The 2017-25-01 Up/Downconverter converts 70 MHz to 2.460 to 2.540 GHz (Up) and 2.460 to 2.540 GHz to 70 MHz (Down) in 1 MHz steps with low group delay and flat frequency response. Synthesized local oscillators (LO) provide frequency selection. 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 is manually controlled over a -10 to +30 dB range for the upconverter and over a 0 to +50 dB range for the downconverter as adjusted 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 (75Ω) for IF and the optional external reference input and output, and BNC female (50Ω) for RF. A high stability (±0.01ppm) option is also available. The unit is powered by a 100-240 ±10% VAC power supply and housed in a 1.75” X 19” X 16” rack mount chassis.

**EQUIPMENT SPECIFICATIONS***

**UPCONVERTER**

<table>
<thead>
<tr>
<th>Input Characteristics (IF)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Impedance/Return Loss</td>
<td>75Ω /18 dB</td>
</tr>
<tr>
<td>Frequency</td>
<td>70 to 1 MHz</td>
</tr>
<tr>
<td>Input Level Range</td>
<td>-40 to -10 dBm</td>
</tr>
</tbody>
</table>

**Output Characteristics (RF)**

| Impedance/Return Loss      | 50Ω/12 dB |
| Frequency                 | 2.460 to 2.540 GHz |
| Output level              | -20 to 0 dBm |
| Output 1 dB compression   | +5 dBm |

**Channel Characteristics**

| Gain range (adjustable) | -10 to +30 dB |
| Frequency Sense         | Non-inverting |

**DOWNCONVERTER**

<table>
<thead>
<tr>
<th>Input Characteristics (IF)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Impedance/Return Loss</td>
<td>50Ω/18 dB</td>
</tr>
<tr>
<td>Frequency</td>
<td>70 ± 18 MHz</td>
</tr>
<tr>
<td>Input Level Range</td>
<td>-70 to -20 dBm</td>
</tr>
<tr>
<td>Input 1dB compression</td>
<td>-15 dBm</td>
</tr>
</tbody>
</table>

**Output Characteristics (RF)**

| Impedance/Return Loss      | 50Ω/12 dB |
| Frequency                 | 2.460 to 2.540 GHz |
| Output level              | -20dBm / -10dBm |
| Output 1 dB compression   | -5 dBm |

**Channel Characteristics**

| Gain range (adjustable) | 0.0 to +50.0 dB, 1dB steps |
| Frequency Sense         | Inverting or Non-inverting (selectable) |

**Synthesizer Characteristics**

| Frequency Accuracy        | ± 1.0 ppm internal reference (±0.01 ppm, option H) |
| Frequency Step            | 1.0 MHz minimum (125 kHz, option X) |
| 10 MHz In/Out Level       | 3 dBm ± 3 dB (option E only) |
| Phase Noise               | @ Freq | 100Hz | 1kHz | 10kHz | 100kHz | 1MHz |
|                           | dB/Hz  | < -70 | < -70 | < -80 | < -95 | < -105 |

**Controls, Indicators**

| Freq/Gain Selection       | direct readout LCD; manual or remote selection |
| Power; Alarm; Up Mute     | Green LED; Red LED; Yellow LED |
| Remote                    | Yellow LED; RS232C, 9600 baud (RS485, option Q) |

**Available Options**

E - External 10 MHz ref input & output
H - High Stability (±0.01) Internal Ref
Q - RS485 Remote Interface
T - Temperature Sensor
X - 125 kHz Frequency Steps
Z - 0.1 dB Attenuator Steps on Upconverter

**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)

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