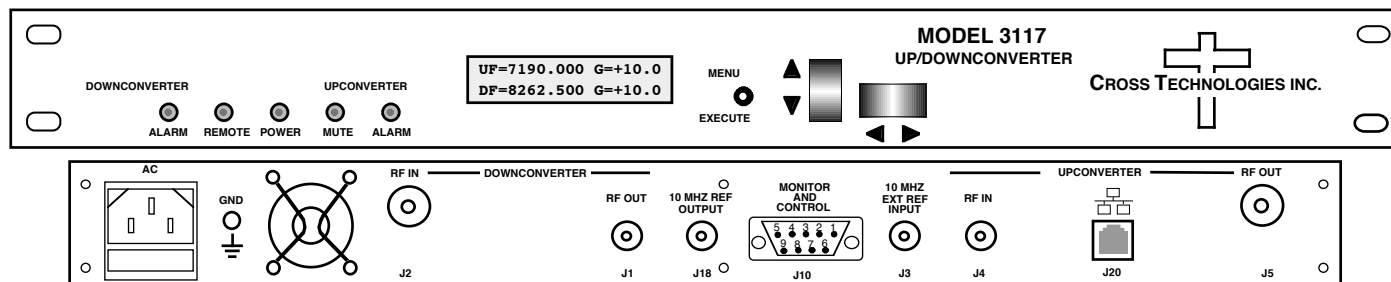


## 3117-7283#-1200 Up/Downconverter, 1.20 GHz Fc to/from 7.09-7.29; 8.025-8.50 GHz

The 3117-7283#-1200 Up/Downconverter converts 1.20 Fc to 7.09-7.29 and 8.025-8.50 to 1.20 GHz Fc ( $\pm 100$  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 | 8.025-8.50          |
| 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)                      | 7.09-7.29           | 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 Downconverter only, 5MHz (LO range 6.825-7.30 GHz)  
Frequency Accuracy  $\pm 0.01$  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 |

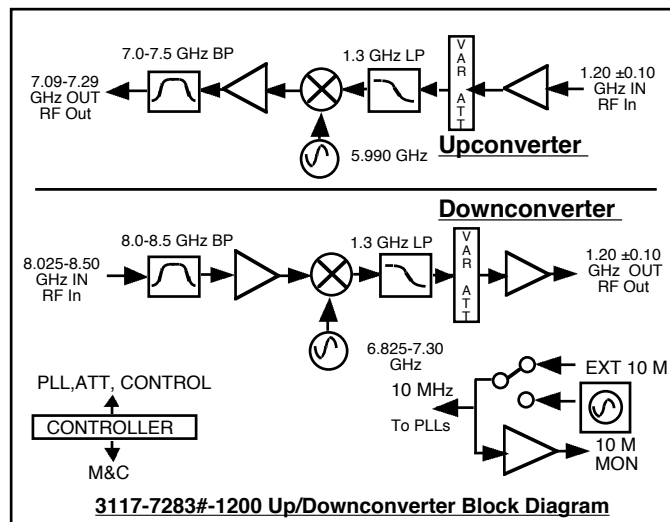
10 MHz In/Out Level 3 dBm,  $\pm 3$  dB, w/ Auto-detect

### 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

W31 = 0 to +50 degrees C operation

W113 = Rear Mounted Fan

### 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