2015-0510 Upconverter, 70 MHz to 0.50 - 1.00 GHz
The 2015-0510 L-band Upconverter converts 70 ± 18 MHz to 500 to 1000 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 and the optional external reference input and output, and Type F female for the RF 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 option H (±0.01 ppm) is also available. The unit 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*
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: 75 Ω/12 dB
- Frequency: 500 to 1000 MHz
- Output level: 0 to -20 dBm
- Output 1 dB comp.: +5 dBm

Channel Characteristics
- Gain range (adjustable): -10.0 to +30.0 dB
- Frequency Response: ±1.5 dB, 500 - 1000 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)

Phase Noise @ F (Hz) >

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Phase Noise (dBc/Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>-55</td>
</tr>
<tr>
<td>100</td>
<td>-70</td>
</tr>
<tr>
<td>1K</td>
<td>-70</td>
</tr>
<tr>
<td>10K</td>
<td>-80</td>
</tr>
<tr>
<td>100K</td>
<td>-95</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: Type F (female), 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, 1RU 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; RF Ins.
H - High Stability (±0.01ppm) Internal Ref
X or X1 - 125 kHz or 100 kHz step size
X1001 - 1 kHz step, includes option H
Z5 - Attenuator 0.5 dB ± 0.5 dB steps

Connectors/Impedance
B - 75Ω BNC (RF), 75Ω BNC (IF)
C - 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)

Contact Cross for other options

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