2017-05A Up/Downconverter, 950 - 1525 MHz

The 2017-05A L-band Up/Downconverter converts 140 MHz to 950-1525 MHz (Up) and 950-1525 MHz to 140 MHz (Down) in 1 MHz steps with low group delay and flat frequency response. The 2017-05A has lower RF level out of the upconverter and higher RF level into the downconverter than the 2017-04 and is typically used to interface an L-band modem to a 140 MHz IF upconverter and downconverter. Multi-function push button switches select the RF frequency, gain, and other parameters. Front panel LEDs provide indication of DC power (green), PLL alarm for up and downconverters (red), remote operation (yellow), and Upconverter mute (yellow). Gain can be manually adjusted over a -25 to +15 dB range for the upconverter and over a 0 to +50 dB range for the downconverter by the front panel multi-function 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 RF. A high stability (±0.01ppm) option 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.

EQUIPMENT SPECIFICATIONS*

--------UPCONVERTER--------

Input Characteristics (IF)
- Impedance/Return Loss: 75Ω/18 dB
- Frequency: 140 ± 36 MHz
- Level: -40 to -10 dBm

Output Characteristics (RF)
- Impedance/Return Loss: 75Ω/12 dB
- Frequency: 950 to 1525 MHz
- Level: -35 to -15 dBm
- 1dB compression: -10 dBm

Channel Characteristics
- Gain range (adjustable): -25 to +15 dB, 1dB steps
- Frequency Sense: Non-inverting

--------UP and DOWNCONVERTER--------

Channel Characteristics
- Frequency Response: ±1.5 dB, in band; ±0.5 dB, 36 MHz BW; ±0.75 dB, 72 MHz BW
- Spurious Response: <-50 dBc
- Group Delay: max 0.0035 ns/MHz² parabolic; 0.025 ns/MHz linear; 1 ns ripple

Synthesizer Characteristics
- Frequency Accuracy: ±1.0 ppm internal reference (±0.01 ppm, option H)
- Frequency Step: 1 MHz (125 kHz, option X)
- 10 MHz In/Out Level: 3 dBm ± 3 dB

Phase Noise @ Freq

<table>
<thead>
<tr>
<th>dBC/Hz</th>
<th>100 Hz</th>
<th>1kHz</th>
<th>10kHz</th>
<th>100kHz</th>
<th>1 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-75</td>
<td>-75</td>
<td>-85</td>
<td>-100</td>
<td>-120</td>
</tr>
</tbody>
</table>

Controls, Indicators
- Freq/Gain Selection: direct readout LCD; pushbutton switches or remote selection
- Power, Alarm, Remote: Green LED, Red LED, Yellow LED
- Remote: RS232C, 9600 baud

Other
- RF Connector: Type F (female)
- 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, 25 watts max

Available Options
- E - External 10 MHz ref
- H - High Stability (±0.01ppm) internal ref
- Q - RS485 Remote Interface
- T - Temperature Sensor
- X - 125 kHz frequency step
- Connectors/Impedance
- B - 75Ω BNC (RF), 75Ω BNC (IF)
- C - 50Ω BNC (RF), 75Ω BNC (IF)
- D - 50Ω BNC (RF), 50Ω BNC (IF)
- J - 75Ω F-type (RF), 50Ω BNC (IF)
- N - 50Ω N-type (RF), 75Ω BNC (IF)
- M - 50Ω N-type (RF), 50Ω BNC (IF)
*10°C to 40°C; Specifications subject to change without notice