2015-0925 Upconverter, 70 MHz to 0.95 - 2.50 GHz

The 2015-0925 L-band Upconverter converts 70 ± 18 MHz to 950 to 2500 MHz in 1 MHz steps (125 kHz to 1 kHz step options available). Synthesized local oscillators (LO) provide frequency selection. Push button switches select the RF frequency, gain, and other parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), remote operation (yellow) and TX carrier MUTE (yellow). Variable attenuators for the IF input and output provide a gain range of -10 to +30 dB as adjusted by the front panel push-button switches. Remote operation allows selection of frequency and gain. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are BNC female for IF input, RF output and the optional external reference input and output. The external 10 MHz option E includes a 10 MHz output connector which contains either the internal or external 10 MHz reference signal. A high stability internal reference (option H, ±0.01ppm) is also available. It is powered by a 100-240 ± 10% VAC power supply, and housed in a 1 3/4" X 19” X 16” rack mount chassis.

EQUIPMENT SPECIFICATIONS* 2015-0925 Front and Rear Panels (Optional external 10 MHz and Ethernet shown)

Input Characteristics (IF)
Impedance/Return Loss 75 Ω/18 dB
Frequency 70 ± 18 MHz
Input Level -40 to -10 dBm

Output Characteristics (RF)
Impedance/Return Loss 50 Ω/12 dB
Frequency 950 to 2500 MHz
Output level 0 to -20 dBm
Output 1 dB comp. +5 dBm

Channel Characteristics
Gain range (adjustable) -10.0 to +30.0 dB, 1 ±1 dB steps
Frequency Response ±2.0 dB, 950 - 2500 MHz; ±0.5 dB, 36 MHz BW; ±1.0 dB, 40 MHz BW
Spurious Response < -50 dBc, in band
Group Delay, max 0.015 ns/MHz² parabolic; 0.05 ns/MHz linear; 1 ns ripple
Frequency Sense Non-inverting

Synthesizer Characteristics
Frequency Accuracy ±1.0 ppm max over temp (±0.01 ppm, option H)
Frequency Step 1.0 MHz (125 kHz to 1 kHz step options available)

<table>
<thead>
<tr>
<th>Phase Noise @ F (Hz)</th>
<th>10</th>
<th>100</th>
<th>1K</th>
<th>10K</th>
<th>100K</th>
<th>1M</th>
</tr>
</thead>
<tbody>
<tr>
<td>dBC/Hz</td>
<td>-55</td>
<td>-70</td>
<td>-70</td>
<td>-80</td>
<td>-90</td>
<td>-110</td>
</tr>
</tbody>
</table>

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

Controls, Indicators
Freq/Gain Selection direct readout LCD; manual or remote selection
Pwr; Alarm; Rem; Mute Green LED; Red LED; Yellow LED; Yellow LED
Remote RS232C, 9600 baud (RS485, Ethernet Optional)

Other
RF, IF Connectors 50 Ω BNC (female), 75 Ω BNC (female)
10 MHz Connectors BNC (female), 75Ω, works with 50 or 75 ohms (option E)
Alarm/Remote Connector DB9 (female) - NO or NC contact closure on Alarm
Size 19 inch, 1 RU standard chassis 1.75” H X 16.0” D
Power 100-240 ±10% VAC, 47-63 Hz, 25 W max.

Available Options
E - External 10 MHz ref in & out
H - High Stability (±0.01ppm) Internal Ref
X - 125 kHz step size
X1 - 100 kHz step size
X1002 - 1 kHz step, includes option -H
Z 5- Attenuator 0.5 ± 0.5dB Steps

Comm. Interface/Standard RS232
Q - RS485 Remote Interface
W8 - Ethernet; w/Web Browser (WB)
W18 - Ethernet; w/WB & SNMP
W28 - Ethernet; w/TCP/IP, Telnet
W288 - W8 + W18 + W28

Connectors/Impedance
STD - 50Ω BNC (RF), 75Ω BNC (IF)
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)
S7 - 50Ω SMA (RF), 75Ω BNC (IF)

Contact Cross for other options

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