



INSTRUCTION MANUAL

HF TRANSCEIVER

IC-F8100



FOREWORD

Thank you for purchasing this Icom product. The IC-F8100 HF TRANSCEIVER is designed and built with Icom's state of the art technology and craftsmanship. With proper care, this product should provide you with years of trouble-free operation.

We appreciate you making the IC-F8100 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-F8100.

◇ FEATURES

- *ALE (Automatic Link Establishment)/Sel-call capability*
- *Digital Signal Processor (DSP) allows flexible filter selection*
- *Full-dot matrix LCD for variety of information*
- *PC connection capability for remote control*

IMPORTANT

READ THIS INSTRUCTION MANUAL CAREFULLY before attempting to operate the transceiver.

SAVE THIS INSTRUCTION MANUAL. This manual contains important safety and operating instructions for the IC-F8100.

EXPLICIT DEFINITIONS

WORD	DEFINITION
⚠ DANGER!	Personal death, serious injury or an explosion may occur.
⚠ WARNING!	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	Recommended for optimum use. No risk of personal injury, fire or electric shock.

PRECAUTIONS

⚠ **DANGER HIGH RF VOLTAGE! NEVER** attach an antenna or internal antenna connector during transmission. This may result in an electrical shock or burn.

⚠ **WARNING! NEVER** operate the transceiver with a headset or other audio accessories at high volume levels. Hearing experts advise against continuous high volume operation. If you experience a ringing in your ears, reduce the volume or discontinue use.

⚠ **WARNING! NEVER** operate or touch the transceiver with wet hands. This may result in an electric shock or damage to the transceiver.

⚠ **WARNING! NEVER** apply AC power to the [DC13.8V] socket on the transceiver rear panel. This could cause a fire or damage the transceiver.

⚠ **WARNING! NEVER** apply more than 16 V DC to the [DC13.8V] socket on the transceiver rear panel, or use reverse polarity. This could cause a fire or damage the transceiver.

⚠ **WARNING! NEVER** let metal, wire or other objects protrude into the transceiver or into connectors on the rear panel. This may result in an electric shock.

⚠ **WARNING! ALWAYS** use the supplied Black and red cables with fuse holders. After connecting the fuse holders, **NEVER** cut the DC power cable between the DC plug and fuse holder. If an incorrect connection is made after cutting, the transceiver might be damaged.

⚠ **WARNING!** Immediately turn OFF the transceiver power and remove the power cable if it emits an abnormal odor, sound or smoke. Contact your Icom dealer or distributor for advice.

CAUTION: NEVER change the internal settings of the transceiver. This may reduce transceiver performance and/or damage to the transceiver.

In particular, incorrect settings for transmitter circuits, such as output power, idling current, etc., might damage the expensive final devices.

The transceiver warranty does not cover any problems caused by unauthorized internal adjustment.

CAUTION: NEVER install the transceiver in a place without adequate ventilation. Heat dissipation may be reduced, and the transceiver may be damaged.

DO NOT use or place the transceiver in direct sunlight or in areas with temperatures below -30°C ($+32^{\circ}\text{F}$) or above $+60^{\circ}\text{C}$ ($+122^{\circ}\text{F}$).

The basic operations, transmission and reception of the transceiver are guaranteed within the specified operating temperature range. However, the LCD display may not be operate correctly, or show an indication in the case of long hours of operation, or after being placed in extremely cold areas.

DO NOT use harsh solvents such as benzine or alcohol when cleaning, as they will damage the transceiver surfaces.

DO NOT push the PTT switch when you don't actually desire to transmit.

DO NOT place the transceiver against walls or putting anything on top of the transceiver. This may overheat the transceiver.

Always place unit in a secure place to avoid inadvertent use by children.

BE CAREFUL! If you use a linear amplifier, set the transceiver's RF output power to less than the linear amplifier's maximum input level, otherwise, the linear amplifier will be damaged.

BE CAREFUL! The transceiver will become hot when operating the transceiver continuously for long periods of time.

USE only the specified microphone. Other manufacturers' microphones have different pin assignments, and connection to the IC-F8100 may damage the transceiver or microphone.

During mobile operation, **NEVER** place the transceiver where air bag deployment may be obstructed.

During mobile operation, **DO NOT** place the transceiver where hot or cold air blows directly onto it.

During mobile operation, **DO NOT** operate the transceiver without running the vehicle's engine. When the transceiver's power is ON and your vehicle's engine is OFF, the vehicle's battery will soon become exhausted.

Make sure the transceiver power is OFF before starting the vehicle engine. This will avoid possible damage to the transceiver by ignition voltage spikes.

During maritime mobile operation, keep the transceiver and microphone as far away as possible from the magnetic navigation compass to prevent erroneous indications.

Turn OFF the transceiver's power and/or disconnect the DC power cable when you will not use the transceiver for long period of time.

KEEP the transceiver away from the heavy rain, and Never immerse it in the water. The transceiver meets IP54* requirements for dust-protection and splash resistance.

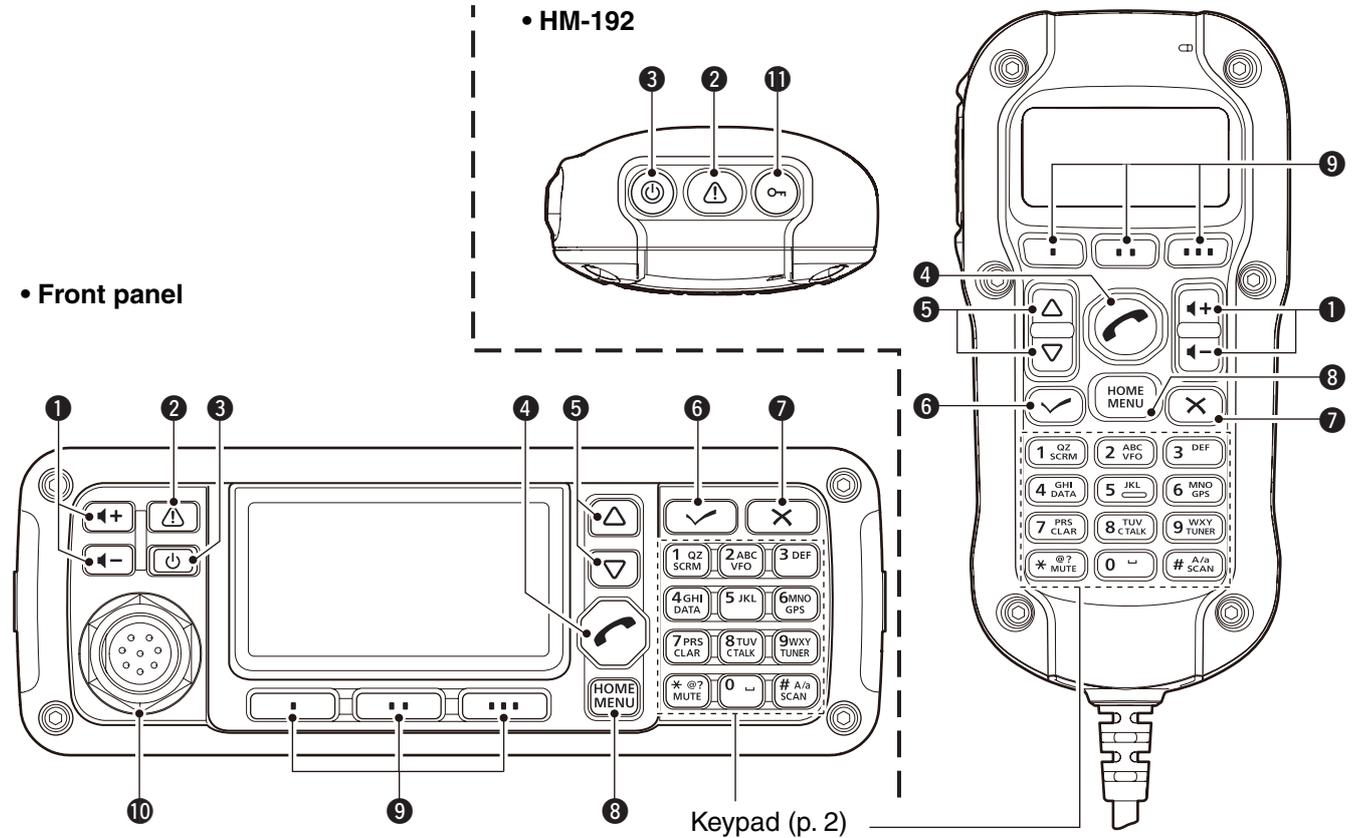
However, once the transceiver has been dropped, dust-protection and splash resistance cannot be guaranteed due to the fact that the transceiver may be cracked, or the waterproof seal damaged, etc.

* Only when the supplied microphone is attached.

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■ Controller (Front panel or HM-192)



1 VOLUME KEYS [◀+]/[▶-] (p. 7)
Adjusts the audio output level.

2 EMERGENCY KEY [▲]
Hold down for 1 second to transmit the Selcall to the specified Selcall addresses in orderly.

3 POWER KEY [⏻]
 ➔ While transceiver's power is OFF:
 Push to turn ON the transceiver power.
 • First, turn ON the DC power supply.
 ➔ While transceiver's power is ON:
 Hold down for 2 second to turn OFF the power.

4 CALL KEY [☎]
 Push to enter the Call menu.
 • Push again to forward to the next screen in the Call menu.

5 UP/DOWN KEYS [▲]/[▼]
 Selects the operating channel and the items in the Menu mode, etc.

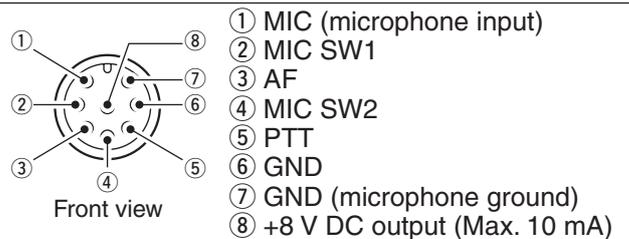
6 ENTER KEY [✓]
 ➔ Push to enter or exit the selected Menu in the Menu screen.
 ➔ Push to fix input of channel comments.
 ➔ Push to move the cursor forward.

7 CLEAR KEY [✕]
 ➔ Push to exit the the Menu screen.
 ➔ Push to move the cursor backward.
 ➔ Push to return the previous screen in the Call menu.

8 HOME/MENU KEY [HOME] [MENU](HOME)
 ➔ Push to return to the home display.
 ➔ Hold down for 1 second to enter the Menu screen.

9 FUNCTION KEYS [▪]/[▪▪]/[▪▪▪]
 Push to select the function which is indicated on the LCD display above each key.
 • The functions vary, depending on the selected menu and the operating mode.

10 MICROPHONE CONNECTOR [MIC]
 Connects the microphone, supplied with the transceiver.
NOTE: NEVER connect the HM-192 or any other microphone here.

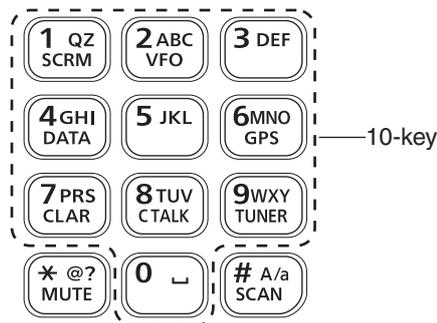


11 LOCK KEY [○]
 Hold down for 1 second to set the Key lock function to ALL, NUMERIC KEY or OFF.

1 PANEL DESCRIPTION

◇ Keypad

- Inputs numeral for the Clock Setting.
- Inputs numeral or alphabet for the Selcall direct input.



• Available characters

KEY	INPUT	KEY	INPUT
1 QZ SCRM	1 Q Z q z	8 TUV CTALK	8 T U V t u v
2 ABC VFO	2 A B C a b c	9 WXY TUNER	9 W X Y w x y
3 DEF	3 D E F d e f	0 (space)	0 (space)
4 GHI DATA	4 G H I g h i	* @? MUTE	, . ; ? : " ` ' / ! @ # \$ % & * () _ - + = \ ~ < > { } []
5 JKL	5 J K L j k l	# A/a SCAN	Capital letters/Small letters/Numerals
6 MNO GPS	6 M N O m n o		
7 PRS CLAR	7 P R S p r s		

GPS KEY [GPS]

When a GPS receiver is connected through the optional AD-119 Junction Box and valid data is received, push to turn the GPS information ON or OFF. The GPS information can be selected Position information, Direction and elevation.

CLARIFIER KEY [CLAR]

Push to turn the Clarifier function ON or OFF.

CLEAR TALK KEY [C TALK]

Push to turn the Clear Talk function ON or OFF.

- The “” icon appears when the function is ON.

MUTE KEY [MUTE]

Push to select the squelch types. The Call squelch, S-meter squelch (level 1 to 50), Voice squelch or squelch OFF are selectable.

- The “” icon appears when the Call squelch function is ON.
- The “” icon appears when the S-meter squelch function is ON.
- The “” icon appears when the Voice squelch function is ON.

TUNER KEY [TUNER]

➤ Hold down for 1 second to start manual tune the optional automatic antenna tuner.

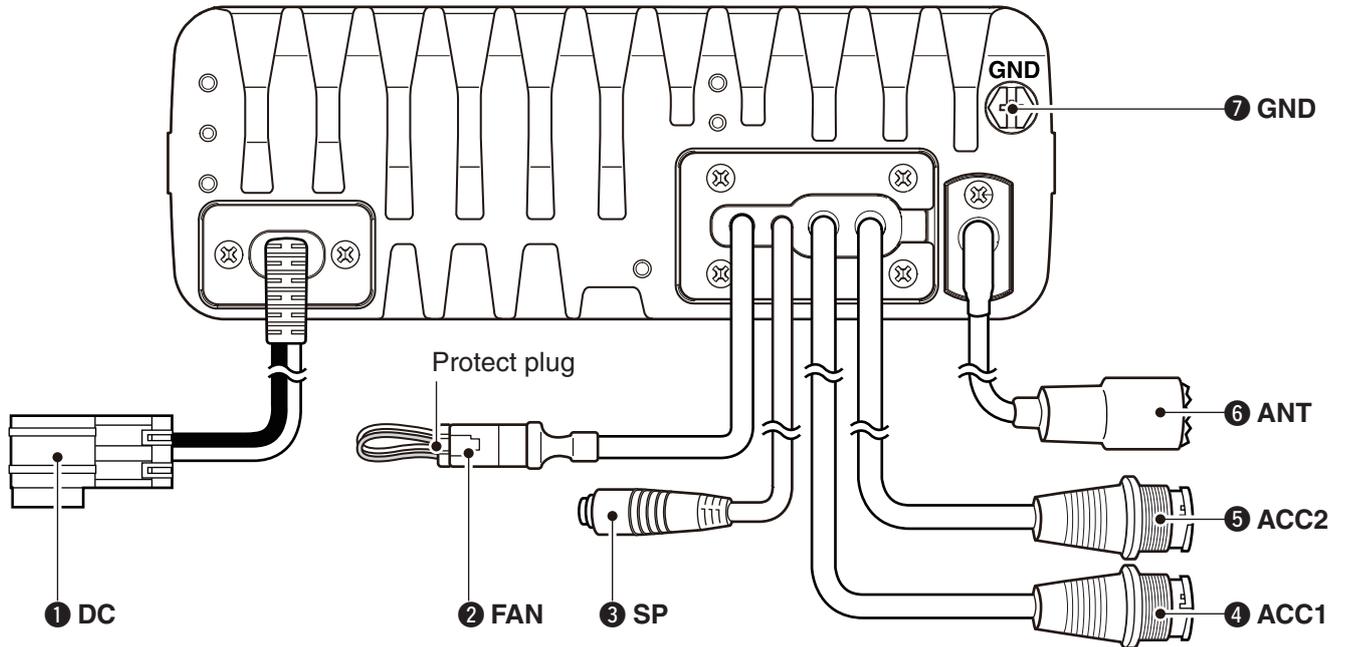
- “Tuning” appears while tuning.
- When the tuner cannot tune the antenna, the tuning circuit is automatically bypassed after 20 seconds tuning.

➤ Push to toggle the optional AT-140 automatic antenna tuner ON or OFF (bypass). (p. 10)

SCAN KEY [SCAN]

Push to start or stop a scan.

■ Rear panel



1 DC POWER CONNECTOR [DC]

Accepts 13.8 V DC through the supplied DC power cable.

2 FAN CONNECTOR [FAN]

Connects the optional CFU-F8100 Cooling Fan.

NOTE: Attach the protect plug when the optional Cooling Fan is not used.

3 SPEAKER JACK [SP]

Connects the supplied external speaker, SP-25.

4 ACCESSORY CONNECTOR (10 PIN) [ACC1]

5 ACCESSORY CONNECTOR (12 PIN) [ACC2]

Connect the optional AD-119 Junction Box.

Both connectors must be connected to use the AD-119.

NOTE: Attach the connector caps when the optional Junction Box is not used.

6 ANTENNA CONNECTOR

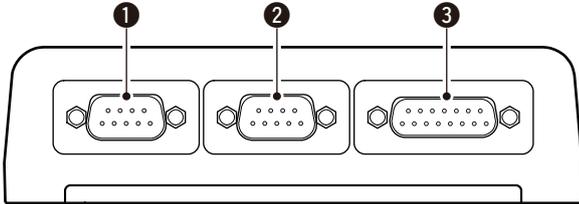
Connects a 50 Ω HF band antenna via a 50 Ω matched coaxial cable with a PL-259 plug for both transmit and receive operation.

7 GROUND TERMINAL

IMPORTANT! Connects a ground.

■ AD-119 Optional Junction Box

◇ Front Panel



❶ DATA JACK [DATA]

Connects to a PC via an RS-232C cable (D-sub 9-pin) for remote control in RS-232C format.

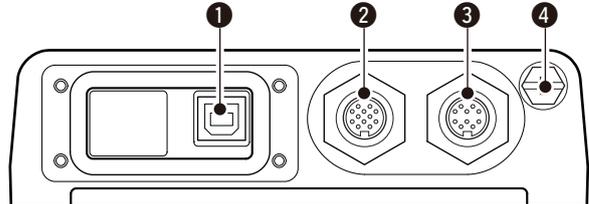
❷ GPS CONNECTOR [GPS]

Input position and UTC data in NMEA0183 ver. 2.0 or 3.01 formats, such as from a GPS receiver for automatically setting your position and time data.

❸ GPIO CONNECTOR [GPIO]

Connects a control cable to an optional AT-140 Antenna Tuner or AT230 Automatic Tuning Antenna.

◇ Rear Panel



❶ USB CONNECTOR [USB]

Connects a PC via an A-B type USB cable.

❷ ACCESSORY CONNECTOR 2 (12 PIN) [ACC2]

❸ ACCESSORY CONNECTOR 1 (10 PIN) [ACC1]

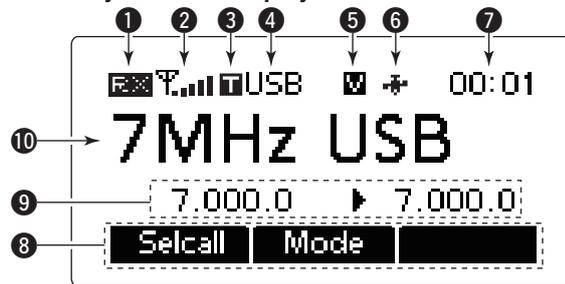
Connect to the IC-F8100's Accessory connectors. Both connectors must be connected to use this Junction Box.

❹ GROUND TERMINAL

IMPORTANT! Connects a ground.

LCD screen

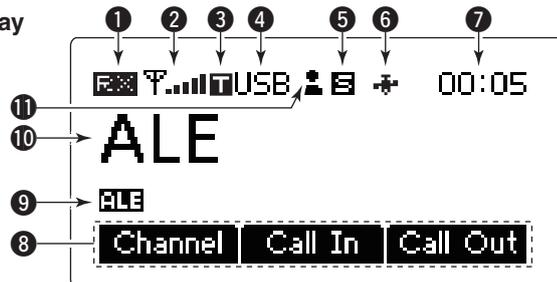
• Memory Channel Display



• Selcall Address Display



• ALE ID Display



1 RECEIVE/TRANSMIT ICON

- “RX” appears when signals are received or the squelch is open.
- “TX” appears during transmit.

2 S-METER/TX METERS

- Shows the receiving signal strength during receive.
- Show the selected transmit output power.
Mic gain can also be displayed when the “METER TYPE” item in the Admin Menu is set to “MIC LEVEL.”

3 TUNE ICON

Appears after the automatic antenna tuner matches the transceiver and antenna.

4 OPERATING MODE INDICATOR

Shows the selected operating mode.

- “LSB,” “USB,” “CW,” “AM,” “D1,”* “D2”* or “D3”* appears, depending on the operating mode.
- * When the “Modem” setting (p. 32) in the Admin Menu is set to “OFF,” “RTTY” appears instead.
- The D1, D2 or D3 mode can be set in the “Data mode 1,” “Data mode 2” or “Data mode 3” settings (p. 32) in the Admin Menu.

5 MUTE ICON

- “S” appears when the Call squelch function is selected.
- “L” appears when the S-meter squelch is selected.
- “V” appears when the Voice squelch is selected.

6 GPS ICON

- Appears when a valid position data is received from a GPS receiver that is connected to the AD-119 Junction box.
- Blinks when an invalid data is received from the GPS receiver.

7 TIME INDICATOR

Shows time data.

8 FUNCTION DISPLAY

Shows the function of the function keys ([▪], [▪▪] and [▪▪▪]).

9 SUB READOUTS

<Memory Channel display>

Shows the transmit and receive frequencies of the channel. Receive frequency is displayed at right side, transmit frequency is displayed at left side.

<Selcall Address display>

Shows the Selcall ID or phone number of the call.

<ALE ID display>

Shows the NET ID for ALE transmission.

10 MAIN READOUTS

<Memory Channel display>

Shows the channel name of the channel.

<Selcall Address display>

Shows the Selcall Address of the call.

<ALE ID display>

Shows the ALE ID for ALE transmission.

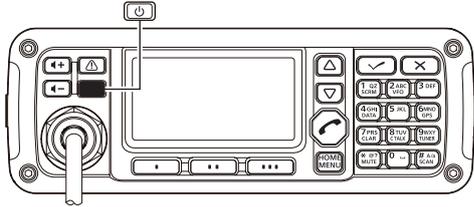
11 CALL ICON

Shows Call type icons for Selcall.

- The “👤” icon appears when the Selective call is selected on the Selcall Address display.
- The “📞” icon appears when the Phone call is selected on the Selcall Address display.
- The “✉️” icon appears when the Message call is selected on the Selcall Address display.
- The “📍” icon appears when the GPS Send Position call is selected on the Selcall Address display.
- The “📍?” icon appears when the GPS Get Position call is selected on the Selcall Address display.
- The “📶” icon appears when the Get Status call is selected on the Selcall Address display.
- The “🚨” icon appears when the Emergency call is selected on the Selcall Address display.
- The “👤?” icon appears when the Channel Test call is selected on the Selcall Address display.

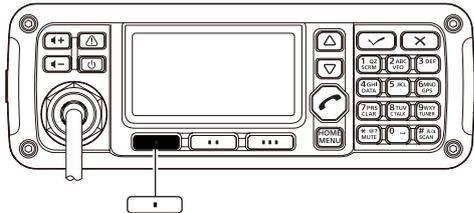
■ Power ON

- ➔ Push [⏻] to turn ON the Power.
 - Hold down [⏻] for 2 seconds to turn OFF the Power.

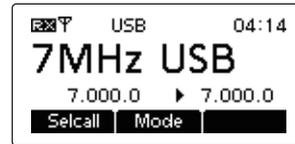


■ Selecting display mode

- ➔ Push [=] one or more times to select a desired display mode.
 - Display changes “Channel” ⇄ “Selcall” ⇄ “ALE” ⇄ “Channel.”



Memory channel display



Selcall Address display

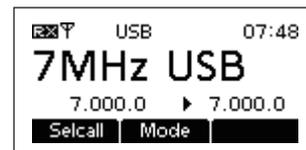
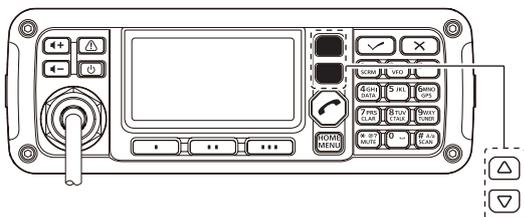


ALE ID display

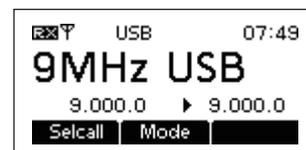


■ Selecting a channel

- ➊ Push [=] one or more times to select the Memory Channel display.
 - Display changes “Channel” ⇄ “Selcall” ⇄ “ALE” ⇄ “Channel.”
- ➋ Push [▲] or [▼] to select a desired memory channel.

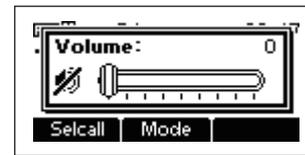
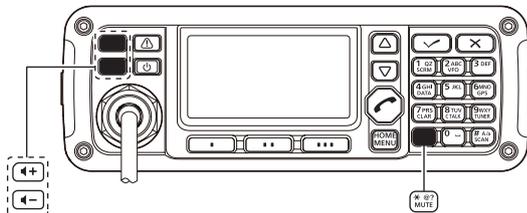


⋮

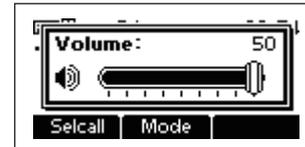


Setting audio volume

- ➔ Push [◀+] or [▶-] to adjust the audio level.
 - If squelch is closed, push [MUTE](*) one or more times to open the squelch.
 - The display shows the volume level while adjusting.



Minimum audio level

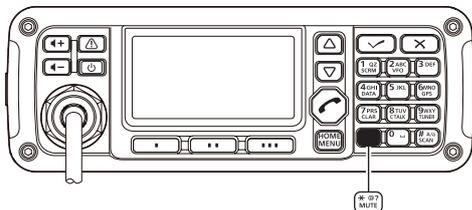


Maximum audio level

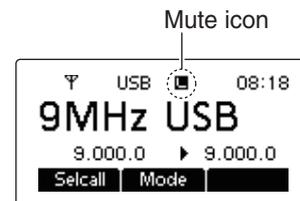
Squelch function

The squelch function detects signals with voice components and squelches (mutes) unwanted signals such as unmodulated beat signals. This provides quiet stand-by.

When you need to receive weak signals, the squelch should be turned OFF.



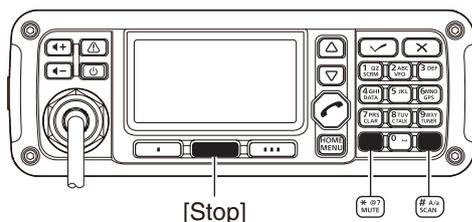
- ➔ Push [MUTE](*) one or more times to select a squelch type. Available types are Call SQL, S-meter SQL (level 1 to 50), Voice SQL and OFF.
 - The S-meter squelch level can be adjusted in “Squelch Level” of the User Menu.



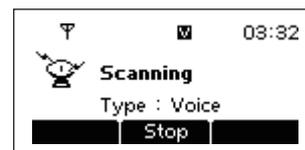
- Mute icon, “S,” “L,” “V” appears when the squelch function is turned ON.

Scan function

Scan function repeatedly scans programmed channels. This function is convenient to wait for calls on multiple channels.



- ➔ Push [MUTE](*) one or more times to select the Voice mute.
 - The mute type icon, “V” appears.
- ➔ Push [SCAN](#) to start a scan.
 - “Scanning” and the Scan type are displayed.



- ➔ When a signal is received, channel scan pauses on that channel.
- ➔ Push [Stop](**) to cancel the scan.
 - Pushing [SCAN](#) also cancels the scan.

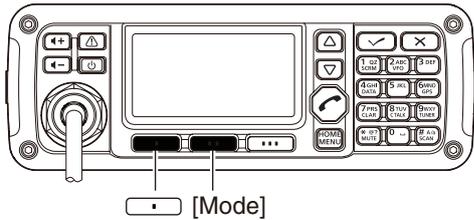
NOTE: The scan resume setting (the action after signal receiving) can be changed in “Scan Resume” of the Admin Menu. (p. 35)

Mode selection

The following modes are selectable in the IC-F8100: LSB, USB, CW, AM, D1,* D2* and D3 modes.

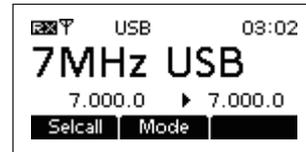
* When the "Modem" setting (p. 32) in the Admin Menu is set to "OFF," "RTTY" can be selected instead.

The D1, D2 or D3 mode can be set in the "Data mode 1," "Data mode 2" or "Data mode 3" settings (p. 32) in the Admin Menu.



① Push **[•]** one or more times to select the Memory Channel display.

- Display changes "Channel" ⇄ "Selcall" ⇄ "ALE" ⇄ "Channel."



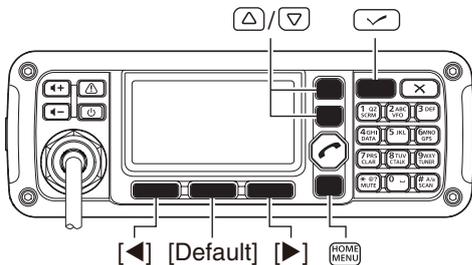
② Push **[Mode](••)** one or more times to select the desired mode.

- The selected mode is displayed top of the display.

NOTE: The selected mode can be used for only temporary operation. Once changing the channel or turning OFF the transceiver to return the original operating mode

Key Lock function

To prevent accidental channel change or unnecessary function access, use the Key Lock function. The transceiver has two type of Key Lock functions.



① Hold down **[MENU](HOME)** for 1 second to enter the Menu screen.

② Push **[△]** or **[▽]** to select the "User Menu," and then push **[✓]**.

③ Push **[△]** or **[▽]** to select "Key Lock."



④ Push **[◀](••)** or **[▶](•••)** to select the Key Lock function, "ALL" or NUMERIC KEY."

- Hold down **[Default](••)** for 1 second to return to the default setting.

⑤ Push **[MENU](HOME)** twice to return to the normal operating mode.

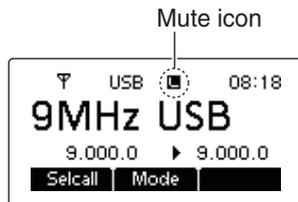
• To turn OFF the function

When you push the locked key, "Numeric Key Locked" or "All Key Locked" appears, depending on the function. Then push **[Unlock](••)** to turn OFF the function.

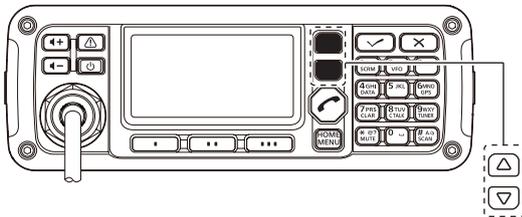


Basic voice transmit/receive

- ① First, check the following.
 - ➔ Microphone and external speaker are connected.
 - ➔ No mute icon “S”, “L” or “V” appears.
 - If one of “S”, “L” or “V” appears, push [MUTE](*) one or more times to turn OFF the mute.



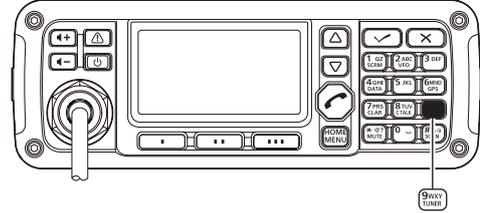
- ② Push [▲] or [▼] to select the desired channel to be received.



- The S-meter shows signal strength when signal is received.

- ③ Push [◀+] or [▶-] to adjust the desired audio level when receiving a signal.
 - If the bass or treble of the receive audio is too strong, set “Clarifier” to ON in the User Menu, and adjust to obtain clear audio. (See page 12 for the Clarifier function details.)
 - If Audio is distorted, select the suitable operating mode. (See previous page for the Mode selection details.)

- ④ If the transceiver is connected the antenna tuner, push [TUNER](9) to tune ON the antenna tuner.

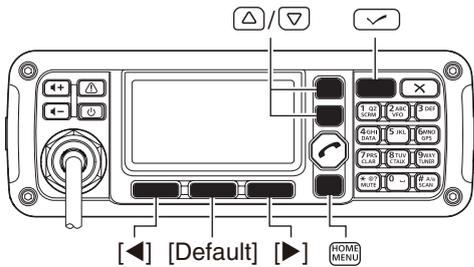


- “Tuning” indicator appears during the first tuning on a channel.
- ⑤ To transmit on the channel, hold down [PTT] on the microphone, and speak into the microphone at a normal voice level.
 - The RF meter shows the output power according to your voice level.
 - ⑥ Release [PTT] to return to receive.

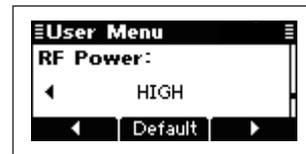
■ Functions for transmit

◇ Transmit power selection

The transceiver has three output power levels, HIGH, MID and LOW. High power allows longer distance communications and low power reduces power consumption.



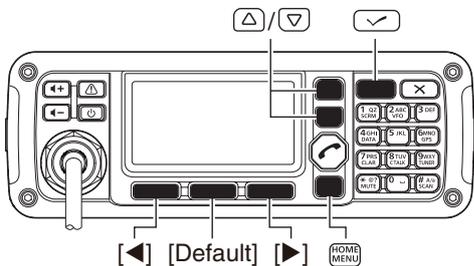
- ① Hold down **[MENU]**(HOME) for 1 second to enter the Menu screen.
- ② Push **[Δ]** or **[▽]** to select the “User Menu,” and then push **[✓]**.
- ③ Push **[Δ]** or **[▽]** to select “RF Power.”



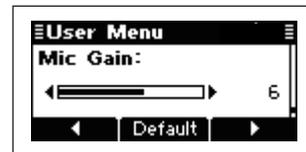
- ④ Push **[◀]**(■) or **[▶]**(■■■) to select the desired output power.
 - Hold down **[Default]**(■■) for 1 second to return to the default setting.
- ⑤ Push **[MENU]**(HOME) twice to return to the normal operating mode.

◇ Setting Microphone gain

Microphone gain must be properly adjusted so that your signal is not distorted when transmitted.



- ① Hold down **[MENU]**(HOME) for 1 second to enter the Menu screen.
- ② Push **[Δ]** or **[▽]** to select the “User Menu,” and then push **[✓]**.
- ③ Push **[Δ]** or **[▽]** to select “Mic Gain.”



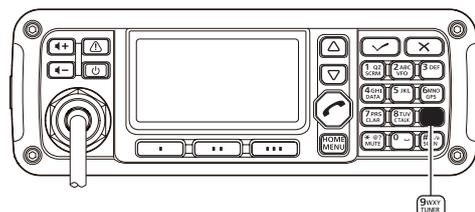
- ④ Push **[◀]**(■) or **[▶]**(■■■) to select the desired Mic gain.
 - Hold down **[Default]**(■■) for 1 second to return to the default setting.
- ⑤ Push **[MENU]**(HOME) twice to return to the normal operating mode.

◇ Tuner through function

In the combination with IC-F8100 and optional AT-140, the tuner through function can be used.

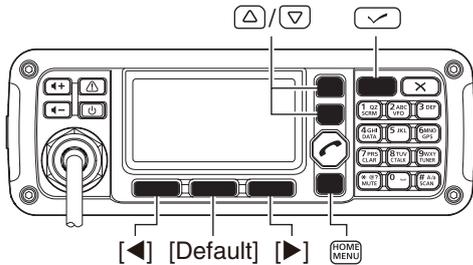
By bypassing the tuner unit, the receiver gain in particular frequency band may be improved depending on your antenna element length.

- ➔ While “TUNE” is displayed, push **[TUNER]**(9) to tuner through function ON.
 - “TUNE” disappears.
 - Push **[TUNER]**(9) again to reset the tuner.

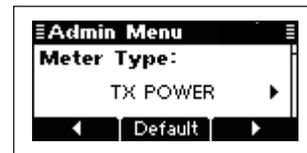


◇ Checking the MIC level

The transceiver has the MIC level meter. You can check the MIC level before or after adjusting the Microphone gain.



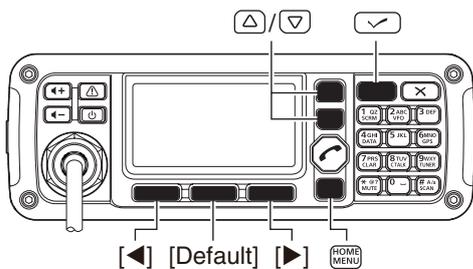
- ① Hold down **[MENU]**(HOME) for 1 second to enter the Menu screen.
- ② Push **[△]** or **[▽]** to select the “Admin Menu,” and then push **[✓]**.
- ③ Push **[△]** or **[▽]** to select “Meter Type.”



- ④ Push **[▶]**(*******) to select “MIC LEVEL.”
- ⑤ Push **[MENU]**(HOME) twice to return to the normal operating mode.
- ⑥ Push **[PTT]** (microphone) to transmit.
 - Speak into the microphone at your normal voice level.
- ⑦ While speaking into the microphone, check the TX meter reading.

◇ Speech Processor

IC-F8100 has a built-in, low distortion Speech Processor circuit. This circuit increases your average talk power in SSB mode and is especially useful when the receiving station is having difficulty copying your signal.



- ① Hold down **[MENU]**(HOME) for 1 second to enter the Menu screen.
- ② Push **[△]** or **[▽]** to select the “User Menu,” and then push **[✓]**.
- ③ Push **[△]** or **[▽]** to select “Speech Processor.”



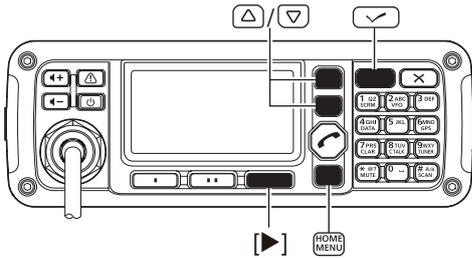
- ④ Push **[◀]**(*****) or **[▶]**(*******) to turn the Speech processor function ON or OFF.
 - Hold down **[Default]**(******) for 1 second to return to the default setting.
- ⑤ Push **[MENU]**(HOME) twice to return to the normal operating mode.
- ⑥ Push **[Mode]**(******) one or more times to select the USB or LSB mode.
- ⑦ Hold down **[PTT]** on the microphone, and speak into the microphone at a normal voice level.

■ Functions for receive

◇ Clarifier function

The Clarifier function compensates for off-frequencies of communicating stations. The function shifts the receive frequency up to ± 200 Hz without moving the transmit frequency.

• Setting

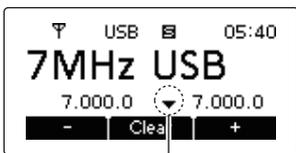
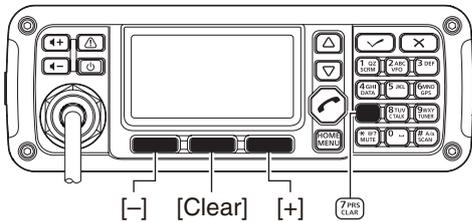


- ① Hold down **[MENU]**(HOME) for 1 second to enter the Menu screen.
- ② Push **[△]** or **[▽]** to select the “User Menu,” and then push **[✓]**.
- ③ Push **[△]** or **[▽]** to select “Clarifier.”

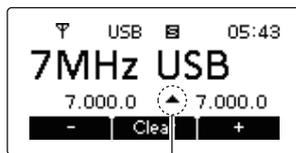


- ④ Push **[▶]**(***) to turn the Clarifier function ON.
- ⑤ Push **[MENU]**(HOME) twice to return to the normal operating mode.

• Operation

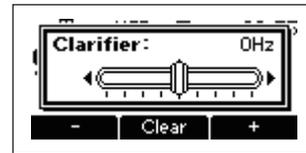


Lower shift



Upper shift

- ① Push **[CLAR]**(7) to turn the Clarifier function ON.



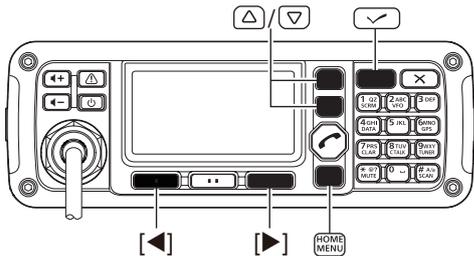
- ② Push **[-]**(■) or **[+]**(***) to tune the frequency shift.
 - The transmit frequencies are not shifted.
 - Hold down **[Clear]**(■) for 1 second to return to the center position, if desired.

When cancelling the Clarifier function, push **[CLAR]**(7) again.

◇ Preamp and Attenuator

The preamp amplifies received signals in the front end circuit to improve the S/N ratio and sensitivity. Turn this function ON when receiving weak signals.

The attenuator prevents a strong undesired signal near the desired frequency or near your location, such as from a broadcast station, from causing distortion or spurious signals.



- ① Hold down **[MENU]**(HOME) for 1 second to enter the Menu screen.
- ② Push **[△]** or **[▽]** to select the “User Menu,” and then push **[✓]**.
- ③ Push **[△]** or **[▽]** to select “Pre Amp.”



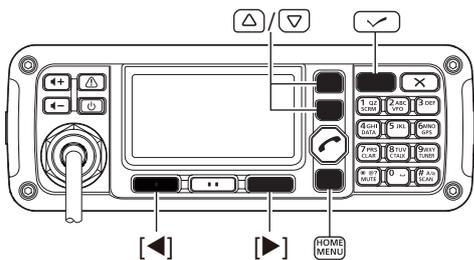
- ④ Push **[◀]**(■) or **[▶]**(■) to turn the Preamp or Attenuator function ON.
- ⑤ Push **[MENU]**(HOME) twice to return to the normal operating mode.

3

◇ Noise Blanker

The noise blanker reduces pulse-type noise such as that generated by automobile ignition systems.

The noise blanker may distort reception of strong signals. In such cases, the noise blanker should be turned OFF.



- ① Hold down **[MENU]**(HOME) for 1 second to enter the Menu screen.
- ② Push **[△]** or **[▽]** to select the “User Menu,” and then push **[✓]**.
- ③ Push **[△]** or **[▽]** to select “Noise Blanker.”



- ④ Push **[▶]**(■) to turn the Noise Blanker function ON.
- ⑤ Push **[▽]** to select “Blanker Level.”



- ⑥ Push **[◀]**(■) or **[▶]**(■) to adjust the noise blanker level.
- ⑦ Push **[MENU]**(HOME) twice to return to the normal operating mode.

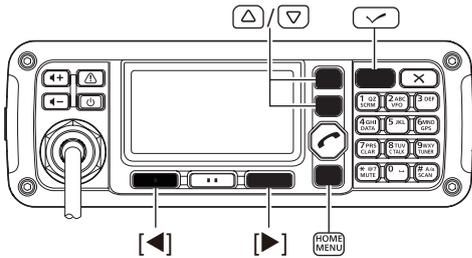
▨ When using the noise blanker, received signals may be distorted if they are excessively strong.

■ Functions for receive (Continued)

◇ AGC function

The AGC (auto gain control) controls receiver gain to produce a constant audio output level even when the received signal strength is varied by fading, etc.

The transceiver has two AGC characteristics (time constant: FAST and SLOW) and AUTO.



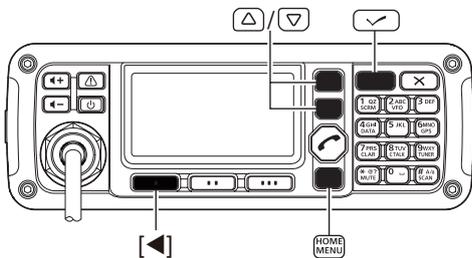
- ① Hold down **[MENU]**(HOME) for 1 second to enter the Menu screen.
- ② Push **[△]** or **[▽]** to select the “User Menu,” and then push **[✓]**.
- ③ Push **[△]** or **[▽]** to select “AGC.”



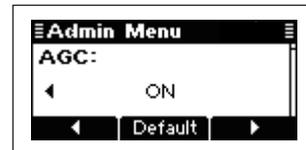
- ④ Push **[◀]**(■) or **[▶]**(■■■) to select the desired AGC time constant, FAST, SLOW or AUTO.
 ▨ When AUTO is selected, the AGC time constant varies, depending on the operating mode.
- ⑤ Push **[MENU]**(HOME) twice to return to the normal operating mode.

◇ AGC OFF function

When receiving weak signals with adjacent strong signals or noise, the AGC function may reduce the sensitivity. In this situation, the AGC function should be deactivated.



- ① Hold down **[MENU]**(HOME) for 1 second to enter the Menu screen.
- ② Push **[△]** or **[▽]** to select the “Admin Menu,” and then push **[✓]**.
- ③ Push **[△]** or **[▽]** to select “AGC.”



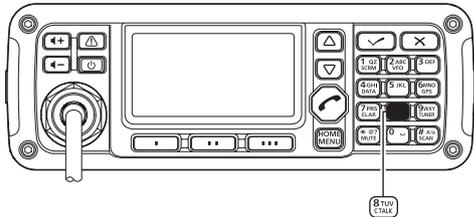
- ④ Push **[◀]**(■) to turn OFF the AGC function.
- ⑤ Push **[MENU]**(HOME) twice to return to the normal operating mode.

◇ Clear Talk function

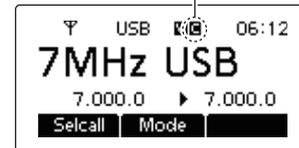
The Clear Talk function enhances desired signals in the presence of noise by using the DSP circuit.

➔ Push [**C TALK**](8) to turn the Clear Talk function ON or OFF.

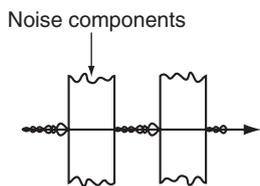
- “**C**” appears when the Clear Talk function is ON.



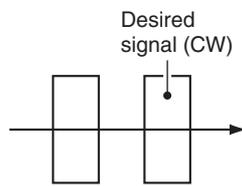
Appears



Clear Talk function OFF



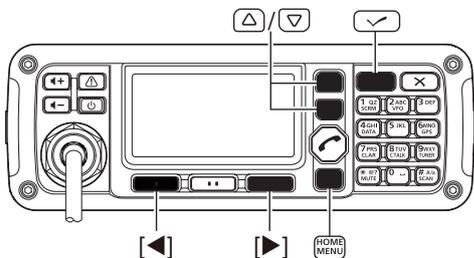
Clear Talk function ON



◇ IF Filter selection

The transceiver has three passband IF filter widths for each mode.

- ① Hold down [**MENU**](HOME) for 1 second to enter the Menu screen.
- ② Push [**△**] or [**▽**] to select the “User Menu,” and then push [**✓**].
- ③ Push [**△**] or [**▽**] to select “Bandwidth”



- ⑥ Push [**◀**](■) or [**▶**](■) to select the IF filter width, NARROW, MID or WIDE.
- ⑦ Push [**MENU**](HOME) twice to return to the normal operating mode.

■ Selcall or ALE

The Selcall uses a 4 or 6-digit address (ID) and allows you to make an individual/group call. The ALE (automatic link establishment) is a system which automatically selects an available frequency and establishes a communication link. The IC-F8100 ALE system complies with basic requirements MIL-STD 188-141-B (Appendix A).

▨ The selcall or ALE features are not available, depending on the preprogramming. Check the selcall or ALE capabilities in the Admin Menu, and then set the settings to RX&TX.

◇ Available calls

• Selective call

The Selective call allows you to make an individual/group call using an individual ID (identification) assigned for each transceiver.

• Phone call

Allows you to make a Phone call through a telephone interconnect service provider.

• Message call

Allows you to exchange up to 64 character* text messages with the intended ID station.

* 64 character for ICOM Selcall system; 32 character for Open Selcall system.

• Send Position call

Allows you to send your own position information to the intended ID station.

• Get Position call

The Get Position call allows you to request the intended ID station to send position information.

• Get Status call

Requests to send radio status information including power supply voltage, signal strength, output power, VSWR, etc.

• Emergency call

Allows you to broadcast an emergency signal with own position information.

▨ • The Phone call, Message call, Send Position call, Get Position call, Get Status call and Emergency call use Icom original commands, these calls may not be compatible with other brands. (Icom Selcall system)

▨ • Depending on the preprogramming, you can select the Open Selcall system* for these call except the Get Status call.

▨ * Open Selcall system is compatible with other brands. Ask your dealer for details.

• Channel Test call

The Channel Test call allows the user determine the signal quality between your transceiver and specific transceiver before an individual/group call.

• ALE individual/net call

Automatically establish a communication link by using the ALE table.

• ALE sounding

Automatically sends a sounding signal at a certain interval (0.5–16 hours) to check the propagation and stores the data in a table. Also available manual sounding.

• ALE AMD (Automatic Message Display)

Automatically sends and receives up to a 90 character text message.

◆ Selective call

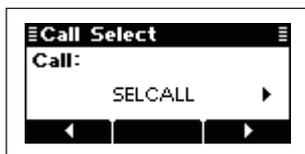
The Selcall allows you to make an individual or group call. Each transceiver is assigned an individual ID (identification) and can be called using this ID.

• Preparation for Selective call

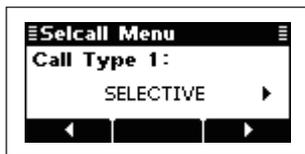
Sending a Channel Test call on several Selcall channels, and check the propagation on each channel to select the channel of good signal quality. (p. 24)

• Sending Selective call

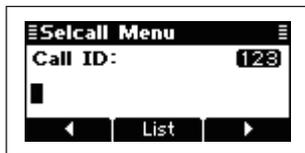
- ① On the Memory Channel display, push [] to enter the Call select menu.
- ② Push [] or [] to select the Call to “SEL-CALL,” then push [] to enter the Selcall menu.



- ③ Push [] or [] to select the Call type to “SELECTIVE.”
 - “SELECTIVE,” “PHONE,” “MESSAGE,” “SEND POSITION,” “GET POSITION,” “GET STATUS,” “EMERGENCY” and “CHANNEL TEST” are selectable.

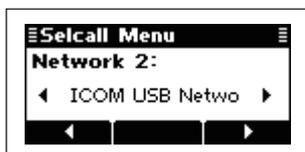


- ④ Push [] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - **Call ID input**
Push numeral keys to enter the Call ID.
 - Push [X] to delete the number.
 - This Call ID is not stored in the Call ID list.

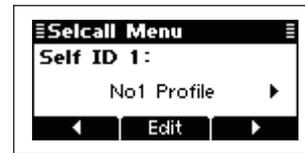


- **Call ID selection**
 - ➔ Push [List] to call the list selection mode.
 - ➔ Push [] or [] to select the Call ID.
 - Push [Edit] to return to the direct input mode.

- ⑤ Push [] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - **Network selection**
Push [] or [] to select the Network.

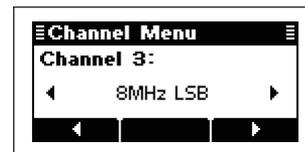


- ⑥ Push [] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - **Self ID selection**
Push [] or [] to select the Self ID.



- **Self ID input**
 - ➔ Push [Edit] to call the direct input mode.
 - ➔ Push numeral keys to enter the Self ID.
 - Push [X] to delete the number.
 - This Self ID is overwritten or stored in the Self ID list.
 - Push [List] to return to the list selection mode.

- ⑦ Push [] to enter the Channel Menu, and then push [] or [] to select the desired operating channel.
 - Push [HOME] to return to the Selcall menu.



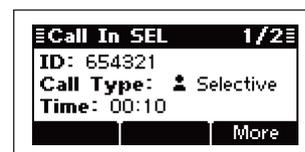
- ⑧ Push [] to transmit the Selective call. The call is stored in the Call Out memory.
 - While calling, push [PTT] to cancel the call.

▨ You can also transmit the Selective call on the Selcall Address display. In this case, you can skip above steps ① to ⑤, after selecting the Selective call address.

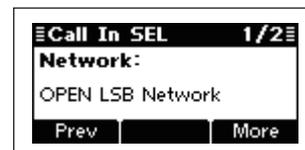
• Receiving Selective call

When a transceiver receives a Selective call with your individual ID, it automatically responds by transmitting. The receiving Selcall is stored in the Call In memory.

- ① After receiving a Selective call, and push any key to enter the Call In memory.



- ② Push [More] or [Prev] to select the information.



- ③ Push [Home] to return to the normal operating mode.

◇ Phone call

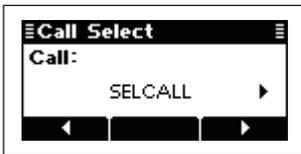
Allows you to make a Phone call through a telephone interconnect service provider.

• Preparation for Phone call

Sending a Channel Test call on several Phone call channels, and check the propagation on each channel to select the channel of good signal quality. (p. 24)

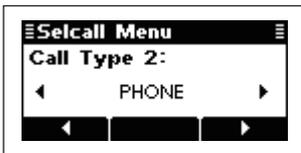
• Sending Phone call

- ① On the Memory Channel display, push [↵] to enter the Call select menu.
- ② Push [←](*) or [→](***) to select the Call to “SEL-CALL,” then push [↵] to enter the Selcall menu.



- ③ Push [←](*) or [→](***) to select the Call type to “PHONE.”

 - “SELECTIVE,” “PHONE,” “MESSAGE,” “SEND POSITION,” “GET POSITION,” “GET STATUS,” “EMERGENCY” and “CHANNEL TEST” are selectable.



- ④ Push [↵] to forward to the next screen.

 - Push [HOME] to return to the previous screen.

 - Phone number input
 - Push numeral keys to enter the Phone number.
 - Push [X] to delete the number.
 - This Number is not stored in the Phone address list.

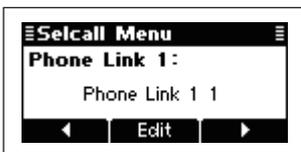


- Phone address selection
 - Push [List](**) to call the list selection mode.
 - Push [←](*) or [→](***) to select the Phone address.
 - Push [Edit](**) to return to the direct input mode.

- ⑤ Push [↵] to forward to the next screen.

 - Push [HOME] to return to the previous screen.

 - Phone Link selection
 - Push [←](*) or [→](***) to select the Network.

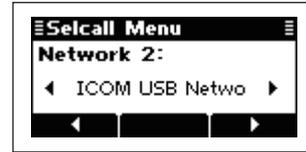


- Phone Link input
 - Push [Edit](**) to call the direct input mode.
 - Push numeral keys to enter the Phone Link.
 - Push [X] to delete the number.
 - This Phone Link is not stored in the Phone Link list.
 - Push [List](**) to return to the list selection mode.

- ⑥ Push [↵] to forward to the next screen.

 - Push [HOME] to return to the previous screen.

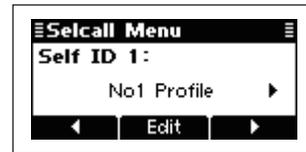
 - Network selection
 - Push [←](*) or [→](***) to select the Network.



- ⑦ Push [↵] to forward to the next screen.

 - Push [HOME] to return to the previous screen.

 - Self ID selection
 - Push [←](*) or [→](***) to select the Self ID.



- Self ID input
 - Push [Edit](**) to call the direct input mode.
 - Push numeral keys to enter the Self ID.
 - Push [X] to delete the number.
 - This Self ID is overwritten or stored in the Self ID list.
 - Push [List](**) to return to the list selection mode.

- ⑧ Push [↵] to enter the Channel Menu, and then push [←](*) or [→](***) to select the desired operating channel.

 - Push [HOME] to return to Selcall menu.



- ⑨ Push [↵] to transmit the Phone call. The call is stored in the Call Out memory.

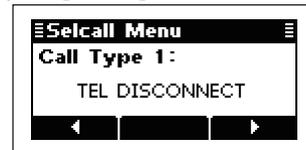
 - While calling, push [PTT] to cancel the call.

▨ You can also transmit the Phone call on the Selcall Address display. In this case, you can skip above steps ① to ④, after selecting the Phone call address.

• After a Phone call

- ① When a Phone call is finished, push [↵] to enter the Selcall menu.

 - “TEL DISCONNECT” appears.
 - If desired, push [HOME] to return to the previous screen.



- ② Then, push [↵] to transmit the disconnect call.

 - Until ‘TEL DISCONNECT’ is transmitted, the telephone interconnect service provider continues counting the time for toll charging.

◆ Message call

The Message call allows you to exchange up to 64 character* text messages with the intended ID station, also you to leave a message at the station.

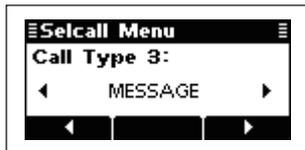
* 64 character for ICOM Selcall system; 32 character for Open Selcall system.

• Preparation for Message call

Sending a Channel Test call on several Selcall channels, and check the propagation on each channel to select the channel of good signal quality. (p. 24)

• Sending Message call

- ① On the Memory Channel display, push [↶] to enter the Call select menu.
- ② Push [◀](▪) or [▶](▪▪▪) to select the Call to “SEL-CALL,” then push [↶] to enter the Selcall menu.
- ③ Push [◀](▪) or [▶](▪▪▪) to select the Call type to “MESSAGE.”
 - “SELECTIVE,” “PHONE,” “MESSAGE,” “SEND POSITION,” “GET POSITION,” “GET STATUS,” “EMERGENCY” and “CHANNEL TEST” are selectable.

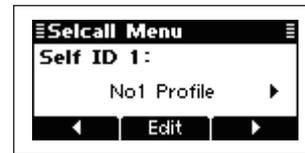


- ④ Push [↶] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - Call ID input
 - ➔ Push numeral keys to enter the Call ID.
 - Push [X] to delete the number.
 - This Call ID is not stored in the Call ID list.
 - Call ID selection
 - ➔ Push [List](▪▪) to call the list selection mode.
 - ➔ Push [◀](▪) or [▶](▪▪▪) to select the Call ID.
 - Push [Edit](▪▪) to return to the direct input mode.
- ⑤ Push [↶] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - Message selection
 - ➔ Push [◀](▪) or [▶](▪▪▪) to select the Message.



- Message input
 - ➔ Push [Edit](▪▪) to call the direct input mode.
 - ➔ Push numeral keys to enter the Message.
 - Push [A/a](#) to select the character group, ABC (Capital letters), abc (small letters) or 123 (numerals).
 - Push [X] to delete the character.
 - This Message is overwritten or stored in the Message list.
 - Push [List](▪▪) to return to the list selection mode.
- ⑥ Push [↶] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - Network selection
 - ➔ Push [◀](▪) or [▶](▪▪▪) to select the Network.

- ⑦ Push [↶] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - Self ID selection
 - ➔ Push [◀](▪) or [▶](▪▪▪) to select the Self ID.



- Self ID input
 - ➔ Push [Edit](▪▪) to call the direct input mode.
 - ➔ Push numeral keys to enter the Self ID.
 - Push [X] to delete the number.
 - This Self ID is overwritten or stored in the Self ID list.
 - Push [List](▪▪) to return to the list selection mode.

- ⑧ Push [↶] to enter the Channel Menu, and then push [◀](▪) or [▶](▪▪▪) to select the desired operating channel.
 - Push [HOME] to return to the Selcall menu.



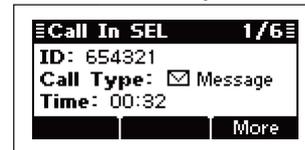
- ⑨ Push [↶] to transmit the Message call. The call is stored in the Call Out memory.
 - While calling, push [PTT] to cancel the call.

▨ You can also transmit the Selective call on the Sel-call Address display. In this case, you can skip above steps ① to ⑥, after selecting the Message call address.

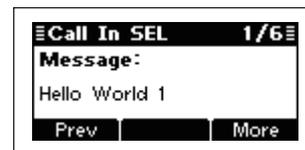
• Receiving Message call

When a transceiver receives a Message call with your individual ID, it automatically responds by transmitting. The receiving Message is stored in the Call In memory.

- ① After receiving a Message call, and push any key to enter the Call In memory.



- ② Push [More](▪▪▪) or [Prev](▪) to select the information.



- ③ Push [HOME] to return to the normal operating mode.

◆ Send Position call

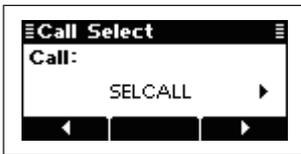
The Send Position call allows you to send your own position/time information to the intended ID station.

• Preparation for Send Position call

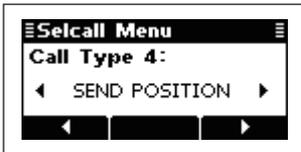
Sending a Channel Test call on several Selcall channels, and check the propagation on each channel to select the channel of good signal quality. (p. 24)

• Sending Send Position call

- ① On the Memory Channel display, push [↶] to enter the Call select menu.
- ② Push [←](*) or [→](***) to select the Call to “SEL-CALL,” then push [↶] to enter the Selcall menu.



- ③ Push [←](*) or [→](***) to select the Call type to “SEND POSITION.”
 - “SELECTIVE,” “PHONE,” “MESSAGE,” “SEND POSITION,” “GET POSITION,” “GET STATUS,” “EMERGENCY” and “CHANNEL TEST” are selectable.



- ④ Push [↶] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
- Call ID input
- Push numeral keys to enter the Call ID.
- Push [X] to delete the number.
 - This Call ID is not stored in the Call ID list.



- Call ID selection
- Push [List](**) to call the list selection mode.
 - Push [←](*) or [→](***) to select the Call ID.
 - Push [Edit](**) to return to the direct input mode.
- ⑤ Push [↶] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
- Network selection
- Push [←](*) or [→](***) to select the Network.

- ⑥ Push [↶] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
- Self ID selection
- Push [←](*) or [→](***) to select the Self ID.



- Self ID input
- Push [Edit](**) to call the direct input mode.
 - Push numeral keys to enter the Self ID.
 - Push [X] to delete the number.
 - This Self ID is overwritten or stored in the Self ID list.
 - Push [List](**) to return to the list selection mode.
- ⑦ Push [↶] to enter the Channel Menu, and then push [←](*) or [→](***) to select the desired operating channel.
 - Push [HOME] to return to the Selcall menu.



- ⑧ Push [↶] to transmit the Send Position call. The call is stored in the Call Out memory.
 - While calling, push [PTT] to cancel the call.

▨ You can also transmit the Send Position call on the Selcall Address display. In this case, you can skip above steps ① to ⑤, after selecting the Send Position call address.

• Receiving Send Position call

When a transceiver receives a Send Position call with your individual ID, it automatically responds by transmitting. The receiving Send Position call is stored in the Call In memory.

- ① After receiving a Send Position call, and push any key to enter the Call In memory.



- ② Push [More](***) or [Prev](*) to select the information.



- ③ Push [HOME] to return to normal operating mode.

◇ Get Position call

◇ Get Position call

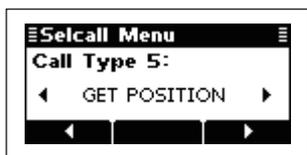
The Get Position call allows you to request the intended ID station to send position information.

• Preparation for Get Position call

Sending a Channel Test call on several Selcall channels, and check the propagation on each channel to select the channel of good signal quality. (p. 24)

• Sending Get Position call

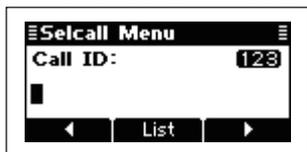
- ① On the Memory Channel display, push [↵] to enter the Call select menu.
- ② Push [◀](▪) or [▶](▪▪▪) to select the Call to “SELCALL,” then push [↵] to enter the Selcall menu.
- ③ Push [◀](▪) or [▶](▪▪▪) to select the Call type to “GET POSITION.”
 - “SELECTIVE,” “PHONE,” “MESSAGE,” “SEND POSITION,” “GET POSITION,” “GET STATUS,” “EMERGENCY” and “CHANNEL TEST” are selectable.



- ④ Push [↵] to forward to the next screen.
 - Push [HOME] to return to the previous screen.

○ Call ID input

- Push numeral keys to enter the Call ID.
 - Push [X] to delete the number.
 - This Call ID is not stored in the Call ID list.



○ Call ID selection

- ➔ Push [List](▪▪) to call the list selection mode.
- ➔ Push [◀](▪) or [▶](▪▪▪) to select the Call ID.
 - Push [Edit](▪▪) to return to the direct input mode.

- ⑤ Push [↵] to forward to the next screen.
 - Push [HOME] to return to the previous screen.

○ Network selection

- Push [◀](▪) or [▶](▪▪▪) to select the Network.

- ⑥ Push [↵] to forward to the next screen.
 - Push [HOME] to return to the previous screen.

○ Self ID selection

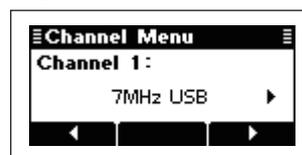
- Push [◀](▪) or [▶](▪▪▪) to select the Self ID.



○ Self ID input

- ➔ Push [Edit](▪▪) to call the direct input mode.
- ➔ Push numeral keys to enter the Self ID.
 - Push [X] to delete the number.
 - This Self ID is overwritten or stored in the Self ID list.
 - Push [List](▪▪) to return to the list selection mode.

- ⑦ Push [↵] to enter the Channel Menu, and then push [◀](▪) or [▶](▪▪▪) to select the desired operating channel.
 - Push [HOME] to return to the Selcall menu.

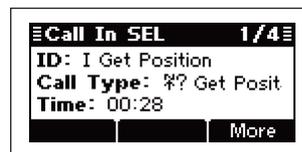


- ⑧ Push [↵] to transmit the Get Position call. The call is stored in the Call Out memory.
 - While calling, push [PTT] to cancel the call.

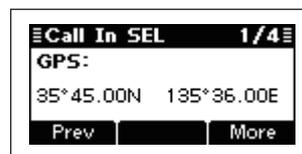
▨ You can also transmit the Get Position call on the Selcall Address display. In this case, you can skip above steps ① to ⑤, after selecting the Get Position call address.

• Receiving Get Position call acknowledgement

- ① After the call is transmitted, your calling station responds a position/time information for an acknowledgement. Push [↵] to enter the Call In memory.



- ② Push [More](▪▪▪) or [Prev](▪) to select the information.



- ③ Push [HOME] to return to the normal operating mode.

• Receiving Get Position call

When a transceiver receives a Get Position call with your individual ID, it automatically responds by transmitting. The receiving Get Position call is stored in the Call In memory.

◇ Get Status call

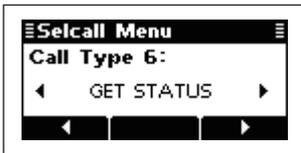
The Get Status call requests to send radio status information including power supply voltage, signal strength, output power, VSWR, etc.

• Preparation for Get Status call

Sending a Channel Test call on several Selcall channels, and check the propagation on each channel to select the channel of good signal quality. (p. 24)

• Sending Get Status call

- ① On the Memory Channel display, push [↶] to enter the Call select menu.
- ② Push [◀](*) or [▶](***), to select the Call to “SEL-CALL,” then push [↶] to enter the Selcall menu.
- ③ Push [◀](*) or [▶](***), to select the Call type to “GET STATUS.”
 - “SELECTIVE,” “PHONE,” “MESSAGE,” “SEND POSITION,” “GET POSITION,” “GET STATUS,” “EMERGENCY” and “CHANNEL TEST” are selectable.



- ④ Push [↶] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
- Call ID input
- Push numeral keys to enter the Call ID.
- Push [X] to delete the number.
 - This Call ID is not stored in the Call ID list.



- Call ID selection
- Push [List](**) to call the list selection mode.
 - Push [◀](*) or [▶](***), to select the Call ID.
 - Push [Edit](**) to return to the direct input mode.
- ⑤ Push [↶] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
- Network selection
- Push [◀](*) or [▶](***), to select the Network.
- ⑥ Push [↶] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
- Self ID selection
- Push [◀](*) or [▶](***), to select the Self ID.



○ Self ID input

- Push [Edit](**) to call the direct input mode.
- Push numeral keys to enter the Self ID.
 - Push [X] to delete the number.
 - This Self ID is overwritten or stored in the Self ID list.
 - Push [List](**) to return to the list selection mode.

- ⑦ Push [↶] to enter the Channel Menu, and then push [◀](*) or [▶](***), to select the desired operating channel.
 - Push [HOME] to return to the Selcall menu.

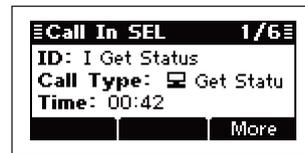


- ⑧ Push [↶] to transmit the Get Status call. The call is stored in the Call Out memory.
 - While calling, push [PTT] to cancel the call.

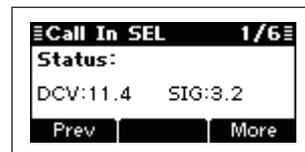
▨ You can also transmit the Get Status call on the Selcall Address display. In this case, you can skip above steps ① to ⑤, after selecting the Get Status call address.

• Receiving Get Status call acknowledgement

- ① After the call is transmitted, your calling station responds a status information for an acknowledgement. Push any key to enter the Call In memory.



- ② Push [More](***) or [Prev](*) to select the information.



- Status information includes power supply voltage and signal strength.

- ③ Push [HOME] to return to the normal operating mode.

• Receiving Get Status call

When a transceiver receives a Get Status call with your individual ID, it automatically responds by transmitting. The receiving Get Status call is stored in the Call In memory.

◇ Emergency selcall

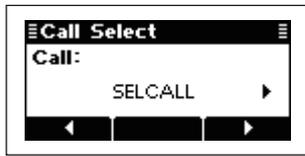
The Emergency call allows you to broadcast an emergency signal with own position information.

• Preparation for Get Status call

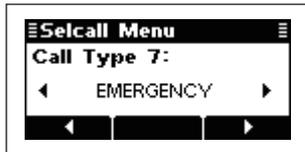
Sending a Channel Test call on several Selcall channels, and check the propagation on each channel to select the channel of good signal quality. (p. 24)

• Sending Emergency call

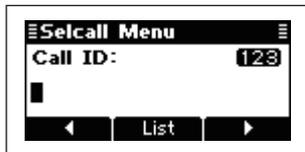
- ① On the Memory Channel display, push [] to enter the Call select menu.
- ② Push [](*) or [](***) to select the Call to “SEL-CALL,” then push [] to enter the Selcall menu.



- ③ Push [](*) or [](***) to select the Call type to “EMERGENCY.”
 - “SELECTIVE,” “PHONE,” “MESSAGE,” “SEND POSITION,” “GET POSITION,” “GET STATUS,” “EMERGENCY” and “CHANNEL TEST” are selectable.

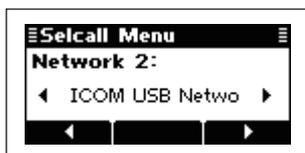


- ④ Push [] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - Call ID input
 - ➔ Push numeral keys to enter the Call ID.
 - Push [X] to delete the number.
 - This Call ID is not stored in the Call ID list.



- Call ID selection
 - ➔ Push [List](***) to call the list selection mode.
 - ➔ Push [](*) or [](***) to select the Call ID.
 - Push [Edit](**) to return to the direct input mode.

- ⑤ Push [] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - Network selection
 - ➔ Push [](*) or [](***) to select the Network.



- ⑥ Push [] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - Self ID selection
 - ➔ Push [](*) or [](***) to select the Self ID.



- Self ID input
 - ➔ Push [Edit](**) to call the direct input mode.
 - ➔ Push numeral keys to enter the Self ID.
 - Push [X] to delete the number.
 - This Self ID is overwritten or stored in the Self ID list.
 - Push [List](**) to return to the list selection mode.

- ⑦ Push [] to enter the Channel Menu, and then push [](*) or [](***) to select the desired operating channel.
 - Push [HOME] to return to the Selcall menu.



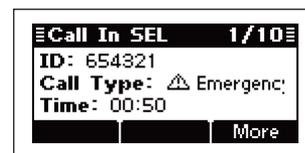
- ⑧ Push [] to transmit the Emergency call. The call is stored in the Call Out memory.
 - While calling, push [PTT] to cancel the call.

▨ You can also transmit the Emergency call on the Selcall Address display. In this case, you can skip above steps ① to ⑤, after selecting the Emergency call address.

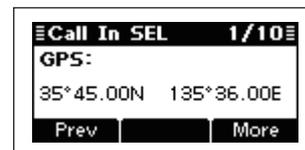
• Receiving Emergency Call

When a transceiver receives an Emergency Call with your individual ID, it automatically responds by transmitting. The receiving Emergency Call is stored in the Call In memory.

- ① After receiving a Emergency call, and push any key to enter the Call In memory.



- ② Push [More](***) or [Prev](*) to select the information.



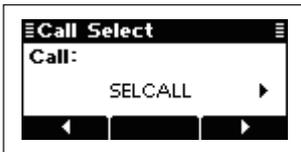
- ③ Push [HOME] to return to normal operating mode.

◇ Channel Test call

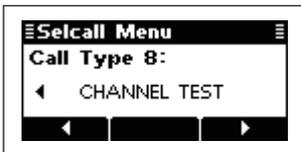
The Channel Test call allows the user determine the signal quality between your transceiver and specific transceiver before an individual/group call. The Channel Test call is also used for checking the channel before sending Phone call.

• Sending Channel Test call

- ① On the Memory Channel display, push [↵] to enter the Call select menu.
- ② Push [←](*) or [→](***) to select the Call to “SEL-CALL,” then push [↵] to enter the Selcall menu.



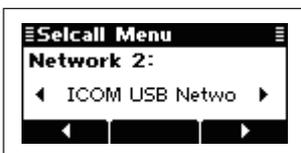
- ③ Push [←](*) or [→](***) to select the Call type to “CHANNEL TEST.”
 - “SELECTIVE,” “PHONE,” “MESSAGE,” “SEND POSITION,” “GET POSITION,” “GET STATUS,” “EMERGENCY” and “CHANNEL TEST” are selectable.



- ④ Push [↵] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
- Call ID input
 - Push numeral keys to enter the Call ID.
 - Push [X] to delete the number.
 - This Call ID is not stored in the Call ID list.



- Call ID selection
 - Push [List](***) to call the list selection mode.
 - Push [←](*) or [→](***) to select the Call ID.
 - Push [Edit](**) to return to the direct input mode.
- ⑤ Push [↵] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
- Network selection
 - Push [←](*) or [→](***) to select the Network.



- ⑥ Push [↵] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
- Self ID selection
 - Push [←](*) or [→](***) to select the Self ID.



- Self ID input
 - Push [Edit](**) to call the direct input mode.
 - Push numeral keys to enter the Self ID.
 - Push [X] to delete the number.
 - This Self ID is overwritten or stored in the Self ID list.
 - Push [List](**) to return to the list selection mode.
- ⑦ Push [↵] to enter the Channel Menu, and then push [←](*) or [→](***) to select the desired operating channel.
 - Push [HOME] to return to the Selcall menu.



- ⑧ Push [↵] to transmit the Channel Test call. The call is stored in the Call Out memory.
 - While calling, push [PTT] to cancel the call.

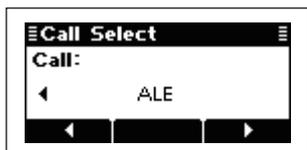
▨ You can also transmit the Channel test call on the Selcall Address display. In this case, you can skip above steps ① to ⑤, after selecting the Channel Test call address.

◇ ALE call

Automatically establish a communication link by using the ALE table.

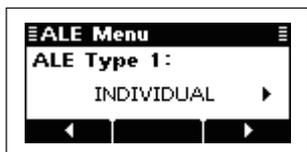
• Sending Individual call

- ① On the Memory Channel display, push [↵] to enter the Call select menu.
- ② Push [◀](*) or [▶](***), to select the Call to “ALE,” then push [↵] to enter the ALE menu.



- ③ Push [◀](*) or [▶](***), to select the Call type to “INDIVIDUAL.”

 - “INDIVIDUAL,” “NET,” “SOUNDING” and “AMD” are selectable.

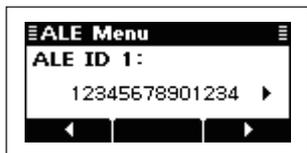


- ④ Push [↵] to forward to the next screen.

 - Push [HOME] to return to the previous screen.

○ ALE ID selection

Push [◀](*) or [▶](***), to select the ALE ID.

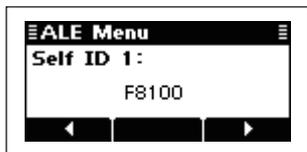


- ⑤ Push [↵] to forward to the next screen.

 - Push [HOME] to return to the previous screen.

○ Self ID selection

Push [◀](*) or [▶](***), to select the Self ID.



- ⑥ Push [↵] to enter the Channel Menu, and then push [◀](*) or [▶](***), to select the desired operating channel.

 - Push [HOME] to return to the ALE Menu.
 - When <Auto> is selected, the transceiver automatically selects the best quality channel in order using LQA table.



- ⑦ Push [↵] to transmit the Individual call. The call is stored in the Call Out memory.

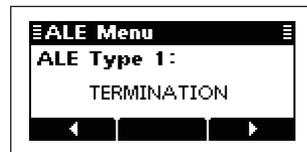
 - While calling, push [PTT] to cancel the call.

▨ You can also transmit the Individual call on the ALE ID display. In this case, you can skip the Call selection.

• After ALE call

- ① After ALE call is finished, push any key to enter the Call menu.

 - While linking the ALE call, “TERMINATION” appears.



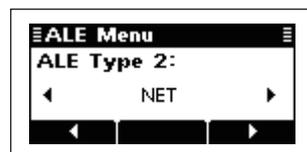
- ② Push [↵] to transmit the disconnect call.

 - Until ‘TERMINATION’ is transmitted, the channel cannot be changed.

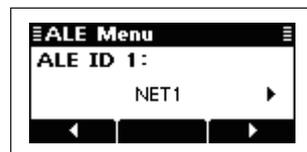
• Sending Net call

- ① Select the Call to “ALE,” same operation as Sending Individual call’s steps ① and ② at left.
- ② Push [◀](*) or [▶](***), to select the Call type to “NET.”

 - “INDIVIDUAL,” “NET,” “SOUNDING” and “AMD” are selectable.



- ③ Push [↵] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
- ALE ID selection
- Push [◀](*) or [▶](***), to select the ALE ID for Net call.



- ④ Select the Self ID and Operating channel, same operation as Sending Individual call’s steps ⑤ and ⑥ at left.
- ⑤ Push [↵] to transmit the Net call. The call is stored in the Call Out memory.

 - While calling, push [PTT] to cancel the call.

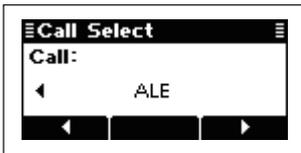
▨ You can also transmit the Net call on the ALE ID display. In this case, you can skip the Call selection.

◇ **ALE sounding**

Automatically sends a sounding signal at a certain interval (0.5–16 hours) to check the propagation and stores the data in a table. Also available manual sounding.

• **Manual sounding**

- ① On the Memory Channel display, push [] to enter the Call select menu.
- ② Push [](*) or [](***) to select the Call to “ALE,” then push [] to enter the ALE menu.



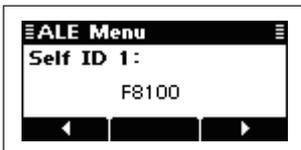
- ③ Push [](*) or [](***) to select the Call type to “SOUNDING.”
 - “INDIVIDUAL,” “NET,” “SOUNDING” and “AMD” are selectable.



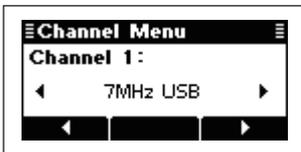
- ④ Push [] to forward to the next screen.
 - Push [HOME] to return to the previous screen.

○ **Self ID selection**

Push [](*) or [](***) to select the Self ID.



- ⑤ Push [] to enter the Channel Menu, and then push [](*) or [](***) to select the desired operating channel.
 - Push [HOME] to return to the ALE Menu.



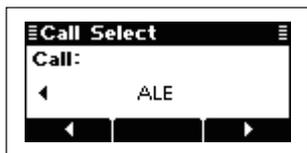
- ⑥ Push [] to transmit the ALE sounding.
 - While calling, push [PTT] to cancel the call.

▨ You can also transmit the ALE sounding on the ALE ID display. In this case, you can skip the Call selection.

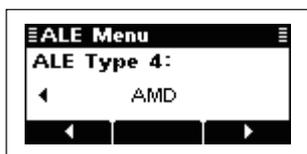
◇ ALE AMD

The ALE AMD (Automatic Message Display) sends and receives up to a 90 character text message.

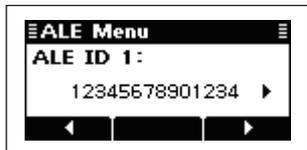
- ① On the Memory Channel display, push [↵] to enter the Call select menu.
- ② Push [←](*) or [→](***), then push [↵] to enter the ALE menu.



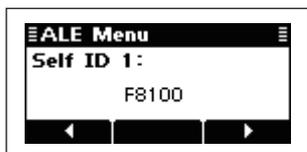
- ③ Push [←](*) or [→](***), then push [↵] to select the Call type to "AMD."
 - "INDIVIDUAL," "NET," "SOUNDING" and "AMD" are selectable.



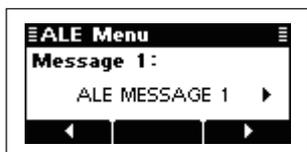
- ④ Push [↵] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - **ALE ID selection**
Push [←](*) or [→](***), then push [↵] to select the ALE ID.



- ⑤ Push [↵] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - **Self ID selection**
Push [←](*) or [→](***), then push [↵] to select the Self ID.



- ⑥ Push [↵] to forward to the next screen.
 - Push [HOME] to return to the previous screen.
 - **ALE Message selection**
Push [←](*) or [→](***), then push [↵] to select the ALE Message.



- ⑦ Push [↵] to enter the Channel Menu, and then push [←](*) or [→](***), then push [↵] to select the desired operating channel.
 - Push [HOME] to return to the ALE Menu.
 - When <Auto> is selected, the transceiver automatically selects the best quality channel in order using LQA table.

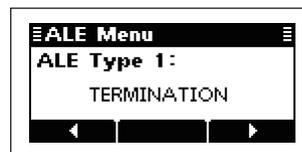


- ⑧ Push [↵] to transmit the ALE AMD call. The call is stored in the Call Out memory.
 - While calling, push [PTT] to cancel the call.

▨ You can also transmit the ALE AMD on the ALE ID display. In this case, you can skip the Call selection.

• **After ALE call**

- ① After ALE call is finished, push [↵] to enter the Call menu.
 - While linking the ALE call, "TERMINATION" appears.



- ② Push [↵] to transmit the disconnect call.
 - Until 'TERMINATION' is transmitted, the channel cannot be changed.

■ Edit Menu

◇ Entering Edit Menu

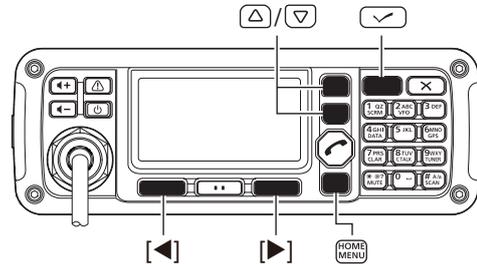
- ① Hold down **[MENU](HOME)** for 1 second to enter the Menu screen.
- ② Push **[△]** one or more times to select the Edit Menu, and then push **[✓]**.
- ③ Push **[✓]** again to enter the Clock Setting.



- ④ Push numeral keys, 0 to 9 to edit the time.
 - Push **[◀](*)** or **[▶](***)** to move the cursor.



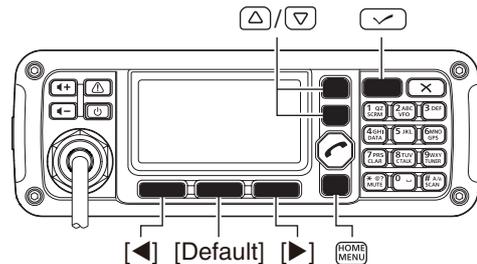
- ⑤ Push **[✓]** to fix the time.
- ⑥ Push **[MENU](HOME)** twice to return to the normal operating mode.



■ User Menu

◇ Entering User Menu

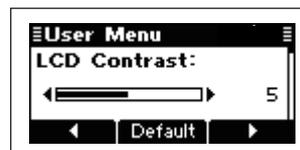
- ① Hold down **[MENU](HOME)** for 1 second to enter the Menu screen.
- ② Push **[△]** or **[▽]** to select the User Menu, and then push **[✓]**.
- ③ Push **[△]** or **[▽]** to select the desired item.
- ④ Push **[◀](*)** or **[▶](***)** to adjust or set the value or setting.
 - Hold down **[Default](**)** for 1 second to set the default value or setting.
- ⑤ Push **[MENU](HOME)** twice to return to the normal operating mode.



◇ User Menu items

LCD Contrast

This item adjust the contrast of the LCD from 0 to 10 in 1 steps. (default: 5)



LCD Dimmer

This item adjusts the backlight brightness of the LCD from 0 (dark) to 10 (bright) in 1 steps. (default: 5)
 1 to 10 : Lights during transceiver power is ON.
 0 : Turns OFF the backlight.



Backlight

This item sets the LCD backlight timer from OFF, Continuous, 5 seconds to 90 seconds in 5 second steps. (default: CONT)

CONT : Lights continuously during transceiver power is ON.
 5sec to 90sec : Lights when some operation is performed, goes out after specified time period.
 OFF : Never lights.



BEEP Level

This item adjusts the confirmation beep level from 0 (OFF) to 50 (Maximum) in 1 steps. (default: 30)



Squelch Level

This item adjusts the squelch threshold level from 0 to 50 in 1 steps. (default: 10)

When the S-meter squelch is activated, only signals stronger than this set level are received.



* When the Advanced User Menu in the Admin Menu is set to OFF, these items are not displayed. In this case, only the LCD Contrast, LCD Dimmer, Backlight, BEEP Level, Squelch Level, Noise Blanker, RF Power and Mic Gain can be adjusted the value or set the setting.

◇ User Menu items (Continued)

Noise Blanker

This item turns the noise blanker function ON or OFF. (default: OFF)

The Noise Blanker function eliminates pulse-type noise such as car ignitions.



Blanker Level*

This item appears when “Advanced User Menu” of the Admin Menu is set to ON.

This item adjusts the Noise blanker level from 0 to 15 in 1 steps. (default: 10)

The set level is effective when the Noise Blanker is activated.



AGC*

This item appears when “Advanced User Menu” of the Admin Menu is set to ON.

This item selects the Automatic gain control settings from FAST, SLOW or AUTO. (default: AUTO)



Bandwidth*

This item appears when “Advanced User Menu” of the Admin Menu is set to ON.

This item selects the IF filter passband width from NARROW, MID and WIDE. (default: WIDE)



Clarifier*

This item appears when “Advanced User Menu” of the Admin Menu is set to ON.

This item selects the Clarifier function capability ON or OFF. (default: OFF)

When this setting is ON, push [CLAR](7) to turn the Clarifier function on the Memory Channel display.



Pre Amp*

This item appears when “Advanced User Menu” of the Admin Menu is set to ON.

This item sets the receiver Preamplifier function ON or OFF. (default: ON)

When receiving weak signal, turn ON this item.



* When the Advanced User Menu in the Admin Menu is set to OFF, these items are not displayed. In this case, only the LCD Contrast, LCD Dimmer, Backlight, BEEP Level, Squelch Level, Noise Blanker, RF Power and Mic Gain can be adjusted the value or set the setting.

RF Power

This item sets the transmit output power to LOW, MID or HIGH. (default: HIGH)

**Speech Processor***

This item appears when "Advanced User Menu" of the Admin Menu is set to ON. This item turns the Speech Processor function ON or OFF. (default: OFF)

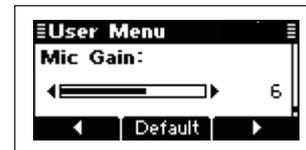
**Processor Level***

This item appears when "Advanced User Menu" of the Admin Menu is set to ON. This item adjust the Speech Processor Level from 0 (Minimum) to 10 (Maximum) in 1 steps. (default: 6)

The set level is effective when the Speech Processor is turned ON.

**Mic Gain**

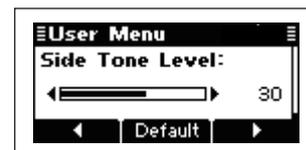
This item adjust the Microphone gain from 0 (Minimum) to 10 (Maximum) in 1 steps. (default: 6)

**Key Lock***

This item appears when "Advanced User Menu" of the Admin Menu is set to ON. This item turns the Lock function ON or OFF. You can select the two type of Lock functions, "ALL" or "NUMERIC KEY." (default: OFF)

**Side Tone Level***

This item appears when "Advanced User Menu" of the Admin Menu is set to ON. This item adjust the CW side tone level from 0 (OFF) to 50 in 1 steps. (default: 30)



* When the Advanced User Menu in the Admin Menu is set to OFF, these items are not displayed. In this case, only the LCD Contrast, LCD Dimmer, Backlight, BEEP Level, Squelch Level, Noise Blanker, RF Power and Mic Gain can be adjusted the value or set the setting.

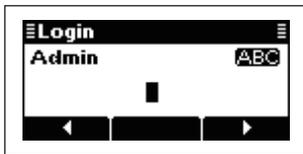
Admin Menu

Admin Menu is used for programming infrequently changed values, settings or functions.

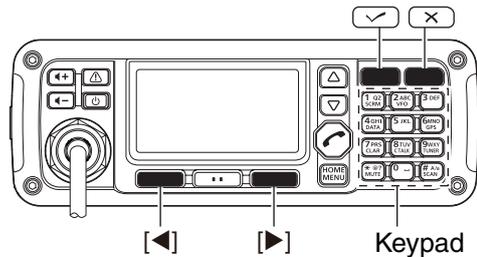
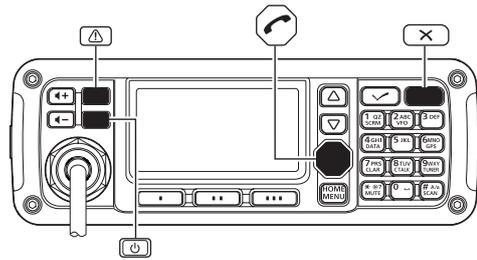
Entering Administrator mode

When first entering the Administrator mode, a Login Password may be required, depending on the preprogramming.

- ① Turn OFF the transceiver power, if it is ON.
- ② While holding down [△], [☎] and [X], push [⏻] to turn ON the transceiver power and enter the Administrator mode.
 - The “Login” display appears, depending on the preprogramming.

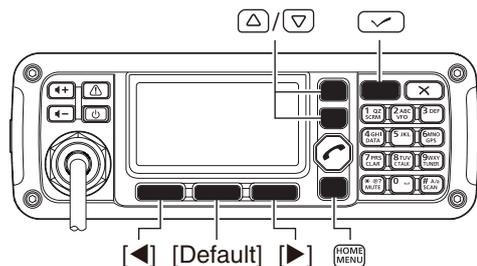


- ③ Push the keypad keys to edit the specific password, and then push [✓] to enter the Administrator mode.
 - Repeatedly push [A/a](#) to select the character group, ABC (Capital letters), abc (small letters) or 123 (numerals).
 - Push [X] to delete a character.
 - Push [◀](•) or [▶](•••) to move the cursor.



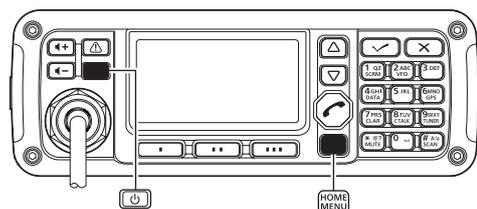
Entering Admin Menu

- ① Hold down [MENU](HOME) for 1 second to enter the Menu screen.
- ② Push [▽] to select the Admin Menu, and then push [✓].
- ③ Push [△] or [▽] to select the desired item.
- ④ Push [◀](•) or [▶](•••) to adjust or set the value or setting.
 - Hold down [Default](••) for 1 second to set the default value or setting.
- ⑤ Push [MENU](HOME) twice to return to the normal operating mode.



Return to Easy mode

- ① Turn OFF the transceiver power, if the transceiver is powered ON.
- ② While holding down [HOME], push [⏻] to turn ON the transceiver power to return to the Easy mode.



◇ Admin Menu items

Tuner type

This item selects the connected Icom antenna tuner from AT-140, AT230 and OFF.

(default: OFF)



TX Timeout

This item turns the Time-Out Timer function ON (1, 3, 5 or 10 minutes) or OFF. If a continuous transmission exceeds the selected time period, the transmission will be cut off, to prevent a prolonged transmission.

(default: 3min)



CW Break-In

This item turns the CW Break-In function ON (0.5, 1, 2 or 3 seconds) or OFF.

The CW Break-In function toggles transmit and receive with CW keying, and this allows you to mute receiving until keying stops with selected delay time.

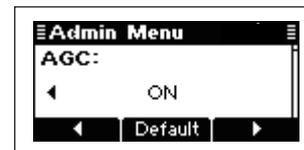
(default: 2.0sec)



AGC

This item turns the Automatic gain control function ON or OFF.

(default: ON)



Clear Talk Level

The Clear Talk function enhances desired signals in the presence of noise by using the DSP circuit. This item adjust the Clear Talk Level from 1 (Minimum) to 15 (Maximum).

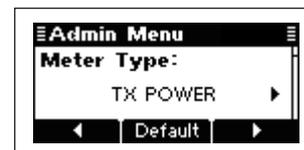
(default: 10)



Meter Type

Sets the transmit meter type to TX POWER or MIC LEVEL.

(default: TX POWER)



FSK Tone

Several mark frequencies are used for FSK operation. This item selects an FSK mark frequency for almost any FSK system from 1200 Hz, 1275 Hz, 1487.5 Hz, 1615 Hz, 1700 Hz, 2100 Hz and 2125 Hz.

(default: 1615 Hz)



◇ Admin Menu items (Continued)

FSK shift

Several shift frequencies are used for FSK operation. This item selects an FSK shift frequency for almost any FSK system from 170 Hz, 200 Hz, 425 Hz and 850 Hz. (default: 170 Hz)



FSK polarity

Normal and reverse polarities are available for FSK operations. This item allows you to select one of these polarities. (default: Normal)



Modem

The item selects the Modem for the Data mode operation from INTERNAL, EXTERNAL or OFF. (default: OFF)



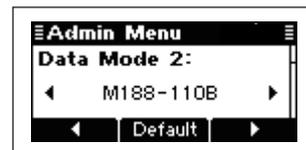
Data Mode 1

This item sets the Data Mode 1 to S4539, M188-110B, S4285S4529, S4415, M188-110A or FSK. (default: S4539)



Data Mode 2

This item sets the Data Mode 2 to S4539, M188-110B, S4285S4529, S4415, M188-110A or FSK. (default: M188-110B)



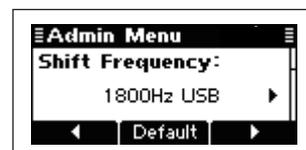
Data Mode 3

This item sets the Data Mode 3 to S4539, M188-110B, S4285S4529, S4415, M188-110A or FSK. (default: FSK)



Shift Frequency

The item set the frequency shift for Data mode operation from 1800Hz USB, 1500Hz USB, 1800 Hz LSB or 1500Hz LSB. (default: 10)



Scan

This item sets the scan type to ALE, SELCALL, VOICE, CALL, ALL MEMORY or OFF.(default: OFF)



Scan Resume

This item sets the scan resume ON or OFF. (default: OFF)

When this setting is ON, scan pauses for 10 seconds, then resumes, or resumes after 2 seconds when the signal disappears.



Scan Auto Start

This item sets the scan resume timer 1 minute to 10 minutes or OFF for all scan type. (default: OFF)

When this setting is ON, scan pauses for setting time period after last transmitting, then resumes.



Scan Speed

This item sets the scan speed for the All Memory scan to HIGH, MID or LOW. (default: HIGH)



Selcall Silent

This item sets the automatic answer back function for the Selcall. (default: OFF)

When OFF is selected, the transceiver automatically answers back if your station ID is called.



Selcall Time Out

This item sets the waiting time for the Selcall answer back while calling. (default: 60 seconds)

If you are calling a specific station, but no answer is coming, then transceiver cancels for waiting the answer back after this time period.



Selective Mode

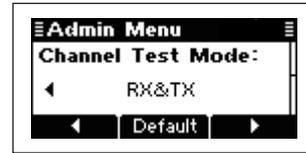
This item selects the activation of Selcall on both reception and transmission, reception only, transmission only or disable. (default: RX&TX)



◇ Admin Menu items (Continued)

Channel Test Mode

This item selects the activation of Channel Test call on both reception and transmission, reception only, transmission only or disable. (default: RX&TX)



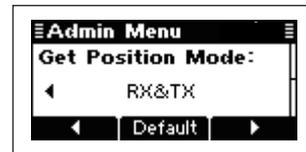
Send Position Mode

This item selects the activation of Position transmitting call on both reception and transmission, reception only, transmission only or disable. (default: RX&TX)



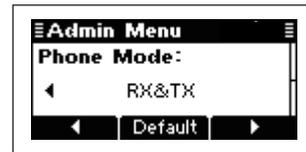
Get Position Mode

This item selects the activation of Position request call on both reception and transmission, reception only, transmission only or disable. (default: RX&TX)



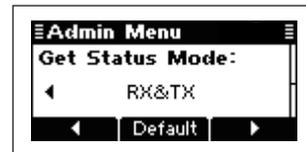
Phone Mode

This item selects the activation of Phone call on both reception and transmission, reception only, transmission only or disable. (default: RX&TX)



Get Status Mode

This item selects the activation of Status request call on both reception and transmission, reception only, transmission only or disable. (default: RX&TX)



Message Mode

This item selects the activation of Message Call on both reception and transmission, reception only, transmission only or disable. (default: RX&TX)



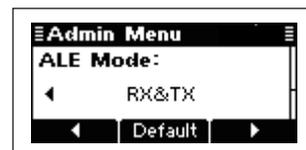
Emergency Mode

This item selects the activation of Emergency call on both reception and transmission, reception only, transmission only or disable. (default: RX&TX)



ALE Mode

This item selects the activation of ALE on both reception and transmission, reception only, transmission only or disable. (default: RX&TX)



ALE Scan Group

This item specifies the ALE scanning group from 1 to 100. (default: 1)



ALE Scan Speed

This item sets the scan speed for the ALE and Call scans to HIGH, MID or LOW. (default: HIGH)



ALE Auto Sounding

This item sets the Auto Sounding interval to 30 minutes, 45 minutes, 1 hour, 2 hours, 3 hours, 4 hours, 8 hours, 16 hours or Auto Sounding function OFF. (default: OFF)

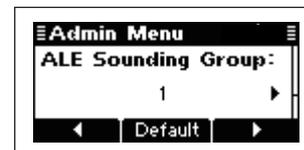
The Auto Sounding function allows user to determine the signal quality.



5

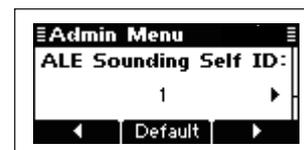
ALE Auto Sounding Group

This item sets the ALE Auto Sounding group to 1 to 100. (default: 1)



ALE Auto Sounding Self ID

This item sets the Self ID for the Auto Sounding function to 1 to 20. (default: 1)



ALE Decay Time

This item sets the decay time for the Auto Sounding function to 1 to 8 hours. (default: 1 hour)



ALE Sounding Length

This item sets the signal length from 5 words to 100 words in 1 word steps. (default: 5 words)

The transceiver repeats to call a calling ID while this setting length.



◇ Admin Menu items (Continued)

ALE BER Threshold

This item sets the Bit Error Ratio (BER) threshold level from 0 to 48 bit for ALE communication quality. (default: 12)

One unit consists of 48 bit data.



ALE Golay Threshold

This item sets the Golay threshold level from 0 to 3 bit for ALE communication quality. (default: 3)

The Golay consists of 12 bit original data and 12 bit correction data.



ALE Error Threshold

This item sets the Error threshold level from 0 to 4 for ALE communication quality. (default: 0)

When errors detected by BER threshold or Golay threshold are over this setting, the communication is NG.



ALE Silent

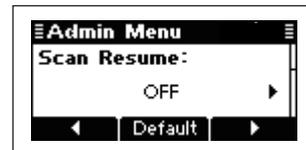
This item sets the ALE Silent mode ON or OFF. (default: OFF)

When OFF is selected, the transceiver automatically answers back if your station ID is called. Or when ON is selected the transceiver ignores the call.



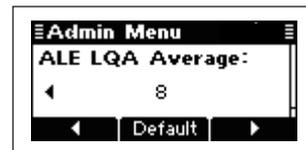
ALE Call Retry

This item sets the retry times to 0 (OFF) to 99 when called station does not answer back. (default: 0)



ALE LQA Average

This item sets the adopting number of LQA data for averaging from 1 to 8. (default: 8)



ALE LQA Request

This item sets the LQA request function ON or OFF. (default: ON)

When ON is selected, transceiver requests the called station to send LQA data with ALE answer back.



ALE Scan Call Time

This item sets a registration of the scan channel number for your group to set the ALE calling times. Selectable numbers are 1–100 in 1 step or AUTO.

(default: AUTO)

AUTO: Same setting as your scan channels.

**Advanced User Menu**

This item sets the Advanced User Menu ON or OFF.
(default: OFF)

When this setting is ON, additional set items, Blanker Level, AGC, Bandwidth, Clarifier, Pre Amp, Speech Processor, Processor Level, Key Lock and Side Tone Level appear in the User Menu.

**CI-V Baudrate**

This item sets the data transfer rate to 300, 1200, 4800, 9600, 19200 bps or AUTO.

(default: AUTO)

**CI-V Address**

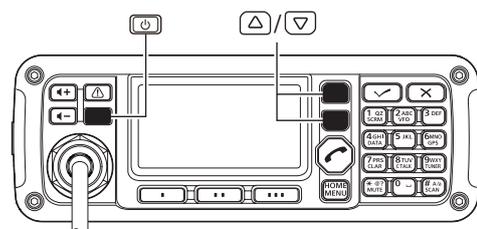
To distinguish equipment, each CI-V transceiver has its own Icom standard address in hexadecimal code. The IC-F8100's address is 82h.

(default: 82h)

**■ CPU Reset**

If you want to initialize the operating settings in the User Menu and Admin Menu without clearing memory channel contents or ID contents.

- ① Turn OFF the transceiver power, if the transceiver is powered ON.
- ② While holding down [▲] and [▼], push [⏻] to turn ON the transceiver power to reset the CPU.

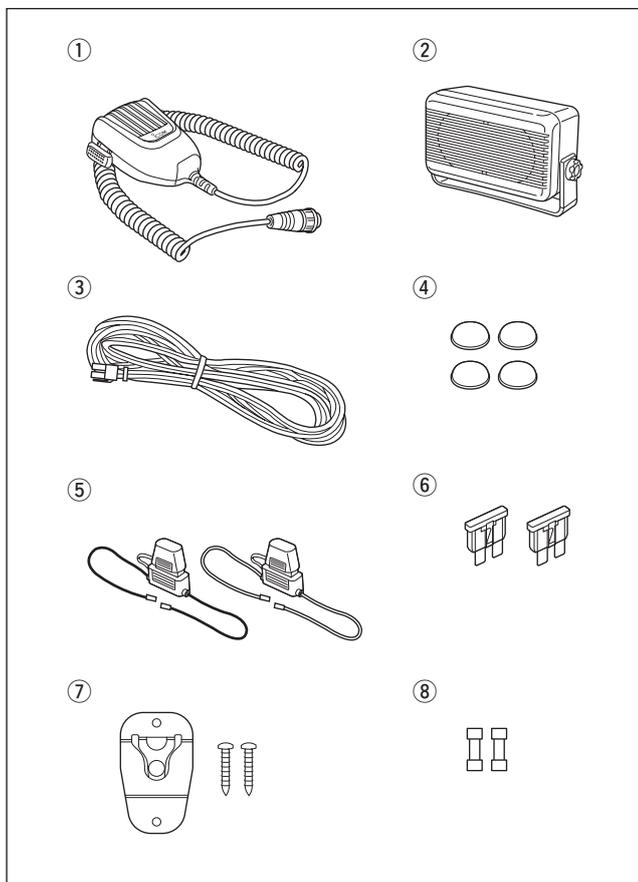


■ Supplied accessories

◇ #01 (One package type)

The following accessories are supplied with IC-F8100 #01.

- ① Microphone (HM-193) 1
- ② External speaker (SP-25)..... 1
- ③ DC power cable (OPC-2140) 1
- ④ Stands..... 4
- ⑤ Black and red cables with fuse holders..... 1 set
- ⑥ Spare fuses (ATC 30 A) 2
- ⑦ Microphone hanger kit 1 set
- ⑧ Crimp terminals..... 2

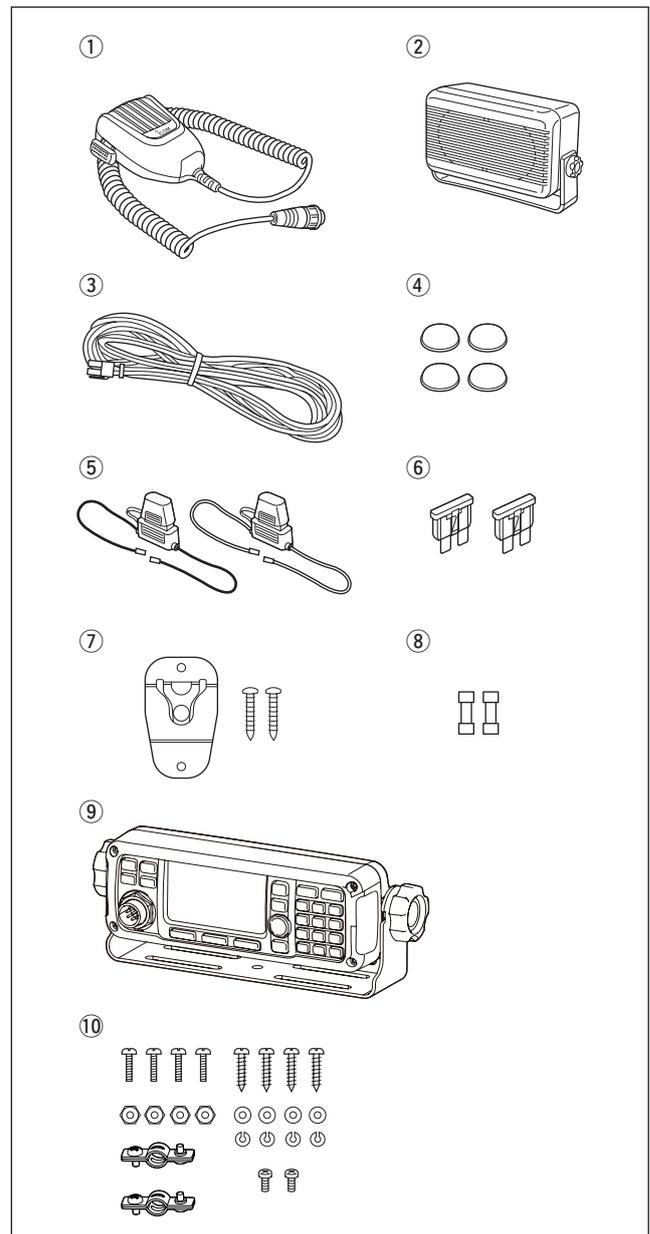


◇ #02 (Separation Type)

The following accessories are supplied with IC-F8100 #02.

- ① Microphone (HM-193) 1
- ② External speaker (SP-25)..... 1
- ③ DC power cable (OPC-2140) 1
- ④ Stands..... 4
- ⑤ Black and red cables with fuse holders..... 1 set
- ⑥ Spare fuses (ATC 30 A) 2
- ⑦ Microphone hanger kit 1 set
- ⑧ Crimp terminals..... 2
- ⑨ Remote controller with mounting bracket..... 1
- ⑩ Separation kit*..... 1 set

*Separation cable is not supplied. Purchase the separation cable.

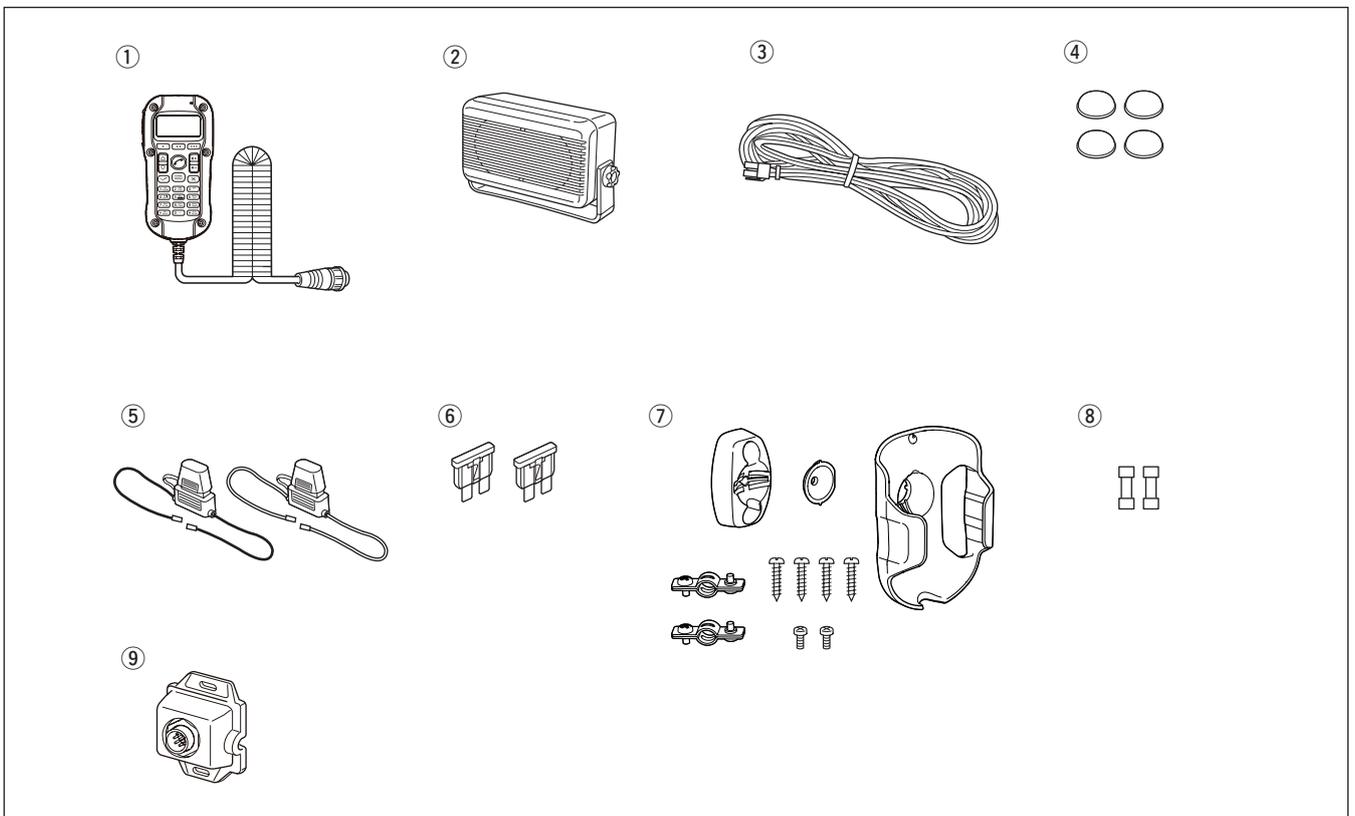


◇ #03 (Remote control microphone Type)

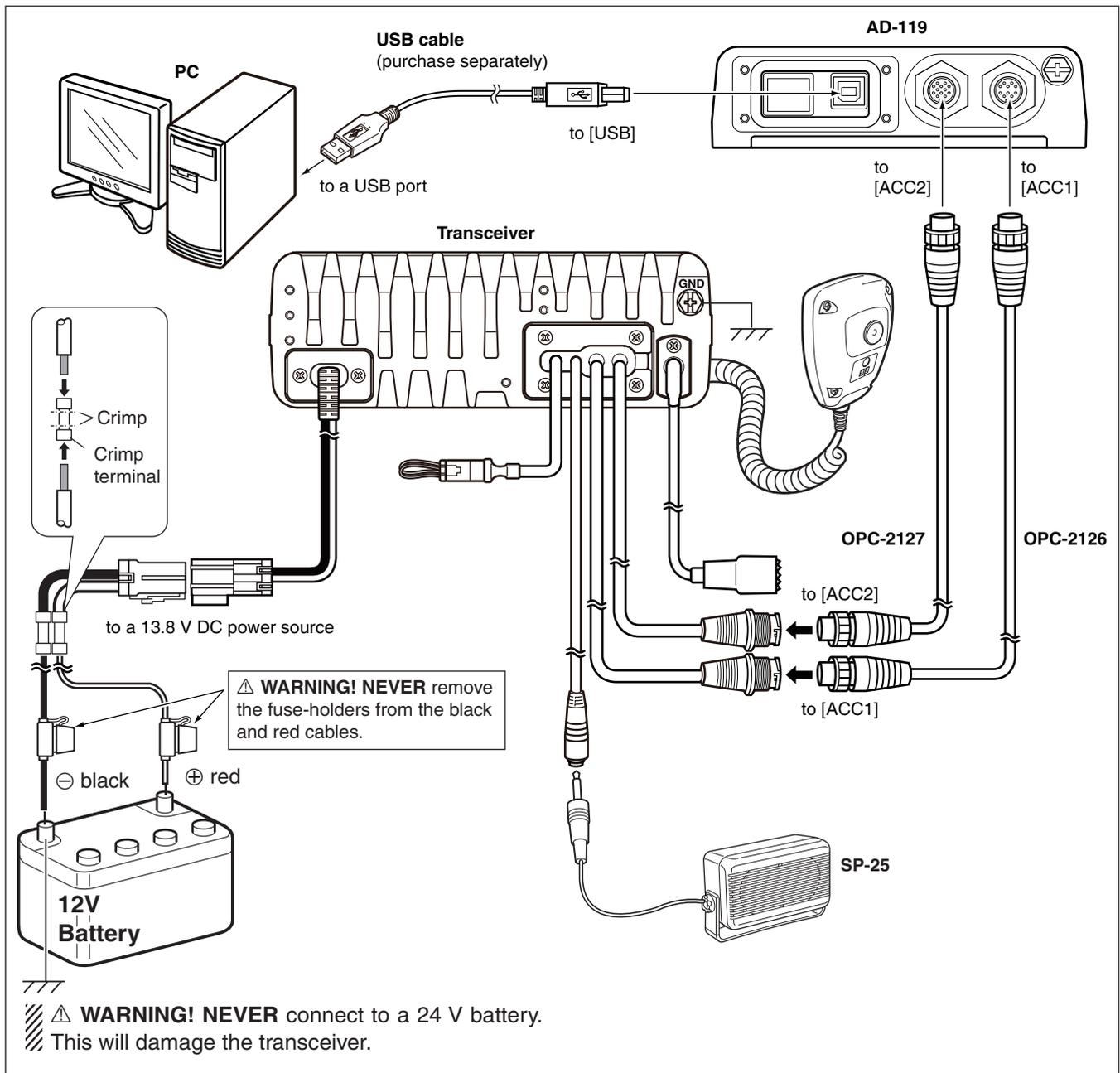
The following accessories are supplied with IC-F8100 #03.

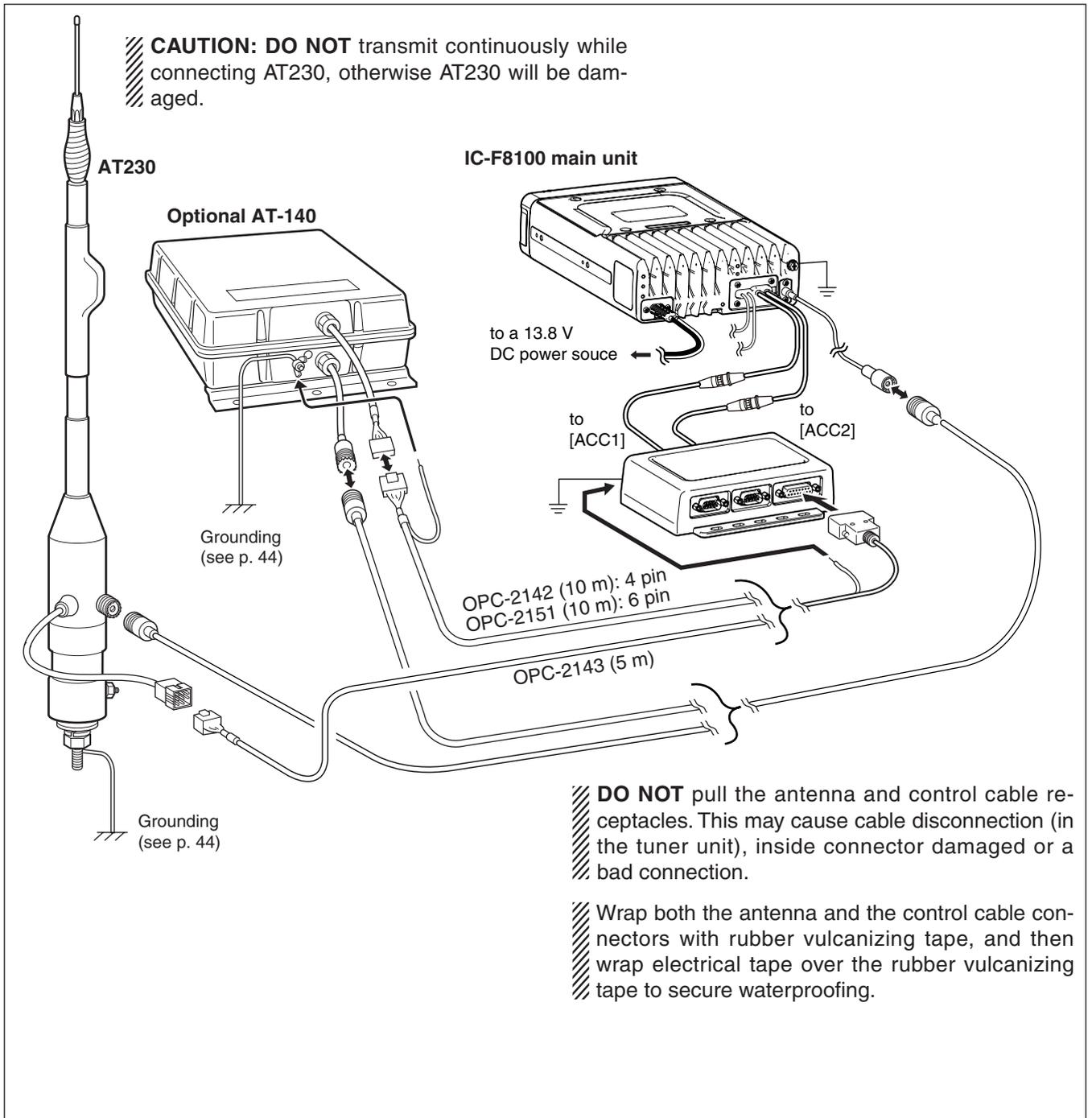
- ① Remote control microphone (HM-192)..... 1
- ② External speaker (SP-25)..... 1
- ③ DC power cable (OPC-2140) 1
- ④ Stands..... 4
- ⑤ Black and red cables with fuse holders..... 1 set
- ⑥ Spare fuses (ATC 30 A) 2
- ⑦ Microphone hanger kit 1 set
- ⑧ Crimp terminals..... 2
- ⑨ Extension MIC connector..... 1

*Separation cable is not supplied. Purchase the separation cable.



■ Connections





Ground connection

The transceiver and antenna tuner MUST have an adequate RF ground connection. Otherwise, the overall efficiency of the transceiver and antenna tuner installation will be reduced. Electrolysis, electrical shocks and interference from other equipment could also occur.

For best results, use 50 or 75 mm (2 or 3 inches) wide copper strap and make the connection as short as possible. Ground the transceiver and antenna tuner to one ground point, otherwise the voltage difference (in RF level) between 2 ground points may cause electrolysis.

⚠ WARNING! When grounding to a metal hull
 Use Zinc anodes to protect the hull from electrolysis.
 Ask your technical dealer, installer or refer to a technical book, etc., for RF grounding details.

Best ground points

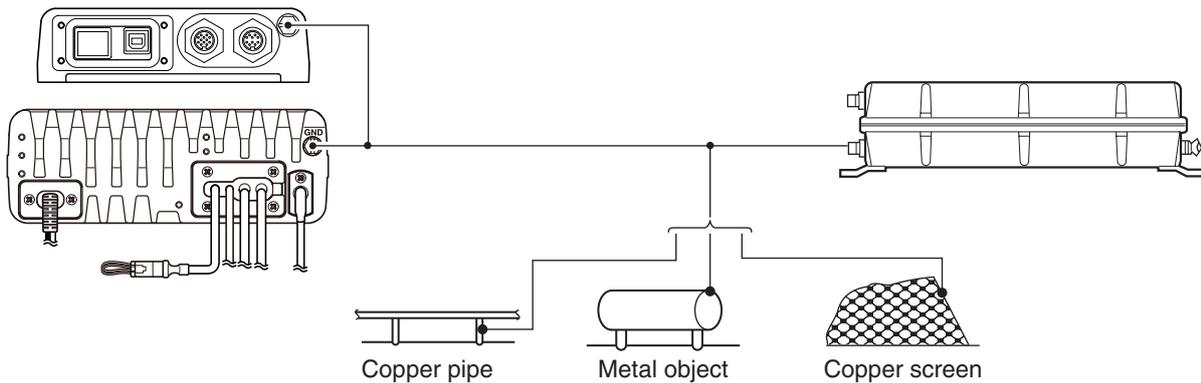
- External ground plate
- Copper screen
- Copper foil

Un-usable ground points

(these connections may cause an explosion or electrical shock)

- Gas or electrical pipe
- Fuel tank or oil-catch pan

Ground system example



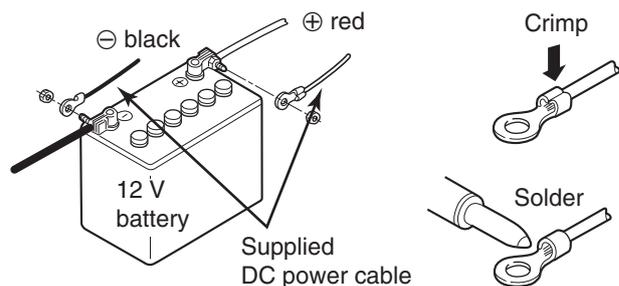
Power source

The transceiver requires a regulated DC power of 13.8 V and at least 28 A. There are two ways to supply power:

- Direct connection to a 12 V battery in your vehicle through the supplied DC power cable.
- Use DC power supply to connect to an AC outlet.

DC power cable connection

⚠ NOTE: Use terminals for the cable connection.



■ Antenna

Most stations operate with a whip or long wire (insulated back stay) antenna. However, these antennas cannot be connected directly to the transceiver since their impedance may not be matched with the transceiver antenna connector.

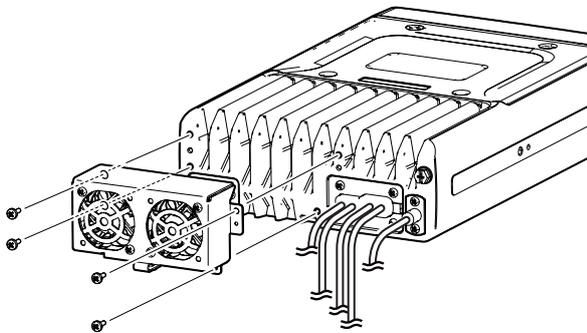
⚠ DANGER HIGH VOLTAGE!
NEVER touch the antenna element/wire while tuning or transmitting.

◇ **AT-140 AUTOMATIC ANTENNA TUNER**
 See page 43.

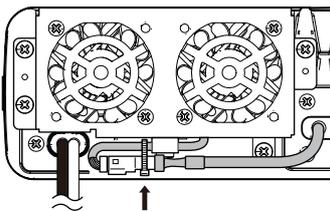
◇ **Non-Icom tuner**
 Some non-Icom tuners may be used with the IC-F8100. Please consult your dealer if you wish to connect one.

■ CFU-F8100 (Optional Cooling Fan)

- ① Attach the Cooling fan to the transceiver's heat-sink, and tighten the 4 supplied screws (M3 × 8).



- ② Fix the connector and cables using supplied cable tie.

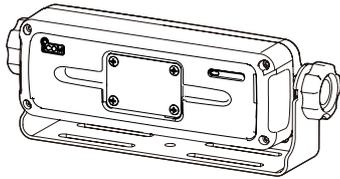


■ RMK-6 (Optional Separation kit)

The RMK-6 allows you to install the IC-F8100's Front panel separately from the Main unit for added installation convenience and operation. Use either the optional OPC-607, OPC-608, OPC-609 or OPC726 SEPARATION CABLE with the RMK-6.

The RMK-6 is same as the separation kit for #02 (Separation type).

◇ Supplied Accessories



RMK-6 with Mounting bracket

Flat washers (M5)



Mounting screws (M5×12)



Cable plate (Screws M2.6×5)



Spring washers (M5)



Self-tapping screws (M5×16)



Hex socket screws



Nuts (M5)



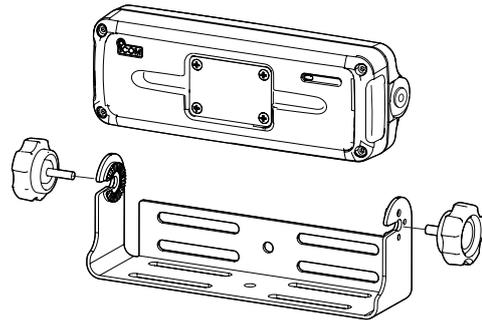
Screws (M3×8)



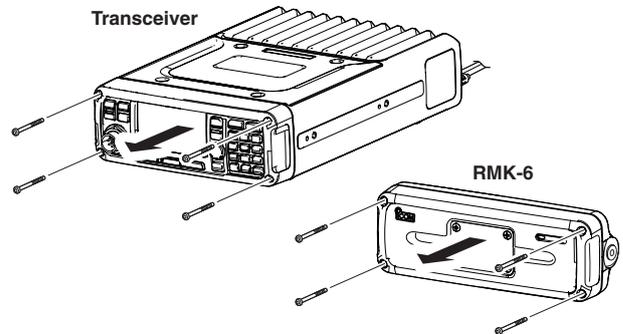
◇ Separation

The optional OPC-607 (3 m), OPC-608 (8 m), OPC-609 (1.9 m) or OPC-726 (5 m) SEPARATION CABLE is required for separately installing the transceiver Front panel and Main Unit.

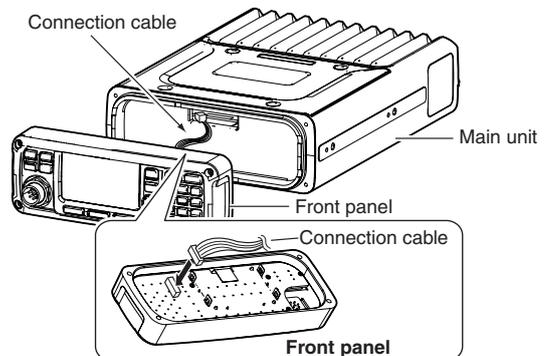
- ① First, make sure the transceiver's power is OFF, then disconnect the DC power cable.
- ② Remove the knob bolts and mounting bracket from RMK-6.



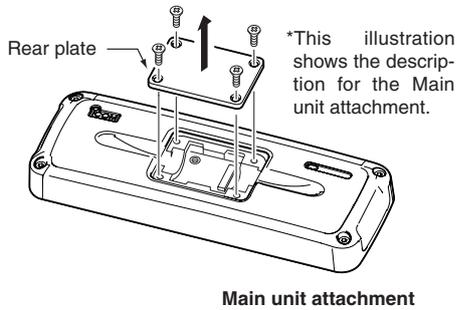
- ③ Unscrew the 4 hex socket screws using an allen wrench, then remove the front panel from the transceiver in the direction of the arrow.
 - Separate the RMK-6's Front panel attachment and Main unit attachment as same way.



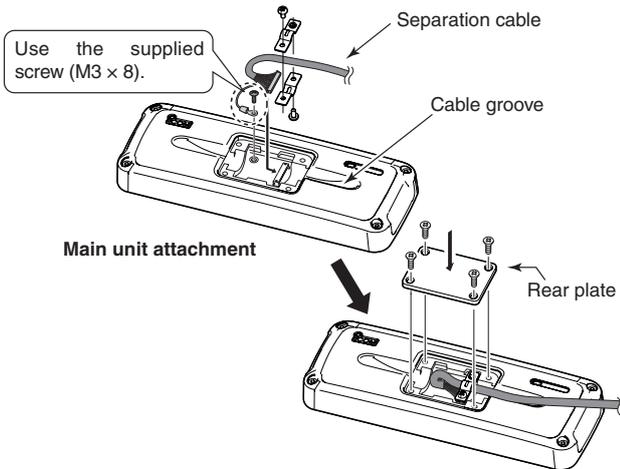
- ④ Disconnect the connection cable from the Front panel.



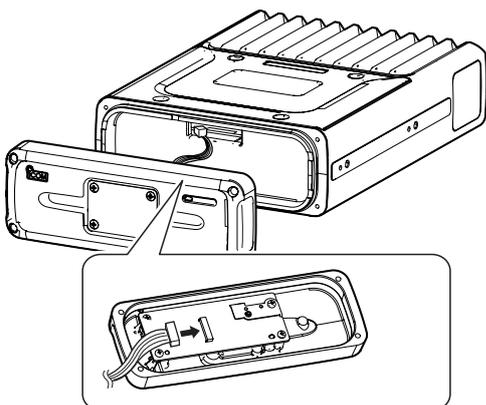
- ⑤ Unscrew the 4 rear plate screws, then remove the Rear plates from both the Front panel and Main unit attachments.



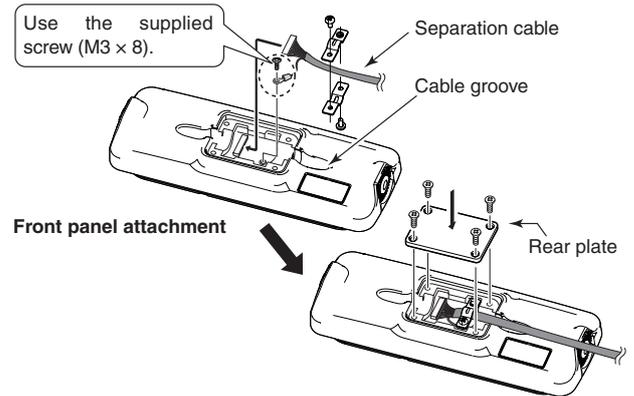
- ⑥ Connect one of the Separation cable OPC-607, OPC-608, OPC-609 or OPC-726 to the Main unit attachment as shown below. After the cable connection, replace the removed rear plate and the 4 screws.
- The separation cable can be inserted into either the left or right grooves as desired on the back of the attachment.



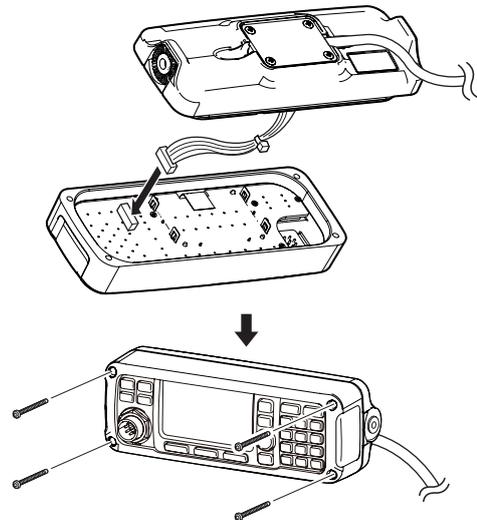
- ⑦ Connect the connection cable (coming from the RMK-6) as shown below. Then tighten the 4 hex socket screws.



- ⑧ Connect the other side of the Separation cable to the Front panel attachment as shown below. After the cable connection, replace the removed rear plate and the 4 screws.
- The separation cable can be inserted into either the left or right grooves as desired on the back of the attachment.



- ⑨ Connect the connection cable (coming from the RMK-6) as shown below. Then tighten the 4 hex socket screws.



■ HM-192 (Optional Remote control microphone)

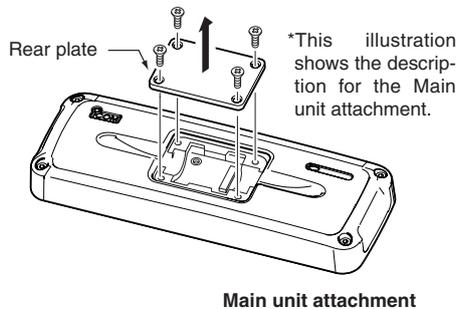
The HM-192 allows you to remotely control the transceiver by using the microphone. Use either the optional OPC-607, OPC-608, OPC-609 or OPC-726 SEPARATION CABLE.

The HM-192 is same as the supplied for #03 (Remote control microphone type).

◇ Mounting

The optional OPC-607 (3 m), OPC-608 (8 m), OPC-609 (1.9 m) or OPC-726 (5 m) SEPARATION CABLE is required for installing the transceiver's Main unit and Remote control microphone.

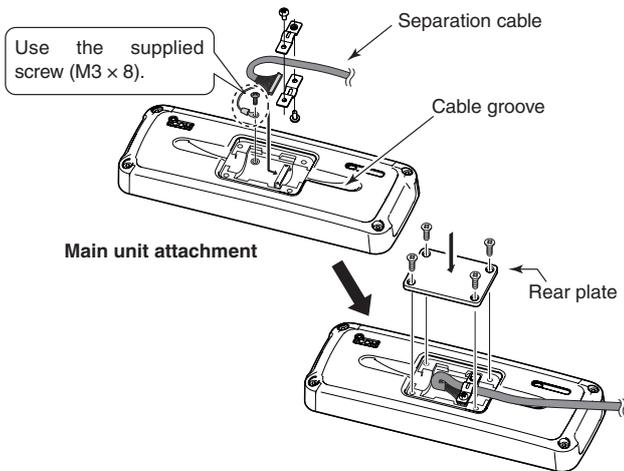
- ① Unscrew the 4 rear plate screws, then remove the Rear plates from both the Extension MIC connector and Main unit attachment.



- ② Connect one of the Separation cable OPC-607, OPC-608, OPC-609 or OPC-726 to the Main unit attachment as shown below.

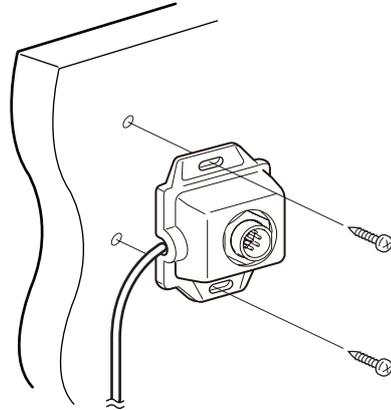
After the cable connection, replace the removed rear plate and the 4 screws.

- The separation cable can be inserted into either the left or right grooves as desired on the back of the attachment.

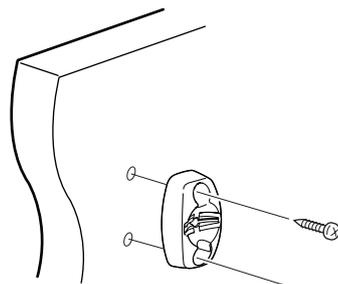


- ③ Connect other side of the Separation cable to the Extension MIC connector as same as step ②. After the cable connection, replace the removed rear plate and the 4 screws.

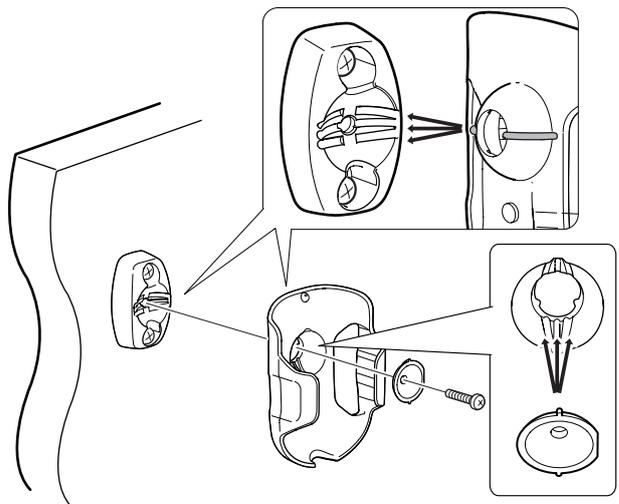
- ④ Attach the Extension MIC connector to the desired place, then tighten the 2 supplied screws (M4 x 20).



- ⑤ Attach the holder base to the desired place near the Extension MIC connector, then tighten the 2 supplied screws (M4 x 20).



- ⑥ Adjust the MIC holder angle, then tighten the one supplied screw (M4 x 14).



- ⑦ Connect the HM-192 to the Extension MIC connector.

■ Mounting

◇ Mounting location

Select a location which can support the weight of the transceiver and does not interfere with driving. We recommend the locations shown in the diagram below.

NEVER place the main unit or remote controller where normal operation of the vehicle may be hindered or where it could cause bodily injury.

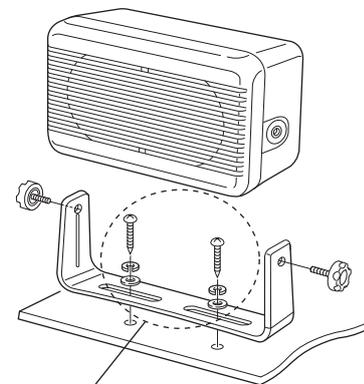
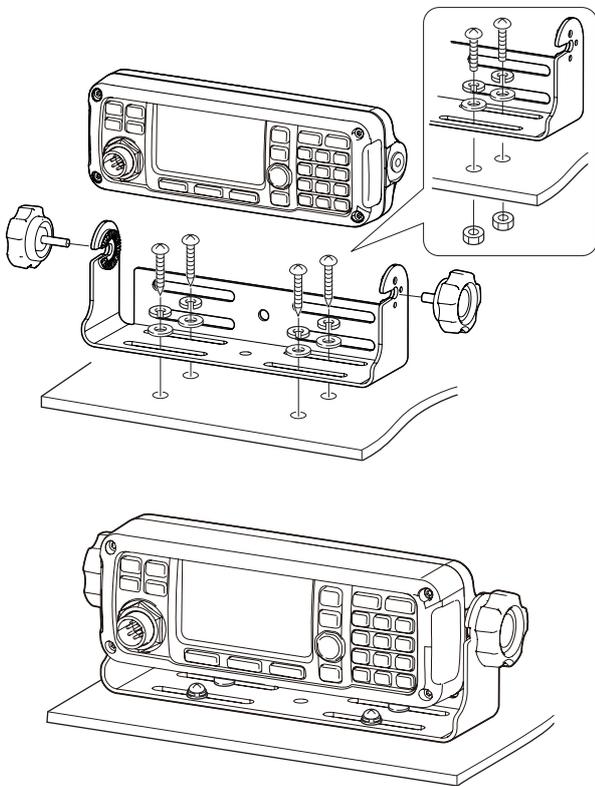
NEVER place the main unit or remote controller where air bag deployment may be obstructed.

DO NOT place the main unit or remote controller where hot or cold air blows directly onto it.

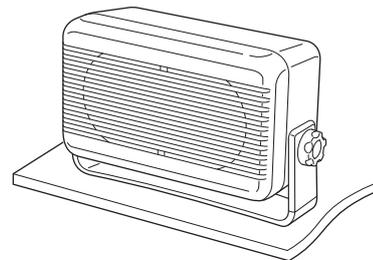
DO NOT place the main unit or remote controller in direct sunlight.

◇ Mounting the controller or speaker

Check the installation angle; the display may not be easy to read at some angles.



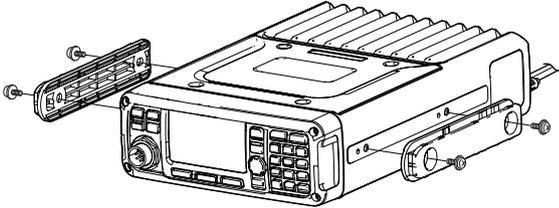
These screws are shown as mounting example only.



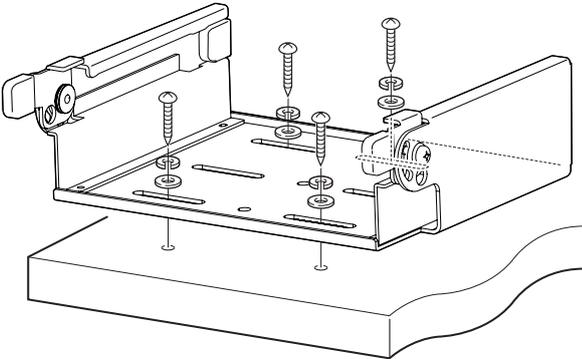
◆ **Mounting the transceiver**

A supplied mounting bracket is available for mounting the transceiver or transceiver's Main unit to a flat surface.

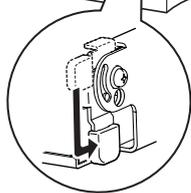
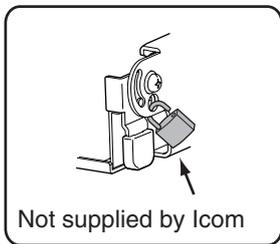
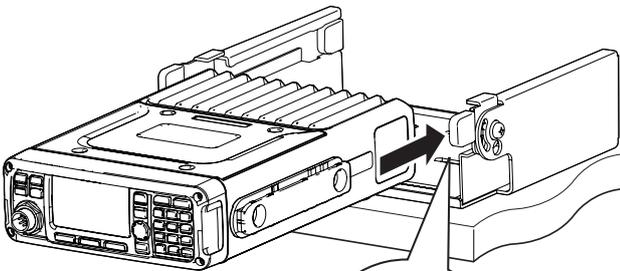
- ① Attach the mounting plates, and tighten the 2 supplied screws (M5 × 8) for each side.



- ② Put the mounting bracket on the board, and then tighten the 4 supplied screws (M5 × 20).

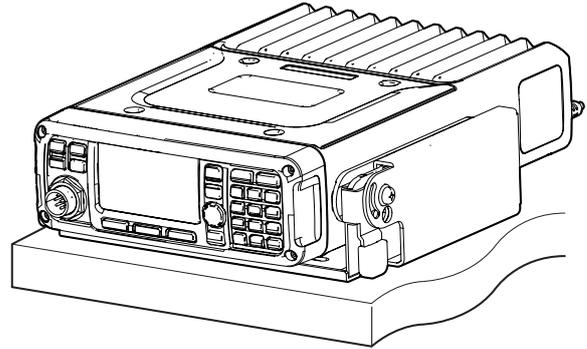


- ③ Attach the Main unit to the mounting bracket as shown below.



- ④ The completed mounting should look like this.

• **Mounting on the board**



⚠ WARNING! mount the mounting bracket with 4 supplied screws to surface which is more than 40 mm thick and can support more than 10 kg. The unit must be mounted on only a flat hard surface.

■ Fuse replacement

If a fuse blows, or the transceiver stops functioning, find the source of the problem, and repair it. Then replace the damaged fuse with a new, adequately rated fuse.

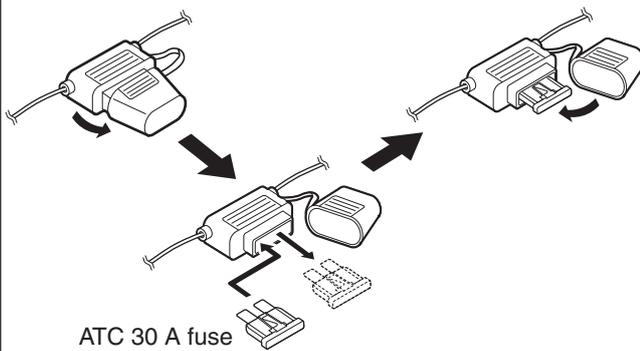
⚠ WARNING! Turn OFF the power and disconnect the DC power cable from the transceiver before performing any work on the transceiver. Otherwise, there is danger of electric shock, equipment damage and/or fire injury.

The IC-F8100 has two fuse types installed for transceiver protection.

- DC power cable ATC 30 A
- Circuitry fuse ATC 5 A

◇ DC power cable fuse replacement

Refer the figure described to the right for the DC power cable fuse replacement.

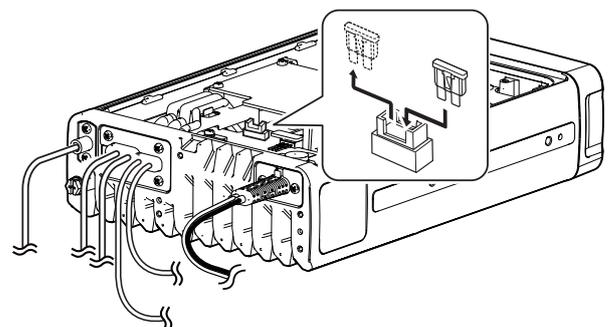
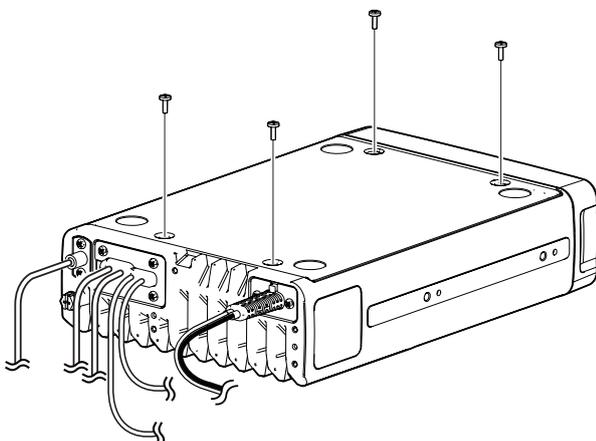


7

◇ Internal fuse replacement

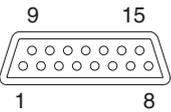
- ① Turn the transceiver upside down.
- ② Unscrew 4 screws from the bottom cover, then lift up the bottom cover.

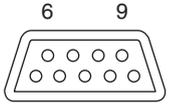
- ③ Replace the circuitry fuse as shown in the diagram below.
 - Use the supplied ATC 5 A fuse.

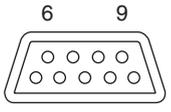


- ④ Replace the bottom cover to its original position.

■ Connector information for AD-119

GPIO	Pin	Pin name	Description	Specification
	1	13.8V	13.8 V output for Antenna tuner	
	2	SCAN	Outputs Antenna tuner control signal	
	3	KEY	Key signal input	-0.5 to 0.8 V during tuning
	4	RL1	Goes to ground when transmitting	
	5	TUM4	Stepping motor control signal output for AT230.	
	6	TUM3	Stepping motor control signal output for AT230.	
	7	TUM2	Stepping motor control signal output for AT230.	
	8	TUM1	Stepping motor control signal output for AT230.	
	9	NC	No connection	
	10	NC	No connection	
	11	START	Start/through signal output	
	12	CWKEY	CW and FSK keying input.	Input level : Less than 0.6 V for transmit
	13	ALC	ALC voltage input.	Control voltage : -4 to 0 V Input impedance : More than 10 kΩ
	14	GND	Connect to ground	
	15	TUMB	Band control signal output for AT230.	

GPS	Pin	Pin name	Description
	1	3V	DC 3 V output (Maximum 200 mA)
	2	RXD	Input terminal for receive data.
	3	-	—
	4	NC	No connection
	5	GND	Connect to the ground.
	6	-	—
	7	-	—
	8	-	—
	9	ALCV	—

DATA	Pin	Pin name	Description
	1	NC	No connection
	2	TXD	Outputs transmit data.
	3	RXD	Input terminal for receive data.
	4	DTR	Outputs data terminal ready signal.
	5	GND	Connect to the ground.
	6	NC	No connection
	7	CTS	Input terminal for clear-to-send data.
	8	RTS	Outputs request-to-send data.
	9	NC	No connection

◇ General

- Frequency coverage : (Unit: MHz)
 - Receive 0.5–29.9999
 - Transmit 1.6–29.9999
- Type of emission : J3E (USB/LSB), A1A (CW),
(depends on version) A3E (AM), F1B (FSK)
- No. of memory Ch. : 500 channels (max.)
- Usable temp. range : –30°C to +60°C
- Frequency stability : ±0.3 ppm (–30°C to +60°C)
- Power supply : 13.8 V DC (negative ground)
(11.73–15.87 V DC)
- Current drain :
 - Transmit (typical) at max. power 28 A
 - Receive at max. audio 3.0 A
- Dimensions (projections not incl.):
Main/Front package 62(W)×174(H)×259(D) mm
- Weight (approx.) :
Main/Front package 3.8 kg

◇ Transceiver

- Output power : (typical)
 - J3E/A1A
 - HIGH 125 W p-p
 - MID 50 W p-p
 - LOW 10 W p-p
 - A3E
 - HIGH 30 W Carrier
 - MID 12.5 W Carrier
 - LOW 3 W Carrier
 - J3E/A1A
 - HIGH 75 W p-p
 - MID 50 W p-p
 - LOW 10 W p-p
- Spurious emission : 64 dB (typical)
below peak output power
- Carrier suppression : 50 dB
below peak output power
- Unwanted sideband suppression :
 - 400 Hz 55 dB
below peak output power
 - 1 kHz 65 dB
below peak output power

◇ Receiver

- Sensitivity:
 - J3E (Pre Amp ON)
 - (0.5–1.5999 MHz) 14 dBμV (10 dB S/N)
 - (1.6–29.9999 MHz) –14 dBμV (10 dB S/N)
 - A3E
 - (0.5–1.5999 MHz) 22 dBμV (10 dB S/N)
 - (1.6–29.9999 MHz) 6 dBμV (10 dB S/N)
- Spurious response rejection ratio:
More than 70 dB
- AF output power : (at 13.8 V DC)
More than 4.0 W at 10%
distortion with a 4 Ω load
- Clarifier range : ±200 Hz

All stated specifications are typical and subject to change without notice or obligation.

AT-140 AUTOMATIC ANTENNA TUNER

Antenna and control cable receptacles for easy installation and tuner through function are available.

SP-10 EXTERNAL SPEAKER**SP-25** EXTERNAL SPEAKER**SP-30** EXTERNAL SPEAKER

The SP-25 is same as that supplied with the IC-F8100. Mounting bracket is supplied with the speaker.

Max. AF input/impedance: 5 W/4 Ω

HM-193 HAND MICROPHONE

Same as supplied with the IC-F8100 #01 (One package type) or #02 (Separation Type).

HM-192 REMOTE CONTROL MICROPHONE

Same as supplied with the IC-F8100 #03 (Remote control microphone type).

Allows you to remotely control the transceiver by the microphone. The HM-193 requires one of the separation cable, OPC-607, OPC-608, OPC-609 or OPC-726.

RMK-6 SEPARATION KIT

Same as supplied with the IC-F8100 #02 (Separation Type).

Allows you to separately install the transceiver Front panel from the Main unit for operating convenience. The RMK-6 requires one of the separation cable, OPC-607, OPC-608, OPC-609 or OPC-726.

OPC-607/OPC-608/OPC-609/OPC-726

SEPARATION CABLE

OPC-607	: 3 m
OPC-608	: 8 m
OPC-609	: 1.9 m
OPC-726	: 5 m

OPC-2142 SHIELDED CONTROL CABLE**OPC-2151** SHIELDED CONTROL CABLE

Shielded control cable protects the transceiver from RF feedback and extends the separation between AT-140 and transceiver up to 10 m.

OPC-2142: 4 pin, OPC-2151: 6 pin

OPC-2143 SHIELDED CONTROL CABLE

Shielded control cable protects the transceiver from RF feedback and extends the separation between AT230 and transceiver up to 5 m.

AD-119 JUNCTION BOX

Allows you to connect the AT-140, AT230 external modem or PC.

MB-126 MOUNTING BRACKET**CFU-F8100** COOLING FAN**Recommended Automatic tuning antenna, AT230 from Moonraker Australia Pty. Limited**

The AT230 is a 2.6 m length mobile whip antenna with automatic tuning function. The antenna matches 2–30 MHz continuously. Use the optional OPC-2143 cable for use with the IC-F8100. Ask your dealer for details.

Count on us!