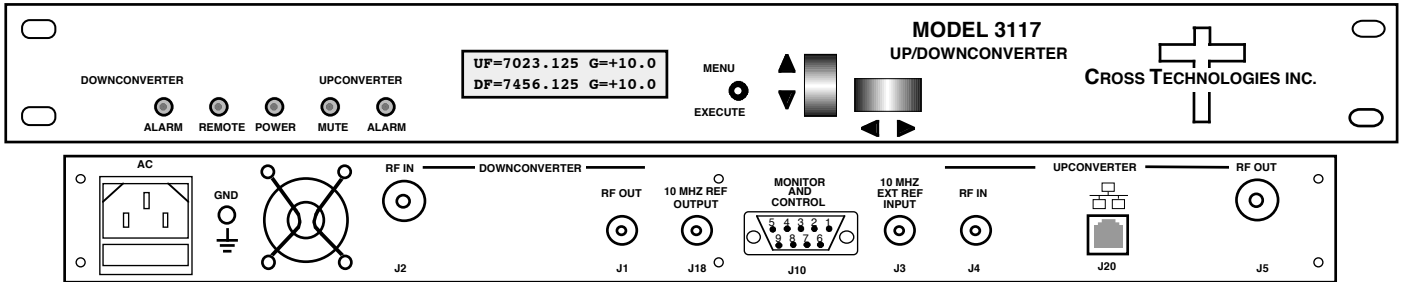


## 3117-7179#-1200 Up/Downconverter, 1.20 to 6.69-7.11; 7.39-7.91 to 1.20 GHz ( $\pm 100$ MHz)

The 3117-7179#-1200 Up/Downconverter converts **1.20 to 6.69-7.11 and 7.39-7.91 to 1.20 GHz ( $\pm 100$  MHz)** with **non-inverting spectrums**. Front panel LEDs provide indication of **Remote, DC Power, upconverter mute, and PLL Alarm**. The maximum gain is **+20 dB for the upconverter and +20 dB for the downconverter** (adjustable in **0.5  $\pm$  0.5 dB** steps). Gain, Frequency, and internal/external/Auto reference frequency selection are controlled by front panel switches or remote selection (via RS-232C/485, standard; Ethernet Optional) and are viewable on the LCD Display. Connectors are **Type N female for the RF DOWN IN and RF UP OUT and BNC female for the RF UP IN, RF DOWN OUT** and external reference input and reference output. In AUTO, the 10 MHz reference stays in external if the external level is **+3 dBm,  $\pm 3$  dB**. The 3117 is powered by a 100-240  $\pm$  10% VAC power supply, and in a 1 3/4" X 19" X 16" rack mount chassis.



**Front and Rear Panels (Shown with optional Ethernet and Rear Mounted Fan)**

EQUIPMENT SPECIFICATIONS*		
Input Characteristics	UP	DOWN
Impedance/Return Loss	50 $\Omega$ /14 dB	50 $\Omega$ /14 dB
Frequency	1.20 $\pm$ 0.10 GHz	7.39-7.91 $\pm$ 0.10 GHz
Noise Figure, Max.	15 dB @ max gain	15 dB @ max gain
Input Level range	-40 to -20 dBm	-40 to -20 dBm
Output Characteristics		
Impedance/Return Loss	50 $\Omega$ /14 dB	50 $\Omega$ /14 dB
Frequency (GHz)	6.69-7.11 $\pm$ 0.10 GHz	1.20 $\pm$ 0.10 GHz
Output Level Range	-20 to 0 dBm	-20 to 0 dBm
1 dB comp, max gain	+10 dBm	+10 dBm
Channel Characteristics		
Gain, max. at Fc	+20 $\pm$ 1 dB	+20 $\pm$ 1 dB
Gain, range, 0.5 $\pm$ 0.5 dB steps	0 to +20	0 to +20
Image Rejection	>50 dBc	>50 dBc
Spurious, Inband, sig. rel., lvl	<-50 dBc, 0dBm out	<-50 dBc, 0dBm out
Spurious, Inband, sig. ind.	<-50 dBc, Gmax	<-50 dBc, Gmax
Spurious, Out of band, Fc $\pm$ 0.6G	<-50 dBm, Gmax	<-50 dBm, Gmax
2 tone Fc $\pm$ 2MHz del, -10 ea	<-50 dBc, Gmax	<-50 dBc, Gmax
Frequency Resp. Fc $\pm$ 100 MHz	$\pm$ 1.5 dB	$\pm$ 1.5 dB
Frequency Resp. 40 MHz	$\pm$ 0.5 dB	$\pm$ 0.5 dB
Frequency Sense	non-inverting	non-inverting

### LO Characteristics

Frequency Step 125 kHz standard; **1 kHz steps, Option X1002-2**  
 Frequency Accuracy  $\pm$  0.01 ppm max over temp internal reference; ext. ref. input

Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
Standard, 125 kHz steps	-75	-85	-85	-100	-115
E6-100, 125 kHz steps	-75	-90	-95	-100	-120

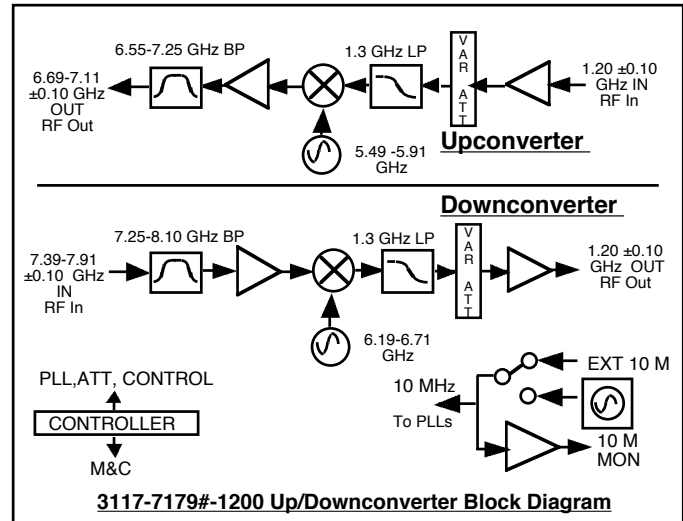
10 MHz In/Out Level 3 dBm,  $\pm$  3 dB, w/ Auto-detect

### Controls, Indicators

Gain; Ext Ref Selection Direct readout LCD; pushbutton switches or remote  
 Power; Alarm; Remote Green LED; Red LED; Yellow LED;  
 Remote RS232C/RS485/422, 9600 baud (Ethernet Optional)

### Other

RF In/Out, L-BAND Con. **N-type (female), 50 $\Omega$  / BNC (female), 50 $\Omega$**   
 10 MHz connectors BNC (female), 75 $\Omega$  connector; works with 50 $\Omega$  or 75 $\Omega$   
 Alarm Connector DB9 - NO or NC contact closure on Alarm  
 Size 19 inch standard chassis 1.75" high X 16" deep  
 Power 100-240  $\pm$  10% VAC, 47 - 63 Hz, 50 watts maximum



### Available Options

**E6-100 - Ext 10M Lock to Int 100M Ref**

**L3H - Int 100M Ref output**

**W31 = 0 to +50 degrees C operation**

**W113 = Rear Mounted Fan**

**X1002-2 = 1 kHz Freq Step Size**

### Remote M&C Ethernet Options

**W8 - Ethernet w/web browser Interface**

**W18 - Ethernet w/SNMP (and MIB) Interface**

**W28 - Ethernet w/direct TCP/IP Interface**

**W828 - Ethernet W8 +W18 +W28**

### Connector Options

**NN = 50 $\Omega$  N-type (RF), 50 $\Omega$  N-type (L-Band)**

**S = 50 $\Omega$  SMA (RF), 50 $\Omega$  BNC (L-Band)**

**SS = 50 $\Omega$  SMA (RF), 50 $\Omega$  SMA (L-Band)**

**Contact Cross for other options**

\*+10 to +40 degrees C; Specifications subject to change without notice