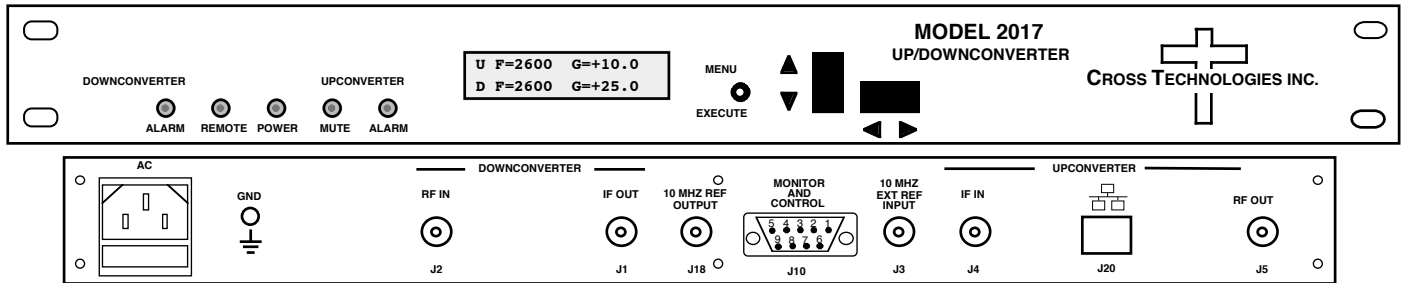


**2017-2727# Up/Downconverter, S, L-BAND**

The 2017-2727# S, L-band Up/Downconverter converts **0.95-1.15 GHz to 2.5-2.7 GHz (Up)** and **2.5-2.7 GHz to 1.25-1.45 GHz (Down)** using **high side LOs (inverted spectrum)**. Multi-function switches select the gain ( upconverter 0 to +30 dB; downconverter +20 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 gain and external 10 MHz reference (**option E**). Gain settings appear on the LCD display. Connectors are BNC female for the optional external reference input and output (**option E**), and **BNC female for IF and RF**. A high stability (**±0.01 ppm**) option (H) is also available. It is powered by a 100-240 ±10% VAC power supply and 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                         | 0.95-1.15 GHz      | 2.5-2.7 GHz          |
| Noise Figure, Max.                | 20 dB @ max gain   | 15 dB @ max gain     |
| Input Level range                 | -30 to -10 dBm     | -55 to -35 dBm       |
| Output Characteristics            |                    |                      |
| Impedance/Return Loss             | 50 Ω /14 dB        | 50 Ω /14 dB          |
| Frequency (GHz)                   | 2.5-2.7 GHz        | 1.25-1.45 GHz        |
| Output Level Range                | -20 to 0 dBm       | <b>-25 to -5 dBm</b> |
| <b>1 dB comp, max gain</b>        | +10 dBm            | +5 dBm               |
| <b>Mute @ 0 dBm out</b>           | >50 dB             | N/A                  |
| Channel Characteristics           |                    |                      |
| <b>Gain, max. at Fc</b>           | +30 ±2 dB          | <b>+50 ±2 dB</b>     |
| Gain, range, 0.5±0.5 dB step      | <b>+30 to 0 dB</b> | <b>+50 to +20 dB</b> |
| Image Rejection                   | N/A                | N/A                  |
| Spurious, Inband, sig. rel.       | <-50 dBC, 0dBm     | <-50 dBC, -5dBm      |
| Spurious, Inband, sig. ind.       | <-50 dBC, Gmax     | <-50 dBC, Gmax       |
| <b>Spurious, Out of band</b>      | <-50 dBC, Gmax     | <-50 dBC, Gmax       |
| <b>Intermod - 2 carriers 4MHz</b> | <-50 dBC, Gmax     | <-50 dBC, Gmax       |
| Frequency Resp. band              | ±2 dB              | ±2 dB                |
| Frequency Resp. 40 MHz            | ± 0.5 dB           | ± 0.5 dB             |
| Frequency Sense                   | <b>Inverting</b>   | <b>Inverting</b>     |

**Synthesizer Characteristics**

Frequency Accuracy ± 1.0 ppm internal reference (±0.01 ppm, **option H**)  
 Frequency Step **None; Fixed LOs, 3.65 GHz Up; 3.95 GHz Down**

| Phase Noise @ Freq | 100 Hz | 1kHz | 10kHz | 100kHz | 1 MHz |
|--------------------|--------|------|-------|--------|-------|
| dBC/Hz             | -60    | -70  | -80   | -95    | -110  |

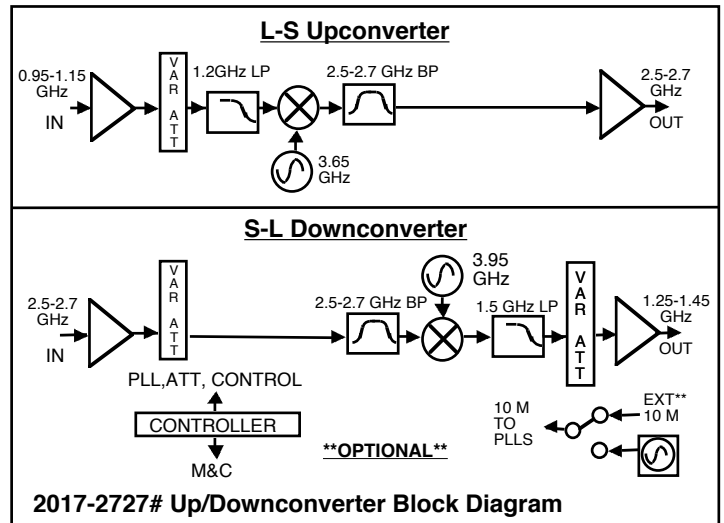
10 MHz In/Out Level 3 dBm ± 3 dB, 75 ohms (**option E**)

**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)**  
 10 MHz Connectors BNC (female), 50Ω/75Ω  
 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



**2017-2727# Up/Downconverter Block Diagram**

**Available Options**

E - External 10 MHz ref in & out;  
 H - High Stability (±0.01 ppm) int. ref.  
 W31 - Ext. Temp 0C to +50C

**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**

Std. - 50Ω BNC (RF), 50Ω 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