	10K	100K	1M	10M	100M
9.800 GHz dBC/Hz, W/E6-100	-45	-70	-85	-100	-100	-110	-130	-130
Ext 10 MHz Ref.	-127	-145	-150	-153	-153	-153	-153	-153

Ext LO Freq/Level, W89 9.80 GHz / +14 dBm, $\pm$ 2 dB

Controls, Indicators

Power	Green LED
PLL Alarm	Red LED, External contact closure
Ext 10 MHz	Yellow LED, indicates external 10 MHz reference selected (rear panel switch)
10 MHz Reference	3-way Switch (selects INTERNAL, EXTERNAL, or AUTO mode)

Other

RF In / RF Out Con.	2.92 mm / Super SMA
10 MHz Connectors	BNC (female), 50 Ω /75 Ω
Alarm Connector	DB9 - NO or NC contact closure on Alarm
Size	19 inch standard chassis 1.75" high X 14" deep
Power	100-240 $\pm$ 10% VAC, 47 - 63 Hz, 45 watts max.

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