FR-100

MINI HAND HELD TYPE 5 BANDS

COMMUNICATIONS RECEIVER

USER'S OPERATION MANUAL

maycom

$\mathsf{C}\mathsf{E}$

CONTENTS

■ DESCRIPTION OF FEATURES

● *Display Panel Features*
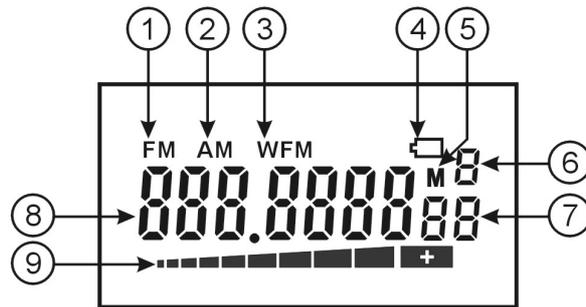
1. "FM "
 Indicates the narrow "FM" mode has been selected.

2. "AM "
 Indicates the "AM" mode has been selected.

3. "WFM "
 Indicates the wide "FM" mode for broadcasting radio has been selected.

4. "▭ " (Battery indicator)
 Indicates batteries are getting low. If the battery level is lower than the standard point, Battery Level Indicator will twinkle.

5. "M "

4

Indicates that memory mode has been activated

6. " 8 " (A.b.c.d.E)
   Indicates the operating band

7. " 88 " Memory channel indicator
   Displays the memory channel number
   (30 memories available per memory bank).

8. Channel (Frequency) indicator
   Displays Frequency Number.

9 "▪▪▪▪▪▪▪▪▪ + " S-RF (Signal strength indicator)
   The radio incorporates a ten segment incoming signal on the LCD.
   On receiving a signal, the meter will indicate how strong the signal is.
   A weak signal will be indicated by one or two segments, while a very
   strong signal will have 8 to 10 segments.

● *Top Panel Features*
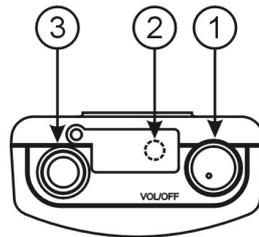
1. Power On/Off, Volume
   Turn the Volume switch clockwise to the turn power on and set desired
   volume. Turn the Volume button anti-clockwise to turn the power off.
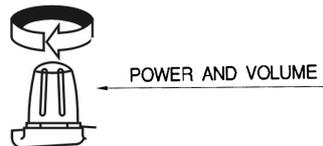
   When the power is on, the lastly used frequency per mode and band
   is displayed on the LCD.

2. Antenna
   This antenna provides good receiver performance given its overall size.

3. Phone Jack
   Let the user listen to the conversation in privacy.

Dust Cover : When Earphone is not being used, this prevents dirt and
moisture from getting inside the radio.

_____

● *Side and Back Panel Features*
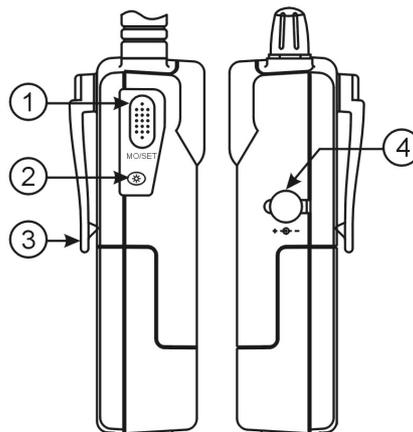
1. MO/SET (Monitor)

1) MO(Monitor)
Press the "MO(Monitor)" button shortly in the receiving mode to open
the squelch control. This is useful when a weak signal is to be
monitored.
Re-Activate : Press the MO button one more time.

2) SET
To fix each selection. Press this button.

2. ☼ (Lamp)

Press the " ☼ " button, the lamp will stay on for four seconds, after that It will turn off automatically. If you press another button on the front cabinet when the lamp is on, the lamp will stay on for four seconds from that time. If you press the " ☼ " button for more than one second, the beep will be Come and the lamp will stay on until you press the ' ☼ " button once again.

3. Belt Clip

Allows for ease of carrying while attached to user's belt.

4. DC Jack

Allows for using external DC Power supply.

● *Front Panel Features*
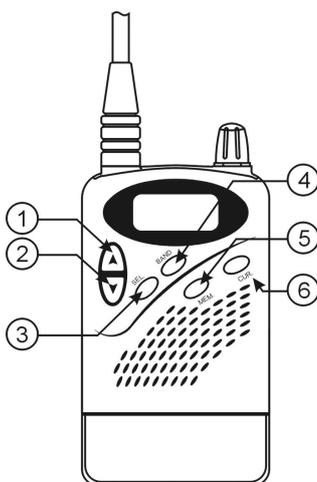
1. ▲ (Channel up) button

Press the " ▲ " button to move to a higher frequency than is currently shown on the LCD.

To access Up scanning process, press the " ▲ " button over two seconds. In the event that during the scanning processing, the radio stop for 3 seconds at a receiving frequency and re-starting the scanning

processing unless you press any buttons.
- If you want to stop scanning process, simply press any button
- The scanning processing is available per band.

2. ▾ (Channel Down) button

Press the "▾" button to move to a lower frequency than is currently shown on the LCD.

To access Down scanning process, press the "▾" button over two seconds. In the event that during the scanning processing, the radio stop for 3 seconds at a receiving frequency and re-starting the scanning processing unless you press any buttons.
- If you want to stop scanning process, simply press any button
- The scanning processing is available per band.

3. SEL button

1) Select the mode
   To select the wanted mode, pressing "SEL" button. Each mode will be accessed with following turn.
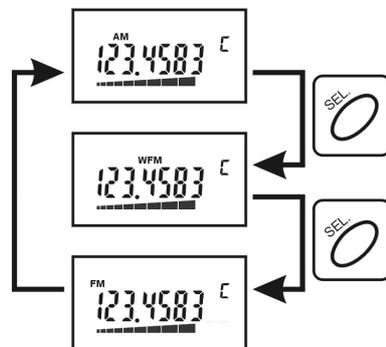
2) Adjust SQL Level
   To adjust SQL level, press the "SEL" button longer than 2 seconds.
   With Up/Down button, you can adjust SQL level which you want.
   SQL level will be displayed with S-RF level meter.
   SQL level will be adjusted form S2 to S8.

3) Change of Frequency step
   FR-100 has 5KHz, 8.33KHz(Air), 10KHz,12.5KHz, 20KHz, 25KHz,

8

50KHz, 100KHz, 200KHz and 1MHz frequency step.
To change the frequency step, press the "SEL" button in the SQL level adjustment mode.
With Up/Down button, you can select the frequency step which you want. To fix the frequency step, press the "MO/SET" button.
If the "MO/SET" key will not be pressed over 4 seconds, current frequency step will be fixed automatically.

Note : The changed frequency step is only available per related band
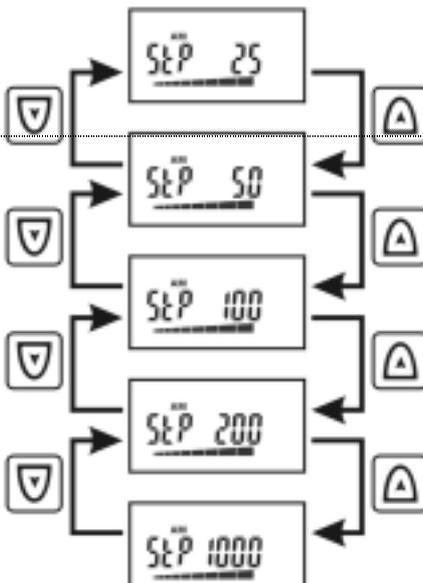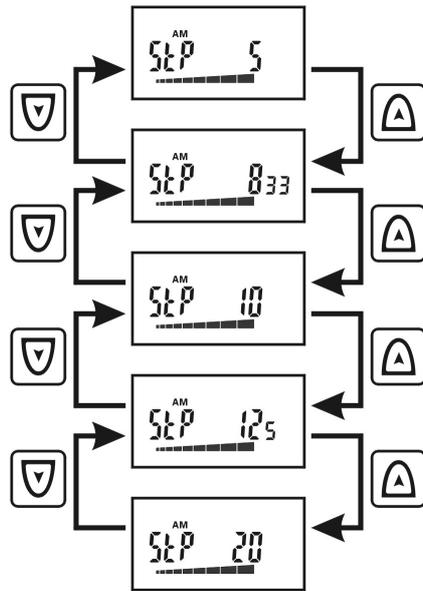
4. Band Button

FR-100 has five bands.

A Band : 66 - 88 NFM(Narrow FM)   25KHz Step
b Band : 88 - 108 WFM (Wide FM Broadcasting)   100KHz Step
C Band : 108 - 137 AM   25KHz Step
d Band : 137 - 174 NFM   20KHz Step
E Band : 420 - 470 NFM   12.5KHz Step

To select the wanted band, pressing "BAND" button. Each band will be accessed with following turn.
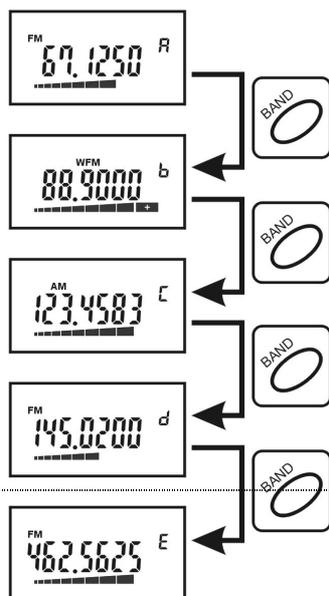
When you press the "BAND" button, the last used frequency per band will be displayed on the LCD.

5. MEM button
This FR-100 receiver contains a 30 memory locations for each band where desired frequencies can be programmed by the user.

1) Frequency Memory
   Programming of the desired frequencies memory can be carried out in the following ways.

- Select the frequency which you want by using "SEL,BAND and Frequency Up/Down" button"
- Press "MEM" button longer than 2 seconds
- The LCD will show the empty memory channel location
- Select the memory location where you wish to store the selected frequency by pressing "▲ or ▼ " buttons till the Memory Channel Indicator shows that location.
- Press the "SET" button.

Note : 1. If the "MO/SET" key will not be pressed over 4 seconds, current frequency will be stored automatically.
       2. When the selected frequency is stored, the being used mode and step are also stored automatically.

2) Memory Recall
   To access the memory recall,
   - Press "MEM" button simply
   - Select the memory location where you wish to find the stored frequency by pressing "▲ or ▼ " buttons till the Memory Channel Indicator shows that location.

   - To Deactivate : Press "MEM" button simply

   Note : If you want to use the stored frequency in normal mode, press "MEM" button longer than 2 seconds.

3) Memory Scan
   To access the memory scan
   - Enter the Memory Recall mode by pressing "MEM" button

11

- Pressing "▲ or ▼ " buttons longer than 2 seconds
- The empty memory channels are skipped during scanning processing.
- To stop scanning, press any button.

4) Deletion of stored frequency
   To access the deletion of memory
   - To enter memory mode
   - Select the memory channel which you want to delete
   - Press "MO/SET" button longer than 2 seconds
   - "ErASER" will appear on the LCD
   - Press the "MO/SET" button one more time. With beep, the stored
   frequency in the memory channel will be erased.

5) Delete all stored frequency in the memory channel
   To access it :
   - Turn the power off
   - Press and hold "SET" button
   - Turn the power on.

6. CUR.(Cursor) button
The desired frequency can be directly entered using the cursor function
in normal mode. The desired frequency however should be in the
allocated frequency range of the band. To enter the frequency directly
using cursor function, follow the example:

1) Example of Frequency selection
   Frequency desired is 145.4650 MHz on the VHF Band.
   - Press the "BAND" button till the VHF FM Band is indicated, then
   press "CUR" button. the first digit of the frequency display will start to

   flash. Now press "▲ or ▼ " button to set the value to " 1 ":
   - Press the "CUR" button, the second digit of the frequency display

   will start to flash. Now press "▲ or ▼ " button to set the value to " 4 ":
   - Continue this process for the remaining digits until you have entered
   the desired frequency.

   NOTES : If you have selected a frequency which is above or below
            the frequency range allowed, the unit will automatically go to
            either the maximum or minimum frequency allowed per
            band and the mode is also changed.

12

■ BATTERY PACK INSTRUCTION

1. Press down the battery lock button on the bottom side of the radio.(①)

2. Open the battery cover on the back side of the radio.(②)

3. Install the battery as like shown.(③)

4. Put on the battery cover.(④)

5. Press the battery lock button upward to lock the battery case.

To supply the power, use the DC charge adapter.

CAUTION : Please use only rechargeable battery with DC charge adapter.
(Do not use dry battery with DC charge adapter)

BATTERY COVER

LOCK BUTTON

BATTERY CASE   BATTERY   BATTERY COVER
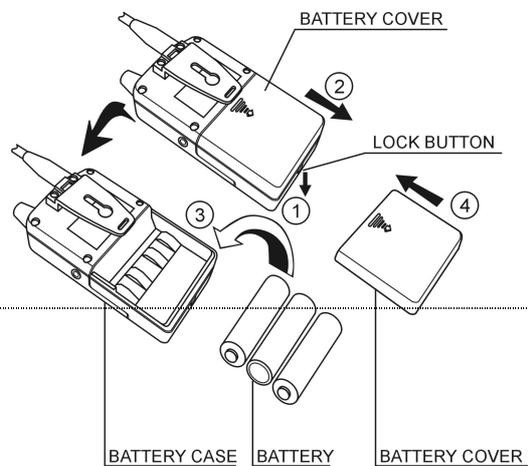
1. GENERAL
    FREQUENCY ----------------------- A BAND : 66MHz TO 88MHz
                                        B BAND : 88MHz TO 108MHz
                                        C BAND : 108MHz TO 137MHz
                                        D BAND : 137MHz TO 174MHz
                                        E BAND : 420MHz TO 470MHz
    FREQUENCY GENERATION --- PLL SYNTHESIZER
    FREQUENCY STABILITY -------- +/- 15ppm
    OPERATING TEMPERATURE -- -10℃ TO +55℃
    POWER SOURCE ------------------ INT : 4.5V
                                            EXT : 4.5 TO 6.0V
    MODULATION ---------------------- F3E, A3E
    IMPEDANCE ------------------------- 50 ohm
    DIMENSIONS ----------------------- 58(W) x 103(H) x 26.5(D)mm
    WEIGHT ------------------------------ 98.5g, W/O BATTERY

2. RECEIVER SECTION
    CIRCUIT TYPE --------------------- TRIPLE CONVERSION
                                            SUPERHETERODYNE
    IF FREQUENCY ------------------- 1'st IF : 252.000MHz
                                            2'nd IF: 10.7MHz
                                            3'rd IF : 450KHz

14

```
SENSITIVITY ----------------------- FM : 0.5μV FOR 12dB SND
                                     AM : 1μV for 10dB NQ
SELECTIVITY ---------------------- 50dB Min.
S/N RATIO --------------------------- 40dB Min.
AUDIO OUTPUT @10%THD ---- 150mW 8Ω , BTL
```

maycom Co., Ltd.