



# FREQUENCY COUNTER

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## *INSTRUCTION MANUAL*

MODEL HFC-02 (1KHz~54MHz)

Our research and developing department has developed such a small and low cost digital frequency counter with only three IC packages as we have the highest technique,  $I^2L$ -structure nowadays.

In the past, the conventional digital frequency counter employs more than 30 IC and many parts therefor. Then, it was so big and expensive.

### FEATURES

1. Can be used as an ORDINARY Digital Frequency Counter.
2. Can be used as a Digital Frequency Display of TRANSMITTERS.
3. Can be used as a Digital Frequency Counter of RECEIVERS. A receiving frequency of a SW, MW or LW single super heterodyne radio set with 455KHz IF is directly readable with the built-in 455KHz Down System (just HF).
4. Can be taken anywhere with dry or NiCd batteries or a car battery.

## How To Use

### 1). as "ORDINARY" FREQUENCY COUNTER

This counter is basically the same as ordinary ones, so it is used as ordinary ones. First of all, solder the "alligator clips" to the coaxial cable with plug. Then connect the plug with the "F INPUT". And connect the clips with an oscillating part of a measured device directly. Finally supply 5VDC or 12VDC to the POWER INPUT (See Fig.1). (See Fig.1).

The POWER and MODE switches should be pushed in.

### 2). as FREQUENCY DISPLAY of "TRANSMITTER"

Prepare a ONE-TURN COIL to be soldered to the coaxial cable. Put the coil by an ANTENNA COIL of a TRANSMITTER (See Fig.1).

The others are the same as above mentioned ways.

### 3). as FREQUENCY DISPLAY of "RECEIVERS"

Connect the RAC pin plug with the "-455KHz" INPUT. Then solder the other end of the cable to the oscillator of a single superheterodyne radio set directly—the center wire of the cable with the emitter or collector of the transistor of the oscillator, and the sealed wire (outside) of the cable with the ground of the radio. Most of oscillators with PNP transistors, however, has "+" ground, which dose not match with the "-" ground of this counter. If it is so, reverse the polarity—. And bear in mind two kinds of oscillators (See Fig.2).

The MODE switch should be pushed back out. And the others are the same as above mentioned ways.

So receiving frequency of a single superheterodyne radio set with 455KHz IF is directly readable without any reduction. It will, therefore, indicate 99.545MHz (or 100.000-455KHz), if no input signal is input (Short the inputs in this case).

1. Isolate the power supply if the counter causes other devices noise, as the counter employs the Dinamic Lighting System.
2. Do not supply over voltage to 5V–Power Input. Use dry batteries not four (over 6V) but three (over 4.5V) pieces, if they are new.
3. Too highinput voltage of measured frequency may burn IC (See Fig.3).
4. Too low input voltage of measured frequency may cause miscount (See Fig.3).
5. When strained frequency such as that of the multiplier is measured, Use a simple tuning coil to get accurate frequency avoiding miscounting.

### SPECIFICATIONS

- |                                   |                                    |
|-----------------------------------|------------------------------------|
| a) Frequency Ranges – HF          | : 1KHz ~ 54MHz                     |
| b) Standard Oscillating Frequency | : 10MHz $\pm$ 0.0005%              |
| c) Input Impedance                | : 1M $\Omega$ 20pF                 |
| d) Input Voltage                  | : 20mV ~ 20Vrms                    |
| e) Power Supply                   | : 5VDC or 12VDC                    |
| f) Environment                    | : 0 $^{\circ}$ C ~ 40 $^{\circ}$ C |

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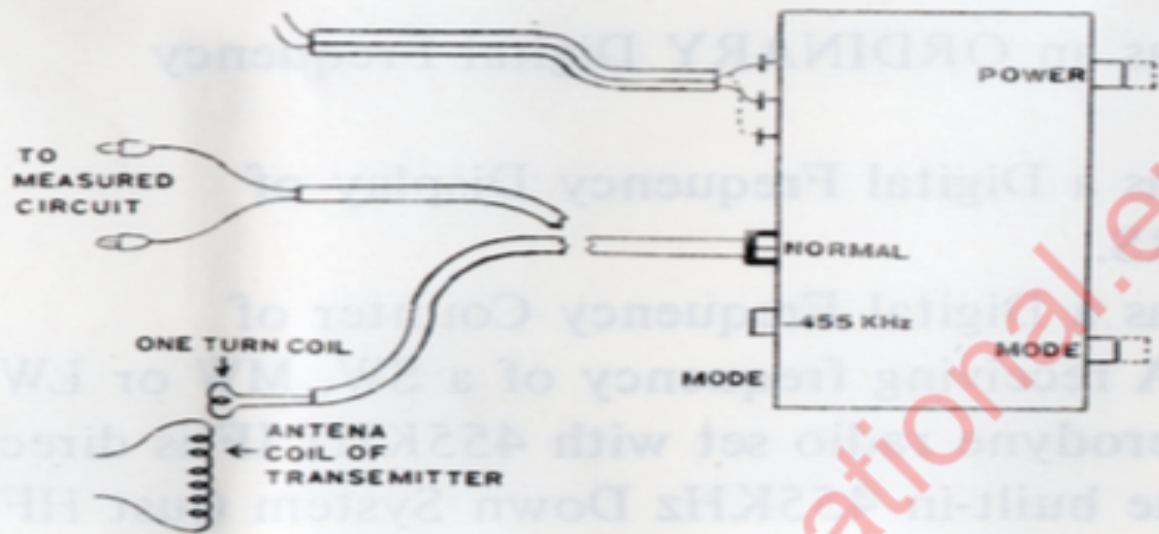


Fig.1

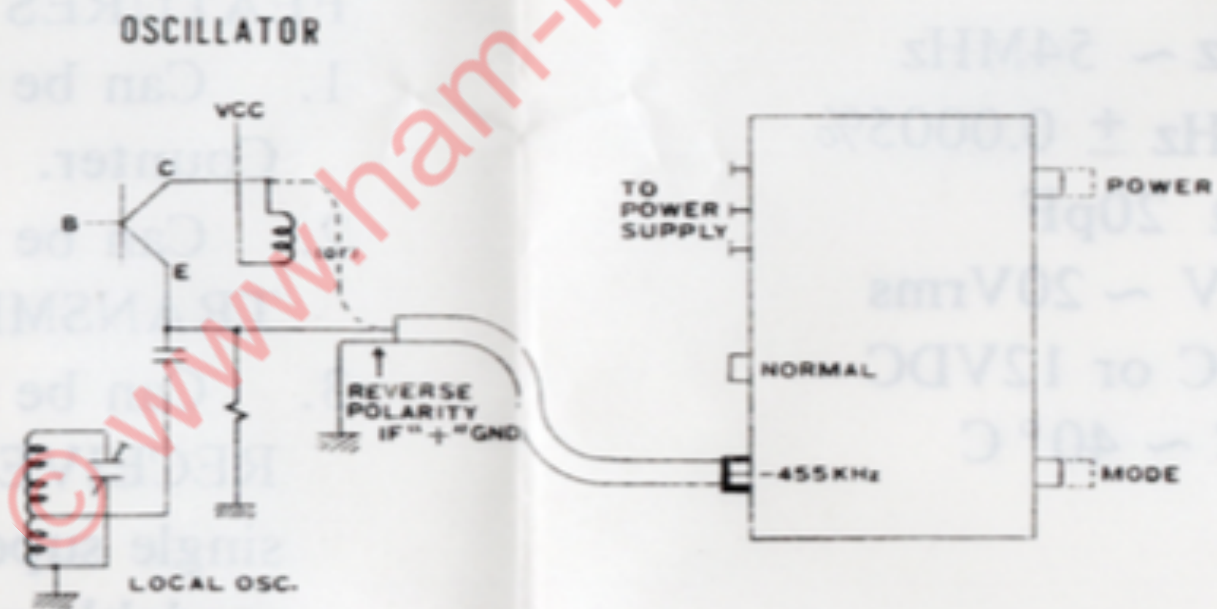


Fig.2

## Proper Input-Voltage

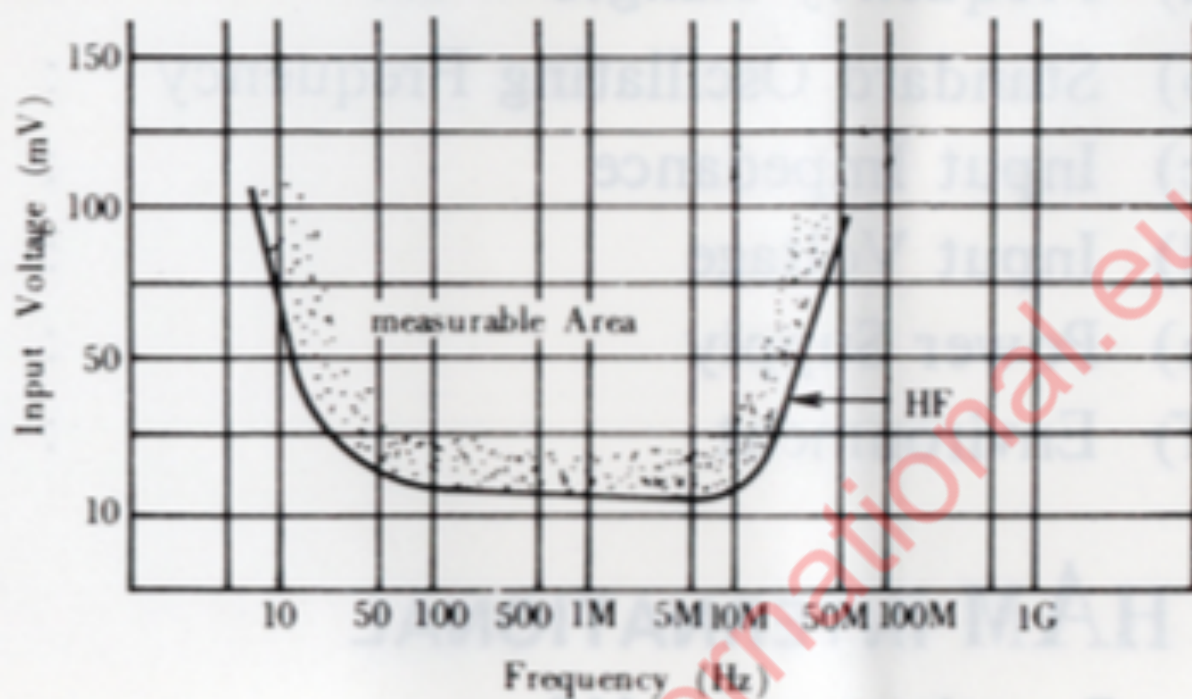


Fig.3

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