

# **INSTRUCTION MANUAL**

## **MODEL 2098-007 FREQUENCY SOURCE**

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**CROSS TECHNOLOGIES, INC.  
6170 SHILOH ROAD  
ALPHARETTA, GEORGIA 30005**

**(770) 886-8005  
Toll Free 888-900-5588  
FAX (770) 886-7964**

**WEB [www.crosstechnologies.com](http://www.crosstechnologies.com)  
E-MAIL [info@crosstechnologies.com](mailto:info@crosstechnologies.com)**

# INSTRUCTION MANUAL

## 2098-007 FREQUENCY SOURCE

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**E-MAIL [info@crosstechnologies.com](mailto:info@crosstechnologies.com)**

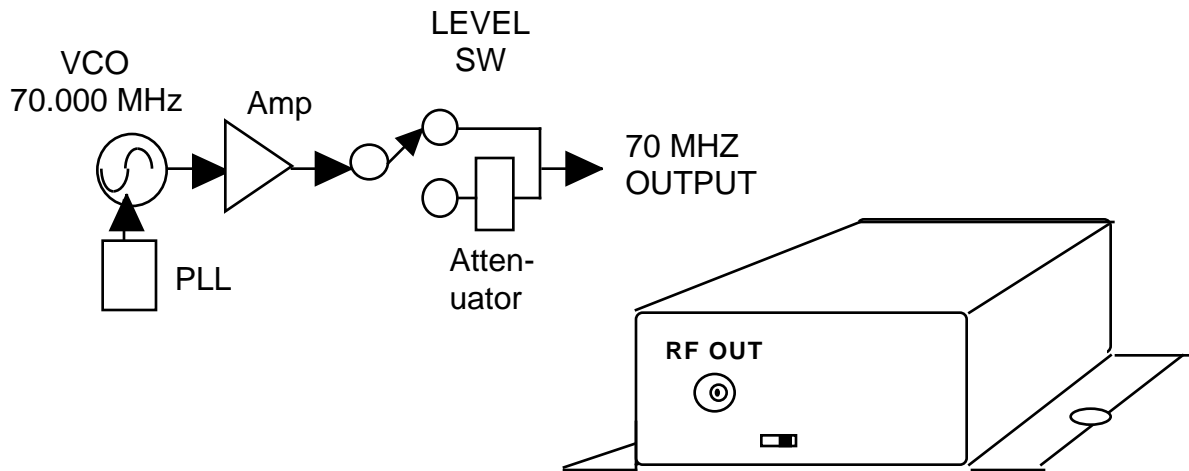
# 2098-007 FREQUENCY SOURCE

## 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 90-260 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.



**FIGURE 1.1 2098-007 Frequency Source Block Diagram and Chassis**

## 1.2 Technical Characteristics

**TABLE 1.0 2098-007 UP CONVERTER SPECIFICATIONS\***

### **Output Characteristics**

Impedance	75
Return Loss	>15 dB
Frequency	70.000 ± 0.0005 MHz
Level	0.0 dBm ±0.5 dB(high level); -15 dBm ± 0.5 dB(low level)
Harmonics	< -30 dBC, max, -35 dBC typ for second and third, <-50 dBC for all others
Spurious	< -60 dBC, max

### **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 <b>option -P4</b> 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.

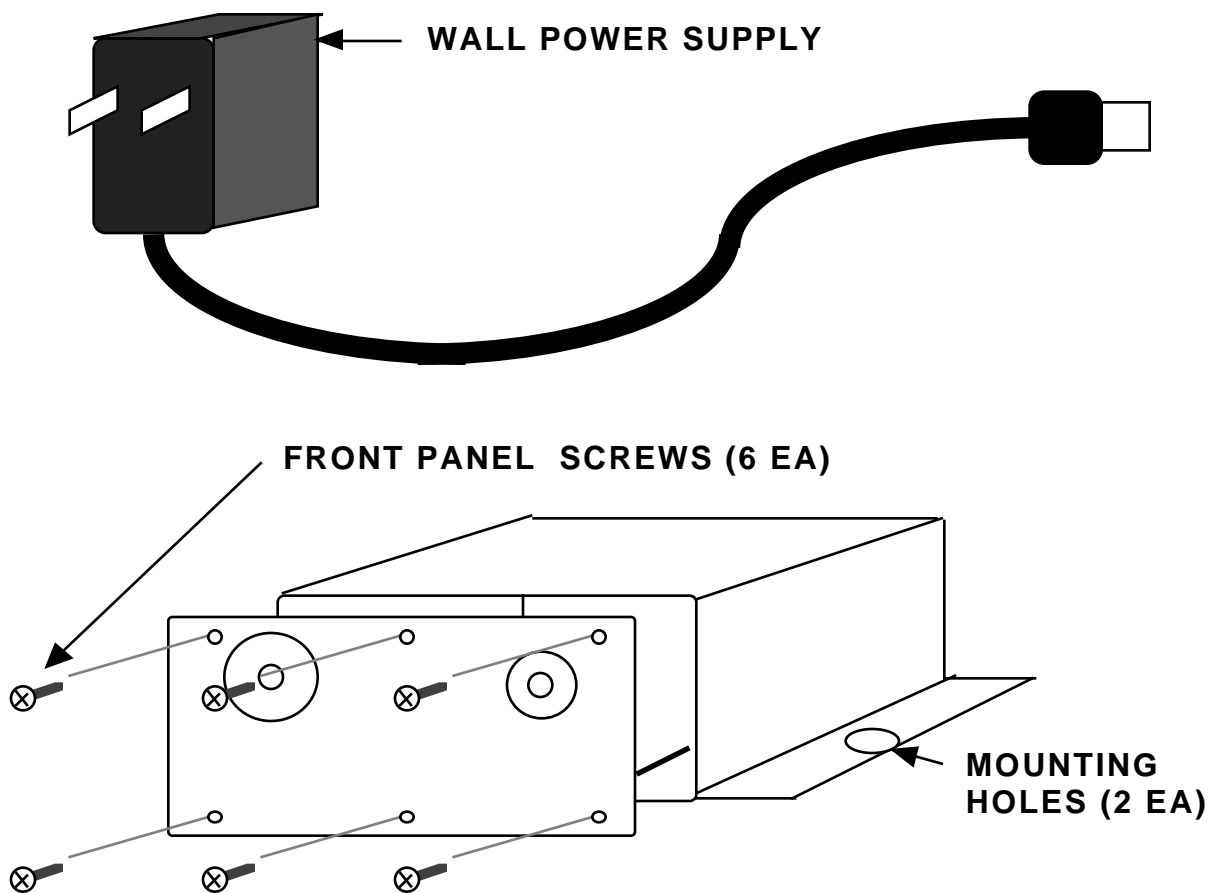
## 2.0 Installation

**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).

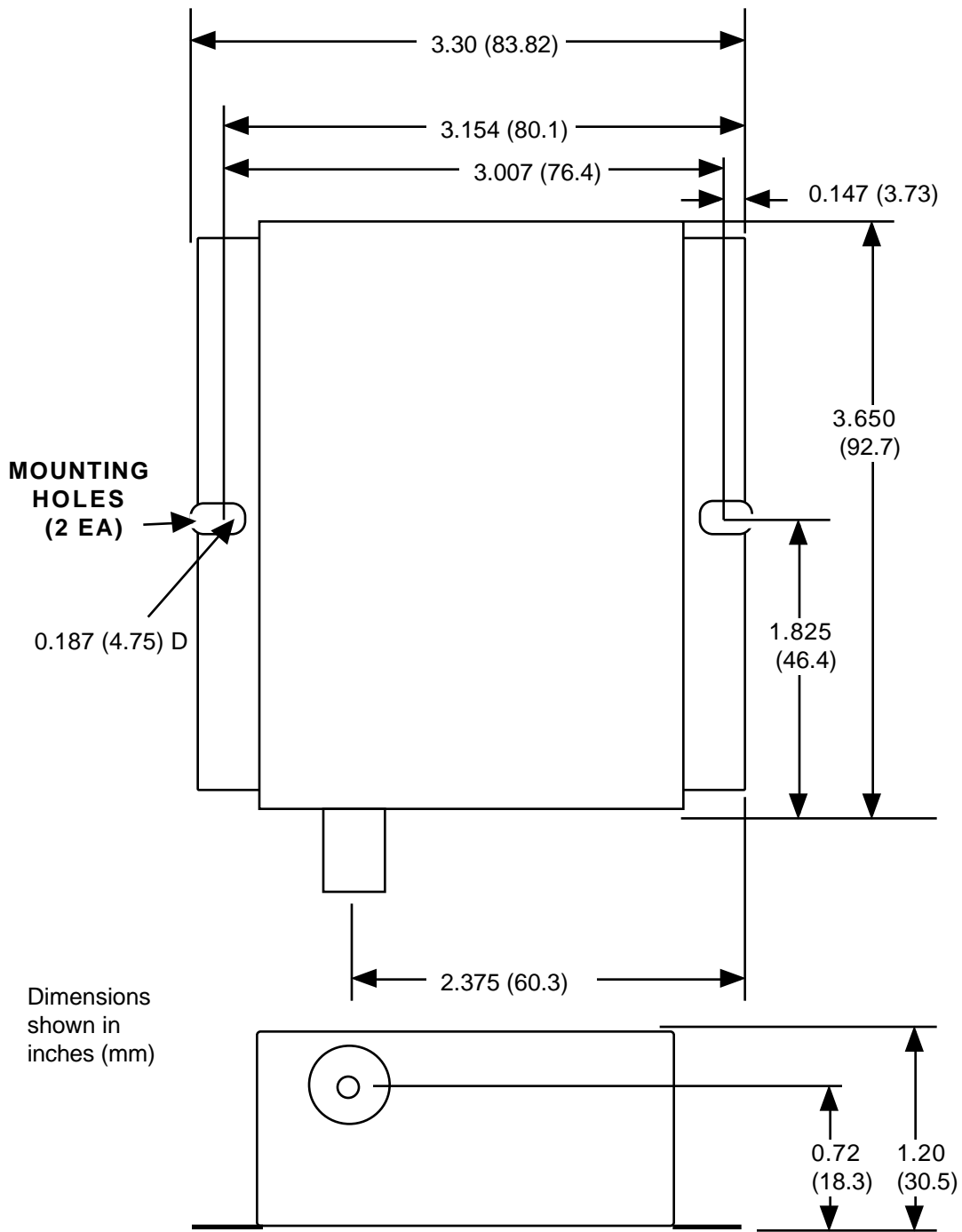
**2.1.1 Cleaning Instructions** - Wipe the exterior with a dry, soft cloth. Use no detergent or cleaning chemicals.

**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).

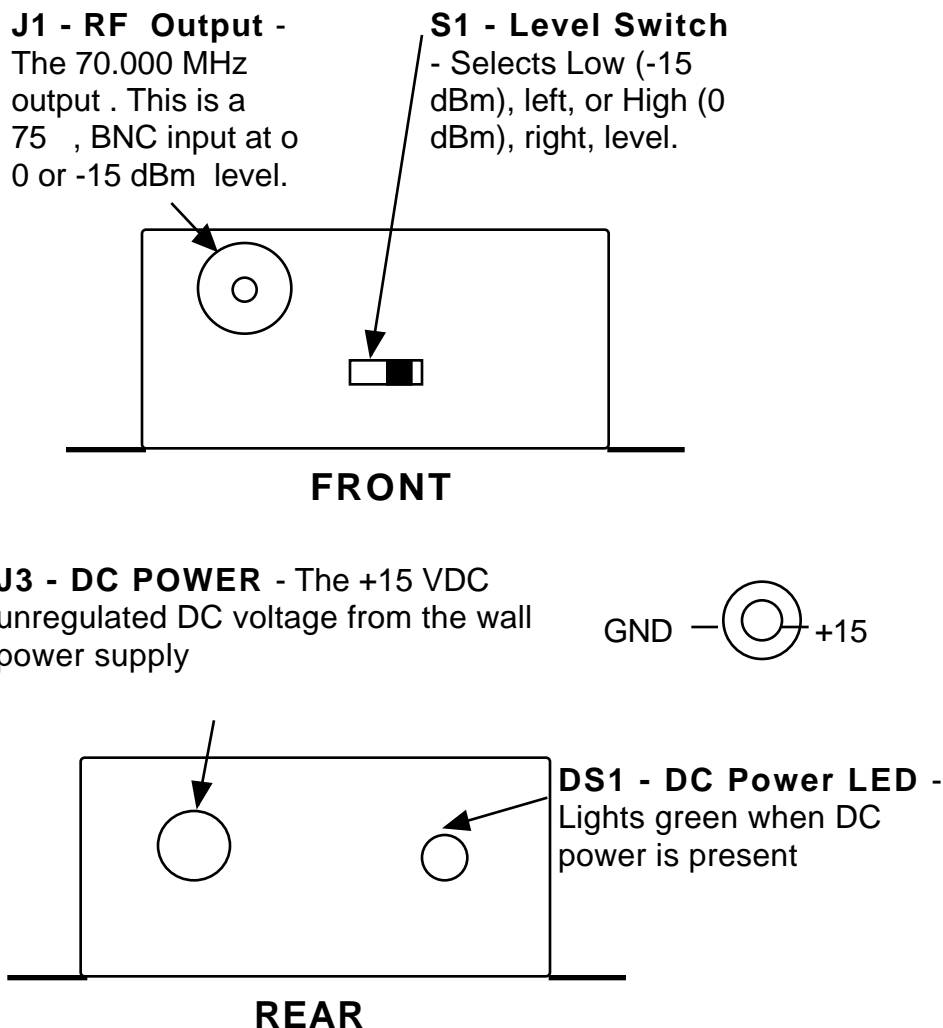
**2.3 Input / Output Signals** - Figure 2.3 shows the input and output signals to the 2098-007.



**FIGURE 2.1 2098-007 ASSEMBLY DRAWING**



**Figure 2.2 2098-007 Package Dimensions**



**Figure 2.3 2098-007 Input, Output, Power LED, External DC In**

## 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

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