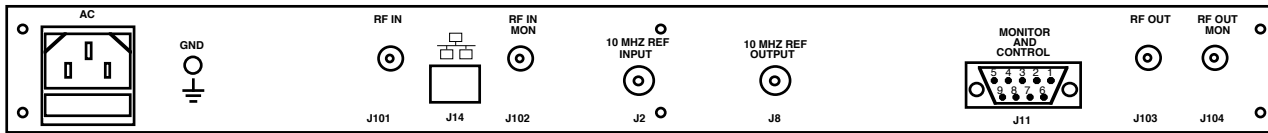
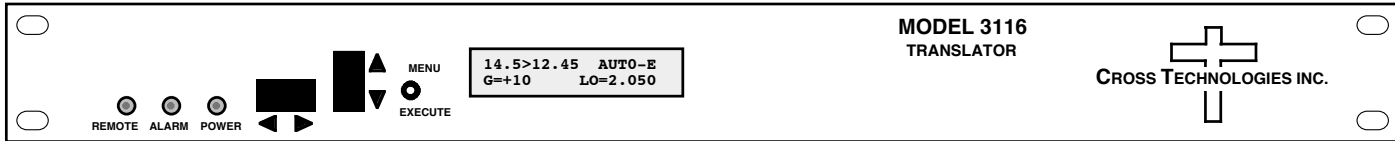


**3116-T12-145109 Translator 13.75-14.5 GHz to 10.95-11.7 or 11.7-12.45 GHz**

The 3116-T12-145109 Translator converts **13.75-14.5 GHz to 10.95-11.7 or 11.7-12.45 GHz with a 2.80 or 2.05 GHz local oscillator**. Front panel LEDs provide indication of Remote operation, PLL Alarm, and DC Power. The RF to RF gain is **+0 dB**, maximum. Connectors are SMA female for RF out, RF in, and **OPTIONAL RF Monitors (RF in, Opt W86; RF out, Opt W85)** and BNC female for external 10 MHz in and 10 MHz out. In AUTO, the 10 MHz reference stays in external if the external level is **+3 dBm, ±3 dB**. **Gain, Band, and 10 MHz frequency source** are controlled by the **front panel switches** or the M&C connector (**Ethernet optional**). It is powered by a 100-240 ±10% VAC power supply and is in a 1.75" X 19" X 14" rack mount chassis.



**3116-T12-145109 FRONT AND REAR PANELS (Shown with optional RF Monitors and Ethernet)**

**EQUIPMENT SPECIFICATIONS\***

**Input Characteristics**

Impedance/Return Loss **50Ω/12 dB, 14 dB typ**  
 Frequency **13.75 - 14.5 GHz**  
 Noise Figure, Max. **25 dB at max gain**  
 Input Level range **-30 to -10 dBm**

**Output Characteristics**

Impedance/Return Loss **50 Ω /12 dB, 14 dB typ**  
 Frequency **10.95-11.7 or 11.7-12.45 GHz**  
 Output Level Range **-30 to -10 dBm at max gain**  
 Output 1 dB compression **+0 dBm, at max. gain**

**Channel Characteristics**

Gain, maximum **+0 ±3 dB at Fc**  
 Gain Range **+0 to -30 dB; 0.5±0.5 dB Steps**  
 In to Out Isolation, Min. **>45 dBc, >50 typ., max gain, 0 dBm out**  
 Spurious, Inband **>40 dBc, except 25 dBc (> 30 dBc typ.) at -10 dBm in for harmonics of LOs that fall close to or in-band (See Chart)**  
 Spurious, out of band **<-20 dBc, Fc±1 GHz, <-40 dBc, Fc±2 GHz**  
**>45 dBc, 50 typ, Gain=+0 (carriers at Fc ± 2 MHz)**  
 Freq. Response, band **±2 dB (10.95-11.7 or 11.7-12.45 GHz)**  
 Freq. Response, 40MHz **± 0.5 dB**  
 Frequency Sense **Non-inverting**

**LO Characteristics**

LO Frequency **2.80 or 2.05 GHz**  
 Frequency Accuracy **± 0.01 ppm max over temp internal reference; ext. ref. input**

Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBc/Hz	-70	-80	-90	-100	-110

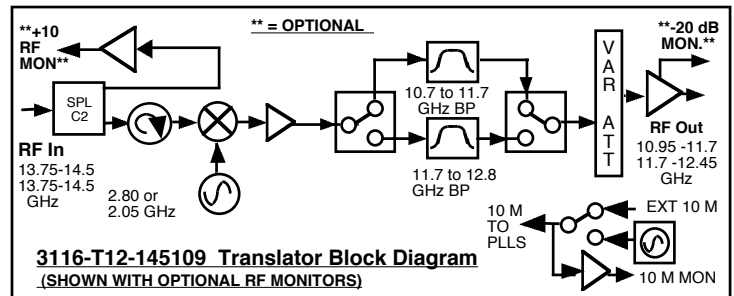
10 MHz In/Out Level **+3 dBm, ±3 dB**

**Controls, Indicators**

Gain, 10M Freq. Gain, Band, and internal 10 MHz frequency, Front Panel Switches or M&C connector (Ethernet Optional).  
 PLL Alarm Red LED, External contact closure  
 Power Green LED  
 Remote **RS232C/RS485/422, 9600 baud (Ethernet Optional)**

**Other**

RF In, Out, Mon. Conn. SMA (female), 50Ω ( **RF In and RF Out monitors Optional**)  
 10 MHz connectors BNC (female), 75 ohms; Works with 50Ω  
 Monitor/Control Conn. **RS232C/RS485/422, DB9, Female; Optional Ethernet, RJ45, Female;**  
 Size 19 inch, 1RU standard chassis, 1.75" high X 14" deep  
 Power 100-240 ±10% VAC, 47-63 Hz, 30 watts max



**Band Chart - Frequencies, LOs, LO Harmonically-related Fixed Spurs:**

BAND NO.	IN RANGE (GHz)	OUT RANGE (GHz)	LO (GHz)	Fixed Spurs (25 dBc at -10 in) ( 5 dBc at -30 in)
1	13.75-14.5	10.95-11.7	2.80	11.2
2	13.75-14.5	11.7-12.45	2.05	12.3

**Available Options**

- W31 0 to +50 degrees C operation
- Remote M&C Ethernet Options**
- W8 - Ethernet; w/Web Browser (WB)
- W18 - Ethernet; w/WB & SNMP
- W28 - Ethernet; w/TCP/IP, Telnet
- W828 - Ethernet, W18 + W28**
- Connectors/Impedance**
- NN- 50Ω Type N (RF IN & OUT)
- Contact Cross for other options**

\* +10 to +40 degrees C Operating; **-30 to +60 degrees C Non-operating**; 95% relative humidity, non-condensing; Specifications subject to change without notice