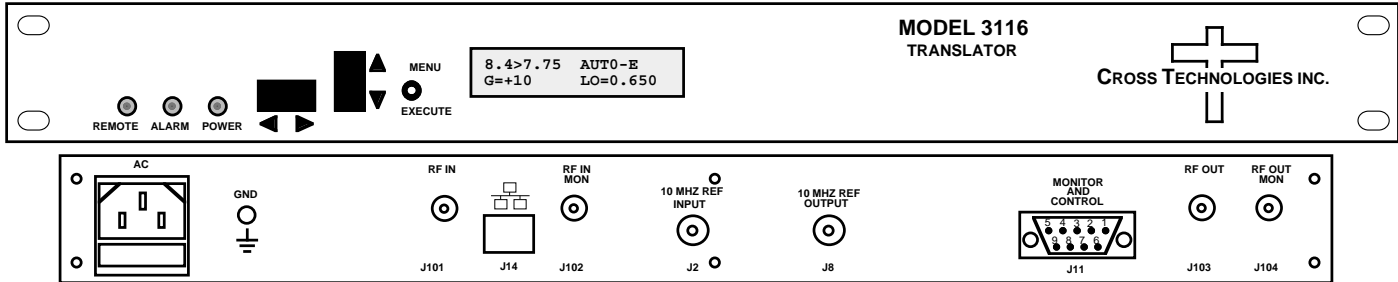


### 3116-84T78 Translator 7.9-8.4 GHz to 7.25-7.75 GHz

The 3116-84T78 Translator converts 7.9-8.4 GHz to 7.25-7.75 GHz with a 0.65 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, **RF in Monitor (Opt W86) and RF out Monitor (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.



3116-84T78 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 (GHz) **7.9 - 8.4 GHz**  
Noise Figure, Max. **20 dB at max gain**  
Input Level range **-30 to -10 dBm**

##### Output Characteristics

Impedance/Return Loss **50 Ω /12 dB, 14 dB typ**  
Frequency (GHz) **7.25 - 7.75**  
Output Level Range **-60 to 0 dBm**  
Output 1 dB compression **+8 dBm, +10 typ.**

##### Channel Characteristics

Gain, maximum **+20 ±3 dB**  
Gain Range **+20 to -40 dB; 0.5±0.5 dB Steps**  
In to Out Isolation, Min. **>45dBC, >60 typ.**  
Spurious, Inband **>40 dBC**  
Spurious, out of band **<-20 dBC, Fc±1 GHz, <-40 dBC, Fc±2 GHz**  
**2 tone @-10dBm out ea** **>45 dBC, 50 typ, Gain=+20**  
Freq. Response, band **±2 dB**  
Freq. Response, 40MHz **± 0.5 dB**  
Frequency Sense **Non-inverting**

##### LO Characteristics

LO Frequency **0.65 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	-85	-100	-110

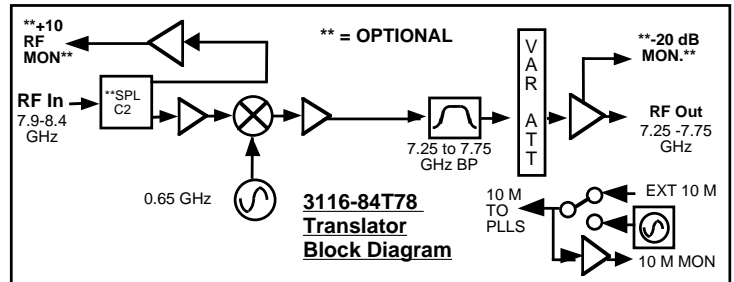
10 MHz In/Out Level **+3 dBm, ±3 dB**

##### 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, 9600 baud (**Ethernet and RS485 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



#### Available Options

Q - RS485 Remote Interface  
W8 - Ethernet; w/Web Browser (WB)  
W18 - Ethernet; w/WB & SNMP  
W28 - Ethernet; w/TCP/IP, Telnet  
W85- Out RF Mon. -20 dB  
W86- In RF Mon. +10 dB

#### Connectors/Impedance

NN- 50Ω N-type (RF)

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