



## INSTRUCTION MANUAL

COMMUNICATION RECEIVER  
**IC-R2500**

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This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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**Icom Inc.**

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## FOREWORD

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Thank you for purchasing this Icom product. The IC-R2500 VHF/UHF FM RECEIVER is designed and built with Icom's superior technology and craftsmanship. With proper care, this product should provide you with years of trouble-free operation.

We want to take a couple of moments of your time to thank you for making your IC-R2500 your radio of choice, and hope you agree with Icom's philosophy of "technology first." Many hours of research and development went into the design of your IC-R2500.

### ◆ FEATURES

- *Wide frequency coverage with all mode receive*
- *Both Remote controller operation and PC control application are available*
- *ANF and NR functions are available (Only when the optional DSP unit is installed.)*
- *IF shift function*

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## IMPORTANT

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**READ ALL INSTRUCTIONS** carefully and completely before using the receiver.

**SAVE THIS INSTRUCTION MANUAL**— This instruction manual contains important operating instructions for the IC-R2500.

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## EXPLICIT DEFINITIONS

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WORD	DEFINITION
⚠ <b>WARNING!</b>	Personal injury, fire hazard or electric shock may occur.
<b>CAUTION</b>	Equipment damage may occur.
<b>NOTE</b>	Recommended for optimum use. No risk of personal injury, fire or electric shock.

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## PRECAUTION

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**⚠ WARNING! NEVER** connect the receiver via the OPC-254L to an AC outlet. This may pose a fire hazard or result in an electric shock.

**⚠ WARNING! NEVER** operate the receiver while driving a vehicle. Safe driving requires your full attention— anything less may result in an accident.

**NEVER** connect the receiver to a power source of more than 14 V DC. This will damage the receiver.

**NEVER** connect the receiver to a power source using reverse polarity. This will damage the receiver.

**NEVER** cut the DC power cable between the DC plug and fuse holder. If an incorrect connection is made after cutting, the receiver may be damaged.

**NEVER** expose the receiver to rain, snow or any liquids. The receiver may be damaged.

**NEVER** operate or touch the receiver with wet hands. This may result in an electric shock or damage the receiver.

**NEVER** place the receiver where normal operation of the vehicle may be hindered or where it could cause bodily injury.

**NEVER** let objects impede the operation of the cooling fan on the rear panel.

**AVOID** using or placing the receiver in direct sunlight or in areas with temperatures below  $-10^{\circ}\text{C}$  ( $+14^{\circ}\text{F}$ ) or above  $+60^{\circ}\text{C}$  ( $+140^{\circ}\text{F}$ ).

**BE CAREFUL!** The receiver will become hot when operating it continuously for long periods.

**AVOID** setting the receiver in a place without adequate ventilation. Heat dissipation may be affected, and the receiver may be damaged.

**AVOID** the use of chemical agents such as benzine or alcohol when cleaning, as they can damage the receiver's surfaces.

*For U.S.A. only*

**CAUTION:** Changes or modifications to this device, not expressly approved by Icom Inc., could void your authority to operate this device under FCC regulations.

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## SUPPLIED ACCESSORIES

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Supplied accessories is described in the IC-PCR1500/2500's Instruction manual.

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## SPECIFICATIONS

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Specifications is described in the IC-PCR1500/2500's Instruction manual.

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## OPTIONS

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### **UT-106\*** DSP UNIT

Provides AF DSP functions such as noise reduction and auto notch.

### **CP-12L** CIGARETTE LIGHTER CABLES

For operation and charging via a 12 V cigarette lighter socket.

### **OPC-254L** DC POWER CABLES

For operation and charging via an external power supply.

### **SP-10** EXTERNAL SPEAKER

For all-round mobile operation. Cable length: 1.5 m; 4.9 ft

### **OPC-1156** SEPARATION CABLE

For extended separate installation. 3.5 m; 11.5 ft

\*: UT-106 installation is described in the IC-PCR1500/2500's Instruction manual.

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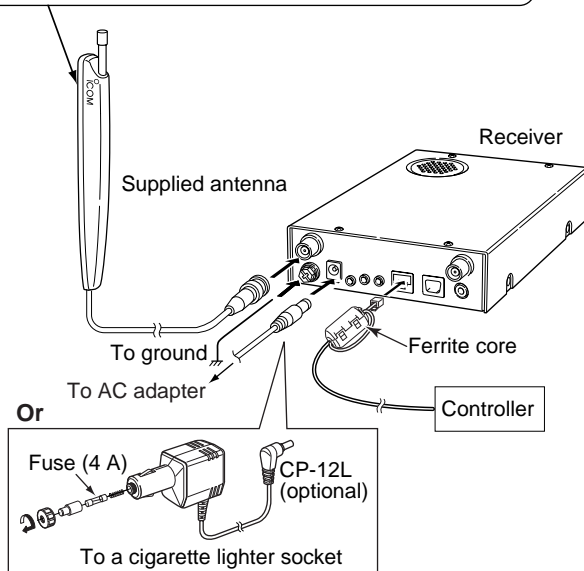
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# 1

## CONNECTION

### ■ Rear panel connection

The double sided tape is set to the antenna holder. Remove the protective paper when the antenna is fixed to any place.

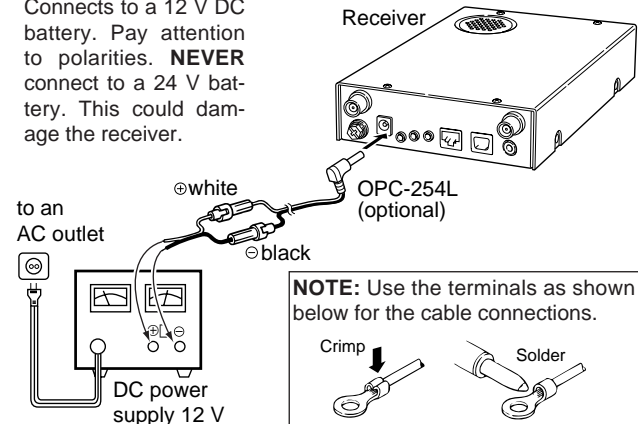


### ◇ DC power supply connection

Use a 12 V DC power supply with at least 4 A capacity. Make sure the ground terminal of the DC power supply is grounded.

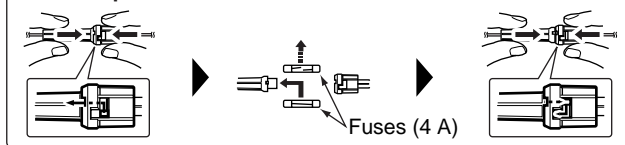
#### • CONNECTING TO A DC POWER SUPPLY

Connects to a 12 V DC battery. Pay attention to polarities. **NEVER** connect to a 24 V battery. This could damage the receiver.



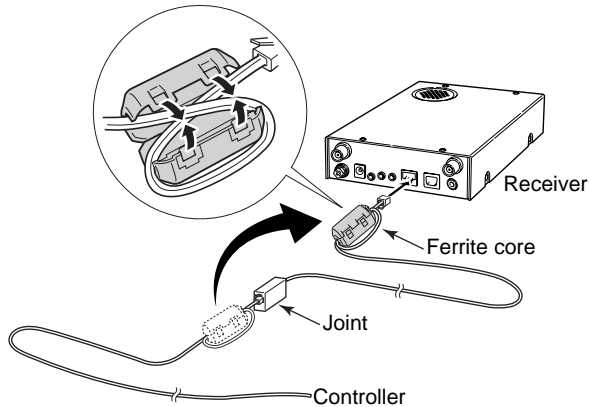
⚠ **CAUTION! NEVER** remove the fuse-holders from the DC power cable.

#### ◇ Fuse replacement



### ◆ OPC-1156 connection

- ① Connect the controller plug to the OPC-1156 joint.
- ② Detach the ferrite core from the controller cable, then attach it to the OPC-1156 as shown below.
  - Make sure to roll the cable to the ferrite core.
- ③ Connect the OPC-1156 plug to the [CONTROLLER] connector of the receiver.

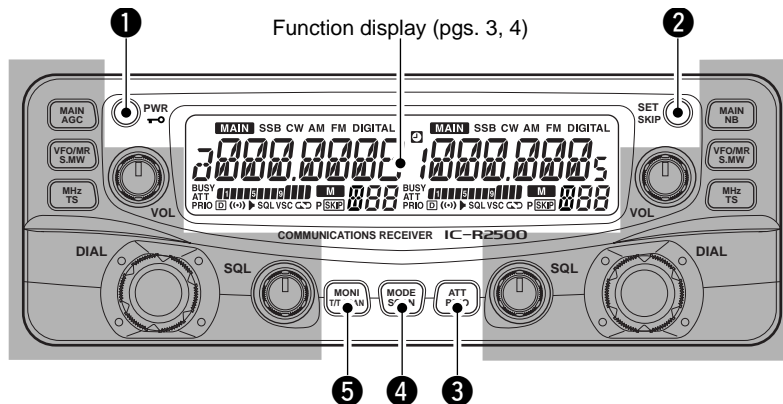


## ■ Antennal installation

### ◆ Antenna location

To obtain maximum performance from the receiver, select a high-quality antenna and mount it in a good location. A non-radial antenna should be used when using a magnetic mount.

## ■ Front panel— controller



\*The keys 2 to 5 are for the MAIN band only.

### 1 POWER KEY [PWR•]

- Turns the controller power ON and OFF when pushed and held for 1 sec.
- Continue to hold this key down for 2 sec. after power ON to turn the lock function ON and OFF. (p. 15)

### 2 SET•SKIP KEY [SET•SKIP]

- Enters set mode when pushed. (p. 56)
- Push and hold for 1 sec. to turn the channel skip setting ON and OFF for memory/VFO skip scan operation. (p. ??)

### 3 MONITOR•TONE•TONE SCAN SWITCH [MONI•T/T-SCAN]

- Push to turn the monitor function ON and OFF. (p. ??)
- Push and hold for 1 sec. to enter the tone function se-

lection mode. (pgs. ??, ??)

- Subaudible tone encoder, pocket beep (CTCSS), tone squelch, pocket beep (DTCS), DTCS squelch or tone function OFF can be selected.
- Push and hold for 1 sec. during tone function selection mode to start the tone scan. (p. ??)

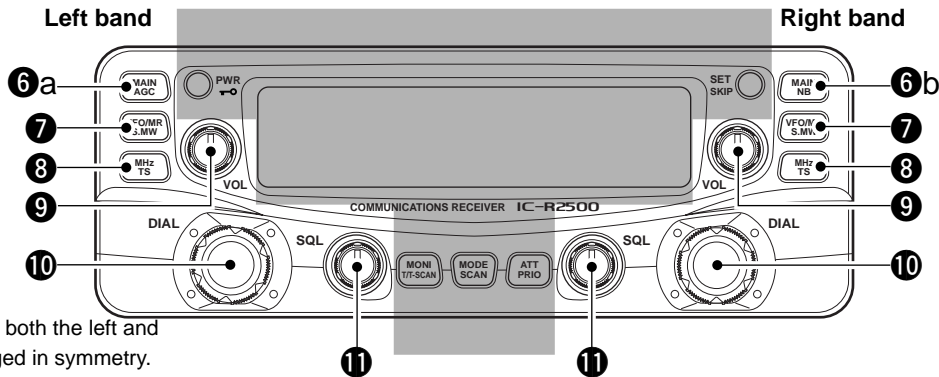
### 4 MODE•SCAN SWITCH [MODE•SCAN]

- Push and hold for 1 sec. to enter the mode selection condition. (p. ??)
- Rotate [DIAL] to select the desired operating mode..
- Starts scan when pushed and held for 1 sec. (p. ??)
- Cancels a scan when pushed during scan.

### 5 ATTENUATOR/PRIORITY SWITCH [ATT•PRIO]

- Push to turn the ATT (Attenuator) function ON and OFF.





\*The same controls for both the left and right bands are arranged in symmetry.

(p. ??)

➔ Starts priority watch when pushed for 1 sec. (p. ??)

**6a MAIN•AGC KEY [MAIN•AGC]**

- ➔ Push to select the main band. (p. 11)
- ➔ Push for 1 sec. to turn the AGC (Automatic Gain Control) function ON and OFF. (p. ??)

**6b MAIN•NB KEY [MAIN•NB]**

- ➔ Push to select the main band. (p. 11)
- ➔ Push for 1 sec. to turn the NB (Noise Blanker) function ON and OFF. (p. ??)

**7 VFO/MEMORY•MEMORY WRITE KEY [VFO/MR•S.MW]**

- ➔ Push to select and toggle VFO, memory and weather channel\* modes. (pgs. 12, 29, 38, 65)
- \*Weather channels available for USA versions only.
- ➔ Selects a memory channel for programming when pushed for 1 sec. (pgs. 30, 39, 42)

**8 MHz TUNING•TUNING STEP [MHz•TS]**

- ➔ Selects band selection, 1 MHz or 10 MHz tuning when pushed. ((p. 9))
- ➔ Push and hold for 1 sec. to enter the tuning step selection mode. (p. ??)
  - Rotate [DIAL] to select the desired tuning step.

**9 VOLUME CONTROL [VOL] (p. 16)**

Adjusts the audio level for relative band.

**10 TUNING DIAL [DIAL]**

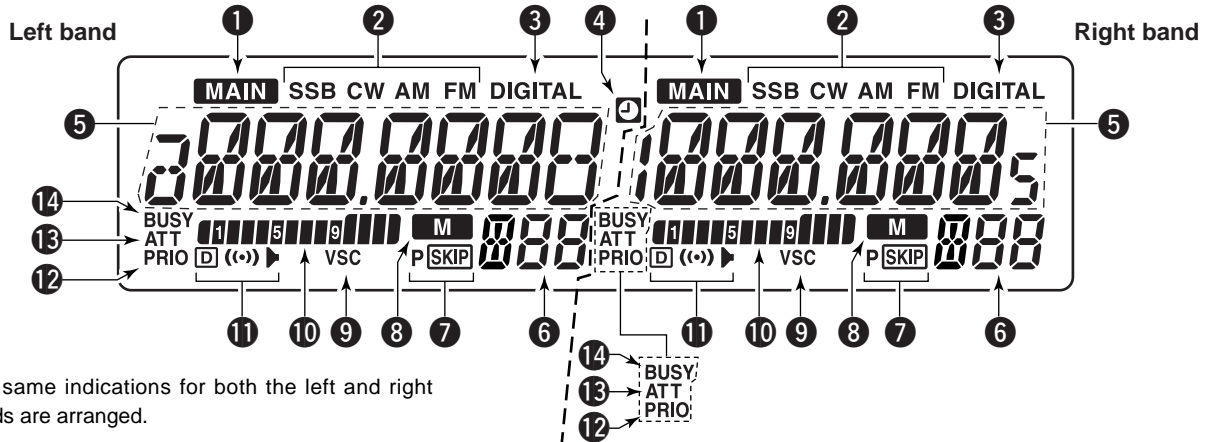
Selects the operating frequency (p. 13), memory channel (p. 29), the setting of the set mode item and the scanning direction (p. 41) for the relative band.

**11 SQUELCH CONTROL [SQL]**

Varies the squelch level for relative band. (p. 16)

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### ■ Function display



\*The same indications for both the left and right bands are arranged.

#### 1 MAIN INDICATOR (p. 11)

Indicate the main band for transmit and function control.

#### 2 RECEIVE MODE INDICATORS FOR ANALOG

Shows the selected receive mode.

- SSB (LSB/USB), CW, AM and FM (FM/WFM) are available.

#### 3 RECEIVE MODE INDICATOR FOR DIGITAL

Appears while the digital mode is selected..

- DiGITAL mode is available depends on versions.

#### 4 AUTO POWER-OFF INDICATOR ((p. 36))

Appears while the auto power OFF function is in use.

#### 6 FREQUENCY READOUT

Shows the operating frequency, channel names, set mode contents, etc.

- Frequency decimal point blinks while scanning. ((p. 26))

#### 7 MEMORY CHANNEL NUMBER INDICATORS

➤ Shows the selected memory channel number. ((p. 16))

➤ Shows the selected bank initial. ((p. 23))

➤ “L” appears when the lock function is activated. ((p. 11))

**8 SKIP INDICATORS** ((p. 28))

- “**SKIP**” appears when the displayed memory channel is specified as a skip channel.
- “**P**SKIP” appears when the displayed frequency is specified as a program skip frequency.

**8 MEMORY INDICATOR** (pgs. 12, 29)

Appears when memory mode is selected.

**9 VSC INDICATOR** ((p. 13))

Appears when the VSC function is in use.

**10 S-METER INDICATORS**

Shows the relative signal strength while receiving signals. ((p. 11))

**11 TONE INDICATORS**

- While FM mode operation:
  - “▶” appears while the tone squelch function is in use. ((p. 16))
  - “**□**” appears while the DTCS squelch function is in use. ((p. 16))
- While DV (Digital) mode operation:
  - “▶” appears while the digital call sign squelch function is in use. ((p. 16))
  - “**□**” appears while the digital code squelch function is in use. ((p. 16))
- “(·)” appears with the “▶” or “**□**” indicator while the pocket beep function is in use.

**12 PRIORITY INDICATOR** ((p. 30))

Appears while the priority watch is activated; blinks while the watch is paused.

**13 ATT INDICATOR** ((p. 12))

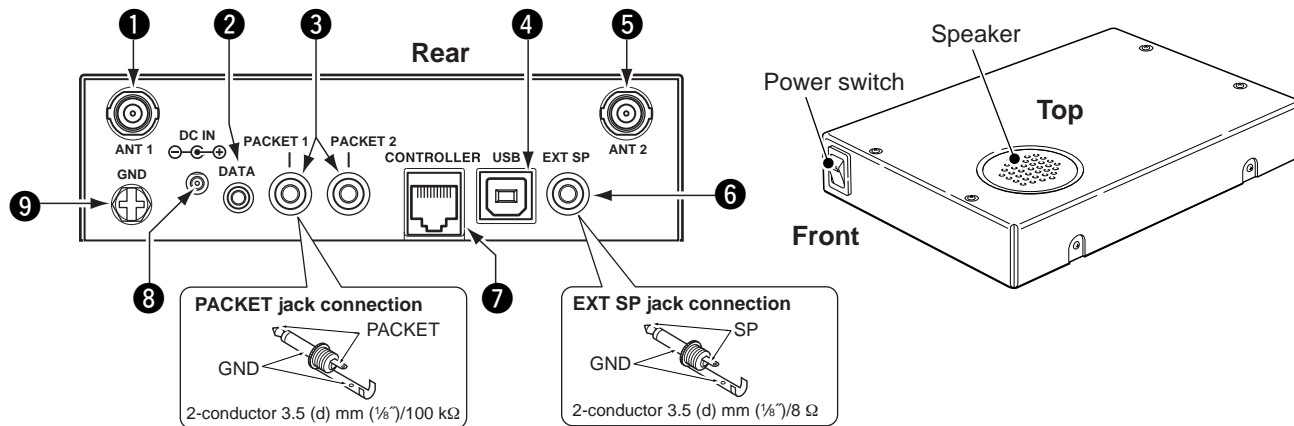
Appears when the ATT function is in use.

**14 BUSY INDICATOR**

- Appears when a signal is being received or the squelch is open. ((p. 11))
- Blinks while the monitor function is in use. ((p. 11))

## 2 PANEL DESCRIPTION

### ■ Rear panel—main unit

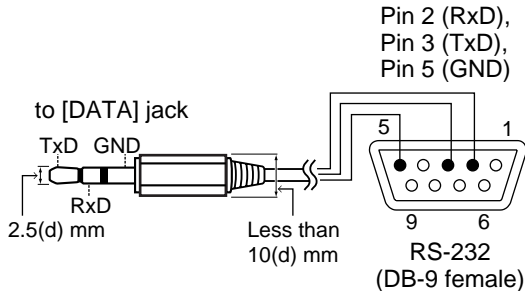


**1 ANTENNA CONNECTOR1 [ANT1]**

Connects a 50 Ω antenna with a BNC connector and a 50 Ω coaxial cable.

**2 DATA JACK [DATA]**

Connect to a PC or GPS receiver via the RS-232 cable (D-sub 9 pin) for data communication in the RS-232 format.



**3 PACKET JACKS [PACKET1/2]**

Connect a TNC (Terminal Node Controller), etc. for data communications. The receiver can receive 9600 bps packet communication (AFSK).

**4 USB CONNECTOR [USB]**

Connects to a PC via the supplied USB cable.

**5 ANTENNA CONNECTOR2 [ANT2]**

Connects a 50 Ω antenna with a BNC connector and a 50 Ω coaxial cable.

**6 EXTERNAL SPEAKER JACK [EXT SP]**

Connects an 8 Ω external speaker.  
• Audio output power is more than 0.5 W.

**7 CONTROLLER [CONTROLLER]**

Connects to a controller via an extension cable.

**8 POWER JACK [DC IN]**

Accepts 12 V DC ±15% with the supplied DC power cable.

**9 GROUND TERMINAL [GND]**

Connect this terminal to a ground.

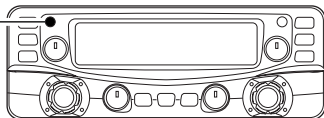
# 3

## SETTING A FREQUENCY

### ■ Preparation

#### ◇ Turning power ON/OFF

Push [PWR] for 1 sec.

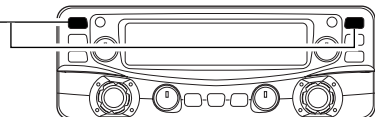


➔ Push [PWR•↔] for 1 sec. to turn power ON and OFF.

#### ◇ MAIN band

The IC-R2500 can receive 144 MHz and 430(440) MHz band signals simultaneously.

Push the desired band's [MAIN]



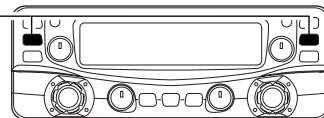
➔ Push the desired band's [MAIN•AGC] to select the main band.

- “[MAIN]” indicates the main band.

#### ◇ VFO and memory modes

The receiver has 2 basic operating modes: VFO mode and memory mode. Select VFO mode first to set an operating frequency.

[VFO/MR•S.MW]



[M] indicator appears when memory mode is selected

➔ Push the desired band's [VFO/MR•S.MW] to select VFO mode.

➔ Push [VFO/MR•S.MW] again to select memory mode.

- “[M]” indicator appears when memory mode is selected.

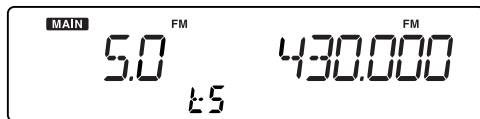
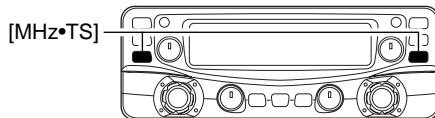
## ■ Tuning step selection

When using the tuning dial to change the frequency, or when a scan function is activated, the frequency changes in increments determined by the set tuning step. This can be changed if desired.

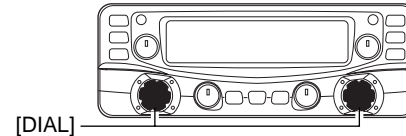
The following tuning step are available.

- 0.01 kHz (10 Hz)
- 0.02 kHz (20 Hz)
- 0.05 kHz (50 Hz)
- 0.1 kHz (100 Hz)
- 0.5 kHz (500 Hz)
- 1 kHz
- 2.5 kHz
- 5 kHz
- 6.25 kHz
- 8.33 kHz
- 9 kHz
- 10 kHz
- 12.5 kHz
- 15 kHz
- 20 kHz
- 25 kHz
- 30 kHz
- 50 kHz
- 100 kHz
- 125 kHz
- 150 kHz
- 200 kHz
- 500 kHz
- 1000 kHz (1 MHz)

- ① Push the desired band's **[MAIN]** to select the main band.
  - Push the same band's **[VFO/MR•S.MW]** to select VFO mode, if necessary.
- ② Push and hold **[MHz•TS]** for 1 sec. to enter tuning step select mode.



- ③ Rotate the same band's **[DIAL]** to select the desired tuning step.

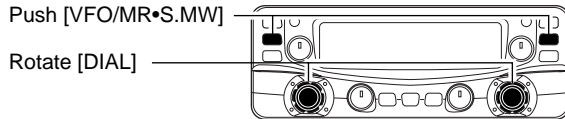


- ④ Push **[MHz•TS]** to exit set mode.
  - Or push the same band's any other keys or common keys (below the display) to exit tuning step select mode.

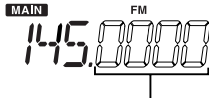
### 3 SETTING A FREQUENCY

#### ■ Using the tuning dial

- ① Rotate the desired band's **[DIAL]** to set the frequency.
  - If VFO mode is not selected, push the same band's **[VFO/MR•S.MW]** to select VFO mode.
  - The frequency changes in the selected tuning steps. (p. 14)



- ② To change the frequency band or in 1 MHz (10 MHz) steps, push **[MHz•TS]**, then rotate the band's **[DIAL]**.



While the band selection mode is selected, the digits below 100 kHz disappear.



While 1 MHz tuning step is selected, the 1 MHz digit blinks.

While 10 MHz tuning step is selected, the 10 MHz digit blinks.

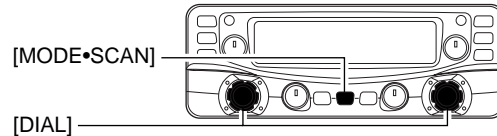
- ③ Push **[MHz•TS]** to exit tuning step select mode.

#### ■ Receive mode selection

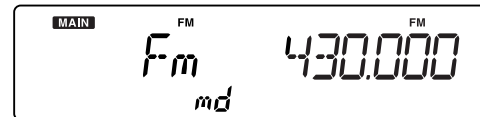
Receive modes are determined by the physical properties of the radio signals. The receiver has 7 receive modes: LSB, USB, CW, AM, WFM, FM and digital modes. The mode selection is stored independently in each memory channels.

Typically, AM mode is used for the AM broadcast stations (0.495–1.620 MHz) and air band (118–135.995 MHz), and WFM is used for FM broadcast stations (76–107.9 MHz).

- ① Push **[MODE•SCAN]** to enter *receive mode select mode*.



- ② Rotate **[DIAL]** to select the desired mode.



- ③ Push any switch to exit *receive mode select mode*.



## ■ Receiving

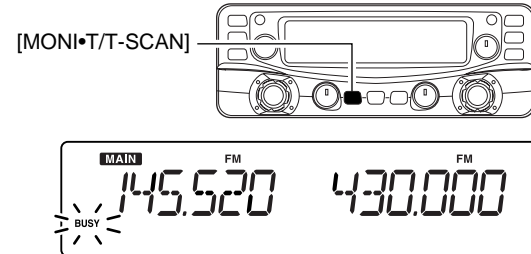
- ① Set the audio level for the main band.
  - ➔ Push the desired band's **[MAIN]**.
  - ➔ Push **[MONI•T/T-SCAN]** to open the squelch.
  - ➔ Rotate the main band's **[VOL]** to adjust the audio level.
  - ➔ Push **[MONI•T/T-SCAN]** to close the squelch.
- ② Set the squelch level.
  - ➔ Rotate the main band's **[SQL]** fully counterclockwise in advance, then rotate **[SQL]** clockwise until the noise just disappears.
- ③ Set the operating frequency in the main band. (pgs. 11–13)
  - When interference is received, push **[ATT•PRIO]** to turn the attenuator function ON. (p. 17)
- ④ When receiving a signal on the set frequency, squelch opens and the receiver emits audio.
  - “BUSY” appears and the S-meter shows the relative signal strength for the received signal.



Appears when receiving a signal.

## ■ Monitor function

This function is used to listen to weak signals without disturbing the squelch setting or to open the squelch manually even when mute functions such as the tone squelch are in use.



- ➔ Push **[MONI•T/T-SCAN]** for 1 sec. to open the squelch.
  - Push **[MAIN]** to select the desired band (left or right) as the main band in advance.
  - “BUSY” blinks.
  - Push **[MONI•T/T-SCAN]** again to cancel the function.

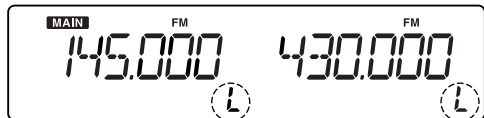
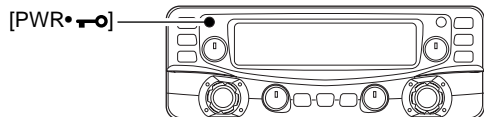
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## 4 BASIC OPERATION

### ■ Lock functions

To prevent accidental frequency changes and unnecessary function access, use the lock function.

- Continue to hold **[SET•↔]** down for 2 sec. after power ON to turn the lock function ON and OFF.
- **[MONI•T/T-SCAN]** (monitor function only), **[VOL]**, **[SQL]**, **[MAIN•AGC]** (main band selection only) and **[MAIN•NB]** (main band selection only) can be used while the channel lock function is in use.

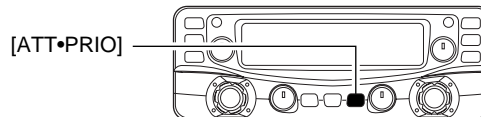


2 "L"s appear while the lock function is activated.

### ■ Attenuator function

The attenuator prevents a desired signal from distorting when very strong signals are near the desired frequency or when very strong electric fields, such as from a broadcasting station, are near your location. The attenuator gain is about 20 dB and this function can be activated on 1300 MHz or below.

- Push **[ATT•PRIO]** momentarily to toggle the attenuator function ON and OFF.
- "ATT" appears when the attenuator function is in use.

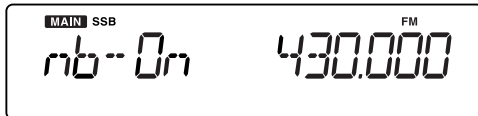
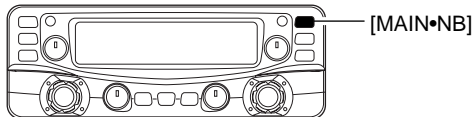


Appears

## ■ NB function

The NB (noise blanker) function removes pulse-type noise when SSB, CW or AM mode is selected.

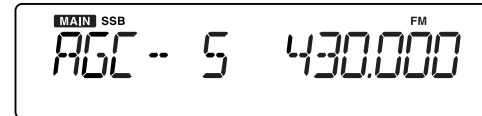
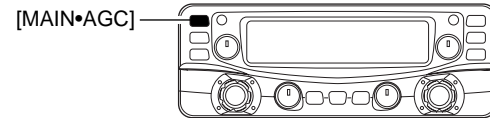
- ➔ Push and hold **[MAIN•NB]** for 1 sec. to toggle the NB function ON and OFF.
  - “nb-On” or “nb-OFF” appears for a moment when the NB function is turned ON or OFF, respectively.



## ■ AGC function

The AGC (Automatic Gain Control) function controls receiver gain to produce a constant audio output level even when the received signal strength is varied by fading, etc. This AGC slow function is selectable for SSB, CW or AM mode.

- ➔ Push and hold **[MAIN•AGC]** for 1 sec. to toggle the AGC function Slow and Fast.
  - “AGC-S” or “AGC-F” appears for a moment when the AGC function is selected Slow or Fast, respectively.



- ▨ While in FM or WFM mode, the AGC function is fixed as Fast and AGC Slow cannot be selected.

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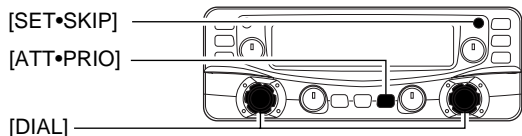
## 4 BASIC OPERATION

### ■ AFC function

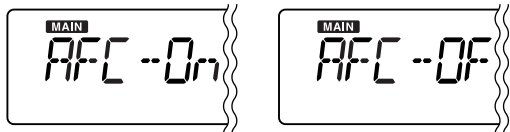
USING SET MODE

The AFC (Automatic Frequency Control) function tunes the displayed frequency automatically when an off-center frequency is received. It activates in FM mode and only when the selected IF filter is 6 kHz or 15 kHz.

- ① Select FM mode.
- ② Push **[SET•SKIP]** to enter set mode.
- ③ Push **[SET•SKIP]** or **[ATT•PRIO]** several times until "AFC" appears.



- ④ Rotate **[DIAL]** to toggle the AFC function ON and OFF.



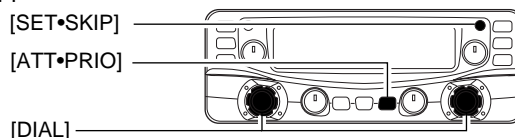
- ⑤ Push any switch for main band to exit set mode.

### ■ VSC function

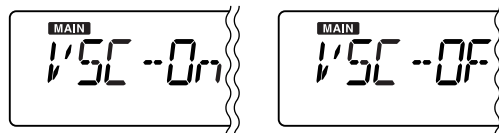
USING SET MODE

The VSC (Voice Squelch Control) function opens the squelch only when receiving a modulated signal. This function is very useful while scanning, the VSC pauses only when modulated signals are received. Scanning continues when unmodulated or beat signals are received.

- ① Push **[SET•SKIP]** to enter set mode.
- ② Push **[SET•SKIP]** or **[ATT•PRIO]** several times until "VSC" appears.



- ③ Rotate **[DIAL]** to toggle the VSC function ON and OFF.



- ④ Push any switch for main band to exit set mode.

## IF filter selection

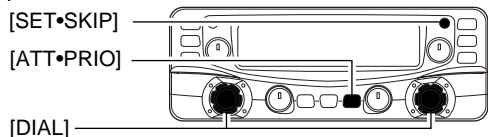
USING SET MODE

The receiver has 2 to 4 passband width IF filters for each mode. Selectable passband width are from 3, 6, 15, 50 and 230 (depending on the selected mode).

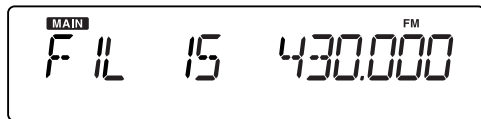
### • Selectable passband width for each mode.

- SSB mode : 3 (2.8 kHz) or 6 kHz
- CW mode : 3 (2.8 kHz) or 6 kHz
- AM mode : 3 (2.8 kHz), 6 kHz, 15 kHz or 50 kHz
- WFM mode: 50 kHz or 230 kHz
- FM mode : 6 kHz, 15 kHz or 50 kHz

- ① Push **[SET•SKIP]** to enter set mode.
- ② Push **[SET•SKIP]** or **[ATT•PRIO]** several times until "VSC" appears.



- ③ Rotate **[DIAL]** to select the desired IF passband width.



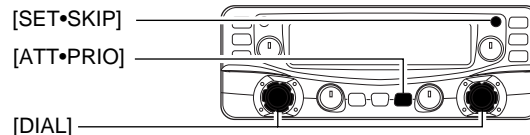
- ④ Push any switch for main band to exit set mode.

## IF shift function

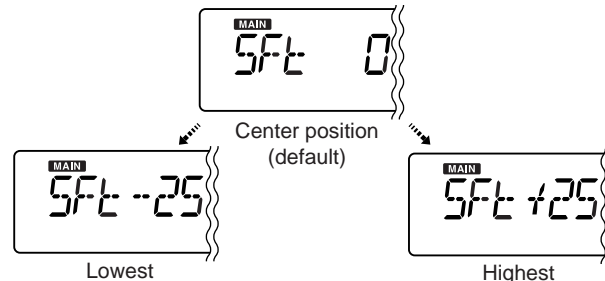
USING SET MODE

The IF shift function electronically changes the passband frequency of the IF (Intermediate frequency) and cuts out higher or lower frequency components of the IF to reject interference. This function is available when the receive mode is selected SSB or CW mode, and shifts the IF frequency up to  $\pm 25$  steps in 1 step (50 Hz).

- ① Push **[SET•SKIP]** to enter set mode.
- ② Push **[SET•SKIP]** or **[ATT•PRIO]** several times until "SfT" appears.



- ③ Rotate **[DIAL]** to set the shifting direction and frequency range.



- ④ Push any switch for main band to exit set mode.

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## 4 BASIC OPERATION

### ■ Duplex operation

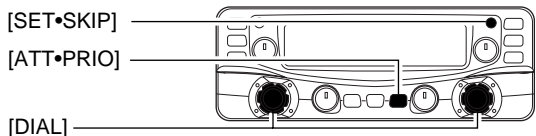
Duplex communication uses two different frequencies for transmitting and receiving. Generally, duplex is used in communication through a repeater, some utility communications, etc.

During duplex operation, the transmit station frequency is shifted from the receive station frequency by the offset frequency. Repeater information (offset frequency and shift direction) can be programmed into memory channels. ((p. 16))

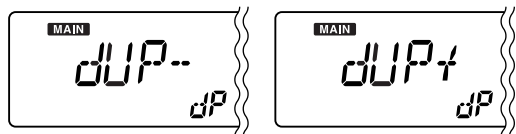
#### ◆ Setting

USING SET MODE

- ① Push **[SET•SKIP]** to enter *set mode*.
- ② Push **[SET•SKIP]** or **[ATT•PRIO]** several times until the duplex direction setting item “OFF dP,” “DUP- dP” or “DUP+ dP” appears.



- ③ Rotate **[DIAL]** to select the duplex direction, “DUP- dP” or “DUP+ dP.”



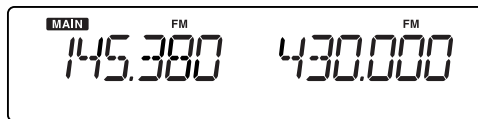
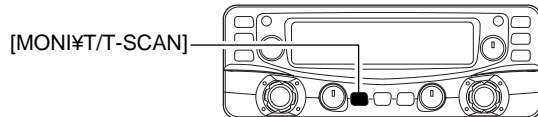
- ④ Push **[SET•SKIP]** once to select the offset frequency setting item.
- ⑤ Rotate **[DIAL]** to set the desired offset frequency within 0.000–1000.000 MHz range.
  - The tuning step, selected in *VFO mode*, is used for setting.
  - Push **[MHz•TS]** then rotate **[DIAL]** to change the frequency in 10 MHz steps, or push again then rotate **[DIAL]** to change the frequency in 1 MHz steps. (Each push toggles 1 MHz, 10 MHz or selected tuning steps.)



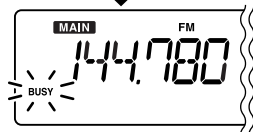
- ⑥ Push any switch for main band to exit set mode.

**◇ Operation**

- ① Set the receive station frequency (repeater output frequency).
- ② Push **[MONI•T/T-SCAN]** to monitor the transmit station frequency (repeater input frequency) directly.



↓ Frequency shifts  
the offset frequency



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## ■ General description

The receiver has 1100 memory channels including 100 scan edge memory channels (50 pairs) for storage of often-used frequencies. And a total of 21 memory banks, A to H, J to R, T, U, W and Y are available for storing groups of frequencies, etc. Up to 100 channels can be assigned into a bank.

### ◇ Memory channel contents

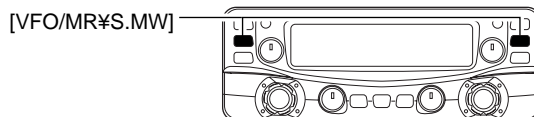
The following information can be programmed into memory channels:

- Operating frequency ((p. 9))
- Receive mode ((p. 10))
- Duplex direction (DUP+ or DUP-) with an offset frequency ((p. 15))
- Tone squelch or DTCS squelch ON/OFF ((p. 33))
- Tone squelch frequency or DTCS code with polarity ((p. 38))
- Scan skip information ((p. 28))

## ■ Memory channel selection

- ① Push the desired band's **[VFO/MR•S.MW]** once or twice to select memory mode.

- "M" indicator appears.



"M" indicator appears when memory mode is selected

- ② Rotate the same band's **[DIAL]** to select the desired memory channel.
  - Programmed memory channels only can be selected.

If memory banks or weather channels\* mode appears when pushed **[VFO/MR•S.MW]** at step ①, push **[MHz•TS]** and rotate **[DIAL]** to select "bAnk --," then push any switches for main band or common switches to exit from settings.

\*Available for USA/CANADA versions only.



## ■ Programming a memory channel

VFO settings, including the set mode contents such as sub-audible tone frequency, offset, scan skip information can be programmed into a memory channel.

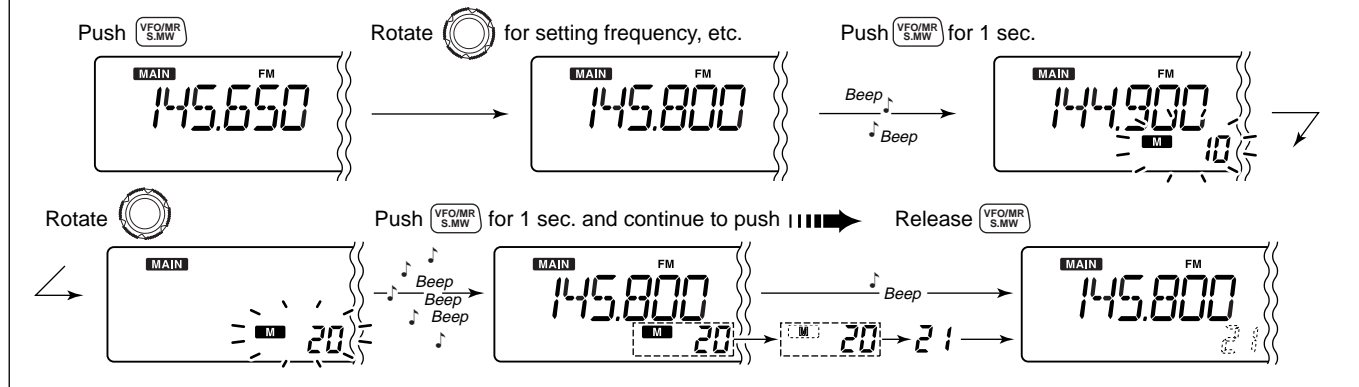
- ① Set the desired frequency in the desired band (left or right).
  - ➔ Push the desired band's [VFO/MR•S.MW] once or twice to select VFO mode.
  - ➔ Set the frequency using the same band's [DIAL].
  - ➔ Set other data (e.g. tone frequency, duplex information, etc.) if required.
- ② Push and hold the same band's [VFO/MR•S.MW] for 1 sec. to enter select memory write mode.
  - "M" indicator and the memory channel number blink.

- ③ Rotate [DIAL] to select the memory channel to be programmed.
  - Memory channels not yet programmed are blank.
- ④ Push and hold [VFO/MR•S.MW] for 1 sec. to program.
  - 3 beeps sound
  - Memory channel number automatically increases when continuing to push [VFO/MR•S.MW] after programming.

### ✓ CONVENIENT

Memory programming can be performed in versatile ways e.g. memory channel to the same (or different) memory channel, etc.

[EXAMPLE]: Programming 145.800 MHz into memory channel 20 (blank channel).



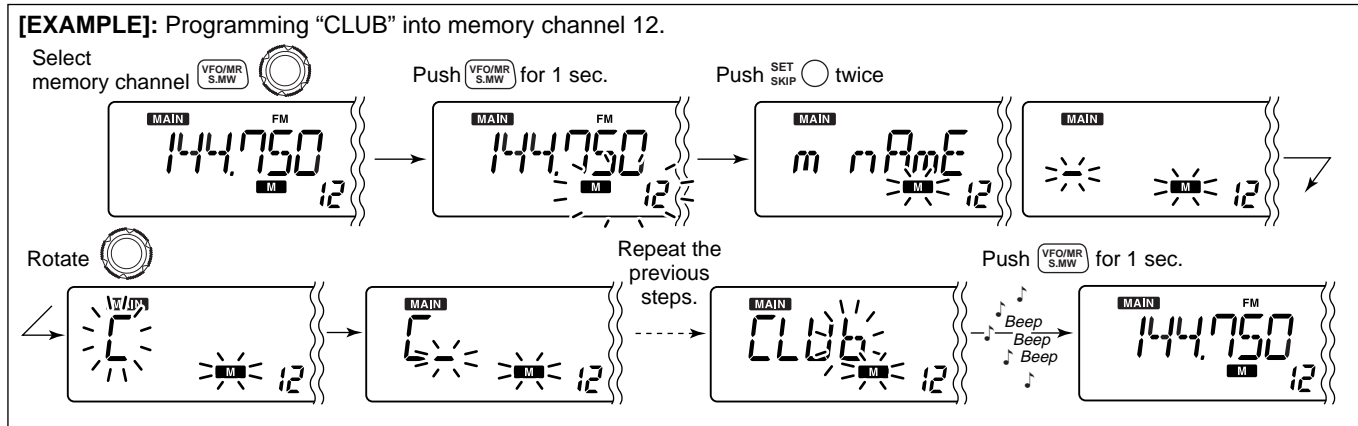
## 5 MEMORY OPERATION

### ■ Programming channel names

Each memory channel can be programmed with an alphanumeric channel name for easy recognition and can be indicated independently by channel. Names can be a maximum of 6 characters— see the table on next page for available characters.

- ① Select the desired memory channel to be programmed.
  - ➔ Push **[VFO/MR•S.MW]** to select *memory mode*, then rotate **[DIAL]** to select the desired memory channel.
- ② Push and hold **[VFO/MR•S.MW]** for 1 sec. to enter *select memory write mode*.
  - “**M**” indicator and the memory channel number blink.

- ③ Push **[SET•SKIP]** several times to select the memory name programming condition, “m nAmE.”
  - Frequency readouts disappear and a cursor blinks.
- ④ Rotate **[DIAL]** to select the desired character.
  - The selected character blinks.
- ⑤ Push **[ATT•PRIO]** to move the cursor to the right.
  - Repeat pushing **[ATT•PRIO]** to return to the first digit.
- ⑥ Repeat steps ④ and ⑤ until the desired channel names are displayed.
- ⑦ Push and hold **[VFO/MR•S.MW]** for 1 sec. to program the name and exit *select memory write mode*.



• Available characters

(space)	A(A)	b(B)	C(C)	d(D)	E(E)	F(F)	G(G)	H(H)
I(I)	J(J)	k(K)	L(L)	m(M)	n(N)	O(O)	P(P)	Q(Q)
R(R)	S(S)	t(T)	U(U)	v(V)	W(W)	X(X)	Y(Y)	Z(Z)
0(0)	1(1)	2(2)	3(3)	4(4)	5(5)	6(6)	7(7)	8(8)
9(9)	+(+)	-(-)	'(/)	=(=)				

◇ To indicate the channel name

using SET MODE

The channel name indication can be set for independent memory channels.

- ① Select the desired memory channel in the main band.
  - ➔ Push [VFO/MR•S.MW] once or twice to select *memory mode*, then rotate [DIAL] to select the desired memory channel.
    - “M” and memory channel number appear.
- ② Push [SET•SKIP] to enter *set mode*.
- ③ Push [SET•SKIP] or [ATT•PRIO] several times to select “Anm” item.
- ④ Rotate [DIAL] to turn the memory name indication ON.



- ⑤ Push any switch for main band to exit *set mode*.

/// **NOTE:** When no memory name is programmed, the stored frequency is displayed.

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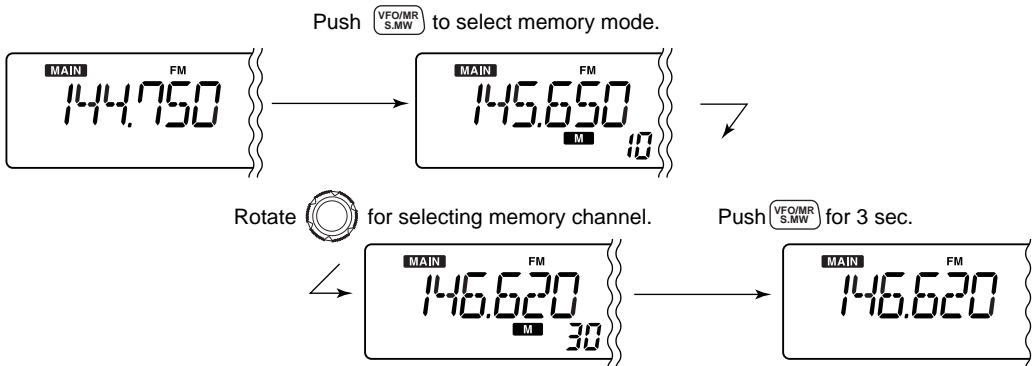
## ■ Copying memory contents

This function transfers a memory channel's contents to VFO (or another memory channel). This is useful when searching for signals around a memory channel frequency and for recalling the subaudible tone frequency etc.

### ◇ Memory ↔ VFO

- ① Select the desired band's (left or right) memory channel to be transferred.
  - ➔ Push the desired band's **[VFO/MR•S.MW]** several times to select *memory mode*, then rotate the same band's **[DIAL]** to select the desired memory channel.
    - “**M**” and memory channel number appear.
- ② Push and hold **[VFO/MR•S.MW]** for 3 sec. to transfer the selected memory channel contents to *VFO mode*.
  - *VFO mode* is selected automatically.

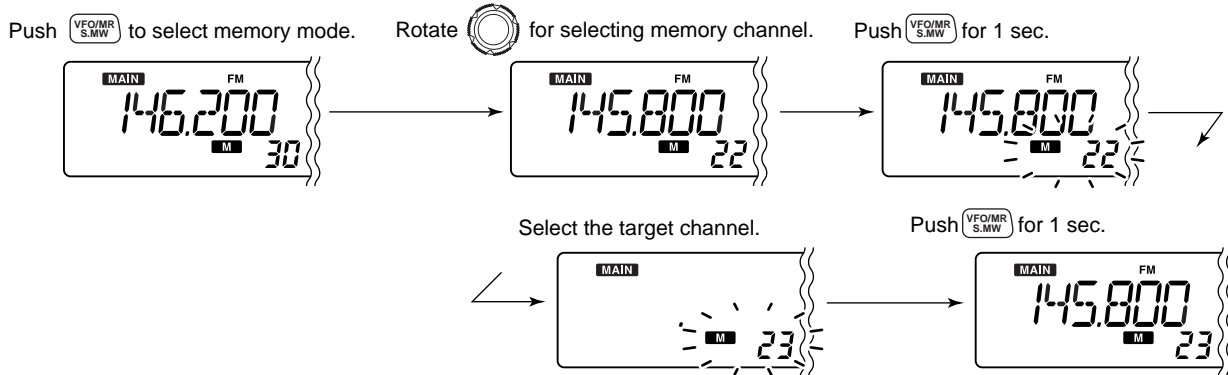
**[EXAMPLE]:** Transferring memory channel 30 contents to VFO.



◇ **Memory⇄memory**

- ① Select the desired band's (left or right) memory channel to be transferred.
  - ➔ Push the desired band's [VFO/MR•S.MW] several times to select *memory mode*, then rotate the same band's [DIAL] to select the desired memory channel.
    - “M” and memory channel number appear.
- ② Push and hold the same band's [VFO/MR•S.MW] for 1 sec. to enter *select memory write mode*.
  - “M” and memory channel number blink.
- ③ Rotate [DIAL] to select the target memory channel.
  - Scan edge channels, 0A/0B to 49A/49B can also be selected.
- ④ Push and hold [VFO/MR•S.MW] for 1 sec. to transfer the selected memory channel contents to the target memory.
  - The targeted memory and transferred contents are indicated.

**[EXAMPLE]:** Transferring memory channel 22 contents to channel 23.



## 5 MEMORY OPERATION

### ■ Memory clearing

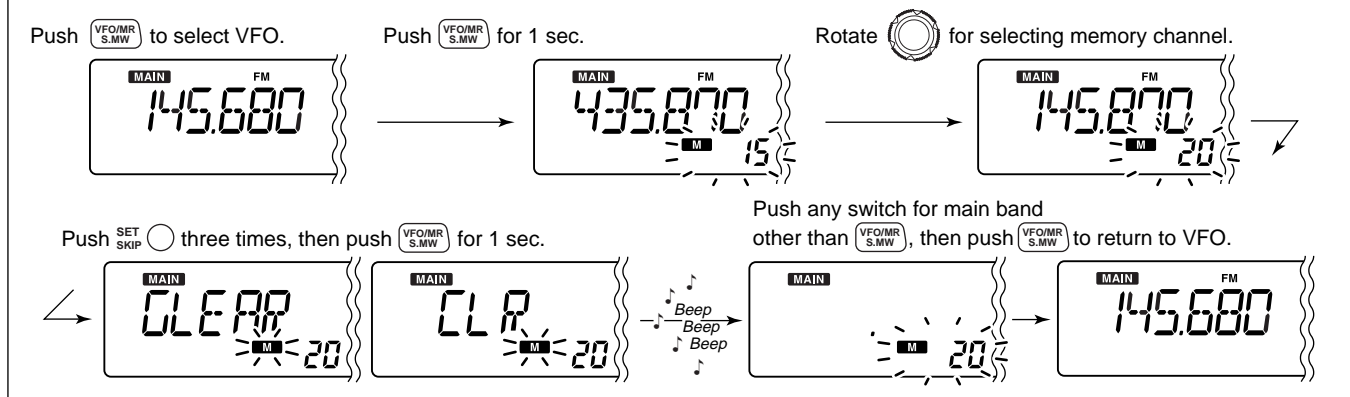
Contents of programmed memories can be cleared (blanked), if desired.

- 1 Push **[VFO/MR•S.MW]** to select VFO mode in the main band.
- 2 Push the same band's **[VFO/MR•S.MW]** for 1 sec. to enter *select memory write mode*.
  - “**M**” indicator and the memory channel number blink.
- 3 Rotate the same band's **[DIAL]** to select the memory channel to be cleared.
  - Memory channels not yet programmed are blank.

- 4 Push **[SET•SKIP]** three times to select “CLEAR,” then push and hold **[VFO/MR•S.MW]** for 1 sec.
  - 3 beeps sound.
  - The cleared channel changes to blank channel
  - “**M**” and the memory channel number blink continuously.
- 5 Push the same band's **[MAIN]** or **[MHz•TS]** to exit *select memory write mode*, or repeat steps ③ and ④ to clear other channel.
- 6 Push the same band's **[VFO/MR•S.MW]** to return to *VFO mode*.

ⓘ **NOTE:** Be careful!— the contents of cleared memories **CANNOT** be recalled.

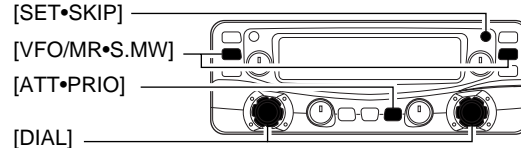
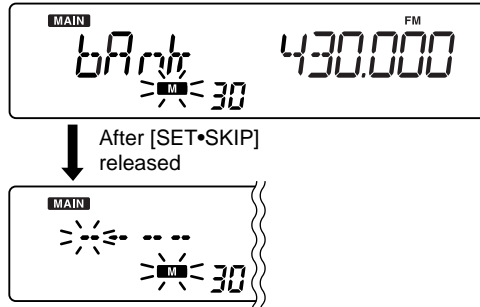
[EXAMPLE]: Clearing memory channel 20.



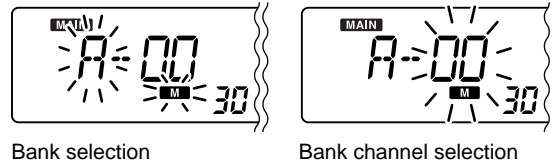
## Memory bank setting

The IC-R2500 has a total of 21 banks (A to H, J to R, T, U, W, Y). Regular memory channels, 0 to 999, may assigned into the desired bank for easy memory management.

- ① Select the desired memory channel.
  - ➔ Push **[VFO/MR•S.MW]** to select *memory mode* in the main band, then rotate the same band's **[DIAL]** to select the desired memory channel.
    - “**M**” and memory channel number appear.
- ② Push and hold the same band's **[VFO/MR•S.MW]** for 1 sec. to enter *select memory write mode*.
  - “**M**” indicator and the memory channel number blink.
- ③ Push **[SET•SKIP]** once to select “bAnk.”



- ④ Rotate **[DIAL]** to select the desired bank and bank channel.
  - Push **[ATT•PRIO]** to toggle the bank or bank channel selection.
  - Banks A to H, J to R, T, U, W and Y are available.
  - Vacant bank channel numbers are only be displayed.

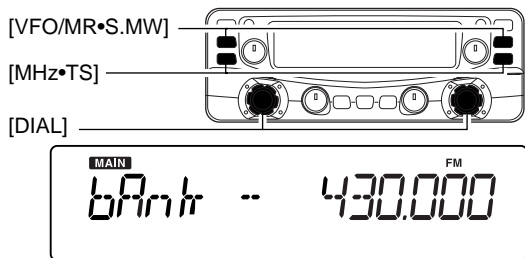


- ⑤ Push and hold **[VFO/MR•S.MW]** for 1 sec. to program the bank and exit *select memory write mode*.

## 5 MEMORY OPERATION

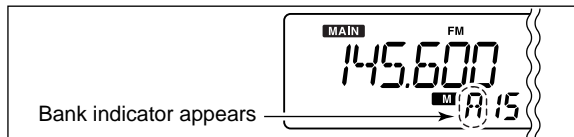
### ■ Memory bank selection

- ① Push **[VFO/MR•S.MW]** to select *memory mode* in the desired band (left or right).
- ② Push **[MHz•TS]** to enter *memory type selection mode*.



- ③ Rotate **[DIAL]** to select the desired bank (A to H, J to R, T, U, W or Y).
  - Only programmed banks are displayed.
- ④ Push any switch for main band or common switch to set the bank indication.
  - Bank's indicator appears at top of the memory channel.
- ⑤ Rotate **[DIAL]** to select the contents in the bank.
- ⑥ To return to regular *memory mode*, repeat steps ②–④ and select "bAnk --" at step ③.

#### • Memory bank indication

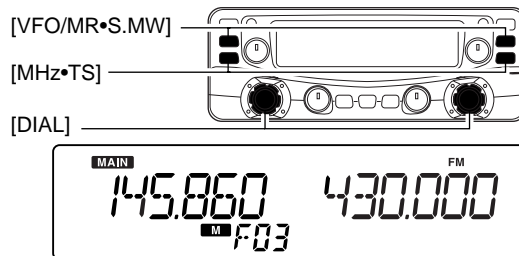


### ■ Transferring bank contents

The bank contents of programmed memory channels can be cleared or transferred to another bank.

**/// INFORMATION:** Even if the memory bank contents are cleared, the memory channel contents still remain programmed.

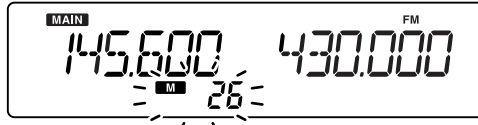
- ① Select the desired bank contents to be transferred or erased from the bank in the main band.
  - Push the main band's **[VFO/MR•S.MW]** several times to select *memory mode*.
  - Push the same band's **[MHz•TS]** then rotate the same band's **[DIAL]** to select the desired memory bank.
    - Bank's indicator appears at top of the memory channel.
  - Push any switch for main band or common switch to select the bank then rotate **[DIAL]** to select the desired contents.





- ② Push **[VFO/MR•S.MW]** for 1 sec. to enter *select memory write mode*.

- “**M**” indicator and the memory channel number blink.

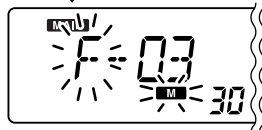


Memory channel blinks

- ③ Push **[SET•SKIP]** once to select “bAnk.”

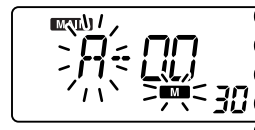


↓ After **[SET•SKIP]**  
released

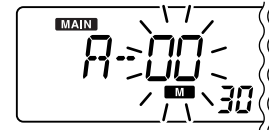


- ④ Rotate **[DIAL]** to select the desired bank indicator to transfer or erase.

- Push **[ATT•PRIO]** to toggle the bank or bank channel selection.
- Select “—” indication when erasing the contents from the bank.
- Vacant bank channel numbers are only be displayed.



Bank selection



Bank channel selection

- ⑤ Push and hold **[VFO/MR•S.MW]** for 1 sec. to program the bank and return to regular *memory mode*.
- ⑥ Repeat steps ① to ⑤ for transferring or erasing an another banks contents.

# 6

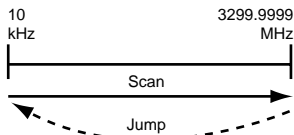
## SCAN OPERATION

### ■ Scan types

Scanning searches for signals automatically and makes it easier to locate new stations for contact or listening purposes.

There are 5 scan types and 4 resume conditions to suit your operating needs.

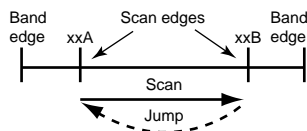
#### FULL SCAN ((p. 26))



Repeatedly scans all frequencies over the entire band.

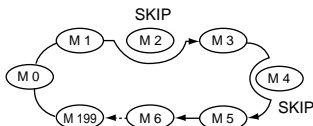
Some frequency ranges are not scanned according to the frequency coverage of the receiver's version.

#### PROGRAMMED SCAN ((p. 26))



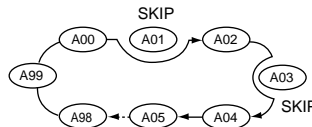
Repeatedly scans between two user-programmed frequencies. Used for checking for frequencies within a specified range such as repeater output frequencies, etc.

#### MEMORY (SKIP) SCAN ((p. 26))



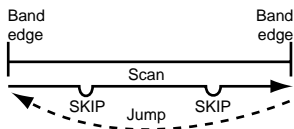
Repeatedly scans memory channels except those set as skip channel. Skip channels can be turned ON and OFF by pushing and holding **[SET•SKIP]** in *memory mode*.

#### ALL/SELECTED BANK SCAN ((p. 26))



Repeatedly scans all bank channels or selected bank channels. The skip scan is also available.

#### FREQUENCY/MEMORY SKIP FUNCTION ((p. 28))



Skips unwanted frequencies or channels that inconveniently stop scanning. This function can be turned ON and OFF by pushing and holding **[SET•SKIP]** in *memory mode*.

## ■ Scan start/stop

### ◇ Preparation

Scan resume condition ((p. 29)); program the scan edges ((p. 27)); program two or more memory channels ((p. 17)); set skip settings ((p. 28)), if desired.

### ◇ Operation

- ① Push [**VFO/MR•S.MW**] once or twice to select *VFO mode* for full/programmed scan; or to select *memory mode* for memory/bank scan.
  - Select the desired bank in *memory type selection mode* for bank scan.
- ② Set the squelch level to the point where noise is just muted.
- ③ Push and hold [**MODE•SCAN**] for 1 sec. to start the scan.
  - To change the scanning direction, rotate [**DIAL**].
  - The memory channel readout blinks the scan type as below.

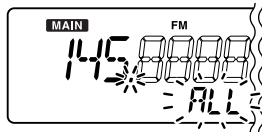
**IMPORTANT!**: To perform memory or bank scan, two or more memory/bank channels **MUST** be programmed, otherwise the scan will not start.

- ④ Push [**SET•SKIP**] (or [**ATT•PRIO**]) to switch full and programmed scan (P00 to P49), if VFO is selected in step ①.
- ⑤ To stop the scan, push [**MODE•SCAN**].

/// **About the scanning steps:** The selected tuning step in each frequency band (in *VFO mode*) is used during scan.

/// The bank-link setting can be changed in *set mode*. See ((p. 40)) for details.

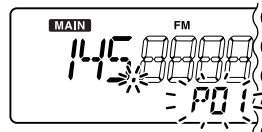
#### • During full scan



Push [**SET•SKIP**] to select full (ALL) or programmed scan (P00–P49) in sequence.

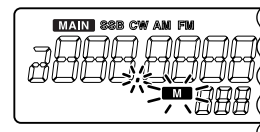
While pushing and holding [**MODE•SCAN**], rotate [**DIAL**] also to select full (ALL) or programmed scan (P00–P49).

#### • During programmed scan



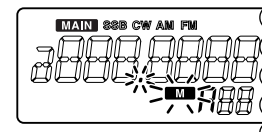
Indicates scan edge channels.  
 • P01 stands for 01A/01B  
 • P00 to P49 are available when they are programmed, and switches with [**SET•SKIP**].

#### • During memory scan



**NOTE:** When SSB, CW, AM, FM, WFM or Digital mode frequencies are programmed into memory channels disorderly, memory scan takes a lot of time (very slow). Because changing modes takes a time. In this case, assign the SSB, CW, AM, FM, WFM or Digital mode frequencies into the separate bank respectively. And using the bank scan is helpful.

#### • During bank scan



Indicates bank channel.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

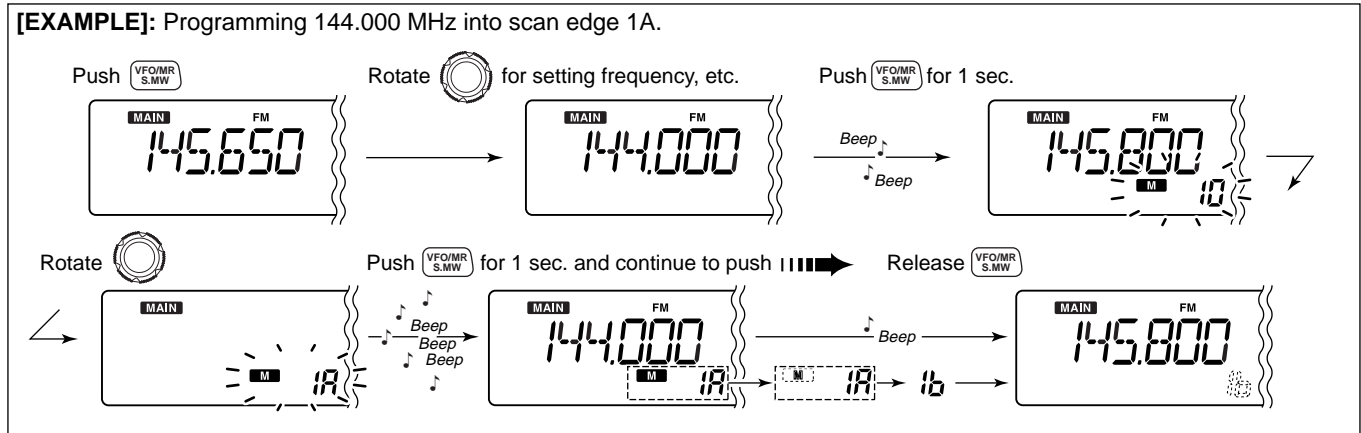
## ■ Scan edges programming

Scan edges can be programmed in the same manner as memory channels. Scan edges are programmed into scan edges, 0A/0B to 49A/49B, in memory channels.

- ① Push the desired band's **[VFO/MR•S.MW]** once or twice to select *VFO mode*.
- ② Set the edge frequency of the desired frequency range:
  - ➔ Set the frequency using the same band's **[DIAL]**.
  - ➔ Set other data (e.g. tone squelch, etc.), if desired.
- ③ Push and hold the same band's **[VFO/MR•S.MW]** for 1 sec. to enter *select memory write mode*.
  - "M" indicator and the memory channel number blink.

- ④ Rotate **[DIAL]** to select one of scan edge channel, 0A to 49A.
- ⑤ Push and hold **[VFO/MR•S.MW]** for 1 sec. to program.
  - 3 beeps sound and *VFO mode* is automatically selected.
  - Scan edge 0B to 49B is automatically selected when continuing to hold **[VFO/MR•S.MW]** after programming.
- ⑥ To program a frequency for the other pair of scan edges, 0B to 49B, repeat steps ② to ④.
  - If the same frequency is programmed into a pair of scan edges, programmed scan will not function.

**[EXAMPLE]:** Programming 144.000 MHz into scan edge 1A.

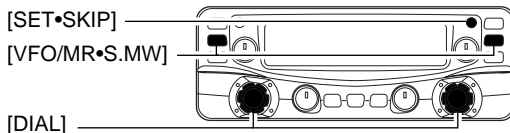


## ■ Skip scan

### ◇ Skip channel/frequency setting

You can set the selected memory channel as a skip channel which is skipped during memory skip scan. In addition, it can be set as a skip channel for both memory skip scan and frequency skip scan. These are useful to speed up the scan interval.

- ① Select a memory channel.
  - ➔ Push the main band's **[VFO/MR•S.MW]** once or twice to select *memory mode*, then rotate the same band's **[DIAL]** to select the desired memory channel to be a skip channel.
    - “**M**” and memory channel number appear.
- ② Push and hold **[SET•SKIP]** for 1 sec. several times to set the skip condition.
  - (no indication): The channel is scanned during scan.
  - **[SKIP]** : The channel is skipped during scan.
  - **P[SKIP]** : The channel is skipped during scan and the programmed frequency is skipped during VFO scan, such as programmed scan.

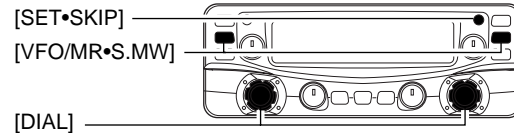


The display shows that memory channel 16 is set as a skip channel.

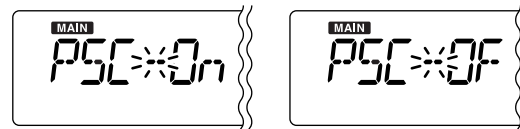
### ◇ Skip scan setting

USING *SET MODE*

- ① Push the main band's **[VFO/MR•S.MW]** once or twice to select *VFO mode*.
- ① Push **[SET•SKIP]** to enter *set mode*.
- ② Push **[SET•LOCK]** or **[ATT•PRIO]** several times until “PSC” appears.



- ③ Rotate **[DIAL]** to toggle the skip scan function ON and OFF.



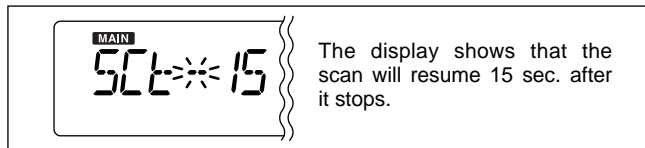
- ④ Push any switch for main band to exit *set mode*.
- ⑤ Then start the scan to activate the skip scan (memory skip scan or frequency skip scan).

## 6 SCAN OPERATION

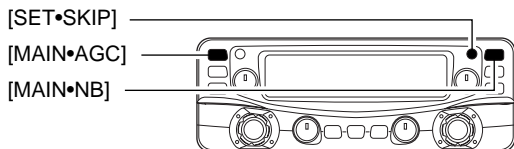
### ■ Scan resume condition

USING SET MODE

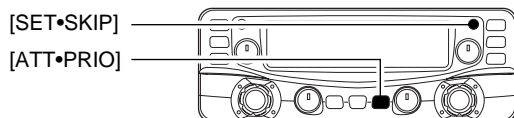
The scan resume condition can be selected as timer or pause scan. The selected resume condition is also used for priority watch. (p. 47)



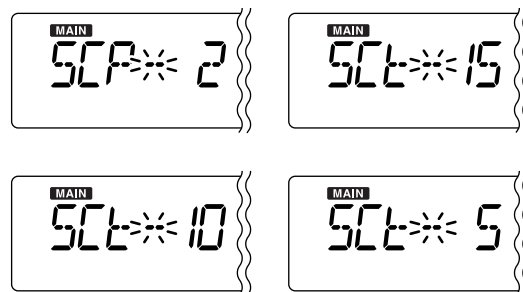
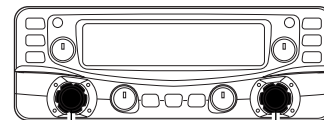
- ① Push **[MAIN•AGC]** (or **[MAIN•NB]**) to select the desired band (left or right) as the main band.
- ② Push **[SET•SKIP]** to enter *set mode*.



- ③ Push **[SET•SKIP]** or **[ATT•PRIO]** several times until “Sct” or “SCP” appears.



- ④ Rotate the main band's **[DIAL]** to set the desired timer:
  - “SCP-2” : Scan pauses until the signal disappears and then resumes 2 sec. later.
  - “Sct-15” : Scan pauses 15 sec. while receiving a signal.
  - “Sct-10” : Scan pauses 10 sec. while receiving a signal.
  - “Sct-5” : Scan pauses 5 sec. while receiving a signal.



- ⑤ Push any switch for the main band to exit *set mode*.

## Priority watch types

Priority watch checks for signals on the frequency every 5 sec. while operating on a VFO frequency or scanning. The receiver has two priority watch types to suit your needs.

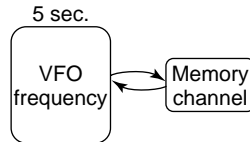
The watch resumes according to the selected scan resume condition. See ((p. 29)) for details.

**NOTE:** If the pocket beep function is activated, the receiver automatically selects the tone/DTCS squelch function when priority watch starts.

### MEMORY CHANNEL WATCH

While operating on a VFO frequency, priority watch checks for a signal on the selected memory channel every 5 sec.

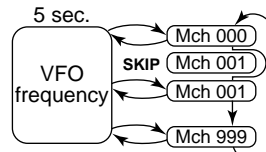
- A memory channel with skip information can be watched.



### MEMORY SCAN WATCH

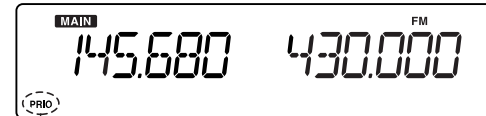
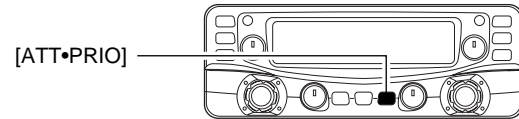
While operating on a VFO frequency, priority watch checks for signals on each memory channel in sequence.

- The memory skip function and/or memory bank scan is useful to speed up the scan.



## Priority watch operation

- ① Push the main band's [VFO/MR•S.MW] once or twice to select *VFO mode*; then set an operating frequency.
- ② Set the watching channel(s).  
**For memory channel watch:**  
Select the desired memory channel.  
**For memory scan watch:**  
Select *memory mode*, or the desired bank group; then, push and hold [MODE•SCAN] for 1 sec. to start memory scan or bank scan.
- ③ Push and hold [ATT•PRIO] for 1 sec. to start the watch.
  - The receiver checks the memory/bank channel(s) every 5 sec.
  - The watch resumes according to the selected scan resume condition. ((p. 29))
  - While the watch is pausing, pushing and holding [ATT•PRIO] for 1 sec. resumes the watch manually.
- ④ Push and hold [ATT•PRIO] for 1 sec. to stop the watch.



"PRIO" appears

- 1
- 2
- 3
- 4
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## ■ Pocket beep operation

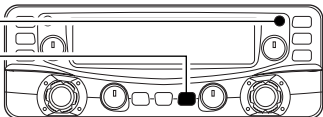
This function uses subaudible tones for calling and can be used as a “common pager” to inform you that someone has called while you were away from the receiver.

### ◇ Waiting for a call from a specific station

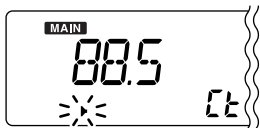
- ① Set the operating frequency in FM mode.
- ② Push **[SET•SKIP]** to enter *set mode* in the main band.

[SET•SKIP]

[ATT•PRIO]

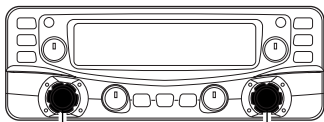


- ③ Push **[SET•SKIP]** or **[ATT•PRIO]** several times until “Ct” (when selecting the tone squelch) or “dt” (when selecting the DTCS squelch) appears.



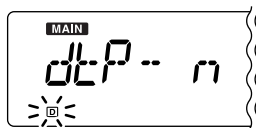
Tone squelch frequency setting    DTCS code setting

- ④ Rotate the main band's **[DIAL]** to select the desired tone frequency or DTCS code.



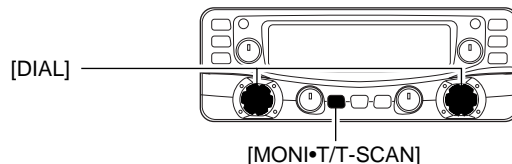
[DIAL]

- ⑤ When operating the pocket beep function with DTCS code squelch, push **[SET•SKIP]** once then rotate **[DIAL]** to select the DTCS polarity.

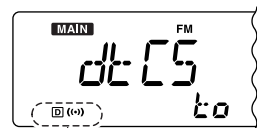


DTCS polarity setting

- ⑥ Push any switch for the main band to exit *set mode*.
- ⑦ Push and hold **[MONI•T/T-SCAN]** for 1 sec. to enter *tone squelch selection mode*, then rotate **[DIAL]** until “((•)) ▶” or “⏏ ((•))” appears to turn the pocket beep function ON with tone squelch or DTCS squelch, respectively.



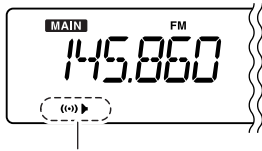
Appears when the pocket beep with tone squelch is turned ON.



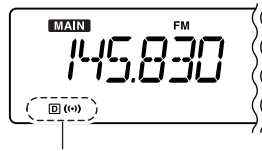
Appears when the pocket beep with DTCS squelch is turned ON.



- ⑧ Push any switch for the main band or common switch to exit *tone squelch selection mode*.

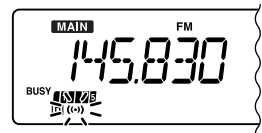


Appears when the pocket beep with tone squelch is activated.



Appears when the pocket beep with DTCS squelch is activated.

- ⑨ When a signal with the matched tone is received, the receiver emits beep tones and blinks “((•))”.
- Beep tones sound for 30 sec. and “((•))” blinks. To stop the beeps and blinking manually, push any switch.



- ⑩ Push and hold **[MONI•T/T-SCAN]** for 1 sec. to enter *tone squelch selection mode*, then rotate **[DIAL]** to cancel the tone squelch or DTCS squelch function.
- “oFF” is selected for turning the function OFF.

### ◇ Available tone frequency list

67.0	79.7	97.4	118.8	146.2	167.9	186.2	206.5	241.8
69.3	82.5	100.0	123.0	151.4	171.3	189.9	210.7	250.3
71.0	85.4	103.5	127.3	156.7	173.8	192.8	218.1	254.1
71.9	88.5	107.2	131.8	159.8	177.3	196.6	225.7	
74.4	91.5	110.9	136.5	162.2	179.9	199.5	229.1	
77.0	94.8	114.8	141.3	165.5	183.5	203.5	233.6	

NOTE: The receiver has 51 tone frequencies and consequently their spacing is narrow compared to units having 38 tones. Therefore, some tone frequencies may receive interference from adjacent tone frequencies.

### ◇ Available DTCS code list

023	054	125	165	245	274	356	445	506	627	732
025	065	131	172	246	306	364	446	516	631	734
026	071	132	174	251	311	365	452	523	632	743
031	072	134	205	252	315	371	454	526	654	754
032	073	143	212	255	325	411	455	532	662	
036	074	145	223	261	331	412	462	546	664	
043	114	152	225	263	332	413	464	565	703	
047	115	155	226	265	343	423	465	606	712	
051	116	156	243	266	346	431	466	612	723	
053	122	162	244	271	351	432	503	624	731	

### ◇ Calling a waiting station using pocket beep

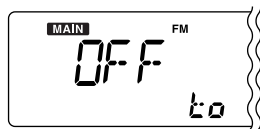
A subaudible tone matched with the station's CTCSS tone frequency or 3-digit DTCS code with polarity is necessary. Use the tone squelch on the next page ((p. 33)).

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

## ■ Tone/DTCS squelch operation

The tone or DTCS squelch opens only when receiving a signal with the same pre-programmed subaudible tone or DTCS code, respectively. You can silently wait for the specified signal using the same tone.

- ① Set the operating frequency in FM mode.
- ② Program the CTCSS tone frequency or DTCS code in *set mode*. ((p. 31))
- ③ Push and hold **[MONI•T/T-SCAN]** for 1 sec. to enter *tone squelch selection mode*, then rotate **[DIAL]** until “▶” or “Ⓚ” appears in the function display.



Tone OFF setting



Tone squelch setting



DTCS setting

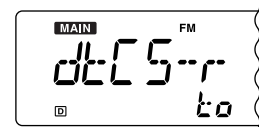
- ④ When a signal with the matched tone is received, the squelch opens and the receiver emits audio.
  - When the received signal includes an unmatched tone, the squelch does not open. However, the S-meter indicator shows the received signal strength.
  - To open the squelch manually, push **[MONI•T/T-SCAN]**.
- ⑤ To cancel the tone squelch or DTCS squelch function, repeat steps ③ until “oFF” appears, then push any switch.

### ◇ Reverse action for tone or DTCS squelch

- Enter *tone squelch selection mode* as described in steps ① to ③ as shown left, then rotate **[DIAL]** to select either reverse action for the tone or DTCS squelch as below.



for Tone squelch



for DTCS

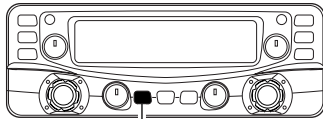
#### How does the Reverse action work?

When the reverse action is selected for either the tone squelch, “tS<sub>q</sub>L-r,” or DTCS squelch, “dtCS-r,” and a signal with the matched tone (or DTCS) is received, the squelch closes, and the receiver mutes the signal. You can listen in the signals any other than the specified one, if it’s with tone.

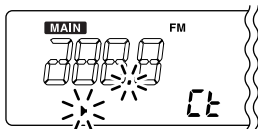
## ■ Tone scan

By monitoring a signal that is being operated with pocket beep, tone or DTCS squelch function, you can determine the tone frequency or DTCS code necessary to open a squelch.

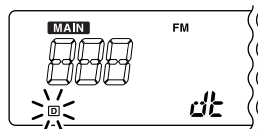
- ① Set the desired operating frequency or memory channel to be checked for a tone frequency or code.
- ② Push and hold **[MONI•T/T-SCAN]** for 1 sec and rotate **[DIAL]** to select the tone type, tone squelch or DTCS, to be scanned.
  - Either “▶” or “◻” appears.
- ③ Push and hold **[MONI•T/T-SCAN]** for 1 sec. to start the tone scan.
  - To change the scanning direction, rotate **[DIAL]**.



[MONI•T/T-SCAN]



During CTCSS frequency scan



During DTCS code scan

- ④ When the CTCSS tone frequency or 3-digit DTCS code is matched, the squelch opens and the tone frequency is temporarily programmed into the selected condition such as memory channel.
  - The tone scan pauses when a CTCSS tone frequency or 3-digit DTCS code is detected.
  - The decoded CTCSS tone frequency or 3-digit DTCS code is used for the tone decoder depending on the selected tone condition or type in step ②.
    - “▶” : CTCSS tone decoder
    - “◻” : DTCS tone decoder
- ⑤ Push any switch for the main band or common switch to stop the scan.

**NOTE:** The decoded tone frequency is programmed temporarily when a memory is selected. However, this will be cleared when the memory channel is re-selected.

## Set mode

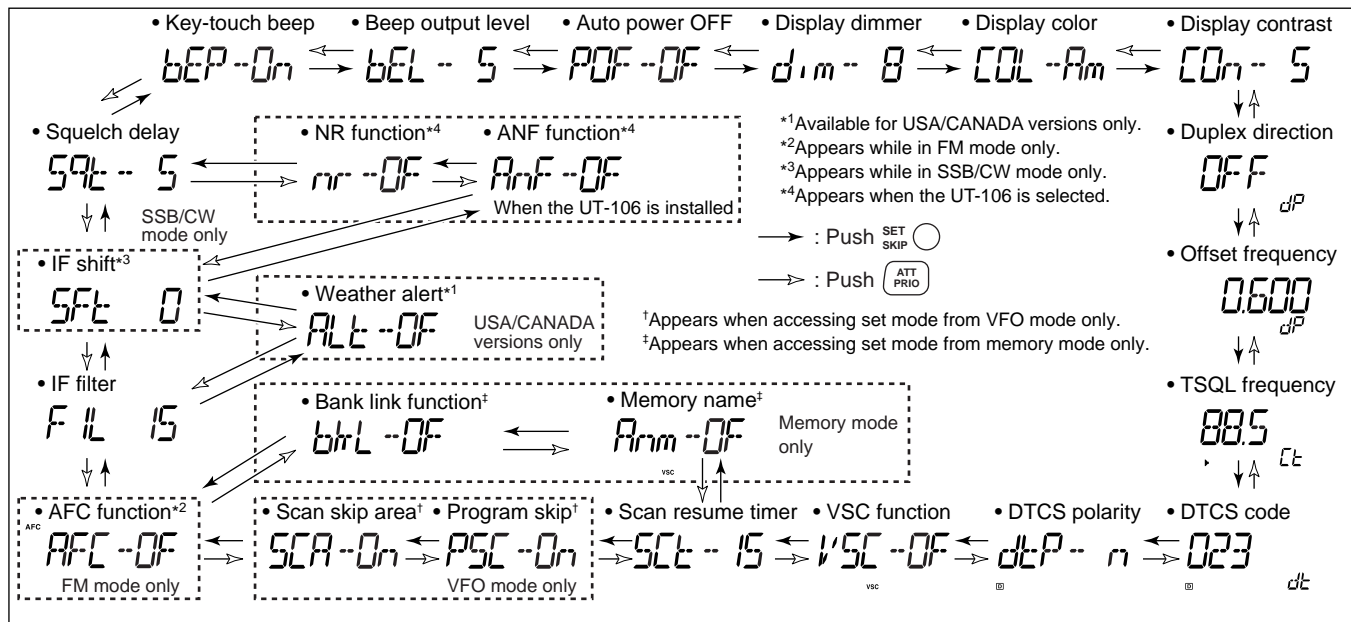
### • Set mode operation

- ① Push the desired band's [MAIN] to select the main band.
- ② Push [SET•SKIP] to enter *set mode*.
- ③ Push [SET•SKIP] or [ATT•PRIO] to select the desired item.

### ■ Set mode items

- ④ Rotate the main band's [DIAL] to select the condition or value.
- ⑤ Push any switch for main band or common switch other than [SET•SKIP] or [ATT•PRIO] to exit set mode.

### • Set mode items



### ◇ Key-touch beep

The key-touch beep can be turned OFF for silent operation.  
(default: ON)

bEP\*ON    bEP\*OFF

Even when this item is set to OFF, the power-on beep and pocket beep function still sound. The power-on beep can not be set to OFF.

### ◇ Beep output level

Adjust the beep level from 1 to 9 for key-touch beep, power-on beep and pocket beep function.  
(default: 5)

When the previous set mode item "bEP" is set to OFF, this setting level is not effective for key-touch beep.

bEL\*1    bEL\*9

### ◇ Auto power OFF

The receiver can be set to automatically turn OFF with a beep after a specified period when no key operations are performed.

30 min., 1 hour, 2 hours and OFF can be specified. The specified period is retained even when the receiver is turned OFF by the auto power OFF function. To cancel the function, select "OF" in this *set mode*.  
(default: OFF)

POF\*OF    POF\*30

### ◇ Display dimmer

Adjust the display lighting condition.  
The levels 1 (dark) to 8 (bright: default) are available.

dim\*8

### ◇ Display color

The display color can be set to amber (default), yellow or green.

COL\*YE    COL\*Gr

Yellow setting

Green setting

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

## 9 SET MODE

### ◆ Display contrast

The LCD contrast can be adjusted through 9 levels.  
(default: 5)

CON: 6    CON: 1

### ◆ Duplex direction

Sets the duplex direction. The displaying frequency shifts the programmed offset frequency (below) when monitor function is in use (pushing **[MONI•T/T-SCAN]**).

- OFF : Simplex operation. (default)
- DUP- : The displaying frequency shifts down during monitor.
- DUP+ : The displaying frequency shifts up during monitor.

OFF<sub>dP</sub>    DUP+<sub>dP</sub>

### ◆ Offset frequency

Sets the duplex offset frequency for each frequency band independently within 0 to 1000 MHz range. During duplex operation (DUP- or DUP+), the monitoring frequency (pushing **[MONI•T/T-SCAN]**) shifts the set frequency.

0.000<sub>dP</sub>    0.600<sub>dP</sub>

The default value may differ according to the selected frequency band (before accessing *set mode*) and receiver version.

/// The selected tuning step in *VFO mode* is used for setting the offset frequency.

### ◇ Tone frequency

Sets subaudible tone frequency for tone squelch operation. Total of 51 tone frequencies (67.0–254.1 Hz) are available. (default: 88.5 Hz)



#### • Available tone frequency list

67.0	79.7	97.4	118.8	146.2	167.9	186.2	206.5	241.8
69.3	82.5	100.0	123.0	151.4	171.3	189.9	210.7	250.3
71.0	85.4	103.5	127.3	156.7	173.8	192.8	218.1	254.1
71.9	88.5	107.2	131.8	159.8	177.3	196.6	225.7	
74.4	91.5	110.9	136.5	162.2	179.9	199.5	229.1	
77.0	94.8	114.8	141.3	165.5	183.5	203.5	233.6	

### ◇ DTCS code

Sets DTCS code for DTCS squelch operation. Total of 104 codes (023–754) are available. (default: 023)

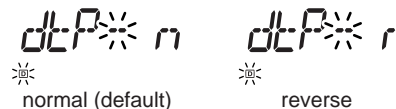


#### • Available DTCS code list

023	054	125	165	245	274	356	445	506	627	732
025	065	131	172	246	306	364	446	516	631	734
026	071	132	174	251	311	365	452	523	632	743
031	072	134	205	252	315	371	454	526	654	754
032	073	143	212	255	325	411	455	532	662	
036	074	145	223	261	331	412	462	546	664	
043	114	152	225	263	332	413	464	565	703	
047	115	155	226	265	343	423	465	606	712	
051	116	156	243	266	346	431	466	612	723	
053	122	162	244	271	351	432	503	624	731	

### ◇ DTCS polarity

Sets DTCS polarities from n (normal) and r (reverse). (default: n)



## 9 SET MODE

### ◇ VSC setting

Turns VSC (Voice Squelch Control) function ON and OFF.  
(default: OFF)



### ◇ Scan resume timer

Selects scan resume timer from SCT-15 (default), SCT-10, SCT-5 and SCP-2. Scan resumes after the specified period when the received signal disappears.

- SCT-15/10/5 : Scan pauses for 15/10/5 sec. when the received signal disappears.
- SCP-2 : Scan pauses on a signal until signal disappears, then resumes 2 sec. after the signal disappears.



### ◇ Program scan skip setting

Sets the program scan skip setting ON and OFF for VFO scan operation, such as programmed scan.

(default: ON)

This item appears when set mode is accessed from VFO mode only.



### ◇ Scan skip area setting

Sets the pre-programmed scan skip area setting ON and OFF for VFO scan operation, such as programmed scan.

This item appears only when the scan skip area setting is programmed by the clone ((p. 44)) and set mode is accessed from VFO mode.



### ◇ Memory name setting

Sets memory name setting from ON (appear) and OFF (not appear; default) for memory name appearance.

This item appears when set mode is accessed from memory mode only.





### ◆ Memory bank link function

Sets the memory bank link function ON and OFF (default). The link function provides continuous banks scan, that scans all contents in the selected banks during bank scan. This item appears when *set mode* is accessed from *memory mode* only.



#### • Bank link setting

- ① Rotate **[DIAL]** to select the memory bank link function ON.
- ② Push and hold **[SET•LOCK]** or **[S.MW•MW]** for 1 sec. to enter *bank link setting mode*.
- ③ Push **[SET•LOCK]** or **[S.MW•MW]** to select the desired bank to be linked.
 

• A : Bank A	• b : Bank B	• C : Bank C	• d : Bank D
• E : Bank E	• F : Bank F	• G : Bank G	• H : Bank H
• J : Bank J	• k : Bank K	• L : Bank L	• m : Bank M
• n : Bank N	• o : Bank O	• P : Bank P	• q : Bank Q
• r : Bank R	• t : Bank T	• U : Bank U	• W : Bank W
• y : Bank Y			



Bank A ON

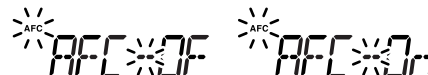


Bank A OFF

- ④ Rotate **[DIAL]** to select "On" to linking the bank.
- ⑤ Repeat steps ③ and ④ to set the link condition.
- ⑥ Push **[TS•MODE]** or any switch below the display to return to *set mode*.

### ◆ AFC setting

Turns AFC (Automatic Frequency Control) function ON and OFF. (default: OFF)



### ◆ Filter setting

Select the IF filter passband width from 3, 6, 15, 50 and 230 (depending on the selected mode.)



### ◆ Weather alert function

U.S.A./CANADA versions only

Turns weather alert function ON and OFF.



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## 9 SET MODE

### ◇ IF shift frequency setting

Select the IF shift frequency up to  $\pm 25$  steps in 1 step (50 Hz step).

This item appears when the receive mode is selected SSB or CW mode.

SFT 0 SFT +25

Center position (default)

Highest

### ◇ Squelch delay

Selects squelch delay from short and long to prevent repeated opening and closing of the squelch during reception of the same signal.

- S : Short squelch delay.
- L : Long squelch delay.

SQT S SQT L

### ◇ ANF setting

Turns ANF (Automatic Notch Filter) function ON and OFF.

The ANF function automatically attenuates up to 3 beat tones, tuning signals, etc. even if they are moving. The ANF function can be used in SSB, AM, FM and WFM modes.

 This item appears when optional UT-106 is installed.

AnF OFF AnF On

### ◇ NR setting

Selects NR (Noise Reduction) level from 1 to 15 and OFF (Default).

The NR function enhances desired signals in the presence of noise by using the DSP circuit. The amount of enhancement is adjustable.

The NR level can result in audio signal masking. Set the noise reduction level for maximum readability.

 This item appears when optional UT-106 is installed.

nr 1 nr 15

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# OTHER FUNCTION 10

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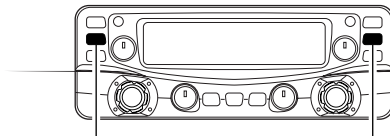
## 10 OTHER FUNCTIONS

### ■ Partial reset

AT POWER ON

If you want to initialize the operating conditions (VFO frequency, VFO settings, set mode contents) without clearing the memory contents, a partial resetting function is available for the receiver left and right bands independently.

- ➔ While pushing desired band's **[VFO/MR•S.MW]**, turn the power ON to partially reset the desired band (left or right).



Left band partial reset.

Right band partial reset.

#### ✓ *Hint!*

When pushing both **[VFO/MR•S.MW]** and turning the power ON, partially reset both bands at the same time.

### ■ ALL reset

AT POWER ON

The function display may occasionally display erroneous information (e.g. when first applying power). This may be caused externally by static electricity or by other factors.

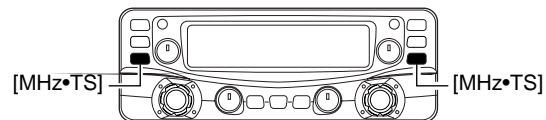
If this problem occurs, turn power OFF. After waiting a few seconds, turn power ON again. If the problem persists, perform the following procedure.

- Partial resetting is also available. See left for details.

#### /// **IMPORTANT!**

Resetting the receiver **CLEARs** all memory information and initializes all values in the receiver.

- ➔ While pushing both band's **[MHz•TS]**, turn the power ON to reset the CPU.



While pushing both **[MHz•TS]**, turn power ON.

**Count on us!**

**Icom Inc.**

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