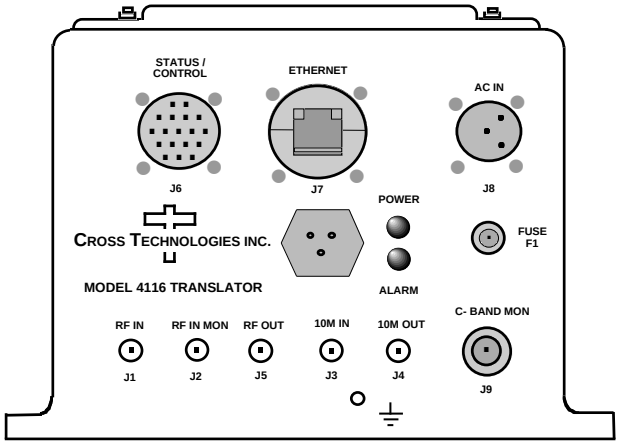
CROSS TECHNOLOGIES, INC.

DATA SHEET

REV_A 2/26/13

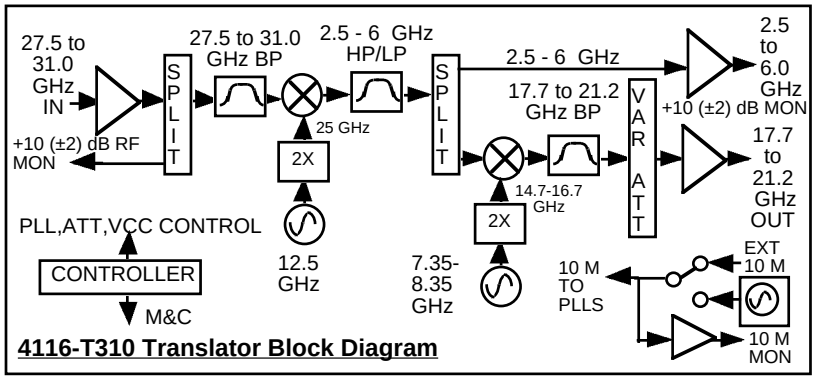
4116-T310 Ka-band Translator, Weather Resistant*

The 4116-T310 Ka-band Translator converts 27.5 - 31.0 GHz to 17.7 - 21.2 GHz in four selectable fixed bands and to 2.5 - 6.0 GHz for monitoring purposes. LEDs provide indication of DC Power, and PLL Alarms. The maximum gain is +20 dB. Connectors are 2.92mm for the **RF In, RF Monitor, and RF Out**, Type N for the C-band monitor, and SMA (all female) for the external reference input and output. Gain, band select, and internal 10 MHz frequency are controlled by the M&C (Ethernet and/or Status/Control) Connectors. In AUTO, the 10 MHz reference stays in external if the external level is in the +2 to +8 dBm range. The 4116-T310 is powered by a 100-240 ±10% VAC power supply and mounted in a 8" Wide X 6" High X 16" Deep, Weather Resistant* enclosure.



BAND CHART-Frequency Band

Band	**Input** (GHz)	**Output** (GHz)	**Translation** (GHz)
1	27.5 - 28.5	17.7 - 18.7	9.800 (8.8-10.3)
2	28.0 - 29.0	18.3 - 19.3	9.700 (8.7-10.3)
3	29.0 - 30.0	19.2 - 20.2	9.800 (8.8-10.3)
4	30.0 - 31.0	20.2 - 21.2	9.800 (8.8-10.3)
5	27.5 - 28.5	18.3 - 19.3	9.200 (8.3-10.2)
6	27.5 - 28.5	19.2 - 20.2	8.300 (8.3-9.3)
7	28.0 - 29.0	17.7 - 18.7	10.300 (9.3-10.3)
8	28.0 - 29.0	19.2 - 20.2	8.800 (8.3-9.8)
9	29.0 - 30.0	**18.7 - 19.7**	**10.300**
10	29.0 - 30.0	**19.0 - 20.0**	10.000 (9.7-10.3)
11	30.0 - 31.0	**20.0 - 21.0**	10.000 (9.8-10.3)



4116-T310 Translator Block Diagram

EQUIPMENT SPECIFICATIONS**

Input Characteristics

Impedance/Return Loss	50Ω/14 dB
Frequency	SEE BAND CHART
Noise Figure, Max.	20 dB max gain
Maximum Input Level	**-15 dBm**

Output Characteristics

Impedance/Return Loss	50 Ω /14 dB**, Mute & UnMute**
Frequency (GHz)	SEE BAND CHART
Output Level Range	-15 to 0 dBm, **Optimum**
Output 1 dB compr.	+10 dBm, **max. gain**
Mute	**>60 dB @ 0 dBm output**
C-Band Mon Gain/1dB	**+10±2dB/ +5 (+10 goal) dBm**

Channel Characteristics

Gain **at F_C**	+20 ±3 dB, (+20 to **0** dB variable in **1±1** dB steps)
Input to output isolation	> 60 dB, min **(at max gain and 0 dBm out)**
Spurious, Inband	**SIG REL.<-45 (-50 goal) dBC**, -15 to 0 dBm out**; SIG IND. <-50 dBm; fc ± 0.5 GHz**
Spurious, Out of band	**<-50 dBm, signal independent; fc ± 1.5 GHz**
Spurious, LO	**<-50 dBm, measured at the input; <-25 dBm, measured at the output**
Intermodulation	<-50 dBC for two carriers **at 4 MHz spacing,** each at **-7 dBm** out
Frequency Response	±2 dB, over RF band; ± 0.5 dB, 40 MHz BW
Frequency Sense	Non-inverting

LO Characteristics

LO Frequency	Band Specific, **8.3 to 10.3 GHz translation range, 5 MHz steps**
Frequency Accuracy	± 0.05 ppm max over temp internal reference; ext. ref. input

Phase Noise @ F (Hz) >	***10***	*100*	*1K*	*10K*	*100K*	*1M*	***10M***	***100M***
dBC/Hz	***-32***	*-65*	*-75*	***-77***	*-93*	*-105*	***-112***	***-112***

10 MHz level In/Mon	+2 to +8 dBm in; Monitor Output = input level **± 1 dB,** 50 ohms

Controls, Indicators

Gain, Band, 10M Freq.	Gain, band select, and internal 10 MHz frequency via Ethernet M&C or Status/Control connector.
Power; PLL Alarm	**Green LED;** Red LED, External Contact Closure

Other

RF In, RF Mon Con.	**2.92mm (Type K)** female, 50Ω
RF Out Connector	**2.92mm (Type K)** female, 50Ω
M&C Connector(s)	Status/Control, **MS3112E14-18S** Weatherized Connector; Ethernet, Standard RJ45, Weatherized Connector.
C-Band Connector	Type N (female), 50Ω
10 MHz Connectors	SMA (female), 50Ω
Size	8" Wide X 6" High X 16" Deep, Weather Resistant* Enclosure
Power	100-240 ±10% VAC, 47 - 63 Hz, 30 watts max./ FCI Clipper Series CL1M1102 Connector

***+0 to +50 degrees C; Specifications subject to change without notice*

*__Weather Resistant__ enclosures are designed to be water resistant for installation in an outdoor enclosure /antenna hut OR mounted outdoors on an antenna assembly at their specified temperature ranges. They are designed to be located "out in the elements" (water, sleet, snow, etc.) but they are *not* designed to be "submerged under" water.

If an extended temperature range is required, there is an **Extended Temperature** option (**Option W21**; -30˚C to +60˚C) available at an additional cost. Contact Cross for quote.

Request A Quote