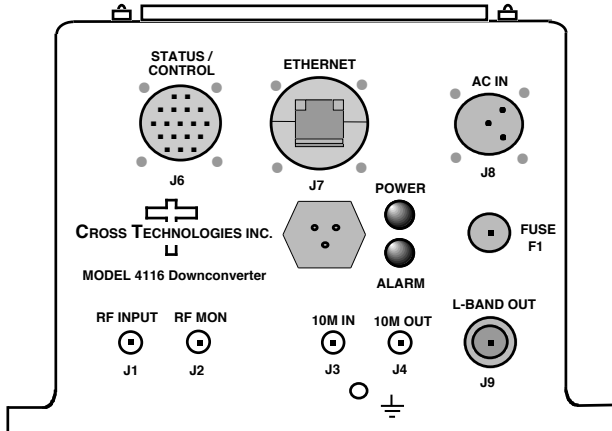


## 4116-200 Ka-band Block Downconverter, Weather Resistant\*

The 4116-200 Ka-band Block Downconverter converts 17.7 - 21.2 GHz to 0.95 - 1.95 GHz in four selectable fixed bands. Front panel LEDs provide indication of DC Power and PLL Alarms. The L-band to RF gain is +30 dB. Connectors are **Super SMA** for RF In and RF Monitor, SMA for external reference input and output, and Type N (**all female**) for L-band out. Gain, band select, and internal 10 MHz frequency are controlled by the Ethernet M&C. **In AUTO, the 10 MHz reference stays in external if the external level is in the +2 to +8 dBm range.** The unit is powered by a 100-240  $\pm 10\%$  VAC power supply, and is mounted in a 8"W X 6"H X 16"D Weather Resistant\* enclosure.



**\*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.

### EQUIPMENT SPECIFICATIONS\*

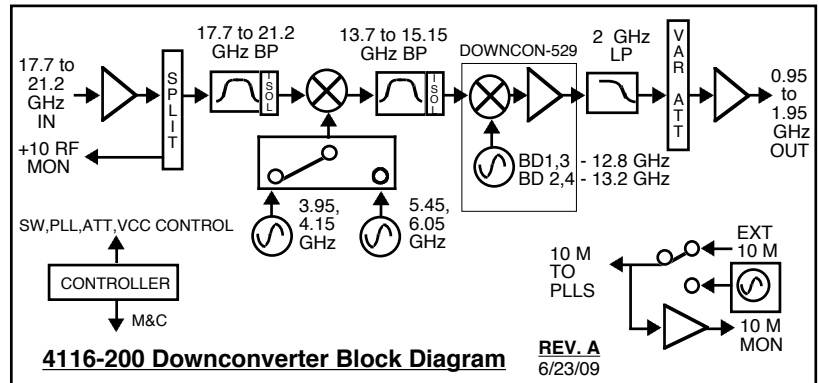
#### Input Characteristics

Impedance/Return Loss 50 $\Omega$ /14 dB  
 Frequency (GHz)  
 BAND1 17.7 to 18.7  
 BAND2 18.3 to 19.3  
 BAND3 19.2 to 20.2  
 BAND4 20.2 to 21.2

Noise Figure, Max. 20 dB max gain  
 Input Level range -50 to -30dBm

#### Output Characteristics

Impedance/Return Loss 50 $\Omega$ /14 dB  
 Frequency 0.95 to 1.95 GHz  
 Output Level Range -20 to 0 dBm  
 Output 1 dB compression +10 dBm, **max gain**



#### Channel Characteristics

Gain at  $F_c$  +30  $\pm 3$  dB, (+30 to 0 dB variable in 0.5 dB steps)  
 Image Rejection > 60 dB, min  
 Spurious, Inband SIG. REL. <-50dBc, -15 to 0dBm out; 2X $F_o$  <-45dBc; SIG. INDEP., <-60dBm; 95-1.95 GHz out,  $G_{max}$   
 Spurious, Out of band <-55 dBm, **signal independent; 0.5-2.45 GHz out**  
 Intermodulation <-50 dBc for two carriers at 4 MHz spacing, each at -5 dBm out  
 Frequency Response  $\pm 2$  dB, over RF band;  $\pm 0.5$  dB, 40 MHz BW  
 Frequency Sense Non-inverting

#### LO Characteristics

LO Frequency Band Specific  
 Frequency Accuracy  $\pm 0.05$  ppm max over temp internal reference; ext. ref. input  
 10 MHz level In/Mon +2 to +8 dBm in; Monitor Output = input level  $\pm 1.0$  dB, 50 ohms

Phase Noise @ $F$ (Hz) >	100	1K	10K	100K	1M
dBc/Hz	-65	-75	-80	-95	-105

#### Controls, Indicators

Gain, Band, 10M Freq. Gain, band select, and internal 10 MHz frequency via Ethernet M&C or Status/Control Connector.  
 PLL Alarm Red LED, External contact closure  
 Power Green LED

#### Other

RF In, Mon. Connector **Super SMA (27 GHz)** (female), 50 $\Omega$   
 L-Band Connector Type N (female), 50 $\Omega$   
 10 MHz Connectors SMA (female), 50 $\Omega$   
 Ethernet Connector Standard RJ45 Weatherized Connector  
 Size 8" Wide X 6" High X 16" Deep Weather Resistant\* Enclosure  
 Power 100-240  $\pm 10\%$  VAC, 47 - 63 Hz, 25 watts max./ FCI Clipper Series CL1M1102 Connector

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