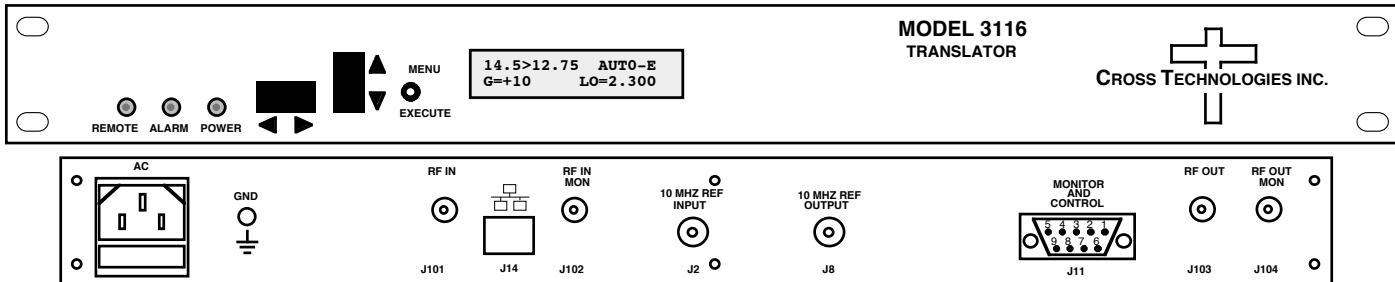


3116-T221-1512 Translator 12.75-13.25 to 10.7-11.2 GHz; 13.75-14.5 to 11.7-12.45 GHz

The 3116-T221-1512 Translator converts 12.75-13.25 GHz to 10.7-11.2 or 13.75-14.5 to 11.7-12.45 GHz with a 2.05 GHz local oscillator. Front panel LEDs provide indication of Remote operation, PLL Alarm, and DC Power. The RF to RF gain is +20 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, LO frequency and internal 10 MHz frequency 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-T221-1512 FRONT AND REAR PANELS (Shown with optional RF Monitors and Ethernet)

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance/Return Loss Frequency 50Ω/14 dB, 18 dB typ.
BAND1 12.75 to 13.25
BAND2 13.75 to 14.5
 Noise Figure, Max. Input Level range **30dB, 26 typ. at max gain**
 -30 to -10 dBm

Output Characteristics

Impedance/Return Loss Frequency 50 Ω /14dB, 18 dB typ.
BAND1 10.7 to 11.2
BAND2 11.7 to 12.45
 Output Level Range -60 to -10 dBm
 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. **>40 dBc, >50 typ., max gain, 0 dBm out**
 Spurious, Inband **>38 dBc typical, >35 dBc max., 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**
2 tone @-5dBm out ea
 Freq. Response, band **>45 dBc, 50 typ, Gain=+20 (carriers at Fc ± 2 MHz)**
 Freq. Response, 40MHz **±2 dB (10.7-11.20 or 11.7-12.45 GHz out)**
 Frequency Sense **± 0.5 dB**
 Non-inverting

LO Characteristics

LO Frequency **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

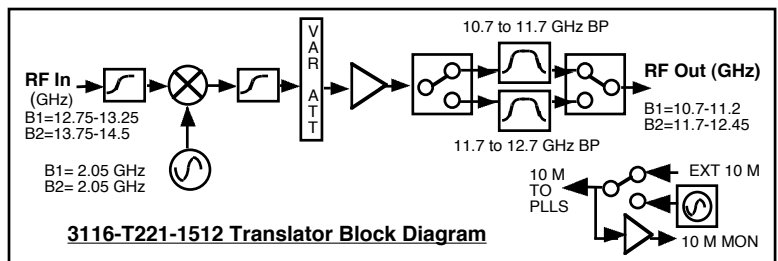
10 MHz In/Out Level **+3 dBm, ±3 dB**

Controls, Indicators

Gain, 10M Freq. Gain 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, 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 Spur:

BAND NO.	IN RANGE (GHz)	OUT RANGE (GHz)	LO (GHz)	Fixed Spurs (25 dBc at -10 in) (5 dBc at -30 in)
1	12.75-13.25	10.70-11.2	2.05	10.25
2	13.75-14.5	11.7-12.45	2.05	12.3

Available Options

W8 - Ethernet; w/Web Browser (WB)
 W18 - Ethernet; w/WB & SNMP
 W28 - Ethernet; w/TCP/IP, Telnet
W828 - Ethernet; W8 + W18 +W28
 W85- Out RF Mon. -20 dB
 W86- In RF Mon. +10 dB

Connectors/Impedance

NN- 50Ω N-type (RF In, RF Out)

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