



Wide Band Receiver WS1000E

WIDE
BAND RECEIVER

Owner's Manual

Thank you for purchasing our receiver.
For proper use of this receiver, please read this manual thoroughly.
Keep this manual in a safe place for future reference.

DIAMOND ANTENNA CORPORATION

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Before Operation

Cautions on Safety

Included are various illustrations and symbols in this manual to assure that this product is used safely and correctly, and to prevent injuries to you or to other persons as well as damage to your possessions. The meanings of these symbols are as shown below. Please understand these symbols before reading this manual.



WARNING

Indicates contents which, if disregarded and the product handled incorrectly, could lead to a fatal accident or serious injury.



CAUTION

Indicates contents which, if disregarded and the product handled incorrectly, could lead to injury or physical damage to property.

Examples of illustrations in symbols



This Δ symbol signals that the contents describe points where caution is necessary or where there is danger. The illustration within the Δ at left indicates that there is danger of electric shock.



This ⊘ symbol signals that there is an action that is prohibited. The illustration within the ⊘ on the left indicates that disassembly is prohibited.



This ● symbol that there is an action to be performed by the user. The illustration on the left indicates that there is a general instruction.

⚠ WARNING

- Do not use any batteries other than size AA Alkaline or manganese batteries. Using the different batteries could cause fire, electric shock or failure.



- Do not place consumed batteries in a fire. They could explode, causing fire or burns.



- Do not install or remove batteries while your hands are wet. This could cause electric shock.



- In the event that smoke is emitted, a strange odor or noise is generated, or similar abnormality occurs, it could cause fire, electric shock or breakdown. Consult your dealer immediately for the necessary instructions or repair needed. Do not attempt to repair the receiver your self. Doing so may lead to serious damage or physical injury.



- If this product is dropped or damaged in any way, contact your dealer. If it is used in such a condition, it could lead to fire, electric shock or breakdown.



- Do not attempt to disassemble or modify this product in any way. This could lead to fire, electric shock or breakdown.



⚠ CAUTION

- Do not use this product for anything other than a receiver.



- When not in use, keep it out of the reach of infants and small children.



- During extended trips or other times when this product is not in use for long periods, take the batteries out. Keep the batteries store in a safe place and out of the reach of infants ana small children.



- Discontinue use of this product if it has a negative influence on TV, electronic device, therapeutic devices and or other equipment.



- Always be aware of antenna location to avoid personal injury.



- When conducting routine maintenance, be sure to disconnect the power for additional safety.



- Do not place this product in locations with extreme temperature, high humidity or excessive dust. Do not keep it in an automobile. It could lead to fire, electric shock or breakdown.



- Unauthorized communication parties is prohibited.

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- Do not place this product in locations with extreme temperature, high humidity or excessive dust. Do not keep it in an automobile. It could lead to fire, electric shock or breakdown.



NOTICE

- Unauthorized use of the contents of radio communications or divulging its contents to other parties is prohibited by law.

How to use this manual

This manual uses the following symbols.



Useful advice or suggestions.



Reference to another page.



Hold down the function key

Set mode uses the following symbols.



Can be set in all modes.



Can be set in expanded mode.

After unpacking, make sure that the following items are included.

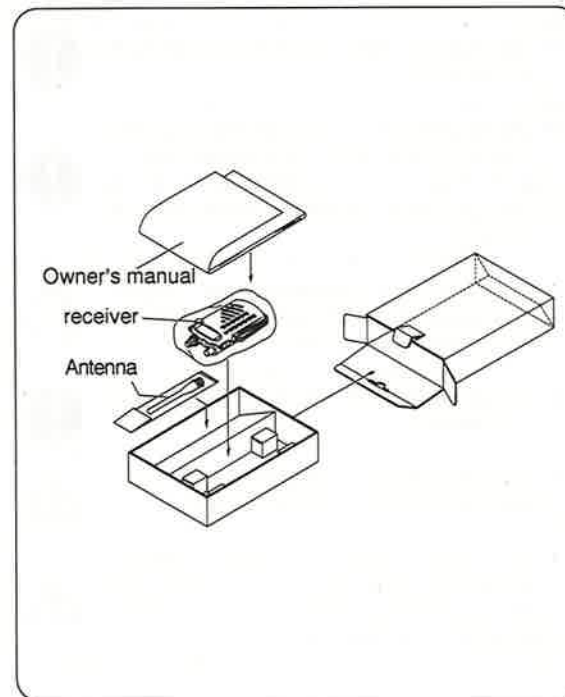


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Changing Lamp
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EXPANDED

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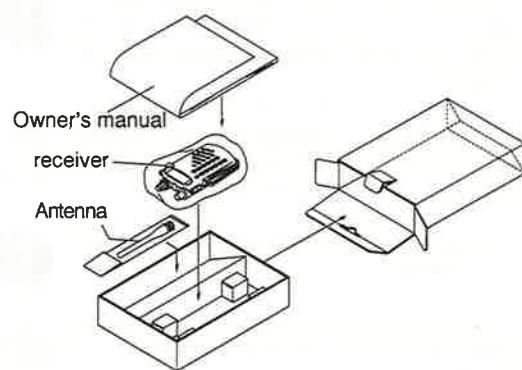


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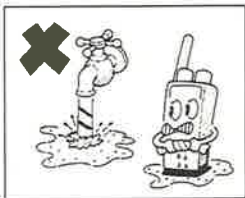
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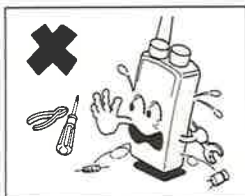
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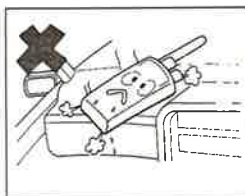
Precautions



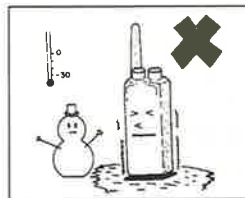
This receiver is water resistant. Avoid wet or humid places. If water is splashed on the receiver, wipe the moisture off with a dry cloth.



Never disassemble the receiver. Never touch the receiver's core. It is adjusted for optimum performance.



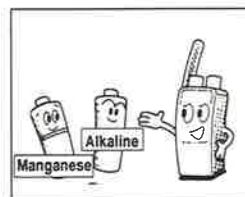
Avoid hot places and locations exposed to direct sunlight.



Avoid extremely cold places.



Avoid exposing the receiver to excessive vibrations and dusty places.



Applicable batteries are either AA-size manganese or alkaline batteries. Never use any other batteries.

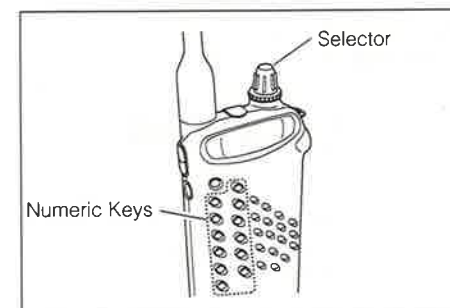
This receiver require 2.2 to 3.5 volts DC.

Receiver Unit

- This receiver (WS1000E) is capable of receiving AM, FM Narrow Band (Amateur Radio bands, etc.) and FM Wide Band (general radio broadcasts, etc.) broadcasts at frequencies from 500 kHz to 1300 MHz.

- This receiver has two modes, Preset Mode and Expanded Mode. When purchased the receiver is set in the Preset Mode. In this mode, major frequencies of popular FM broadcasts and amateur radio broadcasts, etc. have already been entered using the numeric keys and are stored in memory. (P 10)

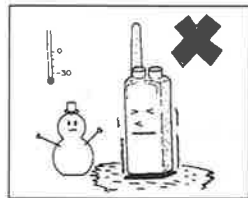
Frequencies called from memory can be changed using the selector. The changed frequencies can also be entered in the desired memory location assigned to each numeric key. (P 11)



- Expanded Mode using the numeric keys used to find the frequencies can be added. In addition, a memory location can be assigned to each numeric key to rationalize the use of the receiver.

- In this manual, the Preset Mode and Expanded Mode are explained.

is water resistant.
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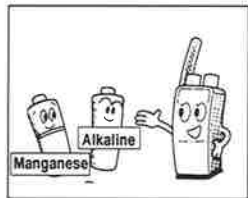
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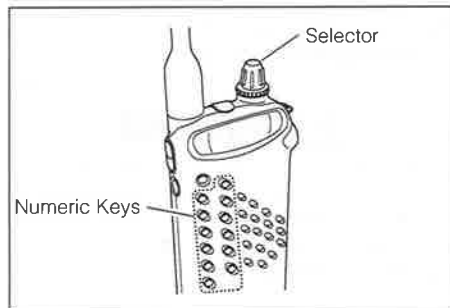


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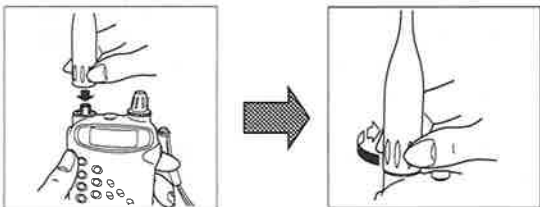
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- Expanded Mode, frequencies can be entered directly using the numeric keys. Search and Scan can also be used to find the frequency quickly. Up to 400 different frequencies can be entered in memory in this mode. In addition, a memory swap function is included to rationalize the use of memory.
- In this manual, the functions used when in the Expanded Mode are explained on pages 21 to 46.



Attaching the Antenna

Hold the antenna base, set it on the receiver's antenna terminal and turn clockwise to tighten.



CAUTIONS

- Always be aware of antenna location to avoid personal injury.
- The following actions may damage the receiver.

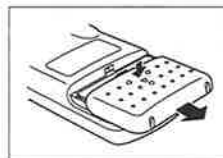


- Do not hold the top of the antenna and attempt to install it. Also do not turn the antenna excessively when tightening.

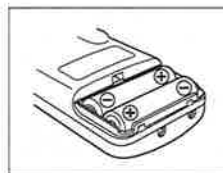


- Do not hold the receiver by the antenna when carrying.

Installing Batteries



- 1 Slide the battery cover off to open.



- 2 Insert two batteries, making sure they are inserted with the poles in the specified direction.
- 3 Slide the battery cover back into position to close.

WARNING

- Do not place consumed batteries in a fire. They could explode, causing fire or burns.

CAUTIONS

- Turn the power off when replacing batteries.
- Be sure to insert batteries with the poles in the specified direction.
- Mixing new batteries with old batteries shortens the life of the new batteries.

BASIC

Turning the Power On	
Preset Mode	
Adjusting the Volume	
Adjusting the Squelch	
Recalling the Preset Memory	
Changing Frequency	
Selecting the Reception Mode	
Changing the Preset Memory	
Lighting the Display's Lamp	
Using the Key Lock	
Resetting the VFO (VFO Reset)	
Resetting the All Settings (All Reset)	
Operation and Function of Parts	

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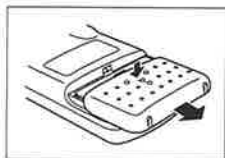
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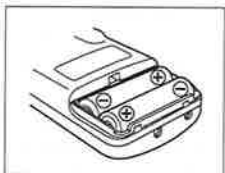


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Resetting the VFO (VFO Reset)	13
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Turning the Power On



- 1 Press the **[POWER]** key on the front of the receiver for 1 second or longer.
(A power up sound emits and the display comes on.)



- 2 To turn off, press the **[POWER]** key on the front of the receiver for 1 second or longer.

⚠ CAUTIONS

- When not in use, keep it in a place that is out of the reach of infants and small children.
- During extended trips or other times when this receiver is not in use for long periods of time, take the batteries out. Also, keep the batteries stored in a place that is out of the reach of infants and small children.

Preset Mode

- In its initial state (when shipped from the factory), this receiver is set in the Preset Mode. In this mode, the desired preset station frequencies can be called by pressing the numeric key assigned to each station. Also, using the selector, etc., the preset frequencies can be changed to any other desired frequencies.
The receiving mode can be set in greater detail in the receiver's Expanded Mode (P 22).

The following functions can be performed in the Preset Mode.

- Changing the frequencies using the selector.
- Changing the frequencies using the **[S.A.] / [EVENT]** key.
- Changing the Set Mode
- Changing the Reception mode.
- Key Lock
- Lighting the Display
- Recalling or entering the Preset memory using the numeric keys.



- In the Preset Mode, there are some Set Modes in which setting cannot be done. (P 49) All of these Set Modes can be set by changing to the Expanded Mode.
- When changing from the Preset Mode to the Expanded Mode, Search and Scan operations can be performed. (P 38) The station you desire to listen to can be found more quickly using Search or Scan. Also, the station you desire to listen to can be jumped to by entering the frequency of that station to memory (P 32, 40).

Adjusting the Volume



- 1 To increase the volume, turn the VOL knob in the clockwise direction.



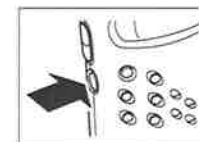
- 2 To decrease the volume, turn the VOL knob in the counterclockwise direction.

⚠ CAUTION

- Set the volume to an acceptable loudness level. Be sure decrease the volume level before switching from speaker to earphones, etc.

Adjusting the Squelch

- When a signal is received, the Squelch adjusts the Squelch level temporarily.



- If the SQU level is set too high, it is impossible to hear the signal.
- If the signal is too weak, the signal will be cut off, continuing to hear the signal is not possible.
- However, the signal will be cut off.
- Squelch C
- Squelch C
- the noise

Preset Mode

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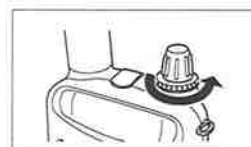


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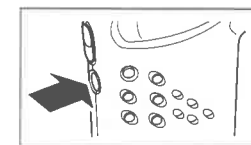
Adjusting the Squelch

- When a signal is not being received, a noise is emitted. The Squelch adjustment eliminates this noise. Also press the Squelch key to switch off the Squelch function temporarily.



- Turn the SQL knob slowly in the "+" direction.

- Stop turning the knob when the noise disappears.



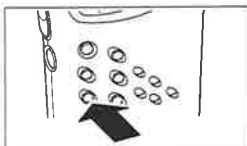
- To turn Squelch off, press the **[SQL OFF]** key. (This causes the noise to be emitted again.)



- If the SQL knob is turned too far, it may become impossible to receive weak signals.
- If the signal is weak and the received sound is cut off, continue to press the **[SQL OFF]** key. It will be possible to hear the received sound continuously. However, it may be necessary to listen to the broadcast mixed noise.
- Squelch Off: In this state the noise is emitted.
- Squelch On: Through the operation of Squelch, the noise is not heard in this state.

Recalling the Preset Memory

- When in the Preset Mode, the numeric keys function as Preset Memory Keys. The frequencies stored in memory can be easily called using these keys.



- Press the numeric key corresponding to the desired frequency.

- Confirm that the desired frequency is displayed.



- In the initial state, (when shipped from the factory), the following frequencies correspond to numeric keys 1 to 9.

Numeric Key	Frequency	Reception mode
1	82.500 MHz	WFM
2	128.800 MHz	AM
3	145.000 MHz	FM
4	156.800 MHz	FM
5	221.750 MHz	WFM
6	904.0125 MHz	FM
7	3.925 MHz	AM
8	6.055 MHz	AM
9	9.595 MHz	AM

Changing Frequency

- In the Preset Mode, frequencies can be changed by the following two methods. Change frequencies either by using the Selector or by using the **[5A] / [EVENT]** key while pressing the **[FUNC]** key.

Using the Selector



- Turning the Selector in the clockwise direction increases the frequency one step at a time (P 18).
- Turning the Selector in the counterclockwise direction decreases the frequency one step at a time.



- This receiver uses a Quick Encoder System. Turning the Selector rapidly causes large changes in frequencies.

Using the **[5A] / [EVENT]** key



- Hold down the **[FUNC]** key and press the **[5A]** key to increase the frequency one step at a time.



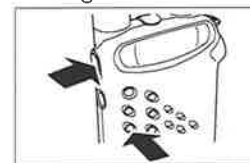
- Hold down the **[FUNC]** key and press the **[EVENT]** key to decrease the frequency one step at a time.



- Holding down these keys causes the frequencies to change progressively faster.

Selecting the Reception Mode

- AM, Narrow FM mode (FM) and Wide FM mode (WFM) can be selected corresponding to the reception mode being received.



- Hold down the **[FUNC]** key and press the **[2 MODE]** key.

- Each time the **[2 MODE]** key is pressed, the display changes.



WFM : Select to receive FM broadcasts and the voice component only of TV broadcasts.

FM : Select to receive amateur radio bands and marine bands.

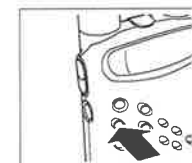
AM : Select to receive AM broadcasts and air bands, etc.



- If the radio transmission system is not matched, it is not possible to hear a broadcast even when it is being received, or it will be distorted.
- In the initial state (when shipped from the factory), the Auto Step function (P 18) and the Auto Mode function (P 18) are functioning. These functions are used to change the frequency steps and reception mode automatically to match the frequency setting. These functions can both be canceled.

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Memory

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wing frequencies
ic keys 1 to 9.

Reception mode

WFM
AM
FM
FM
WFM
FM
AM
AM
AM

Changing Frequency

- In the Preset Mode, frequencies can be changed by the following two methods. Change frequencies either by using the Selector or by using the **[5A]/[QVENT]** key while pressing the **[FUNC]** key.

Using the Selector



- Turning the Selector in the clockwise direction increases the frequency one step at a time (P 18).



- Turning the Selector in the counterclockwise direction decreases the frequency one step at a time.



- This receiver uses a Quick Encoder System. Turning the Selector rapidly causes large changes in frequencies.

Using the **[5A]/[QVENT]** key



- Hold down the **[FUNC]** key and press the **[5A]** key to increase the frequency one step at a time.



- Hold down the **[FUNC]** key and press the **[QVENT]** key to decrease the frequency one step at a time.



- Holding down these keys causes the frequencies to change progressively faster.

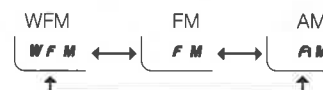
Selecting the Reception Mode

- AM, Narrow FM mode (FM) and Wide FM mode (WFM) can be selected corresponding to the reception mode being received.



- Hold down the **[FUNC]** key and press the **[2 MODE]** key.

- Each time the **[2 MODE]** key is pressed, the display changes.



WFM : Select to receive FM broadcasts and the voice component only of TV broadcasts.

FM : Select to receive amateur radio bands and marine bands.

AM : Select to receive AM broadcasts and air bands, etc.



- If the radio transmission system is not matched, it is not possible to hear a broadcast even when it is being received, or it will be distorted.
- In the initial state (when shipped from the factory), the Auto Step function (P 18) and the Auto Mode function (P 18) are functioning. These functions are used to change the frequency steps and reception mode automatically to match the frequency setting. These functions can both be canceled.

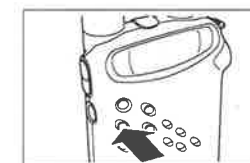
Changing the Preset Memory

- Changing the Content of the Preset Memory

- Changing the desired frequency to reception mode.



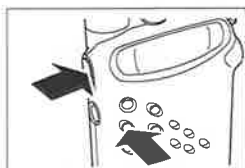
- Press the numeric key which is to be changed for 2 seconds or longer (a beep sound is emitted and the memory address is displayed. The frequency is entered in memory.



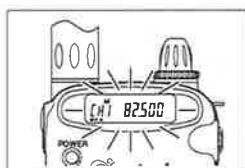
- This receiver uses a Quick Encoder System. Turning the Selector rapidly causes large changes in frequencies.

Lighting the Display's Lamp

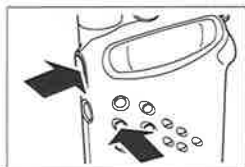
- When using the receiver in a dark place, etc., the display's lamp can be switched on. Five seconds after keys operations have ceased, the lamp goes off.



- 1 Hold down the **[FUNC]** key and press the **[1 LAMP]** key.



(The lamp lights.)



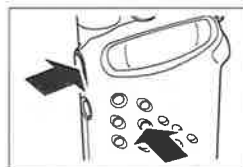
- 2 To switch the lamp off, hold down the **[FUNC]** key and press the **[1 LAMP]** key.



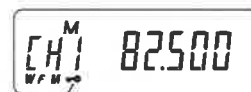
- Depending on the setting of the Set Mode, the lamp can be set to remain lit continuously. (P 19)

Using the Key Lock

- It is possible to disable the keys so they cannot be used. This is to prevent the wrong keys from being pressed and to prevent the operation from being changed by mistake. This operation is called Key Lock. The Selector cannot be operated during operation of the Key Lock function.

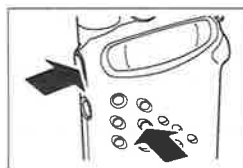


- 1 Hold the **[FUNC]** key and press the **[6 KEY-L]** key.
(The Key mark is displayed.)



Key mark

- 2 To cancel this function, hold the **[FUNC]** key and press the **[6 KEY-L]** key.



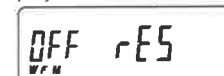
- During Key Lock function, the **[FUNC]**, **[POWER]**, **[SQL OFF]**, **[FUNC] + [1 LAMP]** keys can be used.
- When in the Expanded Mode, use of the selector can be activated even during Key Lock using the Set Mode setting. (P 24)

Resetting the VFO (VFO Reset)

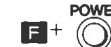
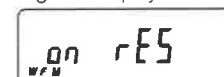
- The original state that the receiver was in when it is purchased can be reset except for the contents of memory. This is called VFO Reset. Use this function if a mistake has been made in setting, or when you cannot otherwise return to the original state.



- 1 Hold down the **[FUNC]** key and press the **[0 SET]** key.
- 2 Turn the selector and change the Set menu display "OFF rES".

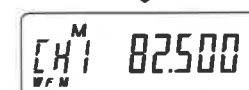


- 3 Hold down the **[FUNC]** key and turn the selector to change the display from "OFF" to "on".



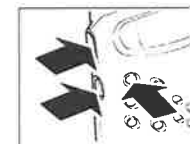
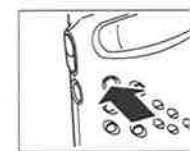
- 4 Hold down the **[FUNC]** key and press the **[POWER]** key.
(A high pitched beep is emitted).

- 5 Release the keys and confirm if the original state is displayed in the display.



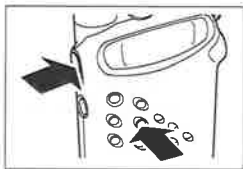
Resetting the

- The original state that the receiver was in when it is purchased can be reset except for the contents of memory. This is called VFO Reset. Use this function if a mistake has been made in setting, or when you cannot otherwise return to the original state.



Using the Key Lock

- It is possible to disable the keys so they cannot be used. This is to prevent the wrong keys from being pressed and to prevent the operation from being changed by mistake. This operation is called Key Lock. The Selector cannot be operated during operation of the Key Lock function.



- Hold the **FUNC** key and press the **6 KEY-L** key.
(The Key mark is displayed.)



Key mark



- To cancel this function, hold the **FUNC** key and press the **6 KEY-L** key.



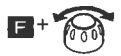
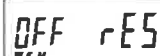
- During Key Lock function, the **FUNC**, **POWER**, **[SQL OFF]**, **FUNC + [1 LAMP]** keys can be used.
- When in the Expanded Mode, use of the selector can be activated even during Key Lock using the Set Mode setting. (P 24)

Resetting the VFO (VFO Reset)

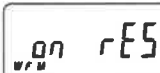
- The original state that the receiver was in when it is purchased can be reset except for the contents of memory. This is called VFO Reset. Use this function if a mistake has been made in setting, or when you cannot otherwise return to the original state.



- Hold down the **FUNC** key and press the **0 SET** key.
- Turn the selector and change the Set menu display "OFF rES".

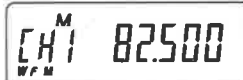
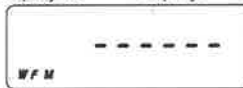


- Hold down the **FUNC** key and turn the selector to change the display from "OFF" to "on".



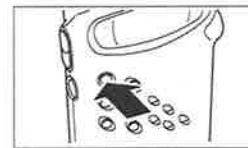
- Hold down the **FUNC** key and press the **POWER** key.
(A high pitched beep is emitted).

- Release the keys and confirm if the original state is displayed in the display.



Resetting the All Settings (All Reset)

- The original state that the receiver was in when it was purchased can be reset with the contents of memory cleared. This is called "All Reset."

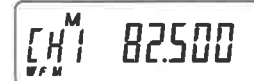


- Press the **POWER** key to turn the power off.

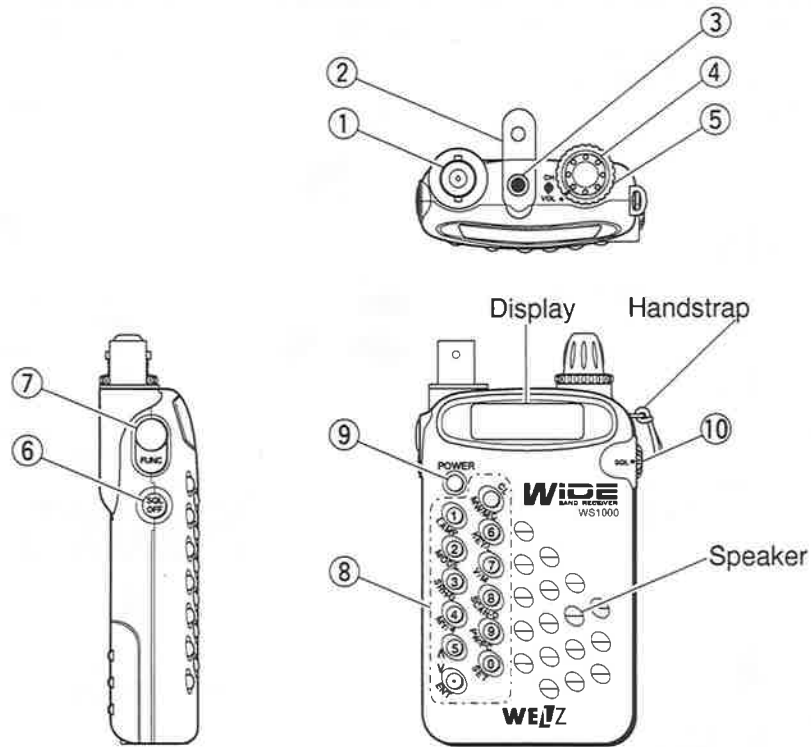


- Hold down the **FUNC** key and **[SQL OFF]** key and press the **POWER** key.
(All the items in the display are displayed at once.)

- Release the keys and confirm if the original state is displayed in the display.



Operation and Functions of Parts



14

① Antenna Connection Terminal (BNC Type)

To connect the Antenna

② Speaker Cap

Ensure this cap is closed when the speaker terminal is not being used.

③ External Speaker Terminal

Connect the optional speaker.

④ Selector

Turn this knob to change the frequency. The setting contents change when adjusting the various types of settings.

⑤ VOL Knob

Turn this knob to adjust the volume.

⑥ SQL OFF Key

Squelch is turned off while this key is pressed.

⑦ FUNC Key

Various special functions can be set while pressing this key.

⑧ Numeric Keys

- **[P]** is indicated when in the Preset Mode and **[E]** is indicated when in the Expanded Mode.

1 LAMP Key

Pressing this key while pressing the **[FUNC]** key causes the lamp in the display to light up for 5 seconds.

[P]: Calls Memory Address 1.

[E]: Inputs of numeral "1".

2 MODE Key

Pressing this key while the **[FUNC]** key is pressed to change the reception mode from AM to FM or FM Wide (WFM).

[P]: Calls Memory Address 2.

[E]: Inputs of numeral "2".

3 SRH•D Key

[P]: Calls Memory

[E]: Inputs of numeral

[E]: Pressing this key initiates the

4 MY/▼ Key

[P]: Calls Memory

[E]: Inputs of numeral

[E]: Pressing this key the Set Mode

[E]: Pressing this key between S

5 Λ Key

Pressing this key

frequency.

[P]: Calls Memory

[E]: Inputs of numeral

6 KEY•L Key

Pressing this key

the Key Lock fun

[P]: Calls Memory

[E]: Inputs of numeral

7 V/M Key

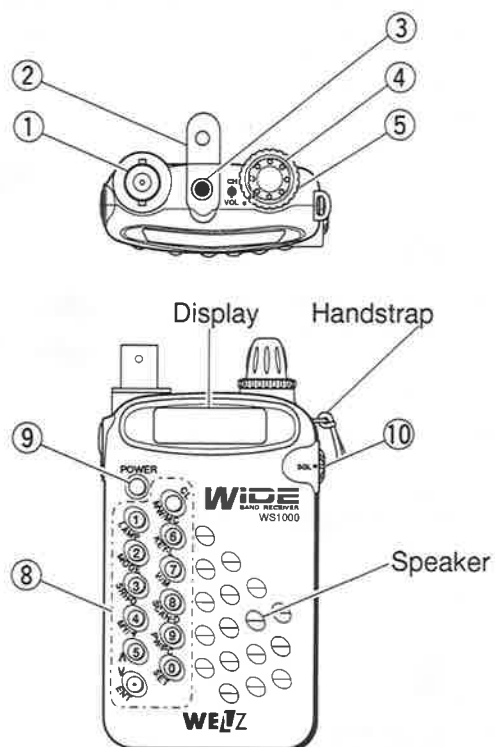
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between th

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[P]: Calls Memory Address 2.

[E]: Inputs of numeral "2".

3 SRH•D Key

[P]: Calls Memory Address 3.

[E]: Inputs of numeral "3".

[E]: Pressing this key while the **[FUNC]** key is pressed initiates the Search Standby state.

4 MY/▼ Key

[P]: Calls Memory Address 4.

[E]: Inputs of numeral "4".

[E]: Pressing this key while the **[FUNC]** key is pressed changes the Set Mode function stored in the My Key.

[E]: Pressing this key while the **[FUNC]** key is pressed switches between Scan and Memory Scan during scanning.

5 Δ Key

Pressing this key while the **[FUNC]** key is pressed raises the frequency.

[P]: Calls Memory Address 5.

[E]: Inputs of numeral "5".

6 KEY•L Key

Pressing this key while the **[FUNC]** key is pressed switches the Key Lock function On/Off.

[P]: Calls Memory Address 6.

[E]: Inputs of numeral "6".

7 V/M Key

[P]: Calls Memory Address 7.

[E]: Inputs of numeral "7".

[E]: Pressing this key while the **[FUNC]** key is pressed switches between the VFO state and the Memory Mode.

8 SCAN/D Key

[P]: Calls Memory Address 8.

[E]: Inputs of numeral "8".

[E]: Pressing this key while the **[FUNC]** key is pressed starts the scanning operation.

9 PW/PC Key

[P]: Calls Memory Address 9.

[E]: Inputs of numeral "9".

[E]: Pressing this key while the **[FUNC]** key is pressed switches to the Search Pass enter state.

0 SET Key

Pressing this key while the **[FUNC]** key is pressed calls the Set Mode.

[E]: Inputs of numeral "0".

• V ENT Key

Pressing this key while the **[FUNC]** key is pressed lowers the frequency.

[E]: Inputs of decimal point ".".

[E]: Pressing this key sets the portion of the frequency below the decimal point.

CL MW/MC Key

[E]: Pressing this key cancels the contents which have been input up to that point.

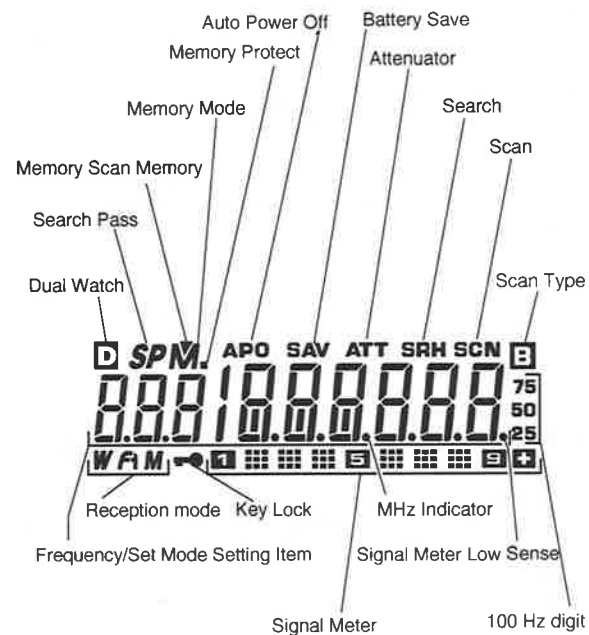
[E]: Pressing this key while the **[FUNC]** key is pressed switches to the Memory Write state.

⑨ POWER Key

Pressing this key switches the power On/Off.

16 ⑩ SQL Knob

Turning this knob adjusts the squelch.

Display Indications**ADVANCED**

Changing the Frequency Step (Auto Step)

Changing the Reception Mode to Match the Frequency

Changing Lamp Operation

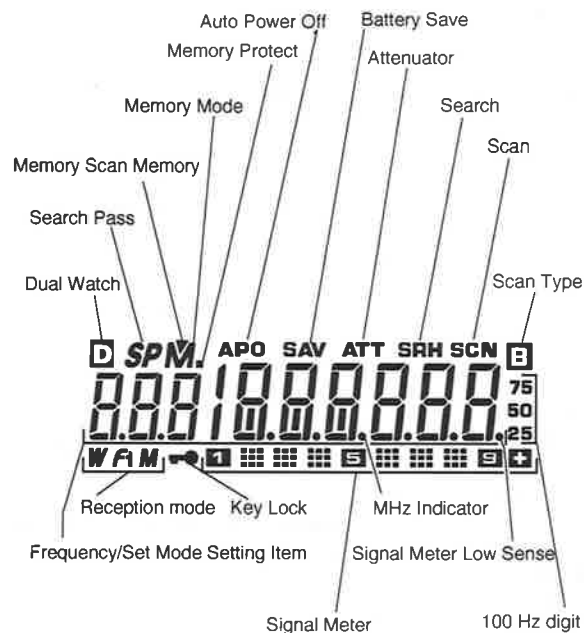
Turning the Beep On or Off

Using the Battery Save

Using the Auto Power Off

ADVANCED OPERATIONS

Display Indications



Changing the Frequency Step (Auto Step)	18
Changing the Reception Mode to Match the Frequency (Auto Mode)	18
Changing Lamp Operation	19
Turning the Beep On or Off	19
Using the Battery Save	20
Using the Auto Power Off	20

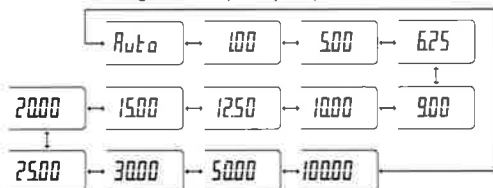
Changing the Frequency Step (Auto Step)

- When changing the frequency using the Selector, etc., the frequency changes in accordance with the frequency step. In the initial state (when shipped from the factory), the frequency step changes automatically depending on the frequency. This is called Auto Step. The frequency step can be changed from Auto Step to a specific frequency step (1k-100 kHz).

- F** +  1 Hold down the **[FUNC]** key and press the **[0 SET]** Key.
- F** +  2 Turn the selector to change Set menu display to "StP Auto".

StP Auto
FM

- F** +  3 Hold down the **[FUNC]** key and turn the selector to change the frequency step from "Auto".



- 4 To complete the setting, press the **[CL MW/MC]** key.



- For the relationship between the frequency and the frequency step during Auto Step, see Frequency/Frequency Step/Reception Mode Table (p. 50).

Changing the Reception Mode to Match the Frequency (Auto Mode)

- In the initial state, the radio transmission system changes automatically to match the frequency. This is called the Auto Mode. This function can also be cleared.

- F** +  1 Hold down the **[FUNC]** key and press the **[0 SET]** Key.
- F** +  2 Turn the selector to change Set menu display to "on Atmode".

on Atmode
FM

- F** +  3 Hold down the **[FUNC]** key and turn the selector to change the display from "on" to "OFF".

OFF Atmode
FM



- 4 To complete the setting, press the **[CL MW/MC]** key.



- For the relationship between the frequency and the radio transmission system during Auto Step, see Frequency/Frequency Step/Reception Mode Table (p. 50).

Changing Lamp Operation

- The lamp stays lit for 5 seconds. However, lamp operation can be changed so that it remains on whenever it is operated.

- F** +  1 Hold down the **[FUNC]** key and press the **[0 SET]** Key.
- F** +  2 Turn the selector to change Set menu display to "nor LAMP".

nor LAMP
FM

- F** +  3 Hold down the **[FUNC]** key and turn the selector to change the display from "nor" to "LGL".



- 4 To complete the setting, press the **[CL MW/MC]** key.

- F** +  5 To turn the lamp on, hold down the **[FUNC]** key and press the **[1 LAMP]** key



- To turn the lamp off, hold down the **[FUNC]** key and press the **[1 LAMP]** key

Turning the

- Whenever a key is switched on, a beep can be heard. The beep can be changed.

- F** +  1 Hold down the **[FUNC]** key and press the **[0 SET]** Key.
- F** +  2 Turn the selector to change Set menu display to "on BEEP".

- F** +  3 Hold down the **[FUNC]** key and turn the selector to change the display from "on" to "OFF".



- 4 To complete the setting, press the **[CL MW/MC]** key.

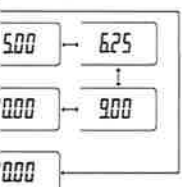
- F** +  5 To turn the lamp on, hold down the **[FUNC]** key and press the **[1 LAMP]** key

Step Auto Step)

the Selector, etc., the
with the frequency
ed from the factory),
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step. The frequency
Step to a specific

and press the **[0 SET]** Key.
the Set menu display to

and turn the selector to
to "Auto".



press the **[CLMW/MC]**

the frequency and the
step, see Frequency/
ode Table (p. 50).

Changing the Reception Mode to Match the Frequency (Auto Mode)

- In the initial state, the radio transmission system changes automatically to match the frequency. This is called the Auto Mode. This function can also be cleared.

- 1 Hold down the **[FUNC]** key and press the **[0 SET]** Key.
- 2 Turn the selector to change Set menu display to "on Atmode".

on Atmode

- 3 Hold down the **[FUNC]** key and turn the selector to change the display from "on" to "OFF".

OFF Atmode

- 4 To complete the setting, press the **[CLMW/MC]** key.



- For the relationship between the frequency and the radio transmission system during Auto Step, see Frequency/Frequency Step/Reception Mode Table (p. 50).

Changing Lamp Operation

- The lamp stays lit for 5 seconds. However, lamp operation can be changed so that it remains on whenever it is operated.

- 1 Hold down the **[FUNC]** key and press the **[0 SET]** Key.
- 2 Turn the selector to change Set menu display to "nor LAMP".

nor LAMP

- 3 Hold down the **[FUNC]** key and turn the selector to change the display from "nor" to "tGL".

- 4 To complete the setting, press the **[CLMW/MC]** key.

- 5 To turn the lamp on, hold down the **[FUNC]** key and press the **[1 LAMP]** key



- To turn the lamp off, hold down the **[FUNC]** key and press the **[1 LAMP]** key

Turning the Beep On or Off

- Whenever a key is pressed, and when the power is switched on, a beeping sound is emitted by the receiver. The beep can be disable.

- 1 Hold down the **[FUNC]** key and press the **[0 SET]** Key.
- 2 Turn the selector to change Set menu display to "on bEEP".

on bEEP

- 3 Hold down the **[FUNC]** key and turn the selector to change the display from "on" to "OFF".

- 4 To complete the setting, press the **[CLMW/MC]** key.

Using the Battery Save



- In order to extend the batter's life, the amount of current consumed by the receiver can be reduced. This is called Battery Save. The length of time when current is reduced can also be changed.

F +  1 Hold down the **[FUNC]** key and press the **[0 SET]** Key.

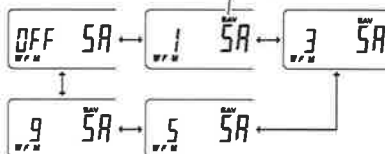


2 Turn the selector to change Set menu display to "OFF SA".



3 Hold down the **[FUNC]** key and turn the selector to change the display from "OFF" to select the time setting.

SAV indicate



4 To complete the setting, press the **[CL MW/MC]** key.



- The SAV indicator is displayed at all times when this function is set.

Using the Auto Power Off



- The receiver can be set to shut off its power automatically after approximately 30 minutes if there is no reception or if no key is operated. This is called Auto Power Off. A warning beeps one minute before the power is cut off.



1 Hold down the **[FUNC]** key and press the **[0 SET]** Key.



2 Turn the selector to change Set menu display to "OFF APO".



3 Hold down the **[FUNC]** key and turn the selector to change the display from "OFF" to "on".

APO indicate



4 To complete the setting, press the **[CL MW/MC]** key.



- The APO indicator is displayed at all times when this function is set.

EXP

Switching to the Expanded Mode	
Setting the VFO Mode	
Changing the Frequency [2]	
Switching the Set Mode Function Simply (My Key)	
Using the Selector in Key Lock	
Controlling the Squelch with RF Level (RF Squelch)	
Reducing Receiving Sensitivity (Attenuator)	
Changing the Proportion of Activation of the Signal Meter	
Changing the Frequency to MHz Digit (Fast Step)	
Changing the Frequency in 100 MHz Steps	



Using the Auto Power Off



- The receiver can be set to shut off its power automatically after approximately 30 minutes if there is no reception or if no key is operated. This is called Auto Power Off. A warning beeps one minute before the power is cut off.



- 1 Hold down the **[FUNC]** key and press the **[0 SET]** Key.



- 2 Turn the selector to change Set menu display to "OFF APO".

OFF APO



- 3 Hold down the **[FUNC]** key and turn the selector to change the display from "OFF" to "on".
APO indicate

on APO



- 4 To complete the setting, press the **[CL MW/MC]** key.



- The APO indicator is displayed at all times when this function is set.

EXPANDED MODE

Switching to the Expanded Mode	22
Setting the VFO Mode	22
Changing the Frequency [2]	23
Switching the Set Mode Function Simply (My Key)	24
Using the Selector in Key Lock	24
Controlling the Squelch with RF Level (RF Squelch)	25
Reducing Receiving Sensitivity (Attenuator)	25
Changing the Proportion of Activation of the Signal Meter in FM Mode	26
Changing the Frequency to MHz Digit (Fast Step)	26
Changing the Frequency in 100 MHz Steps	27

Switching to the Expanded Mode

- The Preset Mode can be switched to the Expanded Mode. Scanning and searching can be performed in the Expanded mode. The frequency can also be changed using the numeric keys. All the Set Mode functions can be used in the Expanded Mode.



- 1 Hold down the **[FUNC]** key and press the **[0 SET]** key,



- 2 Turn the selector to change the Set menu display to "on PrESEt".

on PrESEt
wfm



- 3 Hold down the **[FUNC]** key and turn the selector to change the mode.
(The Preset mode is changed to the Expanded mode.)



- To return the Preset mode, change the Set menu display to "OFF PrESEt" in step 2 and hold down the **[FUNC]** key and turn the selector

Setting the VFO Mode

- The VFO (Variable Frequency Oscillator) mode is the state in which the frequency can be changed using the selector or the numeric keys, etc.

- 1 Confirm the display.



- 2 If M is displayed, press the **[CL MW/MC]** key.
(This is the Memory Mode. **[P 30]**)
When you are in the Set Mode, press the **[CL MW/MC]** key. (**[P 49]**)
When changing the frequency, press the **[CL MW/MC]** key.
(This is during a search, **[P 38]**).
When M is displayed, and when the frequency is being changed, press the **[CL MW/MC]** key twice.
(This is during scanning, **[P 38]**)

- 3 Confirm the VFO mode returns.

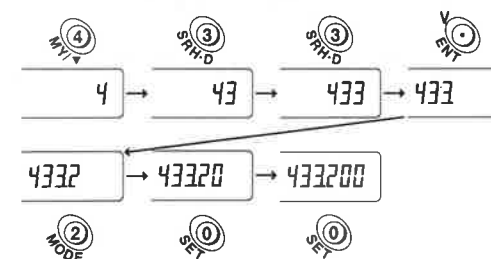
Changing the Frequency [2]

- In the expanded Mode, there are three methods for changing the frequency, using the Selector, using the **[5 A] / [• VENT]** key while the **[FUNC]** key is pressed, and using the numeric keys. The key operation method for the Selector and the **[5 A] / [• VENT]** keys is the same as in the Preset Mode.

Before changing the frequency, switch to the receiver's VFO mode. ([P 22]**)**

Changing the frequency using the numeric keys.

- 1 Input the frequency as far as the 1 kHz digit, then set the frequency.
Example: Inputting 433.2 MHz



- 2 Input the digit
Example: Inputting 433.2 MHz



4

4332



4332

- 3 Inputting a frequency
Example: Inputting 433.2 MHz



4332

43320



433200

Set Mode

ed to the Expanded
n be performed in the
can also be changed
Mode functions can

y and press the **Q SET**

ge the Set menu display

ET

r and turn the selector to

anged to the Expanded

mode, change the Set
FF PrESEt" in step 2
UNC key and turn the

Setting the VFO Mode

- The VFO (Variable Frequency Oscillator) mode is the state in which the frequency can be changed using the selector or the numeric keys, etc.

1 Confirm the display.



- 2 If M is displayed, press the **CL MW/MC** key.
(This is the Memory Mode. **P** 30)
When you are in the Set Mode, press the **CL MW/MC** key. (**P** 49)
When changing the frequency, press the **CL MW/MC** key.
(This is during a search, **P** 38).
When M is displayed, and when the frequency is being changed, press the **CL MW/MC** key twice.
(This is during scanning, **P** 38)

3 Confirm the VFO mode returns.

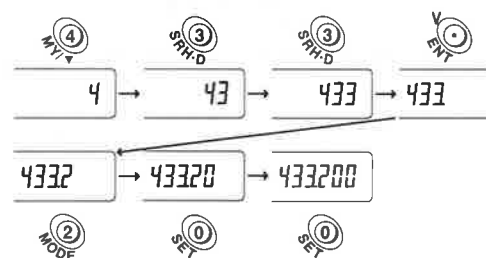
Changing the Frequency [2]

- In the expanded Mode, there are three methods for changing the frequency, using the Selector, using the **5 A** / **VENT** key while the **FUNC** key is pressed, and using the numeric keys. The key operation method for the Selector and the **5 A** / **VENT** keys is the same as in the Preset Mode.

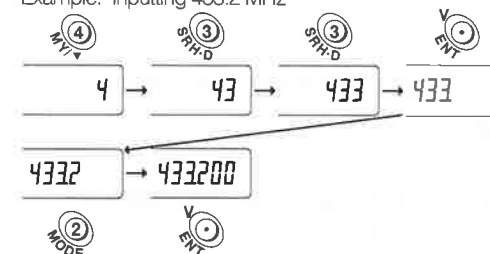
Before changing the frequency, switch to the receiver's VFO mode. (**P** 22)

Changing the frequency using the numeric keys.

- 1 Input the frequency as far as the 1 kHz digit, then set the frequency.
Example: Inputting 433.2 MHz

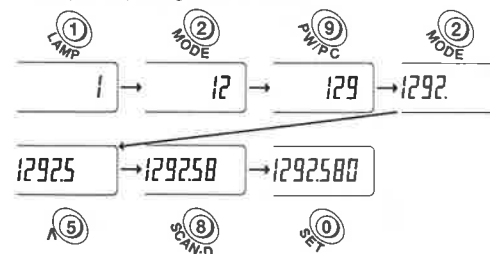


- 2 Input the digits below 100 kHz and set the frequency.
Example: Inputting 433.2 MHz



- The frequency is set if the **VENT** key is pressed between input of the 1 MHz digit and the 1 kHz digit.

- 3 Inputting a frequency higher than 1,000 MHz
Example: Inputting 1292.58 MHz



- Do not press the **VENT** key between the 1 MHz digit and the 100 kHz digit.

Switching the Set Mode Function Simply (My Key)

- A frequently used Set Mode can be stored in the **[4 MY/▼]** key. In the initial state, the frequency step is stored in this key.

Switching the Set Mode Function

- F** +  1 Hold down the **[FUNC]** key and press the **[4 MY/▼]** key.

Storing the Set Mode into MY key

- F** +  1 Hold down the **[FUNC]** key and press the **[0 SET]** key.
-  2 Turn the selector to change the Set menu display to be stored.

OFF RPD

- F** +  3 Hold down the **[FUNC]** key and press the **[4 MY/▼]** key.
-  4 To complete the setting, press the **[CL MW/MC]** key.



- Some Set Modes cannot be stored. Please refer to the Set Mode List (P 49) for those set modes that cannot be stored.
- When VFO Reset or All Reset are performed, the contents of this key return to the memorized frequency step.

Using the Selector in Key Lock

- In the initial state, the Selector cannot be operated while the Key Lock is enabled. However, by using this function, operation of the Selector can be set.

- F** +  1 Hold down the **[FUNC]** key and press the **[0 SET]** key.



- 2 Turn the selector to change the Set menu display to "OFF FLCH".

OFF FLCH



- 3 Hold down the **[FUNC]** key and turn the selector to change display from "OFF" to "on".

on FLCH



- 4 To complete the setting, press the **[CL MW/MC]** key.

Controlling the Squelch with RF Level (RF Squelch)

- Squelch can be set to open in proportion to the strength of the input signal (RF), that is, to match the proportion of activation of the signal meter. This is called RF Squelch. This level can be changed.



- 1 Hold down the **[FUNC]** key and press the **[0 SET]** key.



- 2 Turn the selector to change the Set menu display to "OFFrFSqL".

OFF rFSqL



- 3 Hold down the **[FUNC]** key and turn the selector to change display from "OFF" to "on".

OFF → 2 → 3 → 4 → 5
↓
9 → 8 → 7 → 6



- 4 To complete the setting, press the **[CL MW/MC]** key.



- The relationship between the proportion of activation of the signal meter and the setting numbers is as shown below.

OFF	No setting	6	000000
2	00	7	00000000
3	000	8	000000000
4	0000	9	0000000000
5	00000		

Reducing R S

- The receiver's r. Occasionally a si the sound beco receiver can be s occur so easily.



- 1 Hold



- 2 Turn to "C



- 3 Hold



- 4 To c



- W

- R

- a

- w

My Key (My Key)

stored in the [4 MY/V] key. This step is stored in this

Function

and press the [4 MY/V] key.

My Key

and press the [0 SET] key.

change the Set menu display

and press the [4 MY/V] key.

g, press the [CL MW/MC] key.

not be stored. Please refer to the List (p. 49) for those set

stored. All Reset are performed, this key return to the

Using the Selector in Key Lock

- In the initial state, the Selector cannot be operated while the Key Lock is enabled. However, by using this function, operation of the Selector can be set.

F+  **1** Hold down the [FUNC] key and press the [0 SET] key.

 **2** Turn the selector to change the Set menu display to "OFF FLCH".

F+  **3** Hold down the [FUNC] key and turn the selector to change display from "OFF" to "on".

 **4** To complete the setting, press the [CL MW/MC] key.

OFF FLCH

on FLCH

Controlling the Squelch with RF Level (RF Squelch)

- Squelch can be set to open in proportion to the strength of the input signal (RF), that is, to match the proportion of activation of the signal meter. This is called RF Squelch. This level can be changed.

F+  **1** Hold down the [FUNC] key and press the [0 SET] key.

 **2** Turn the selector to change the Set menu display to "OFF rFSqL".

F+  **3** Hold down the [FUNC] key and turn the selector to change display from "OFF" to "on".

 **4** To complete the setting, press the [CL MW/MC] key.

OFF rFSqL

OFF → 2 → 3 → 4 → 5
9 → 8 → 7 → 6



- The relationship between the proportion of activation of the signal meter and the setting numbers is as shown below.

OFF	No setting	6	000000
2	00	7	00000000
3	000	8	000000000
4	0000	9	0000000000
5	00000		

Reducing Receiving Sensitivity (Attenuator)

- The receiver's receiving sensitivity can be reduced. Occasionally a signal is so strong when it is received that the sound becomes distorted. Using this function, the receiver can be set so that distortion of the sound does not occur so easily. This is called an attenuator.

F+  **1** Hold down the [FUNC] key and press the [0 SET] key.

 **2** Turn the selector to change the Set menu display to "OFF Att".

F+  **3** Hold down the [FUNC] key and turn the selector to change display from "OFF" to "on".

 **4** To complete the setting, press the [CL MW/MC] key.

OFF Att

on Att



- When this function is switched on, the ATT indicator lights continuously.
- Receiving sensitivity is reduced by approximately 20 dB (when at 100 MHz) when this function is activated.

Changing the Proportion of Activation of the Signal Meter in FM Mode.

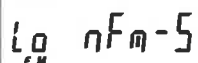
- Using this function, the proportion of activation of the signal meter when the reception mode is set on FM can be reduced.

  **1** Hold down the **[FUNC]** key and press the **[0SET]** key.

 **2** Turn the selector to change the Set menu display to "nor nFm-S".



  **3** Hold down the **[FUNC]** key and turn the selector to change display from "nor" to "Lo".



Dot indicate

 **4** To complete the setting, press the **[CL MW/MC]** key.

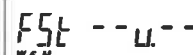
-  When this function is set on Lo, a .(dot) is displayed continuously.
- This function does not operate when the reception mode is set on WFM or AM.
- Setting this function on Lo makes it easy to find a transmission at times when a radio signal's source is brought near through "Fox Hunting." Use of this function in combination with the attenuator function (P 25) makes it even more effective.

Changing the Frequency to MHz Digit (Fast Step)

- Hold down the **[FUNC]** key and the Selector can be used to change the frequency, the frequency is changed to MHz digit. This digit change can be used between 100 MHz and 0.1 MHz.

  **1** Hold down the **[FUNC]** key and press the **[0SET]** key.

 **2** Turn the selector to change the Set menu display to "FSt - -u- -".



  **3** Hold down the **[FUNC]** key and turn the selector to set "u" to be desired digit.

 **4** To complete the setting, press the **[CL MW/MC]** key.

Changing the Frequency in 100 MHz Steps

- Hold down the **[FUNC]** and the **[5A]** or **[EVENT]** keys are pressed makes it possible to change the frequency in 100 MHz steps.

  **1** Hold down the **[FUNC]** key and press the **[0SET]** key.

 **2** Turn the selector to change the Set menu display to "OFF ud100".



  **3** Hold down the **[FUNC]** key and turn the selector to change display from "OFF" to "on".



 **4** To complete the setting, press the **[CL MW/MC]** key.

of Activation in FM Mode.

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and press the **[0 SET]** key.

ge the Set menu display

y and turn the selector to
or" to "Lo".

Dot indicate
ess the **[CL MW/MC]** key.

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a radio signal's source
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with the attenuator
en more effective.

Changing the Frequency to MHz Digit (Fast Step)

- Hold down the **[FUNC]** key and the Selector can be used to change the frequency, the frequency is changed to MHz digit. This digit change can be used between 100 MHz and 0.1 MHz.



- 1 Hold down the **[FUNC]** key and press the **[0 SET]** key.



- 2 Turn the selector to change the Set menu display to "FSt --u--".

FSt --u--



- 3 Hold down the **[FUNC]** key and turn the selector to set "u" to be desired digit.



- 4 To complete the setting, press the **[CL MW/MC]** key.

Changing the Frequency in 100 MHz Steps

- Hold down the **[FUNC]** and the **[5 A]** or **[VENT]** keys are pressed makes it possible to change the frequency in 100 MHz steps.



- 1 Hold down the **[FUNC]** key and press the **[0 SET]** key.



- 2 Turn the selector to change the Set menu display to "OFF ud100".

OFF ud100



- 3 Hold down the **[FUNC]** key and turn the selector to change display from "OFF" to "on".

on ud100



- 4 To complete the setting, press the **[CL MW/MC]** key.

MEMORY

The Memory Function
Calling the Memory [1]
Calling the Memory [2]
Storing the Memory
Erasing the Memory
Preventing Changes to Memory (Memory Protect)
Erasing Memory One Block at a Time
Exchanging the Contents of Memory (Memory Swap)
Returning to the VFO Mode with the Memory Frequency U

MEMORY FUNCTIONS

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Calling the Memory [2]	31
Storing the Memory	32
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Exchanging the Contents of Memory (Memory Swap).....	34
Returning to the VFO Mode with the Memory Frequency Unchanged	35

The Memory Function

- Frequencies that are used frequently in the expanded mode can be entered to memory. Up to 399 different frequency settings can be entered in memory.
- The mode in which frequencies are entered to memory or called from memory is called the Memory Mode. When in this mode, the "M" indicator lights up in the display.
- The number of the memory where a frequency is stored is called the Memory Address. Memory Addresses 001 to 399 are available.
- A Memory Protect function (P 33) is provided to prevent changes in the contents of memory or clearing of memory by mistake.

- The following types of memory are provided

Search Band Memory (P 32, 40)

This memory has two frequencies which form a set, and is used when searching for a frequency between these two frequencies (Search, p. 38). Up to 10 sets (20 frequencies) can be entered in this memory. 10 sets (20 frequencies) are entered in this memory when the receiver is in its initial state. These frequencies can be reentered.

Search Pass Memory (P 41)

Frequencies entered in this memory are not received when a search is in progress. When there is a frequency that you do not want to receive, entered it here. Up to 80 frequencies can be entered in this memory.

Priority Memory (P 32)

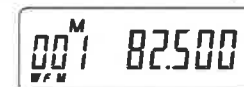
One frequency which is used most frequently can be entered in this memory. When in the Memory Mode, this frequency and the frequency in the Memory Mode can be received alternately (Dual Watch, P 46).

Calling the Memory [1]

- The contents that have previously been entered to memory can be called. The memory address can be changed sequentially using the Selector or the [5A] / [VENT] key.

Using the selector

- F** +  **1** Hold down the [FUNC] key and press the [7 V/M] key to set the memory mode.



- 2** Turning the Selector in the clockwise direction increases the memory address number. Turning counterclockwise decreases the memory address number.

Using the [5A] or [VENT] key

- F** +  **1** Hold down the [FUNC] key and press the [7 V/M] key to set the memory mode.



- 2** Hold down the [FUNC] key and press the [5A] to increase the memory address. Hold down the [FUNC] key and press the [VENT] to decrease the memory address.



- Memory addresses where nothing is entered are not displayed even when the Selector or the [5A] / [VENT] key is used.

Calling the M

- A memory address can be called using the numeric keys.



- 1** Hold down the [F] key and press the [7] key to set the memory mode.

- 2** Input the memory address number. (The digit 0 is not displayed.)



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Up to 399 different
in memory.

entered to memory or
Memory Mode. When in
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frequency is stored is
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s provided to prevent
or clearing of memory

- The following types of memory are provided

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One frequency which is used most frequently can be entered in this memory. When in the Memory Mode, this frequency and the frequency in the Memory Mode can be received alternately (Dual Watch, P 46).

Calling the Memory [1]

- The contents that have previously been entered to memory can be called. The memory address can be changed sequentially using the Selector or the [5A] / [EVENT] key.

Using the selector

- F** +  **1** Hold down the [FUNC] key and press the [7 V/M] key to set the memory mode.




- 2** Turning the Selector in the clockwise direction increases the memory address number. Turning counterclockwise decreases the memory address number.

Using the [5A] or [EVENT] key

- F** +  **1** Hold down the [FUNC] key and press the [7 V/M] key to set the memory mode.



- 2** Hold down the [FUNC] key and press the [5A] to increase the memory address. Hold down the [FUNC] key and press the [EVENT] to decrease the memory address.



- Memory addresses where nothing is entered are not displayed even when the Selector or the [5A] / [EVENT] key is used.

(EXPANDED MODE)/MEMORY FUNCTIONS

Calling the Memory [2]

- A memory address can be called directly using the numeric keys.



- 1** Hold down the [FUNC] key and press the [7 V/M] key to set the memory mode.



- 2** Input the desired memory address using the numeric keys.
(The memory address is called when the third digit has been entered.)



Storing the Memory

- Frequently used frequencies can be stored to memory.

1 Set to the VFO.

2 Set the frequency to be stored.



3 Hold down the **[FUNC]** key and press the **[CLMW/MC]** key.
(This activates the memory store state.)



4 Hold down the **[FUNC]** key and press the **[CLMW/MC]** key.
(A high pitched beep is emitted, the frequency is entered to memory and the receiver returns to the VFO mode.)



- The memory address displayed in Step 4 is the address with the smallest number that has not been entered.
- Memory addresses that have already been entered are not displayed in Step 4.
- In Step 4, using the selector or holding down the **[FUNC]** key and press the **[5A] / [EVENT]** key to changes the address of vacant memory, or switches to the Search Band Memory.
- In Step 4, a memory address can be entered directly and frequencies stored in memory using the numeric keys. When this method is used, memory addresses with frequencies already entered, can have new frequencies entered over them.
- In Step 4, input of memory addresses in cases where a frequency is entered directly to Search Band Memory should be as follows. Input 400 for 0-A, 401 for 0-B, 402 for 1-A, ..., 418 for 9-A and 419 for 9-B. (P 40)
- When inputting a frequency in Priority Memory, use the Selector to display the Pri indicator or input 000 using the numeric keys.
- In Step 4, if there is no vacant memory address, the display shows "min ---".

Erasing the Memory

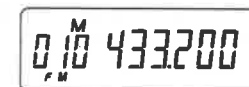
- Stored memory can be erased.



1 Set to the VFO.

2 Hold down the **[FUNC]** key and press the **[7VM]** key.

3 Select the memory address to be erased.



4 Hold down the **[FUNC]** key and press the **[CLMW/MC]** key. ("CLR" is displayed.)



5 Hold down the **[FUNC]** key and press the **[CLMW/MC]** key.
(High pitched beep is emitted and the memory mode returned.)



- The contents of memory cannot be retrieved once they are cleared. To prevent the contents of memory from being cleared, press the **[CLMW/MC]** key before proceeding to Step 5, or hold down the **[FUNC]** key and press the **[7VM]** key.
- When the last memory address has been cleared, the receiver returns to the VFO mode after Step 5.

Preventing Cha

- Changing the co
accidental erasing



1 Hold o
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2 Turn t
display



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stored to memory.



- The memory address displayed in Step 4 is the address with the smallest number that has not been entered.
- Memory addresses that have already been entered are not displayed in Step 4.
- In Step 4, using the selector or holding down the **FUNC** key and press the **SA/VENT** key to changes the address of vacant memory, or switches to the Search Band Memory.
- In Step 4, a memory address can be entered directly and frequencies stored in memory using the numeric keys. When this method is used, memory addresses with frequencies already entered, can have new frequencies entered over them.
- In Step 4, input of memory addresses in cases where a frequency is entered directly to Search Band Memory should be as follows. Input 400 for 0-A, 401 for 0-B, 402 for 1-A, ..., 418 for 9-A and 419 for 9-B. (P 40)
- When inputting a frequency in Priority Memory, use the Selector to display the Pri indicator or input 000 using the numeric keys.
- In Step 4, if there is no vacant memory address, the display shows "min ---".

stored.

00

key and press the

memory store state.)

10

key and press the

emitted, the frequency is
d the receiver returns to

Erasing the Memory

- Stored memory can be erased.

- 1 Set to the VFO.
- 2 Hold down the **FUNC** key and press the **ZVM** key.
- 3 Select the memory address to be erased.

010 433200

- 4 Hold down the **FUNC** key and press the **CLMW/MC** key. ("CLR" is displayed.)

010 CLR

- 5 Hold down the **FUNC** key and press the **CLMW/MC** key.
(High pitched beep is emitted and the memory mode returned.)



- The contents of memory cannot be retrieved once they are cleared. To prevent the contents of memory from being cleared, press the **CLMW/MC** key before proceeding to Step 5, or hold down the **FUNC** key and press the **ZVM** key.
- When the last memory address has been cleared, the receiver returns to the VFO mode after Step 5.

(EXPANDED MODE)/MEMORY FUNCTIONS

Preventing Changes to Memory (Memory Protect)

- Changing the contents of memory by mistake and accidental erasing of memory can be prevented.

- 1 Hold down the **FUNC** key and press the **0SET** key.



- 2 Turn the selector and change the Set menu display "OFF Pro".

OFF Pro



- 3 Hold down the **FUNC** key and turn the selector to change the display from "OFF" to "on".
Memory Protect indicate

on Pro



- 4 To complete this procedure, press the **CLMW/MC** key.



- All the contents of memory are cleared during All Reset even when this function is operating.
- This function cannot be used for Search Pass Memory.

Erasing Memory One Block at a Time

- Memory can be cleared by blocks. A block of memory is made up of 100 memory addresses grouped consecutively. The relationship between the block number and the memory addresses are as shown below.

Block number	Memory address
0	001 - 099
1	100 - 199
2	200 - 299
3	300 - 399

- 1 Hold down the **[FUNC]** key and press the **[0 SET]** key 
- 2 Turn the selector and change the Set menu display "OFF bCLEAR" 

OFF bCLEAR
FM

- 3 Enter the block number to be erased with the numeric keys.

- When memory is not to be cleared, press the **[CL MW/MC]** key before Step 3. to cancel the Set Mode.

Exchanging the Contents of Memory (Memory Swap)

- The contents of memory can be swapped between two memory addresses.

- 1 Hold down the **[FUNC]** key and press the **[0 SET]** key 

- 2 Turn the selector and change the Set menu display "OFF bSWAP" 

SWAP
FM

- 3 Input the first memory address using the numeric keys. (The first memory address is displayed on the left side of SWAP.)

001 SWAP
FM

Memory address

- 4 Input the second memory address using the numeric keys. (The second memory address is displayed on the right side of SWAP.)

- 5 Input the third digit of the second memory address. (A high pitched beep is emitted and the receiver will return to the VFO state.)

- This function cannot be used for Search Band Memory and Search Pass Memory.

Returning to the VFO Mode with the Memory Frequency Unchanged

- When the Memory Mode is ended, the receiver returns to the previous VFO. Using this function, you can return to the VFO with the memory frequencies of the unchanged.

Preparation

- 1 Hold down the **[FUNC]** key and press the **[0 SET]** key. 
- 2 Turn the selector and change the Set menu display "OFF m-bAC" 

OFF m-bAC
FM

- 3 Hold down the **[FUNC]** key and turn the selector to change the display from "OFF" to "on". 

- 4 To complete the procedure, press the **[CL MW/MC]** key. 

Returning to the VFO State

- 1 Select the memory address to be returned the VFO.

- 2 Press the **[CL MW/MC]** key. (A high pitched beep is emitted and the VFO returned.) 

- This function cannot be used for Search Pass Memory.

Lock at a Time

A block of memory is addresses grouped between the block are as shown below.

Memory address
1 - 099
0 - 199
0 - 299
0 - 399

and press the **[0 SET]**

change the Set menu

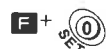
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to be erased with the

to be cleared, press
before Step 3. to cancel

Exchanging the Contents of Memory (Memory Swap)

- The contents of memory can be swapped between two memory addresses.



1 Hold down the **[FUNC]** key and press the **[0 SET]** key



2 Turn the selector and change the Set menu display "OFF bCLEAR"

FM SWAP

3 Input the first memory address using the numeric keys. (The first memory address is displayed on the left side of SWAP.)

001 SWAP

Memory address

4 Input the second memory address using the numeric keys. (The second memory address is displayed on the right side of SWAP.)

5 Input the third digit of the second memory address. (A high pitched beep is emitted and the receiver will return to the VFO state.)



- This function cannot be used for Search Band Memory and Search Pass Memory.

Returning to the VFO Mode with the Memory Frequency Unchanged

- When the Memory Mode is ended, the receiver returns to the previous VFO. Using this function, you can return to the VFO with the memory frequencies of the unchanged.

Preparation



1 Hold down the **[FUNC]** key and press the **[0 SET]** key.



2 Turn the selector and change the Set menu display "OFF m-bAC "

OFF m-bAC



3 Hold down the **[FUNC]** key and turn the selector to change the display from "OFF" to "on".



4 To complete the procedure, press the **[CL MW/MC]** key.

Returning to the VFO State

1 Select the memory address to be returned the VFO.



2 Press the **[CL MW/MC]** key. (A high pitched beep is emitted and the VFO returned.)



- This function cannot be used for Search Pass Memory.

(EXPANDED MODE)/MEMORY FUNCTIONS

Search and Scan Function
Search the Entire Bandwidth (All Search)
Using a One Touch Search
Rewriting Search Band Memory
Erasing the Search Band Memory
Searching a Specific Range (Program Search)
Skipping a Frequency during a Search [1] (Search Pass)
Skipping a Frequency during a Search [2] (Search Pass)
Erasing the Search Pass Memory
Scanning All Frequencies in Memory (All Memory Scan)
Scan Specific Memory Frequencies (Memory Scan Mem)
Scanning a Block of Memory Address (Block Memory Sc)
Changing the Halt Time in the Pause Type
Using Dual Watch
Dual Watch during a Search/Scan

SEARCH/SCAN

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Search and Scan Function

- In the Expanded mode, in order to search for the desired frequency, Search and Scan functions are provided. A Dual Watch function is also provided where a specific frequency can be received alternately with a frequency stored in memory.
- The Search function changes the frequency and receives the altered frequency. This function has three different types. Changes in the frequency are made by frequency steps.

All Search (P39)

Searches the entire band.

One Touch Search (P39)

Searches between two frequencies written to Search Band Memory.

Program Search (P41)

Searches specific range.

- The Scan function is reception of all the frequencies stored in memory in sequence. This function has three different types.

All Memory Scan (P43)

Scans all the frequencies stored in memory.

Memory Scan Memory (P44)

Scans specific memory frequencies.

Block Memory Scan (P45)

Scans memories frequencies in a block. A block consists of 100 memory address.

- When a signal is received, Scan/Search is halted. There are three ways to stop a Scan/Search. The method can be set separately for Scan and Search.

Pause Type

The Scan/Search is halted when a signal is received. However, after about 5 seconds, the Scan/Search resumes even if a signal is being received. This can be changed to a time other than 5 seconds using the Set Mode. (P45)

Busy Type

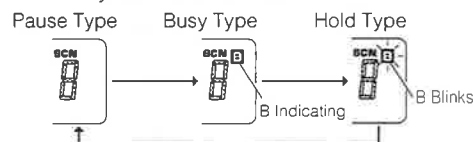
Scan/Search halts while a signal is being received. If the no signal is received, the Scan/Search resumes after about 2 seconds.

Hold Type

The Scan/Search is held when a signal is received. In order to resume the Scan/Search, turn the Selector or press the [S A] / [EVENT] key.

Changing the Type

- F** + **0** Hold down the [FUNC] key and press the [0 SET] key in Scan/Search mode.



Before beginning the Search/Scan, turn the SQL knob to a position where no noise is emitted.

Search the Entire Bandwidth (All Search)

- This search the entire bandwidth.

- Set to the VFO.
- Hold down the [FUNC] key and press the [3 SRH-D] key. (SEARCH is displayed.)



- Press the [EVENT] key. (Search has been started.)
 - To end, press the [CL M W / MC] key.
- During a search operation, turning the Selector 1 click, or holding down the [FUNC] key and pressing the [S A] / [EVENT] key, the search is halted and the "SRH" blinks.
 - When halting a search operation, if the frequency is increased, the search frequency is also increased, and if the frequency is decreased, the search frequency is also decreased.
 - If the [FUNC] key is held down and the Selector is turned, the MHz section can be changed without stopping the search.

Using a One

- This search uses a to Search Band between the two

- Set to the VFO.
- Hold down the [FUNC] key and press the [3 SRH-D] key. (SEARCH is displayed.)
- Press the [EVENT] key. (Search has been started.)



- To end, press the [CL M W / MC] key.
- The halt n search are
 - If another n Search is b changed.
 - In the initial in 0 - 9 of th

Numeric Key	Frequency R
0	76.0000 -
1	108.0000 -
2	144.0000 -
3	146.0100 -
4	156.0000 -

on

search for the desired
ons are provided. A
ed where a specific
ly with a frequency

quency and receives
n has three different
made by frequency

s written to Search

all the frequencies
This function has

memory.

k. A block consists of

- When a signal is received, Scan/Search is halted. There are three ways to stop a Scan/Search. The method can be set separately for Scan and Search.

Pause Type

The Scan/Search is halted when a signal is received. However, after about 5 seconds, the Scan/Search resumes even if a signal is being received. This can be changed to a time other than 5 seconds using the Set Mode. (P45)

Busy Type

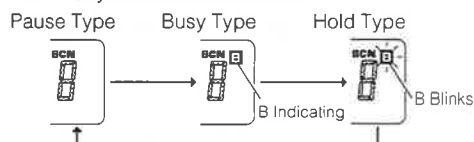
Scan/Search halts while a signal is being received. If the no signal is received, the Scan/Search resumes after about 2 seconds.

Hold Type

The Scan/Search is held when a signal is received. In order to resume the Scan/Search, turn the Selector or press the [5A] / [EVENT] key.

Changing the Type

- Hold down the [FUNC] key and press the [0 SET] key in Scan/Search mode.



Before beginning the Search/Scan, turn the SQL knob to a position where no noise is emitted.

Search the Entire Bandwidth (All Search)

- This search the entire bandwidth.

- Set to the VFO.
- Hold down the [FUNC] key and press the [3 SRH-D] key. (SEArCH is displayed.)



- Press the [EVENT] key. (Search has been started.)
 - To end, press the [CL MW/MC] key.
- During a search operation, turning the Selector 1 click, or holding down the [FUNC] key and pressing the [5A] / [EVENT] key, the search is halted and the "SRH" blinks.
 - When halting a search operation, if the frequency is increased, the search frequency is also increased, and if the frequency is decreased, the search frequency is also decreased.
 - If the [FUNC] key is held down and the Selector is turned, the MHz section can be changed without stopping the search.

(EXPANDED MODE)/ SEARCH/SCAN

Using a One Touch Search

- This search uses a set of two frequencies that are entered to Search Band Memory, and searching the range between the two frequencies.

- Set to the VFO.
- Hold down the [FUNC] key and press the [3 SRH-D] key. (SEArCH is displayed.)
- Press the numeric key to select the search band memory number to be searched. (Search has been started.)



- To end, press the [CL MW/MC] key.

- The halt method and change of direction in this search are the same as in All Search.
- If another numeric key is pressed while a One Touch Search is being conducted, the search range can be changed.
- In the initial state, the following frequencies are entered in 0 - 9 of the search band memory (P30).

Numeric Key	Frequency Range (MHz)	Numeric Key	Frequency Range (MHz)
0	76.0000 - 107.7500	5	175.7500 - 221.7500
1	108.0000 - 142.0000	6	430.0000 - 440.0000
2	144.0000 - 146.0000	7	450.0125 - 451.5000
3	146.0100 - 154.6500	8	850.0125 - 859.9875
4	156.0000 - 162.0500	9	903.0375 - 904.9875

Rewriting Search Band Memory

- The frequency entered to Search Band Memory can be changed.

- 1 Set to the VFO.
- 2 Select the desired frequency to be entered into the Search Band Memory.
- 3 Hold down the **[FUNC]** key and press the **[CLMW/MC]** key. (This enters the frequency to memory.)



- 4 Press the numeric keys to input the memory address in the Search Band Memory where the frequency is entered. (A high pitched beep is emitted, the frequency is entered in search band memory, and the VFO mode is returned.)



- The relationship between the memory address in search band memory and the input number is as follows:

Memory Address	Input Number	Memory Address	Input Number
0-A	400	0-b	401
1-A	402	1-b	403
2-A	404	2-b	405
3-A	406	3-b	407
4-A	408	4-b	409
5-A	410	5-b	411
6-A	412	6-b	413
7-A	414	7-b	415
8-A	416	8-b	417
9-A	418	9-b	419

Erasing the Search Band Memory

- The frequencies entered in Search Band Memory can be erased.

- 1 Set to the memory mode.
- 2 Turn the selector to select the memory address of the search band memory to be erased.



- 3 Hold down the **[FUNC]** key and press the **[CLMW/MC]** key. (CLr is displayed.)



- 4 Hold down the **[FUNC]** key and press the **[CLMW/MC]** key. (A high pitched beep is emitted and the Search Band Memory is erased.)

- 5 To complete the procedure, press the **[CLMW/MC]** key.



- When not erasing Search Band Memory, press the **[CLMW/MC]** key before Step 4.
- When one of the two frequencies that make up a set in Search Band Memory is erased, the receiver does not perform the search.

Searching a Specific Range (Program Search)

- The range is determined by the stored memory frequency selected, the frequency range is searched.

- 1 Set to the VFO.
- 2 Hold down the **[FUNC]** key and press the **[7V/M]** key.
- 3 Select the memory address to be set as the start frequency.



- 4 Hold down the **[FUNC]** key and press the **[3SRH/D]** key.



Memory address

- 5 Select a memory address to be set as the end frequency using the numeric keys. (Search is started when 3rd digit is inputted.)



- 6 To complete the procedure, press the **[CLMW/MC]** key.

Skipping a Fre

- When a search frequencies when needed. If this Pass Memory, the a search. 80 freq Memory. The ad P79. Search Pas operation by the f

Writing to mem

- 1 Cont selected



- 2 Hold (9 PW) (A I frequ



- When this can be en such a ca unnecess while in th

Memory

and Memory can be

ncy to be entered into

key and press the
nters the frequency to

0

to input the memory
nd Memory where the
high pitched beep is
entered in search band
de is returned.)

memory address in search
ber is as follows;

Address	Input Number
-b	401
-b	403
-b	405
-b	407
-b	409
-b	411
-b	413
-b	415
-b	417
-b	419

Erasing the Search Band Memory

- The frequencies entered in Search Band Memory can be erased.

- Set to the memory mode.
- Turn the selector to select the memory address of the search band memory to be erased.



- Hold down the **[FUNC]** key and press the **[CLMW/MC]** key. (CLr is displayed.)



- Hold down the **[FUNC]** key and press the **[CLMW/MC]** key. (A high pitched beep is emitted and the Search Band Memory is erased.)

- To complete the procedure, press the **[CLMW/MC]** key.



- When not erasing Search Band Memory, press the **[CLMW/MC]** key before Step 4.
- When one of the two frequencies that make up a set in Search Band Memory is erased, the receiver does not perform the search.

Searching a Specific Range (Program Search)

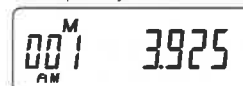
- The range is determined by the stored memory frequency selected, the frequency range is searched.

- Set to the VFO.

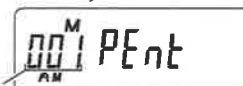


- Hold down the **[FUNC]** key and press the **[7V/M]** key.

- Select the memory address to be set as the start frequency.



- Hold down the **[FUNC]** key and press the **[3SRH-D]** key.



Memory address

- Select a memory address to be set as the end frequency using the numeric keys. (Search is started when 3rd digit is inputted.)



- To complete the procedure, press the **[CLMW/MC]** key.

(EXPANDED MODE)/ SEARCH/SCAN

Skipping a Frequency during a Search [1] (Search Pass Memory)

- When a search is being conducted, there are some frequencies where the receiver halts, but which are not needed. If this type of frequency is entered in Search Pass Memory, the receiver eliminates that frequency from a search. 80 frequencies can be entered in Search Pass Memory. The addresses of this memory are from P00 to P79. Search Pass Memory is entered during a search operation by the following procedure.

Writing to memory during search

- Confirm that the search has halted on the selected frequency to be skipped.



Blinks



- Hold down the **[FUNC]** key and press the **[9PW/PC]** key. (A high pitched beep is emitted and the frequency is stored in search pass memory.)



- When this memory is not empty, no frequencies can be entered it during a search operation. In such a case, clear any memory address with an unnecessary frequency. Rewrite this memory while in the VFO state. (P22)

Skipping a Frequency during a Search [2] (Search Pass Memory)

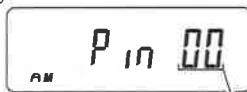
- Entering Search Pass Memory can be done while in the VFO state.

Entering to Memory while in the VFO State

- 1 Set to the VFO.
- 2 Set the frequency to be skipped.



- 3** Hold down the **[FUNC]** key and press the **[9 PW/PC]** key.



Memory address



- 4** Hold down the **[FUNC]** key and press the **[9 PW/PC]** key.
(A high pitched beep is emitted and the frequency is entered in search pass memory.)



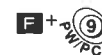
- 5** To complete the procedure, press the **CL MW/MC** key.



- After Step 3, a memory address other than the one being displayed can be called using the numeric keys or the Selector etc.
- In Step 3, if the Search Pass Memory is not vacant, "Pin --" is displayed. At this time, input the number of the memory address which can be erased using the numeric keys. The new frequency is entered at that address.
- When in Memory Mode, holding down the **[FUNC]** key and pressing the **[7 VFM]** key, the Search Pass Memory displays. Change the memory addresses using the numeric keys, Selector, etc.

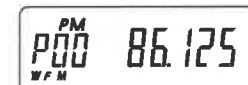
Erasing the Search Pass Memory

- 1** Set to the memory mode.



- 2** Hold down the **[FUNC]** key and press the **[7 V/M]** key.

- 3 Select the memory address to be erased using the selector or numeric keys, etc.



- 4** Hold down the **[FUNC]** key and press the **[9 PW/PC]** key. ("CL" is displayed.)



- 5** Hold down the **[FUNC]** key and press the **[9 PW/PC]** key.
(A high pitched beep is emitted and the frequency is entered in search pass memory.)



- 6** To complete the procedure, press the **CL MW/MC** key.



- When not clearing Search Pass Memory, press the **CL MW/MC** key before Step 5.

Scanning All in Me

- This scans all frequencies



- 1** Hold
8 SC
(Scal)

- ## 2 To e



- During a holding call, the **5A** / **OVEN** blinks.
- When halt is increased, the search frequency is increased.
- All Memory mode. See...

g a Search [2] (Search Pass Memory)

be done while in the

the VFO State

ipped.

and press the **[9 PW/PC]**

ory address

and press the **[9 PW/PC]**

is emitted and the
arch pass memory.)

e, press the **[CL MW/MC]**

- After Step 3, a memory address other than the one being displayed can be called using the numeric keys or the Selector, etc.
- In Step 3, if the Search Pass Memory is not vacant, "Pin --" is displayed. At this time, input the number of the memory address which can be erased using the numeric keys. The new frequency is entered at that address.
- When in Memory Mode, holding down the **[FUNC]** key and pressing the **[7 V/M]** key, the Search Pass Memory displays. Change the memory addresses using the numeric keys, Selector, etc.

Erasing the Search Pass Memory

- 1 Set to the memory mode.



- 2 Hold down the **[FUNC]** key and press the **[7 V/M]** key.

- 3 Select the memory address to be erased using the selector or numeric keys, etc.



- 4 Hold down the **[FUNC]** key and press the **[9 PW/PC]** key. ("CLr" is displayed.)



- 5 Hold down the **[FUNC]** key and press the **[9 PW/PC]** key.
(A high pitched beep is emitted and the frequency is entered in search pass memory.)



- 6 To complete the procedure, press the **[CL MW/MC]** key.



- When not clearing Search Pass Memory, press the **[CL MW/MC]** key before Step 5.

(EXPANDED MODE)/ SEARCH/SCAN

Scanning All Frequencies in Memory (All Memory Scan)

- This scans all frequencies in the memory.



- 1 Hold down the **[FUNC]** key and press the **[8 SCAN/D]** key.
(Scan has been started.)



Scanning

Blinks

SCN indicating

- 2 To end, press the **[CL MW/MC]** key.



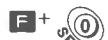
- During a scan, turning the Selector 1 click, or holding down the **[FUNC]** key and pressing the **[5 A /VENT]** key, halts the search. The "SCN" blinks.
- When halting a scan operating, if the frequency is increased, the search frequency is also increased, and if the frequency is decreased, the search frequency is also decreased.
- All Memory Scan can be used in Search mode, set mode, Search Pass Memory and VFO mode.

Scan Specific Memory Frequencies (Memory Scan Memory)

- This scans specific memory frequencies.

Specifying memory

- 1 Set to the memory mode.
- 2 Set to the specific memory address.



- 3 Hold down the **[FUNC]** key and press the **[0 SET]** key.
- 4 Turn the selector to change the set menu display to "OFF mSm".

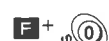


- 5 Hold down the **[FUNC]** key and turn the selector to change the display from "OFF" to "on". (The Down-arrow is displayed above the "M".)
- 6 Press the **[CL MW/MC]** key. (The Down-arrow is displayed above the "M" of the specified memory address.)



- 7 To specify other memory address, repeat step 2 to 6.
- 8 To complete the procedure, press the **[CL MW/MC]** key.

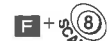
To Scan



- 1 Set to the VFO.
- 2 Hold down the **[FUNC]** key and press the **[0 SET]** key.
- 3 Turn the selector to change the set menu display to "OFF mSm".



- 4 Hold down the **[FUNC]** key and turn the selector to change the display from "OFF" to "on". (The Down-arrow is displayed.)



- 5 Hold down the **[FUNC]** key and press the **[8 SCAN-D]** key. (Scan has been started.)



- 6 To end, press the **[CL MW/MC]** key.



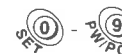
- To cancel the memory scan memory, change the display from "on" to "OFF".
- During the memory scan, hold down the **[FUNC]** key and press the **[4 MY/V]** key then Memory scan memory is started.

Scanning a Block of Memory Address (Block Memory Scan)

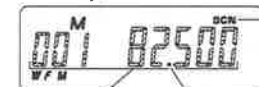
- This scans memory in individual blocks. One block consists of 100 memory addresses. (P.34)



- 1 Hold down the **[FUNC]** key and press the **[8 SCAN-D]** key. (All memory scan has been started.)



- 2 Enter the block number to be scanned using the numeric key.



Scanning Blinks

- 3 To scan another block, enter the block number using the numeric key.



- 4 To end, press the **[CL MW/MC]** key.



- During the memory scan memory, memory scan memory is started in a block when the block number is entered.
- A low pitched beep is emitted when no memory is stored in the block number entered. All scan memory is returned.

Changing the

- In a Pause Type operation is held interval can be ch



- 1 Hold



- 2 Turn



- 3 Hold



- 4 To



- 4 To

Frequencies (Memory Scan Memory)

To Scan

- 1 Set to the VFO.
- 2 Hold down the **[FUNC]** key and press the **[0 SET]** key.
- 3 Turn the selector to change the set menu display to "OFF mSm".



- 4 Hold down the **[FUNC]** key and turn the selector to change the display from "OFF" to "on". (The Down-arrow is displayed.)
- 5 Hold down the **[FUNC]** key and press the **[8 SCAN-D]** key. (Scan has been started.)



- 6 To end, press the **[CL MW/MC]** key.

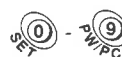


- To cancel the memory scan memory, change the display from "on" to "OFF".
- During the memory scan, hold down the **[FUNC]** key and press the **[4 MY/▼]** key then Memory scan memory is started.

Scanning a Block of Memory Address (Block Memory Scan)

- This scans memory in individual blocks. One block consists of 100 memory addresses. (P.34)

- 1 Hold down the **[FUNC]** key and press the **[8 SCAN-D]** key. (All memory scan has been started.)



- 2 Enter the block number to be scanned using the numeric key.



Scanning Blinks

- 3 To scan another block, enter the block number using the numeric key.



- 4 To end, press the **[CL MW/MC]** key.



- During the memory scan memory, memory scan memory is started in a block when the block number is entered.
- A low pitched beep is emitted when no memory is stored in the block number entered. All scan memory is returned.

(EXPANDED MODE)/ SEARCH/SCAN

Changing the Halt Time in the Pause Type

- In a Pause Type Scan/Search, the scan or search operation is held for approximately 5 seconds. This time interval can be changed.



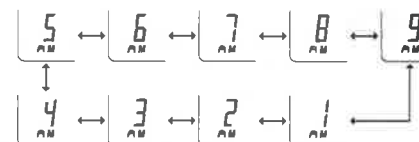
- 1 Hold down the **[FUNC]** key and press the **[0 SET]** key.



- 2 Turn the selector to change the set menu display to "5 dLAY".



- 3 Hold down the **[FUNC]** key and turn the selector to change the display from "5" to desired time. (The halting time in second is displayed.)



- 4 To complete the procedure, press the **[CL MW/MC]** key.

Using Dual Watch



- The frequency in memory address Pri(000) and one other frequency can be received alternately. This is called Dual Watch.

- Set to the frequency and mode to be set in dual watch.

VFO mode (P22)

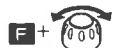
Memory mode (P31)

Search pass memory (P41)



- Hold down the **[FUNC]** key and press the **[0 SET]** key.

- Turn the selector to change the set menu display to "OFF duAL".



- Hold down the **[FUNC]** key and turn the selector. (The memory address Pri is received every 5 seconds.)



- To end, press the **[CLMW/MC]** key.



- If no frequency is entered to memory address Pri, a low pitched beep is emitted in Step 4 and it is impossible to change the OFF display. Enter the desired frequency in the memory address Pri. (P32)

Dual Watch during a Search/Scan

- Dual Watch can be conducted during a search or scan operation.

- Start Search (P39) or Scan (P43).



- During the search, hold down the **[FUNC]** key and press the **[3 SEARCH]** key.



- During the search, hold down the **[FUNC]** key and press the **[8 SCAN-D]** key.

(The memory address Pri is received every 5 seconds.)



- To end, press the **[CLMW/MC]** key.



Troubleshooting	
List of the Set Mode Functions	
Relationship Between Frequency, Frequency Step and Option	
Specifications	
Index	



Pri(000) and one
alternately. This is

d mode to be set in

41)
key and press the
the set menu display

nd turn the selector.
is received every 5

key.

memory address Pri, a
in Step 4 and it is
display. Enter the
memory address Pri.

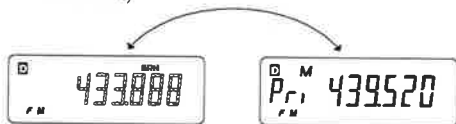
Dual Watch during a Search/Scan

- Dual Watch can be conducted during a search or scan operation.

1 Start Search (P39) or Scan (P43).



2 During the search, hold down the **[FUNC]** key and press the **[3 SRH-D]** key.
During the search, hold down the **[FUNC]** key and press the **[8 SCAN-D]** key.
(The memory address Pri is received every 5 seconds.)



3 To end, press the **[CLMW/MC]** key.

REFERENCES

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Troubleshooting

- Before concluding that the receiver has broken down, check if any of the following items may be causing the problem.

The power cannot be turned on.

- The battery is consumed.

The frequency cannot be changed.

- The Key Lock is set. (The  is displayed.)

Not receiving/ Only strong signals are received.

- The antenna is not properly connected.
- The radio station is too far away.
- The squelch knob is turned fully clockwise.
- A large value is set in RF Squelch setting.

No received audio is sounded.

- The volume knob is turned fully counterclockwise.
- RF Squelch is set.
- The reception mode does not match.

Receiving Sound is Distorted.

- The reception mode does not match.

Noise is emitted.

- The squelch knob is turned fully counterclockwise. (Squelch is off)

The memory is not stored.

There are no vacant memory addresses.

Does not scan/ search.

- Squelch is off.

Memory is not scanned.

- The frequencies are not stored or only one frequency is stored.
- The assigned memory is not set or only assigned memory is set in the memory scan memory.

List of the Set Mode Functions

SET MODE

Recall



Select the menu



★ : can be stored in MY key.

E : Function added during Expanded Mode (In Expanded

Initial indication		Function		
STEP Auto	★	Changing the frequency step. (P18)	OFF bCLEAR	★ E
on Atmode	★	Setting the Auto mode. (P18)	OFF Pro	★ E
nor LAMP	★	Setting the lamp operation (P19)	OFF rFSQL	★ E
on bEEP	★	Turning the beep on/off (P19)	OFF Att	★ E
OFF SA	★	Changing the Battery save time (P20)	nor nFm-S	★ E
OFF APQ	★	Changing the Auto power off time (P20)	OFF mSm	★ E
OFF rES	★	Setting the VFO reset (P13)	OFF dURL	★ E
on PRESet		Switching the Preset/Expanded mode (P22)	FSt --u--	★ E
OFF FLCH	★ E	Setting the channel for use in Key lock (P24)	OFF ud100	★ E
S dLAY	★ E	Changing the pause time (P45)	SwAP	E
			OFF m-bAL	★ E



• Make a copy of this Table or cut it for use.

List of the Set Mode Functions

SET MODE			
Recall + Select the menu / + , + Select the function +			
★ : can be stored in MY key. E : Function added during Expanded Mode (In Expanded mode, all Set Modes can be used.)			
Initial indication		Function	
		OFF bCLEAR	★ E Erasing the memory by the block (P34)
StP Auto	★	Changing the frequency step. (P18)	OFF Prd ★ E Selecting the Memory protect (P33)
on Atmode	★	Setting the Auto mode. (P18)	OFF rFS9L ★ E Changing the RF Squelch level (P25)
nor Lamp	★	Setting the lamp operation (P19)	OFF Att ★ E Selecting the attenuate (P25)
on bEEP	★	Turning the beep on/off (P19)	nor nFm-5 ★ E Selects the proportion of activation of the signal meter. (P26)
OFF SR	★	Changing the Battery save time (P20)	OFF mSm ★ E Setting the memory scan memory (P44)
OFF APD	★	Changing the Auto power off time (P20)	OFF duRL ★ E Setting the Dual watch (P46)
OFF rES	★	Setting the VFO reset (P13)	FSt --u-- ★ E Changing the digit of Fast step (P26)
on PrESEt		Switching the Preset/Expanded mode (P22)	OFF ud100 ★ E Selecting the / key step. (P27)
OFF FLCH	★ E	Setting the channel for use in Key lock (P24)	SwAP E Swapping the memory (P34)
S dLAY	★ E	Changing the pause time (P45)	OFF m-bRC ★ E Returning state of the VFO when in a memory frequency. (P35)



• Make a copy of this Table or cut it for use.

- | Frequency range | Step | Mode |
|---------------------|----------|------|
| 0.50~0.52 MHz | 1 kHz | AM |
| 0.52~1.62 MHz | 9 kHz | AM |
| 1.62~29.00 MHz | 5 kHz | AM |
| 29.00~35.53 MHz | 10 kHz | FM |
| 35.53~51.00 MHz | 5 kHz | AM |
| 51.00~54.00 MHz | 20 kHz | FM |
| 54.00~76.00 MHz | 5 kHz | FM |
| 76.00~108.00 MHz | 50 kHz | WFM |
| 108.00~136.05 MHz | 25 kHz | AM |
| 136.05~138.00 MHz | 10 kHz | FM |
| 138.00~142.00 MHz | 25 kHz | AM |
| 142.00~144.00 MHz | 10 kHz | AM |
| 144.00~146.00 MHz | 20 kHz | FM |
| 146.00~170.00 MHz | 10 kHz | FM |
| 170.00~225.00 MHz | 50 kHz | WFM |
| 225.00~250.40 MHz | 100 kHz | AM |
| 250.40~430.00 MHz | 12.5 kHz | FM |
| 430.00~440.00 MHz | 20 kHz | FM |
| 440.00~459.50 MHz | 12.5 kHz | FM |
| 459.50~464.80 MHz | 25 kHz | WFM |
| 464.80~470.00 MHz | 12.5 kHz | FM |
| 470.00~810.00 MHz | 25 kHz | WFM |
| 810.00~940.00 MHz | 12.5 kHz | FM |
| 940.00~1260.00 MHz | 100 kHz | WFM |
| 1260.00~1300.00 MHz | 20 kHz | FM |

WSC1000 Soft case

General

Receiver

Reception type
Sensitivity

Audio out

radio transmission system
es are as shown in the
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st frequency of the next

Option

WSC1000 Soft case

ep	Mode
1 kHz	AM
2 kHz	AM
3 kHz	AM
4 kHz	FM
5 kHz	AM
6 kHz	FM
7 kHz	FM
8 kHz	WFM
9 kHz	AM
10 kHz	FM
11 kHz	AM
12 kHz	FM
13 kHz	FM
14 kHz	FM
15 kHz	WFM
16 kHz	FM
17 kHz	WFM
18 kHz	FM
19 kHz	WFM
20 kHz	FM

Specifications

General

Frequency range	0.500MHz - 1299.999MHz
Speaker impedance	8 Ω
Antenna impedance	50Ω
Antenna connector	BNC
Frequency Step	1kHz、5kHz、6.25kHz、9kHz、 10kHz、12.5kHz、15kHz、20kHz、 25kHz、30kHz、50kHz、100kHz、AUTO
Number of memory	Memory 400 channels Search band memory 10 channels Search pass memory 80 channels
Operating voltage	2.2 - 3.5VDC
Rated voltage	3.0VDC
Applicable battery	AA-size manganese / alkaline
Current consumption	In receiving Approx.125mA (AF OUT 60mW 8Ω) In waiting Approx.65mA At Battery save 1 sec. Approx.16mA
Dimensions	58(W)×97(H)×24(D)mm (Not including projections)
Weight	Approx.200g (Including batteries and antenna)
Operating temperature	-10℃ to +60℃

Receiver

Reception type	A3E(AM)、F3E(WFM,FM)
Sensitivity	0.5MHz to 5MHz
	AM 1.5μV (10dB S/N)
	5MHz to 160MHz
	AM 1.0μV (10dB S/N)
	FM 0.5μV (12dB SINAD)
	WFM 0.7μV (12dB SINAD)
	160MHz to 370MHz
	AM 1.0μV (10dB S/N)
	FM 0.7μV (12dB SINAD)
	WFM 1.0μV (12dB SINAD)
	370MHz to 520MHz
	FM 0.5μV (12dB SINAD)
	WFM 1.0μV (12dB SINAD)
	520MHz to 1300MHz
	FM 1.0μV (12dB SINAD)
	WFM 1.0μV (12dB SINAD)
Audio out	Approx.90mW (8Ω・10% distortion)

Audio out Approx.90mW (8Ω、10% distortion)

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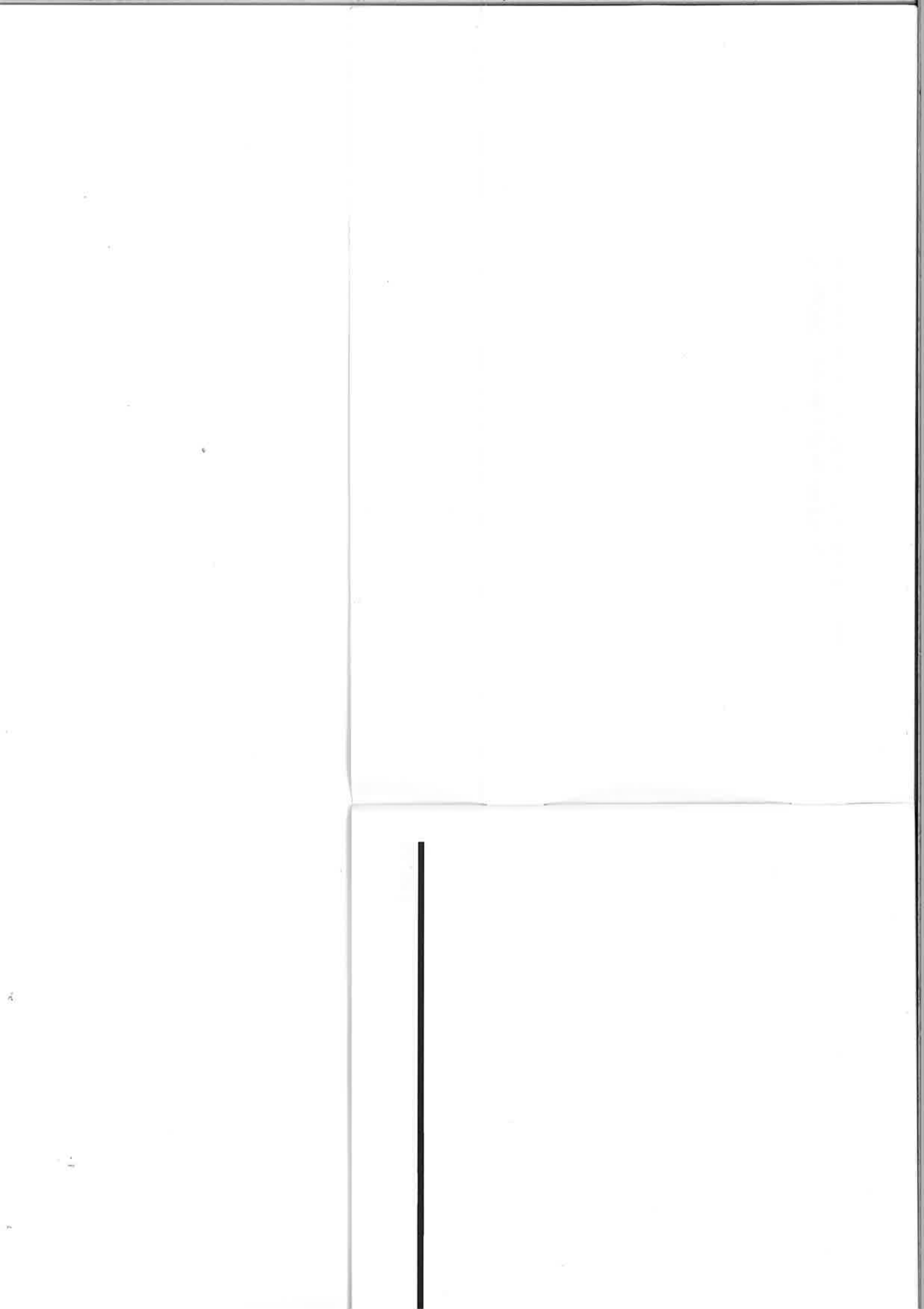
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MEMO

MEMO



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