SP-125 OPERATION MANUAL

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THE FCC WANTS YOU TO KNOW

This equipment has been tested and found to comply with the limits for a scanning receiver, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.if this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1) Reorient or relocate the receiving antenna.

2) Increase the separation between the equipment and receiver.

3) Connect the equipment into an outlet on a circuit different from that to the receiver is connected.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1) This device may not cause harmful interference.

2) This device must accept any interference received, including interference that may cause undesired operation.

Scanning Legally

Your receiver covers frequencies used by some different groups including Aircraft communications and Military operations, Space-operation, Meteorological-Satellite,Space research,Mobile- satellite.It is legal to listen to almost every transmission your receiver can receive, However, there are some transmissions you should never intentionally listen to.These include:

1) Telephone conversations (private means of telephone signal transmission)

2) Any scrambled or encrypted transmissions.

According to the Electronic Communications Privacy Act (ECPA), you are subject to fines and possible imprisonment for intentionally listening to, using, or divulging the contents of such a transmission unless you have the consent of a party to the communication (unless such activity is otherwise illegal).

This receiver has been designed to prevent reception of illegal transmissions. This is done to comply with the legal requirement that receivers be manufactured so as to not be easily modifiable to pickup those transmissions. Do not open your receiver's case to make any modifications that could allow it to pick-up transmissions that it is not legal to listen to. Doing so could subject you to legal penalties.

We encourage responsible, legal receiver use.

Mobile use of this receiver is unlawful or requires a permit in some areas. Check the laws in your area.

1. Functional Description of Each Operation Part.

    The functional description of each operation part is explained in the following.

(1) ANT;   Antenna terminal

    Use which installs the attached antenna.

(2) EAR;   Earphone jack

    The jack in the case of using the external loudspeaker or the earphone.

(3) KEYLOCK;   Key Lock button

    Each time it pushes KEYLOCK button, the effective of the keyboard grabbing and the invalid are changed.

    In the condition of having made the keylock, the display of "KEY.L" is made to the display and all the key operations on the keyboard become invalid.

    Again, KEY LOCK is canceled by pushing this button.

(4) SQ;   Squelch volume

    The volume for squelch sensitivity adjustment.

    Only AIR band receiving is available.

(5) VOL; Power Switch & Audio Volume

    The function of the power switch and the sound-volume adjustment volume is made serve a double purpose.

(6) External-power jack;   EXT.Power Jack

    The jack in the case of using a power adapter

(7) LCD display;   LCD Disply

    The band during receiving or a frequency, a mode of operation, etc. are displayed.

(8) Keyboard;   Key Board

    For the input in the case of making the change of the band, and the selection of the frequency and the change of the mode of operation.

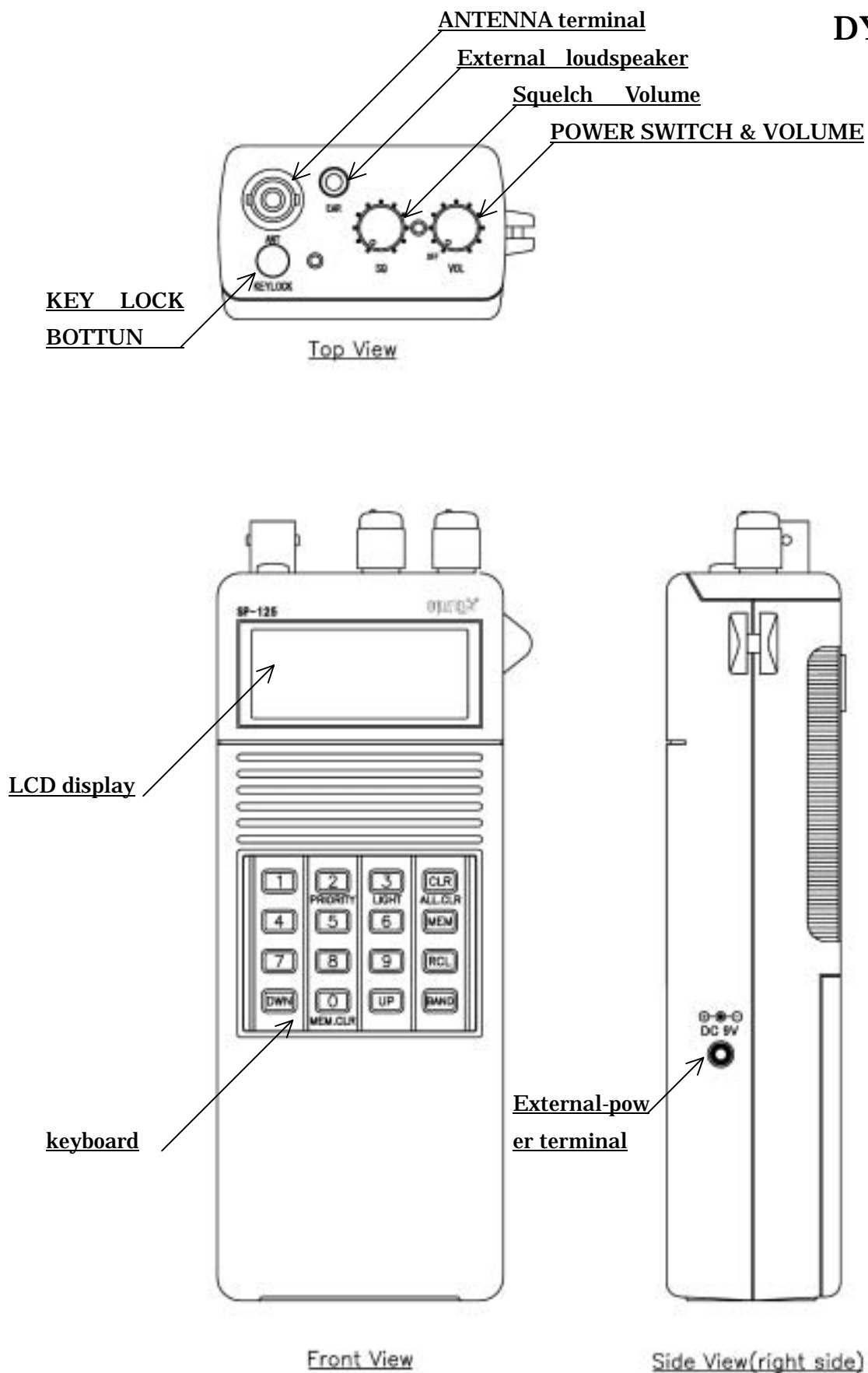   Please refer to Chapter 2 for details.

ANTENNA terminal

External loudspeaker

Squelch Volume

POWER SWITCH & VOLUME

Top View

KEY LOCK BOTTUN

LCD display

keyboard

External-power terminal

Front View

Side View(right side)

Fig. -1   The SP-125 operation part

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2. Key-Operation Summary

(1) Numerical keypad (0 to 9 key); Please input the received frequency.

(2) MEM.CLR (0 key); Memory Clear

Please use it for the erasure of the channel memory of AIR band.

(3) PRIORITY (2 keys); Priority

Please use it for execution and the cancellation of the priority scan.

(4) LIGHT (3 keys); Light

Please use it for lighting of LCD back light.

A push once switches on LCD back light for the about 10 seconds.

(5) CLR; Clear

When pushing at the time of each mode of memory, the scan, the search, and the priority receiving, the mode will be canceled and it will return to the direct frequency selection mode.
And, when pushing in the course of frequency input, in the direct frequency selection mode, all the input till then can be cleared and it can return to the display of the original received frequency.

(6) MEM; Memory

In order to set up any desire frequencies previously, please use it for the operation of channel memory. Please refer to "the entry method the channel and the memory-operation (1) memory of AIR clause [4] BAND" for details.
In addition, this key is available only in AIR band.

(7) RCL;Recall

Please use it for the call of the memory channel.
Please refer to "a method to call the channel which made the channel and the memory-operation (2) memory of AIR clause [4] BAND" for details.
In addition, this key is valid only in AIR band.

(8) BAND; Band

Please use it for the change of the receiving band.
Please use it for the band change of FM, AM, and AIR.

(9) UP/DWN; Up/Down

In each mode of direct frequency selection, the search, and the scan, when making the change of the frequency or the memory channel, please use it for the beginning of the search and the scan.

(10) ALL.CLR (CLR key); All Clear

Please use it for the erasure of the frequency of all memory channels.
For details, please refer to the following chapters.

"4 chapter; The channel and the memory operation of AIRBAND
(5) All the erasure methods of the memory channel.
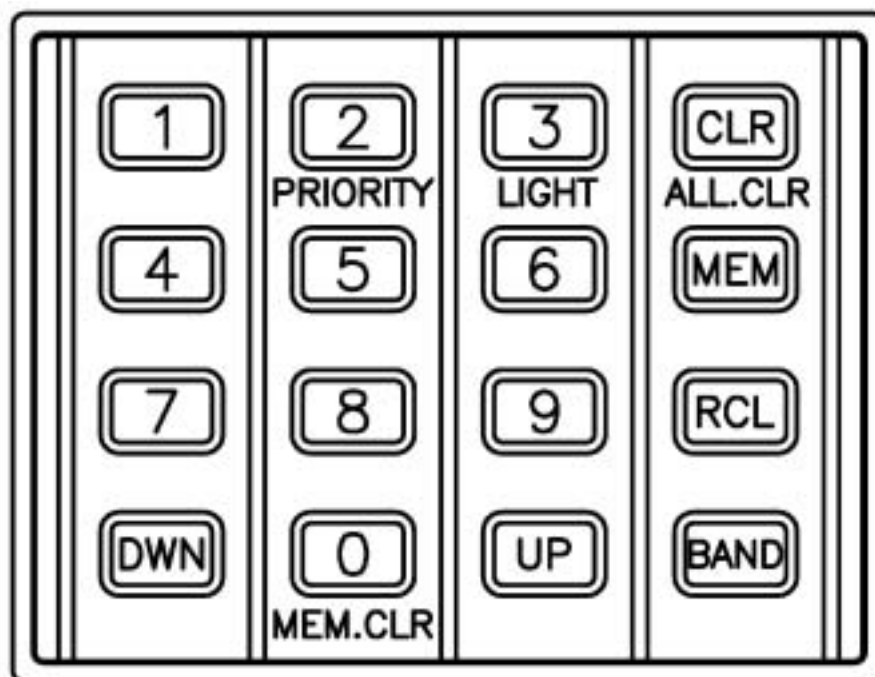
Fig. -2   Each key allocation of a keyboard

3.   Direct Frequency Selection Operation
   The mode of operation when canceling other mode of operations, when turning ON power.   The frequency can be changed into the desire frequency by the following operations.

(1)   Change operation of BAND
   AC adapter or a battery is removed from a body, and an operation is begun in the received frequency of 118.000MHz, and the direct frequency selection mode in AIR band after a few hours progress. Usually since the condition just before it turns OFF power is held at internals memory, when turning ON power next, the operation will start on the band and the frequency at that time.
   So as to change BAND which wishes to receive, at this time, please push BAND key.
   Each time it pushes BAND key, BAND changes in sequence of AIR, FM, and AM.

| AIR |
| FM |
| AM |

Fig. -3   Change of BAND
(initial state)

7

(2) The setup of the frequency by the numeric key

(2)-1. The method of the frequency setting changes with receiving BANDs.

The received frequency setting in AIR BAND

<1> While receiving 118.000 MHz, in cases where 123.450MHz is received

<2> Please input 1 from the key.

1 is displayed and it becomes the input standby condition of 10MHz zone.

<3> Please input 2 from the key.

2 is displayed and it becomes the input standby condition of 1MHz zone.

<4> Please input 3 from the key.

3 is displayed and it becomes the input standby condition of 100kHz zone.

<5> Please input 4 from the key.

Decimal point is displayed automatically and 4 is displayed at the same time.

It becomes the input standby condition of 10kHz zone.

<6> Please input 5 from the key.

5 is displayed and it becomes the input standby condition of 1kHz zone.

<7> Please input 0 from the key.

0 is displayed and it becomes the receiving condition which is 123.450MHz.

<8> In cases where the received frequency cannot divide among the frequency step 8.33, for the 8.33kHz multiple, with this machine, the frequency step of AIR BAND rounds 1kHz dignity to the down side, and inputs it.

For the reason, with the frequency to set up, when inputting the number of the level of 10kHz, the number of the next level of 1kHz may be set up automatically.

<9> In cases where the frequency inputs the numeric key of the setting out of range of AIR BAND (from 118MHz to 42.975MHz), as invalid sound, BEEP sound is generated and it becomes void.

<10> In the condition in the course of the frequency input, when there is no next key input more than for the about 5 seconds, BEEP sound will be generated as invalid sound, and it returns to the receiving condition before the frequency input.
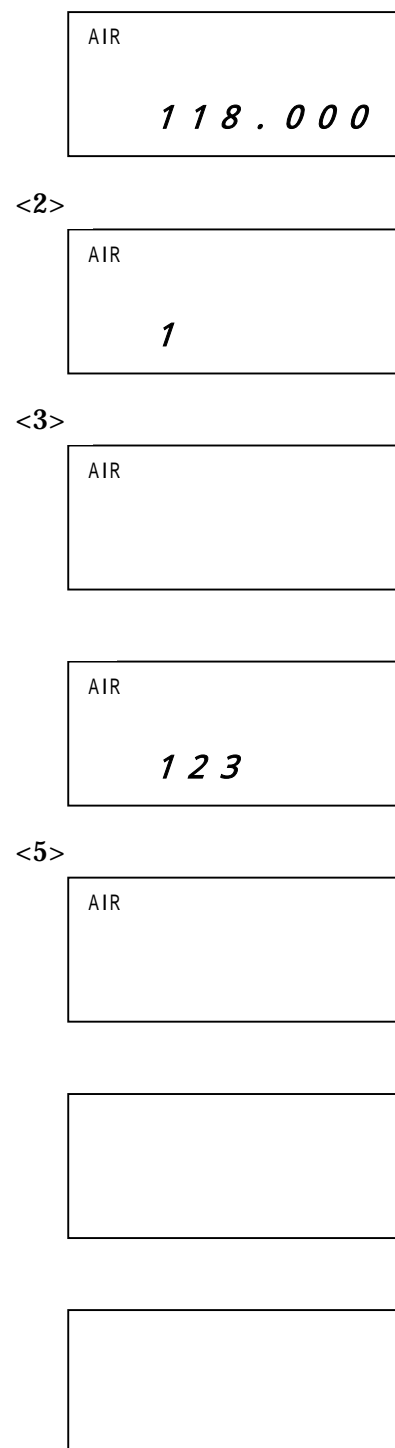

<2>

<3>

<5>

Fig. -4
Setup of the received

(It is 118.000MHz in this case)

(2)-2. The received frequency setting in AM BAND

<1> Please push BAND key and change BAND to AM.

<2> While receiving 530kHz, in cases where 1230kHz is received.

<3> Please input 1 from the key.

1 is displayed and it becomes the input standby condition of 100kHz zone.

<4> Please input 2 from the key.

Decimal point is displayed automatically and 2 is displayed at the same time.

The input standby condition of 10kHz zone.

However, as for decimal point, in less than (the display is the 3 digits)　1MHz, the frequency to receive is not displayed.

<5> Please input 3 from the key.

3 of 10kHz zone and 0 of 1kHz zone are displayed at the same time, and will be in the 1230kHz receiving condition.

<6> In cases where the invalid numeric key of AM BAND (530kHz - 1630kHz) out of range is pushed, BEEP sound becomes.

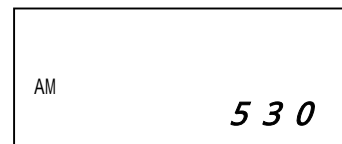**<7> More than for the about 5 seconds, when there is no next key**

input, BEEP sound will be sounded with the condition in the course of the frequency input, and it returns to the receiving condition in front of the key operation.
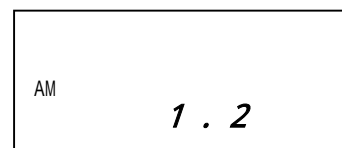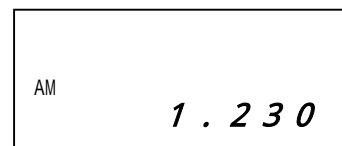
(It is 530kHz in this case)

<1>

<2>

AM

<3>

AM

<4>

AM

<5>

AM
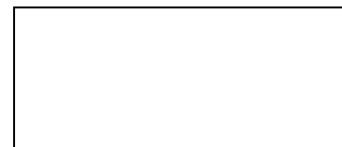
Fig. -5　Setup of the received frequency　(AM BAND)

(2)-3. The received frequency setting in FM BAND

<1> Please push BAND key and change BAND to FM.

<2> While receiving 88.0MHz, in cases where 107.0MHz is received

<3> Please input 1 from the key.

1 is displayed and it becomes the input standby condition of 10MHz zone.

<4> Please input 0 from the key.

0 is displayed and it becomes the input standby condition of 1MHz zone.

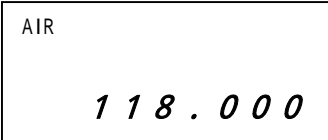**<5> Please input 7 from the key.**

7 is displayed and it becomes the input standby condition of 100kHz zone.
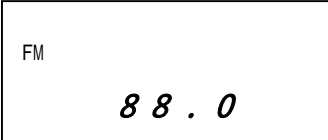
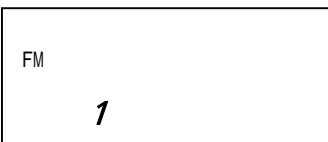**<6> Please input 0 from the key.**

0 is displayed as decimal point at the same time, and it becomes the 107.0MHz receiving condition.
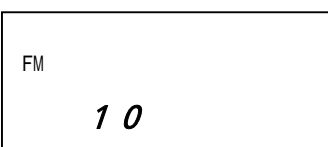
<7> When the frequency which it is going to set up pushes the invalid numeric key used as the out of range of FM BAND (88.0MHz - 108.0MHz), BEEP sound will be sounded and the input will be avoided.
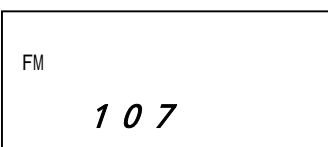
<8> More than for the about 5 seconds, when there is no next key input, BEEP sound will be sounded with the condition in the course of the frequency input, and it returns to the receiving condition in front of the key operation. (It is 88.0MHz in this case)

<1>	AI R
<2>	FM
<3>	FM
<4>	FM
<5>	FM
<6>	FM

Fig. -6 Setup of the received
frequency   (FM BAND)

(3) The setup of the frequency by UP key and DWN key

<1> Whenever it pushes UP key once short, the received frequency changes to the frequency of 1 step top from the present received frequency.

<2> Whenever it pushes DWN key once short, the received frequency changes to the frequency of 1 step bottom from the present received frequency.
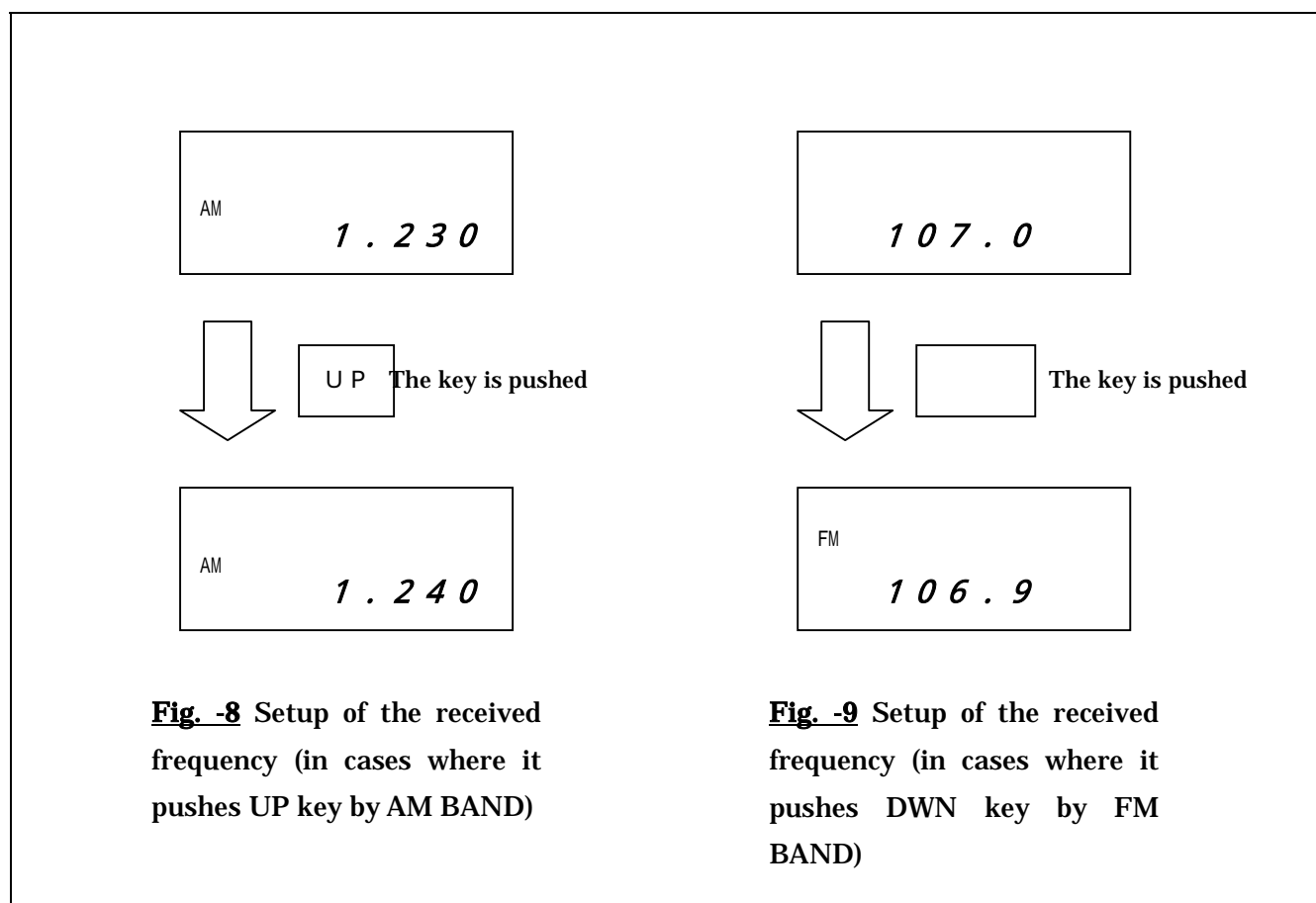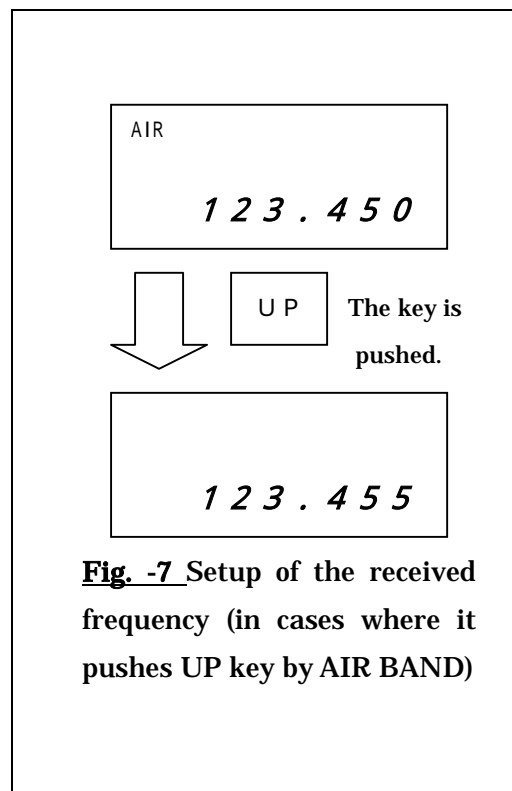
<3> AIR band is [100kHz step and AM band of 5kHz step (the actual received frequency is 8.33kHz step) and FM band] 10kHz steps.

<4> When continuing pushing UP key or DWN key, it will become the search mode, the frequency will change in the direction of the pushed key continuously, and it will stop on the frequency on which the signal was detected.

<5> When stopping detecting the signal, the search of a frequency will be resumed and a frequency will change.

This operation is a function only while selecting AIR BAND.

<6> A search mode is canceled by pushing CLR key.

AI R

The key is pushed.

Fig. -7 Setup of the received frequency (in cases where it pushes UP key by AIR BAND)

AM

The key is pushed

AM

Fig. -8 Setup of the received frequency (in cases where it pushes UP key by AM BAND)

The key is pushed

FM

Fig. -9 Setup of the received frequency (in cases where it pushes DWN key by FM BAND)

4. Memory of the channel and the memory-operation channel of AIR BAND can be done only about AIR band. **And, the memory frequency is the 5 channels.**

(1) The registration method to memory

<1> Please set up the frequency to register by the direct frequency selection operation.

<2> When pushing MEM key, it will become the channel memory mode and the display of MEM will be made to the display.

<3> The lowest channel number is displayed within the empty channels of memory.

<4> The memory insertion to the channel which displayed MEM key

by pushing again is completed, and it returns to the direct frequency selection mode.

<5> The channel number which makes memory can also be changed to inputting the setup by the UP/DWN key, or the numeric key to 1-5.

<6> In cases where there is no empty channel, after are displayed on the display as FULL and displaying the memory frequency of the channel 1, it returns to the direct frequency selection mode in the about 10 seconds.

Fig.- 11 Please refer to the channel and the memory operation **(registered display of all memory).**

<7> In cases where there is no key input in succession [after pushing MEM key before pushing MEM key of the next memory insertion] for the 5 seconds, the memory registration mode is canceled.

<8> In cases where the channel chosen by <5> is already registered, when pushing MEM key for an insertion, with BEEP sound, for about 2 seconds, a display is set to "dUPLE" and it warns of an overwrite.

(Please refer to figure-12 channel and a memory operation **(overwrite entry alarm display)) At this time, if CLR key**

is pushed, an entry operation will be canceled. It **returns to a condition before pushing MEM key.**
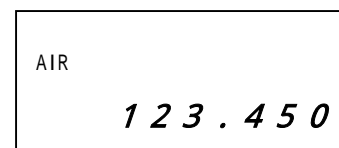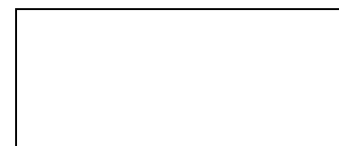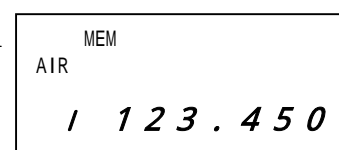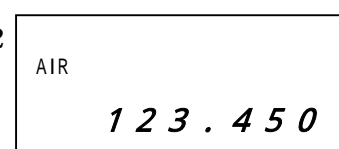

Fig. -10 The channel and memory

Fig. -11 The channel and memory operation (registered display of all memory channels)

Fig. -12 The channel and memory operation (overwrite registration alarm display)

(2) The method to call the channel which made memory

<1> A push on RCL key displays the frequency by which memory is made to the channel number of the channel 1.

<2> Please change in the direction the single channel every by

pushing UP key or DWN key short.

The channel will change in sequence of 1->2->3->4->5->1, when

pushing UP key.

The channel will change in reverse order, when pushing DWN key.

<3> Only the channel number is displayed in cases where there is no frequency memorized to the channel.

(3) Only the memory frequency of the erasure method differential

channel of the channel which made memory is erased.

<1> When continuing pushing CLR key and MEM key at the same time, it will become the channel memory clear mode and the description of the lowest channel will be displayed within the registered memory channels.

<2> Please choose the channel of the frequency which expects the
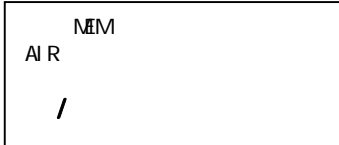
erasure, by the UP/DWN key.

<3>The memory frequency of the channel selected when MEM.CLR (zero key) was pushed is erased.

<4> So as to erase other memory continuously, please do the operation of <2>.

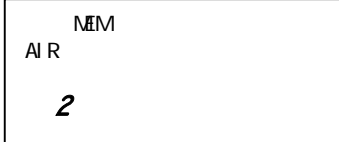<5> Please push CLR key for canceling the channel memory clear mode.

(4) The package erasure method of the channel which made memory

<1> When turning ON power, pushing CLR key at once after making

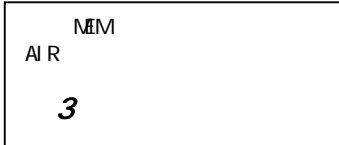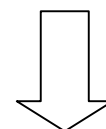power OFF, all the descriptions of memory are erasable.
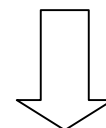
The registration frequency of CH2 is displayed.

As for the channel not registered, only the channel number is displayed.

Fig. -13

Call operation of the memory channel (overwrite registration alarm display)

5.　Priority Receiving

This receiver can make the monitor of the receiving check of each frequency (it calls the priority channel) of AIR band registered into memory at the same time continuously, receiving FM and AM band.

(1)　Start and release of the priority receiving.

<1>　　Please receive the frequency which each band of AIR, FM, and AM expects, in the direct frequency selection mode.

<2>　　When pushing PRIORITY key for the about 1 second, the display of P1 will be made to LCD display, the frequency of each channel will be scanned, and the receiving will be begun.

The display of P and the number character of the channels during receiving are displayed during priority receiving.

And, in order to make the scan of the priority channel begin, the squelch volume of the body upside needs to be adjusted to the suitable position where the noise disappears.

The display of the frequency during receiving is different as follows by the case while receiving FM or AM band, and the case while receiving AIR band.

a. The frequency during receiving displays in FM and AM band. FM during receiving or the frequency of AM band is displayed.

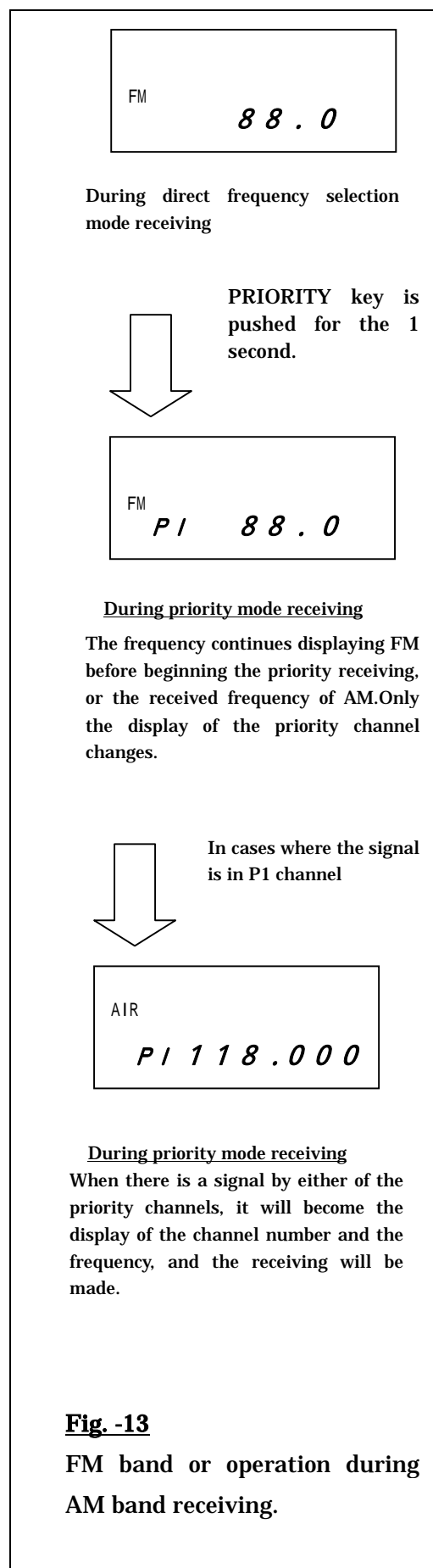b. The frequency spectrum designation while receiving AIR band

The channel number and the frequency of the priority channel during receiving are displayed.

<3>　When beginning the priority receiving, in cases where there is no insertion in channel memory, BEEP sound sounds.

<4>　In the priority receiving, the frequency registered into the channel 1 is set up as a channel of the highest priority, and the sequence of doing the receiving check becomes P1->P2 ->P1->P3 ->P1->P4 ->P1->P5 ->P1->…..

<5>　During the receiving check, although the receiving of the band from the origin is continued until the signal of the priority channel is detected, when there is a signal and the squelch is turned off, it will turn to the receiving of the priority channel easily.

When the signal is lost and the squelch is turned on again, it will return to the priority receiving operation in the about 2 seconds.

FM

During direct frequency selection mode receiving

PRIORITY key is pushed for the 1 second.

FM
P 1

During priority mode receiving

The frequency continues displaying FM before beginning the priority receiving, or the received frequency of AM.Only the display of the priority channel changes.

In cases where the signal is in P1 channel

AI R
P 1

During priority mode receiving

When there is a signal by either of the priority channels, it will become the display of the channel number and the frequency, and the receiving will be made.

Fig. -13

FM band or operation during AM band receiving.

<6> There are the next 2 kinds in the operation at the time of having received the priority channel.

    a) In cases where P1 channel is received, the receiving check of other priority channels does not do P1 channel because of the channel of the highest priority.

    b) In cases where the channels other than P1 channel are received, the receiving check of P1 channel is made for every second.

<7> When pushing PRIORITY key on the priority receiving working for 1 second again, the priority receiving will return to the band and the frequency which it is canceled and were selected first.

The mode turns into the direct frequency selection mode.

<8> BAND can be changed, continuing the priority receiving, when pushing BAND key on the priority receiving working.

The method that BAND changes becomes the order of AIR, FM, and AM.

<9> In cases where the signal of the priority channel is received during priority receiving, the priority receiving operation becomes preference and the key input of the frequency becomes invalid.

However, BAND key, and 2 (PRIORITY) and the three (LIGHT) key are available.
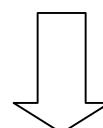
AI R

During direct frequency selection mode receiving
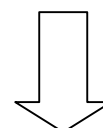
PRIORITY key is pushed for the 1 second.

AI R

P I

During priority mode receiving

The frequency of the priority channel in the confirmation of receipt is displayed.

In cases where the signal is in the P2-channel

AI R

P 2

During priority mode receiving

When there is a signal by P1, P2, P3 and P4, or the P5-channel, it will become the display of the channel number and the frequency, and the receiving will be made.

Fig. -15
Priority receiving (operation during AIR band receiving)