

# FM-30

# FREQUENCY MONITOR



# REDCO

Reliable Electronics Design Co.  
11823 SLAUSON SANTA FE SPRINGS 90670

# **FREQUENCY MONITOR**

**Model FM-30**

**Operation Manual  
Release Date 6-1-77**

This manual applies directly to  
**REDCO** Model FM-30 basic frequency monitor

## **CERTIFICATION**

**REDCO** certifies that this instrument was thoroughly tested and inspected and found to meet the published specifications. Each unit is exposed to a minimum of 48 hours of burn in prior to calibration. All calibration equipment is traceable to NBS.

## WELCOME TO THE NEW STANDARDS OF DIGITAL TECHNOLOGY

The **REDCO** Communications Frequency Counter, Model FM-30, is designed to facilitate thru line frequency direct coupled frequency monitoring. The resolution switch allows you to read direct to the nearest 1,000 hertz in the 1kHz mode or to the nearest 100 hertz in the .1kHz mode.

Example: 1kHz mode = 27.500

Note: The last 3 significant digits are not read. Thus, the lowest possible reading is to the nearest 1,000 hertz. The reading indicates the channel and/or frequency desired for normal transmission and reception.

.1kHz mode = 7.5000

Note: the first significant digit 2 is not displayed, but the digit is considered as a part of the actual frequency. The last two significant digits 0 are not displayed. The lowest possible reading is to the nearest 100 hertz.

This setting is used for fine tuning the transmitter to the required frequency.

## THRU LINE OPERATION

1. Connect the antenna to the “antenna” connector (S0239) on the rear of the chassis.
2. Connect the receiver to the “radio” connector (S0239) on the rear of the chassis.
3. **For DC Operation:** Connect the +12 volt line to the red wire on the DC power input connector.
4. Connect the negative ground line to the black wire on the DC power input connector.
5. Key the transmitter and check the indicated frequency on the counter. Compare this frequency with the prescribed frequency for the channel used. The difference indicates the amount of error present. (See channel to frequency conversion chart)

## SINGLE SIDE BAND OPERATION

Single side band transmissions operated without a carrier until modulation occurs. Normal voice modulations display a nonstable amplitude and frequency, which will create an erratic indication on the frequency counter. This condition can be overcome by introducing a carrier or continuous tone when the transmitter is keyed. (Example: CW side tone, inserting carrier or whistling a stable tone into the microphone. All tests should be conducted with a dummy load to prevent on-the-air interference).

## SPECIFICATION:

Frequency range..... 1 MHz to 40 MHz thru-line  
Sensitivity..... less than 1 Watt RMS, thru-line  
Input impedance..... 50 ohms (typical)  
Readout..... ½ inch high, 5-digit, 7-segment LED  
Resolution..... least significant digit = 100 Hz  
Stability..... ±10 parts in 10<sup>-6</sup>  
Power consumption..... 1 amp at 13.8 VDC  
Operating voltage range..... 10.5 to 16 VDC  
Size..... 4"L x 6"D x 1.25"H

## AMATEUR BANDS

	kHz	MHz
160m.	1800-2000	21.00-21.45
	3500-4000	21.00-21.25
	3500-3775	15m. 21.25-21.35
80m.	3775-3890	21.25-21.45
	3775-4000	28.0-29.7
	7000-7300	10m. 28.0-28.5
40.	7000-7150	28.5-29.7
	7150-7225	29.0-29.7
	7150-7300	
	14000-14350	
20m.	14000-14200	
	14200-14275	
	14200-14350	

# 11 METER BAND FREQUENCY CHART

## NEW 40 CH FREQUENCIES

## OLD 23 CH FREQUENCIES

Channel	Freq. In Megahertz	Channel	Freq. In Megahertz	Channel	Freq. In Megahertz
1	26.965	24	27.245	1	26.965
2	26.975	25	27.255	2	26.975
3	26.985	26	27.265	3	26.985
4	27.005	27	27.275	4	27.005
5	27.015	28	27.285	5	27.015
6	27.025	29	27.295	6	27.025
7	27.0935	30	27.305	7	27.035
8	27.055	31	27.315	8	27.055
9	27.065	32	27.325	9	27.065
10	27.075	33	27.335	10	27.075
11	27.085	34	27.345	11	27.085
12	27.105	35	27.355	12	27.105
13	27.115	36	27.365	13	27.115
14	27.125	37	27.375	14	27.125
15	27.135	38	27.385	15	27.135
16	27.155	39	27.395	16	27.155
17	27.165	40	27.405	17	27.165
18	27.175			18	27.175
19	27.185			19	27.185
20	27.205			20	27.205
21	27.215			21	27.215
22	27.225			22	27.225
23	27.235			23	27.255

## LIMITED 6 MONTH WARRANTY PARTS AND LABOR

**REDCO** warrants this product to be free from defects in material and workmanship for a period of six months from date of original sale to the ultimate user. **REDCO** will repair free of charge any **REDCO** product which in the judgment of **REDCO** has proven to be defective within the six month period when said product is returned at customer expense to **REDCO** or one of **REDCO's** Authorized Warranty Stations. This warranty does not cover any expenses incurred in the removal and re-installation of this product.

This warranty does not apply to any **REDCO** product damaged by accident, misuse, abuse, improper line voltage, fire, flood, lightning, or other acts of God, or by being altered or repaired by anyone other than **REDCO** or one of its Authorized Warranty Stations. This warranty does not cover marred cabinets, or any other accessory used in connection with the product or damage due to a defect in the product.

This warranty is in lieu of all other warranties expressed or implied including any implied warranty of merchantability, and no person is authorized to assume for **REDCO** any other liability in connection with the sale of the product.

**FROM**

**STAMP**

**RELIABLE ELECTRONICS DESIGN CO.**

**11823 East Slauson / Suite 26**

**Santa Fe Springs, CA 90670**



Guarantee not valid unless the warranty card is returned within 10 days of purchase:

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