

# HAND-HELD FREQUENCY COUNTER



## Feature & Specification:

- Frequency range : 2MHz-2800MHz-Cover for : VHF/UHF
  - CTCSS/DCS Decoder
  - DMR Frequency counter
  - Digital select digi 0.000 or 0.0000 or. 0.00000 (see table 1)
  - Work by TCXO (crystal)
  - Auto power off 1-9minutes
  - Frequency Response time: 0.1,0.25,0.5,1.0S,
  - Color Display 240x320 Pixels, LCD Dim level setting
  - Build-in 3.7V Li-ion battery
  - Net Weight: 113g
  - 4 button for all funtion control
  - Charging battery LED indicator
- 2 Ch. Select:(A. 27-2.8GHz, B. 2MHz-200MHz)

## USER'S MANUAL

Congratulations on your purchase of Frequency Counter.  
Before Operating the frequency counter, please read this manual ,thoroughly .  
Make sure that the following accessories are supplied,with your frequency counter:

### UNPACKING AND CHECKING EQUIPMENTS:

Antenna suit for VHF/UHF (1) ,AC Power Adapter (1),USB Charger ,Cable(1),User Manual (1)  
Please contact the sales agent in case of accessory missing.

### Product introduction

The frequency meter capable of measuring the parameters of the frequency of the continuous carrier signal walkie- talkie ,with signal strength indicator. it is the tool of choice for maintenance personnel, test frequency and signal strength of wireless enthusiasts. This portable frequency counter is designed for counting continuous wave signal comes from Two-way Radio. There are easy ranges for you to choose. The ranges cover most of the frequency of the two-ways-radios you want to measure. Its four-button control is easy to use and its small size allows you to carry it anywhere you like.Work by TCXO(Temperature Compensate X'tal (crystal) Oscillator) ,In the range of -25 °C ~ 55 °C .

### 1.1 Power On/Off:

Power on ,press and Hold down the [Red key] by 3 second  
Power off ,press and Hold down the [Red key] by 3 second of number count down to 0

### 1.2 Charging the battery :

Plug the power cord into adaptor , micro usb connect SF103  
The Led indicating: \*The RED light Charging \* The Green light is Full

### 1.3 Setup the frequency Range :

Press[ F2.stop ] button ,[F3 -->] select function to "Rang"  
Press the [F4 Ent] Select 27M-2.8G(27MHz-2800MHz) /<=200MHz (below 200MHz) , and then press[F2] to Run

### 1.4 Setup the time Gate :

Press[ F2.stop ] button ,[F3 ---> ] select Function to "Gate"  
Press the [F4 Ent] select : 0.1s / 0.25s / 0.5s / 1.0s ,and then press [F2] to Run

### 1.5 Setup the Frequency counter digi :

Press[ F2 ] botton ,[F3--->] select Function to "Gate"  
Press[F4 Ent] Select : 3 / 4 / 5 / 6 , and then press [F2] to Run  
! 27MHz-2.8GHz for 3 / 4 only , 2-200MHz for 3 / 4 / 5 / 6 , Detail Please see Table 1:

### 1.6 How to check Frequency of Digital DMR Radio

Press[ F2 ] botton ,[F3 ---->] select Function to " type" :Press [F4] select Analog / Digital(DMR) , and then Press [F2] to Run  
!Note. Digital mode have 3 Decimal only.

### 1.7 How to ADJ. the Frequency mode of 27MHz -2.8GHz: ( See PIC.2)

Press, [F3 MENU ] , [F3 Down] / [ F4 Up] to select the Gate to (0.1s/0.25s/0.5s/1.0s)  
Press, [F2 Edit] / [F3 - ] and [ F4 +] to select the +/- 99  
Press, [F1. Main] exit , and then press [F4 save] for save the setting .([F1] not save for

### 1.8 How to fine tune the Frequency mode of 2-200MHz: (See PIC.1 )

Tune the PCB VR1 (Variable resistance)  
(The factory has been set accurate, such as non-technical staff do not tune)

### 1.9 How to use [F3 menu ] mode: (see PIC2)

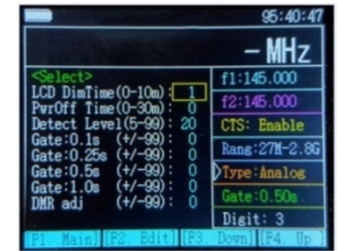
Press, [F3 - ] / [ F4 +] select the function ,and then press [F2 edit] for edit mode ,  
Press, [F3 - ] / [ F4 +] selecy for change the data .  
Press, [F1. Main] exit , and then press [F4 save] for save the setting .  
/( [F1] not save for exit)



PIC.1

### Caution:

- 1)Max. direct input signal 5Vp-p
- 2)Prohibit direct access to the radio antenna output, resulting in damage to the frequency meter



PIC.2

### Frequency Display Resolution / CTCSS ,DCS Decode frequency range

SELECT	27MHz-2.8GHz	Gate Time select (seconds)	Sample Display (100MHz)				CTCSS/DCS select A
			Digi				
			3	4	5	6	
A		0.10 s	100.000	100.0000			Decode Range 132-173MHz 200-260MHz 400-519MHz
		0.25 s	100.000	100.0000			
		0.50 s	100.000	100.0000			
		1.00 s	100.000	100.0000			
SELECT	2MHz-200MHz	Gate Time select (seconds)	Sample Display (100MHz)				CTCSS/DCS select B
			Digi				
			3	4	5	6	
B		0.10 s	100.000	100.0000			Disable
		0.25 s	100.000	100.0000			
		0.5 s	100.000	100.0000	100.00000	100.000000	
		1.00 s	100.000	100.0000	100.00000	100.000000	

\* Supplier, the product will add functionality without having to give notice

Table1

**ANALOG mode of CTCSS (Hz) (P.S : FREQ. range:132-173MHz , 200-260MHz , 400-519MHz)**

50.0	79.7	100	127.3	159.8	179.9	203.5	241.8
55.0	82.5	103.5	131.8	162.2	183.5	206.5	250.3
67.0	85.4	107.2	136.5	165.5	186.2	210.7	254.1
69.3	88.5	110.9	141.3	167.9	189.9	218.1	
71.9	91.5	114.8	146.2	171.3	192.8	225.7	
74.4	94.8	118.8	151.4	173.8	196.6	229.1	
77	97.4	123	156.7	177.3	199.5	233.6	

**ANALOG mode of DCSS (N code only) (P.S : FREQ. range:132-173MHz , 200-260MHz , 400-519MHz)**

Standard N	SHOW	Standard N	SHOW	Standard N	SHOW	Standard N	SHOW	Standard N	SHOW	Standard N	SHOW
23	23.0 N	115	115 N		212 N	306	306 N	431	431 N	632	632 N
25	25.0 N	116	116 N	223	223 N	311	311 N	432	432 N	654	654 N
26	26.0 N		122 N		225 N	315	315 N	445	445 N	662	662 N
31	31.0 N	125	125 N	226	226 N		325 N	464	464 N	664	664 N
32	32.0 N	131	131 N	243	243 N	331	331 N	465	465 N	703	703 N
	36.0 N	132	132 N	244	244 N		332 N	466	466 N	712	712 N
43	43.0 N	134	134 N	245	245 N	343	343 N	503	503 N	723	723 N
47	47.0 N	143	143 N		246 N	346	346 N	506	506 N	731	731 N
51	51.0 N		145 N	251	251 N	351	351 N	516	516 N	732	732 N
	53.0 N	152	152 N		252 N		356 N	532	532 N	734	734 N
54	54.0 N	155	155 N		255 N	364	364 N	546	546 N	743	743 N
65	65.0 N	156	156 N	261	261 N	365	365 N	565	565 N	754	754 N
71	71.0 N	162	162 N	263	263 N	371	371 N	606	606 N		
72	72.0 N	165	165 N	265	265 N	411	411 N	612	612 N		
73	73.0 N	172	172 N		266 N	412	412 N	624	624 N		
74	74.0 N	174	174 N	271	271 N	413	413 N	627	627 N		
114	114 N	205	205 N		274 N	423	423 N	631	631 N		