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SECTION 1 GENERAL

1.1 Equipment Description-

The Model 2098-007 Frequency Source, is a 70 MHz, synthesized frequency generator. The 70.000 MHz signal is generated by the VCO controlled by the Phase Lock Loop circuit which is referenced to a 25 MHz Crystal oscillator. The 70 MHz is applied to an amplifier and then to the output switch/attenuator providing a level of 0.0 dBm (high) or -15 dBm (low). A green LED indicates the presence of DC power. Power is provided by a wall transformer for 115 VAC, 60Hz and provides +15 VDC at 150 ma. The Option -P4 wall power supply covers 100-240 ±10% VAC, 47-63 Hz. Specify US, EUR, AUS or UK plug for the -P4 option. The connector is BNC female for the 70 MHz output and the impedance is 75 ohms.
1.2 Technical Characteristics

**TABLE 1.0 2098-007 UPCONVERTER SPECIFICATIONS***

<table>
<thead>
<tr>
<th>Output Characteristics</th>
<th>75 Ω</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impedance</td>
<td>75 Ω</td>
</tr>
<tr>
<td>Return Loss</td>
<td>&gt;15 dB</td>
</tr>
<tr>
<td>Frequency</td>
<td>70.000 ± 0.0005 MHz</td>
</tr>
<tr>
<td>Level</td>
<td>0.0 dBm ±0.5 dB(high level); -15 dBm ±0.5 dB(low level)</td>
</tr>
<tr>
<td>Harmonics</td>
<td>&lt; -30 dBC, max, -35 dBC typ for second and third, -50 dBC for all others</td>
</tr>
<tr>
<td>Spurious</td>
<td>&lt; -60 dBC, max</td>
</tr>
</tbody>
</table>

**Synthesizer Characteristics**

- Frequency Accuracy: ± 0.5 kHz max. over time and temperature, ± 0.25 kHz, typical
- Phase Noise (dBC/Hz): ≤ -100, 10 kHz; ≤ -120, 100 kHz; ≤ -130, 1 MHz
- Frequency Selection: NONE: Fixed tuned

**Controls/Indicators**

- Level Select: Slide switch selects High (0 dBm) or Low (-15 dBm) level
- DC Power: Green LED

**Other**

- RF Output Connector: BNC, female
- Size (W x H x D): 3.3 x 1.2 x 4.0 (in.); 83.8 x 30.5 x 101.6 (mm)
- Power: Wall power supply is for 115 VAC, 60Hz and provides +15 VDC, 150 ma
  - Option -P4 covers 90-260 VAC, 47-63 Hz. Specify US, EUR, AUS or UK plug

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*+10 to +40 degrees C; 2000 meters max elevation; 80% max humidity; Pollution Degree 2; Specifications subject to change without notice.*
2.0 Installation

2.1 Mechanical - The 2098-007 is packaged in an aluminum chassis. The unit can be mounted to a panel using the 2 holes at the bottom side flange. The unit derives +DC (+15 VDC, 150 ma) from a wall mount power supply. (See Figure 2.1 and Figure 2.2).

2.1.1 Cleaning Instructions - Wipe the exterior with a dry, soft cloth. Use no detergent or cleaning chemicals.

2.2 Controls and Indicators - The Level switch controls the output level at 0.0 dBm (high) or -15 dBm (low). A green LED indicates presence of DC power (Figure 2.3).

2.3 Input / Output Signals - Figure 2.3 shows the input and output signals to the 2098-007.

FIGURE 2.1 2098-007 ASSEMBLY DRAWING
Figure 2.2 2098-007 Package Dimensions
2.4 Installation / Operation -

2.4.1 Installing and Operating the 2098-007 -
1.) Secure the 2098-007 to a panel using the two bottom mounting holes (see Figure 2.1 and Figure 2.2)
2.) Connect the unregulated +15 VDC from a wall power supply provided to the 2098-007 and the wall power supply to the AC.
3.) Observe that green power LED (DS1) is illuminated.
4.) Select High (0 dBm) or Low (-15 dB) Level with S1.
5.) Connect the RF OUT, J1, to the external equipment