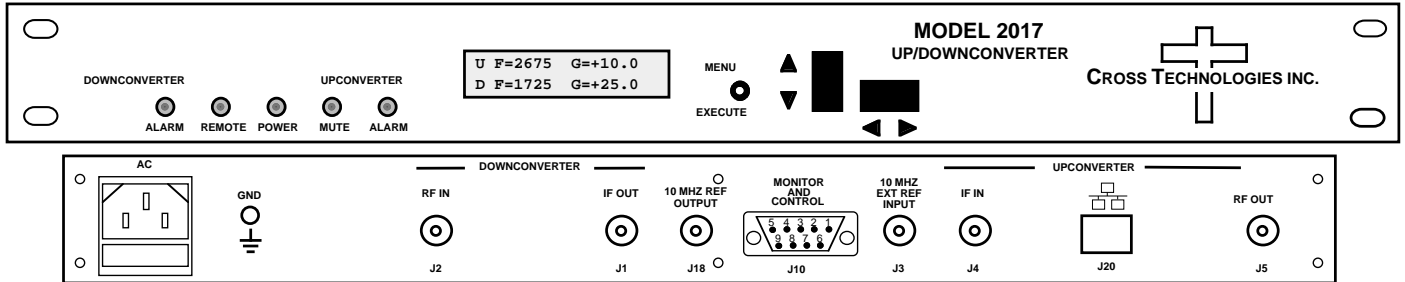


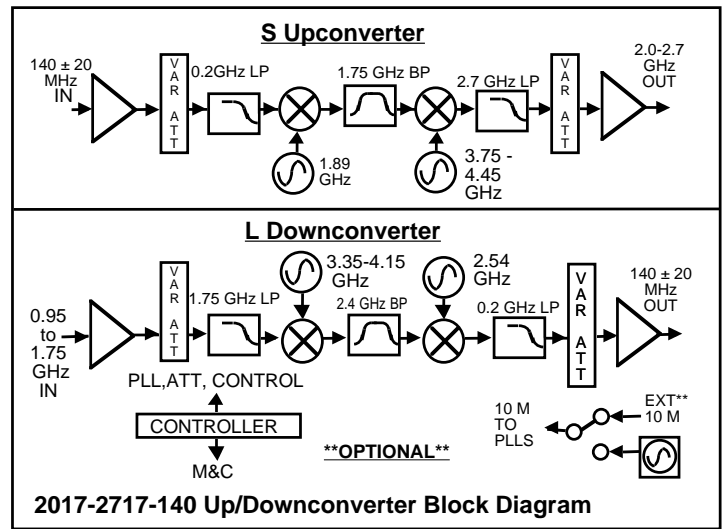
2017-2717-140 Up/Downconverter, S, L-BAND, 140 ± 20 MHz IF

The 2017-2717-140 S, L-band Up/Downconverter converts **140 ± 20 MHz to 2.0-2.7 GHz (Up)** and **0.95-1.75 GHz to 140 ± 20 MHz (Down)** in **1 MHz steps (100 or 125 kHz steps optional)**. Multi-function switches select the frequency, gain (upconverter -10 to +30 dB; downconverter 0 to +50 dB), and other parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), remote operation (yellow), and Upconverter mute (yellow). Remote operation allows selection of frequency, gain and external 10 MHz reference (option E). Gain settings appear on the LCD display. Connectors are BNC female for the IF, RF (SMA and N optional) and optional external reference input and output (option E). A high stability (±0.01 ppm) option (H) is also available. It is powered by a 100-240 ±10% VAC power supply and housed in a 1.75" X 19" X 16" 1RU chassis.



Front and Rear Panel (Shown with options E, W8)

EQUIPMENT SPECIFICATIONS*		
Input Characteristics	UP, S	DOWN, L
Impedance/Return Loss	50Ω/14 dB	50Ω/14 dB
Frequency	140 ± 20 MHz	0.95-1.75 GHz
Noise Figure, Max.	20 dB @ max gain	15 dB @ max gain
Input Level range	-40 to -10 dBm	-70 to -20 dBm
Output Characteristics		
Impedance/Return Loss	50 Ω /14 dB	50 Ω /14 dB
Frequency (GHz)	2.0-2.7 GHz	140 ± 20 MHz
Output Level Range	-20 to 0 dBm	-30 to -10 dBm
1 dB comp, max gain	+5 dBm	-5 dBm
Mute @ 0 dBm out	>60 dB	N/A
Channel Characteristics		
Gain, max. at Fc	+30 ±3 dB	+50 ±3 dB
Gain, range, 1±1 dB steps	+30 to -10 dB	+50 to 0 dB
Image Rejection	N/A	> 50 dB, min
Spurious, Inband, sig. rel.	<-50 dBC, 0dBm	<-50 dBC, 0dBm
Spurious, Inband, sig. ind.	<-50 dBC, Gmax	<-50 dBC, Gmax
Spurious, Out of band	<-50 dBC, Gmax	<-50 dBC, Gmax
Intermod - 2 carriers 4MHz	<-50 dBC, Gmax	<-50 dBC, Gmax
Frequency Resp. band	±2 dB	±2 dB
Frequency Resp. 36,40 MHz	±0.5 dB, ±1.0 dB	±0.5 dB, ±1.0 dB
Frequency Sense	Non-inverting	Inv/Non-Inv



2017-2717-140 Up/Downconverter Block Diagram

Synthesizer Characteristics

Frequency Accuracy ± 1.0 ppm internal reference (±0.01 ppm, option H)
Frequency Step **1 MHz, others optional**

Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	-70	-70	-80	-95	-110

10 MHz In/Out Level 3 dBm ± 3 dB, 75 ohms (option E)

Controls, Indicators

Gain Selection direct readout LCD; pushbutton switches or remote selection
Power; Alarm; Remote Green LED; Red LED; Yellow LED
Remote RS232C, 9600 baud ; (RS485, option Q, Ethernet, optional)

Other

RF, IF Connector BNC (female), 50Ω RF, 75Ω IF
10 MHz Connectors BNC (female), **75Ω connector, works with 50 or 75 ohms**
Alarm/Remote Connector DB9 - NO or NC contact closure on Alarm
Size 19 inch, 1RU standard chassis 1.75" high X 16.0" deep
Power 100-240 ± 10% VAC, 47-63 Hz, 45 watts max

Available Options

E - External 10 MHz ref in & out;
H - High Stability (±0.01 ppm) int. ref.
W78 - RF/RF Monitor Ports (Front)
W31 - Ext. Temp 0C to +50C
X or X1- 125 kHz or 100 kHz step size
Remote M&C Interfaces:

Q - RS485/422
W8 - Ethernet; w/Web Browser (WB)
W18 - Ethernet; w/WB & SNMP
W28 - Ethernet; w/TCP/IP, Telnet

Connectors/Impedance

D - 50Ω BNC (RF), 50Ω BNC (IF)
N - 50Ω N-type (RF), 75Ω BNC (IF)
M - 50Ω N-type (RF), 50Ω BNC (IF)
S - 50Ω, SMA (RF), 50Ω BNC (IF)
SS- 50Ω, SMA (RF), 50Ω SMA (IF)

Contact Cross for other options

*10°C to 40°C; Specifications subject to change without notice