



OPERATING GUIDE

VHF TRANSCEIVERS

IC-F1000 series

UHF TRANSCEIVERS

IC-F2000 series

- | | |
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INTRODUCTION

Thank you for choosing this Icom product. This product was 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.

IMPORTANT

FIRST, CAREFULLY READ INSTRUCTIONS that is provided with the transceiver.

READ ALL INSTRUCTIONS carefully and completely before using the transceiver.

SAVE THIS OPERATING GUIDE— This instruction manual contains additional important operating instructions for the following transceivers.

- IC-F1000/IC-F2000: Non-display type
- IC-F1000S/IC-F2000S: Simple key type
- IC-F1000T/IC-F2000T: Ten-key type

In this operating guide, the Ten-key type is used for the main illustrations.

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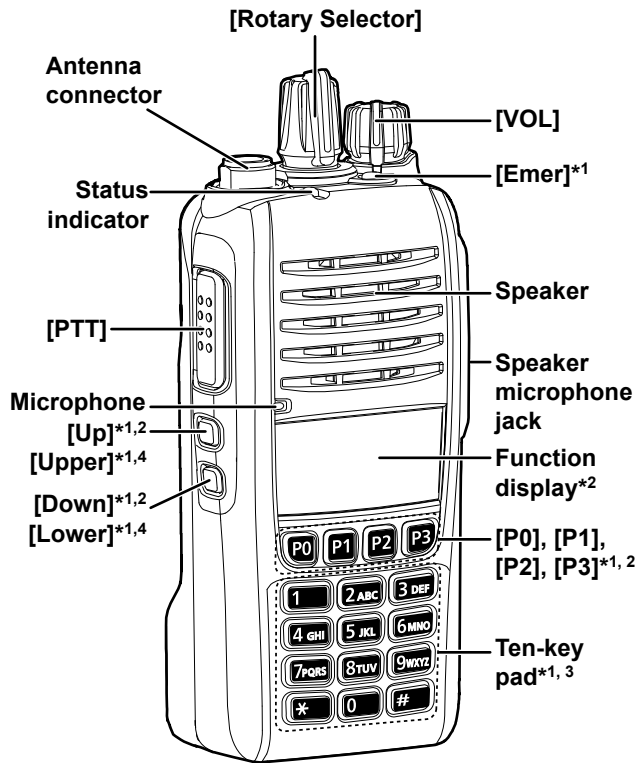
- Force majeure, including, but not limited to, fires, earthquakes, storms, floods, lightning, or other natural disasters, disturbances, riots, war, or radioactive contamination.
- The use of Icom transceivers with any equipment that is not manufactured or approved by Icom.

Section 1

PANEL DESCRIPTION

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Front, top and side panels



*1 Dealer assignable.

*2 Only for the Simple key and Ten-key types.

*3 Only for the Ten-key type.

*4 Only for the Non-Display type.

◇ Status indicator

- Lights red: Transmitting.
 - Lights green: Receiving or squelch is open.
 - Lights or blinks orange: Matching 2-Tone or 5-Tone is received, depending on the presetting.
 - Slowly blinks green: The battery should be charged.
 - Quickly blinks green: The battery is exhausted.
- ① Refer to the Status indicator section. (p. 1-4)

◇ Speaker microphone jack

Connects to an optional speaker microphone or headset.

CAUTION: DO NOT use the transceiver without the jack cover or optional equipment attached. Only when the jack cover is attached, the transceiver meets IP67 requirements for dust-tight and waterproof protection.

◇ About the Software Key functions

Dealers can assign the Software Key functions to the following keys. See pages 1-6 for details.

Non-display type

[Upper], [Lower], and [Emer]

Simple key type

[P0], [P1], [P2], [P3], [Up], [Down], and [Emer]

Ten-key type

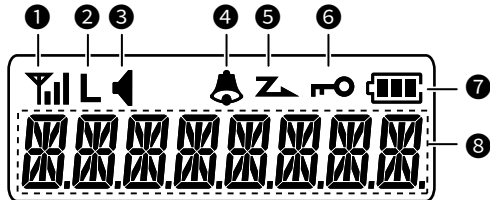
[P0], [P1], [P2], [P3], [Up], [Down], and [Emer]

The following Software keys are assigned at default:

Key	Assigned Software Key
[Upper]	Null
[Lower]	Null
[Emer]	Emergency
[P0]	User Set Mode
[P1]	Zone
[P2]	Lock
[P3]	High/Low
[Up]	CH Up
[Down]	CH Down

Function display

<For the Simple key and Ten-key types>



① SIGNAL STRENGTH INDICATOR

Displays the relative receive signal strength level.

② LOW POWER ICON

Displayed when low output power is selected.

- ① When the battery charge decreases to a set level, low power is automatically selected, depending on the presetting.

③ AUDIBLE ICON

- Displayed when the channel is in the Audible (unmuted) mode.
- Displayed when a matching 2-Tone or 5-Tone is received.

④ BELL ICON

Displayed when a matching signal is received, depending on the presetting.

⑤ SCAN ICON

Displayed or blinks while scanning.

⑥ KEY LOCK ICON

Displayed when the Key Lock function is ON.

⑦ BATTERY INDICATOR

Displays the remaining battery charge.

Indication				
Battery Status	Full	Mid	Charging required	Battery exhausted

blinks when the battery is exhausted.

⑧ ALPHANUMERIC READOUT

Displays messages such as channel text.

Status indicator

The Status indicator indicates the status of various parameters of the transceiver, as described below.
(Reference: R=Red, G=Green, O=Orange)

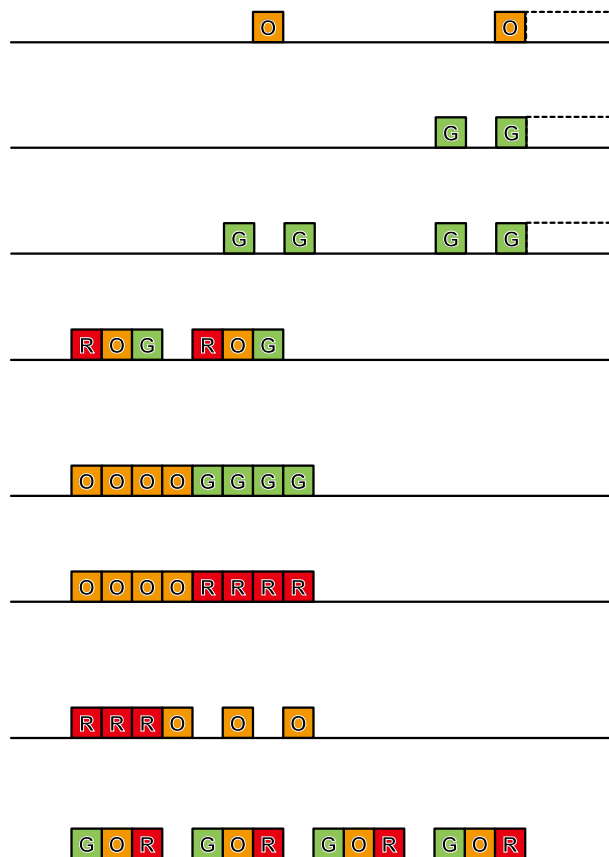
- **Programming:**
Blinks green while reading or writing data.
 - **Programming Error:**
Continuously blinks green and red if programming fails.
 - **Inh, Blank CH, Unlocked:**
Continuously blinks red and orange when you cannot use the channel.
 - **TX low Battery 1:**
Blinks red while detecting a low battery while transmitting.
 - **TX low Battery 2:**
Blinks red while detecting a very low battery while transmitting.
 - **Transmitting:**
Lights red while transmitting.
 - **Bell (Blink):**
Blinks orange about twice every second, when the preset signal is received.*
 - **Bell (ON):**
Blinks orange about once every second, when the preset signal is received.*
- * Depending on the "Bell" setting, the Status indicator blinks when a call that includes a matching 2-Tone or 5-Tone code is received.
- **Scanning:**
Slowly blinks green while scanning for a channel with a signal.
 - **Receiving:**
Lights green while receiving a signal.
 - **Calling:**
Blinks orange while making a call.



1 PANEL DESCRIPTION

Status indicator

- Audible:
Slowly blinks orange while in the Audible mode.
- Low Battery 1:
Blinks green while detecting a low battery.
- Low Battery 2:
Blinks green while detecting a very low battery.
- Power ON:
Blinks red, orange, and green twice at transceiver startup.
- Success:
Slowly blinks orange and then green when your call was successful.
- Failure:
Slowly blinks orange and then red when your call failed, or it was refused.
- TX Error:
Blinks when transmission is inhibited (Lockout, TX Inh, or TOT Penalty timer).
- Emergency, Siren:
Blinks while the Emergency Locator tone is sounding.



Assignable function keys

Assignable function	Reference	LMR model	PMR model
Disable	p. 1-7	✓	✓
Null	p. 1-7	✓	✓
CH Up/Down	p. 1-7	✓	✓
Zone*	p. 1-7	✓	✓
Scan Start/Stop	p. 1-7	✓	✓
Scan Add/Del (Tag)*	p. 1-7	✓	✓
Prio A, Prio B	p. 1-7	✓	✓
Prio A (Rewrite), Prio B (Rewrite)	p. 1-7	✓	✓
MR-CH 1/2/3/4	p. 1-8	✓	✓
Moni	p. 1-8	✓	N/A
Moni (Audi)	p. 1-8	N/A	✓
Lock	p. 1-8	✓	✓
Lone Worker	p. 1-8	✓	✓
High/Low	p. 1-8	✓	✓
C.Tone CH Ent*	p. 1-8	✓	✓
Talk Around	p. 1-8	✓	✓
Wide/Narrow	p. 1-8	✓	✓
DTMF Autodial	p. 1-8	✓	✓
Re-dial	p. 1-8	✓	✓
Call	p. 1-9	✓	✓
Call A (Code 1) /Call B (Code 2)	p. 1-9	✓	N/A
Call A (Code 30) /Call B (Code 29)	p. 1-9	N/A	✓
Emergency	p. 1-9	✓	✓
Surveillance	p. 1-9	✓	✓
Siren	p. 1-9	✓	✓
TX Code Enter*	p. 1-9	N/A	✓
TX Code CH Select*	p. 1-9	✓	✓
TX Code CH UP*/DN*	p. 1-10	✓	N/A
TX Code CH Up*/Down*	p. 1-10	N/A	✓
ID-MR Select*	p. 1-10	N/A	✓
User Set Mode*	p. 1-10	✓	✓
Sp. Func 1/2	p. 1-10	✓	✓
Announce	p. 1-10	✓	✓
Shift*	p. 1-10	✓	✓

✓: Applicable

N/A: Not Applicable

Depending on the transceiver's model type, some functions may not be assignable.

* Only for the Simple key and Ten-key types.

Assignable function keys

Disable

Set to disable the key.

NOTE: This key function is assignable to only [Ext. Emer].

Null

No function.

CH Up, CH Down

- Push to select an operating channel.
- After pushing a Software Key, push to select an option, setting, and so on.

Zone <Only for the Simple key and Ten-key types>

Push to enter the Zone selection mode, and then push [CH Up] or [CH Down] to select a desired Zone.

TIP: What is a "Zone"?

Certain channels are grouped together and assigned to a Zone according to their intended use. For example, 'Staff A' and 'Staff B' are assigned to a "Business" zone, and 'John' and 'Cindy' are assigned to a "Private" zone.

Scan Start/Stop

<For the Non-display type>

Push to start or cancel a Scan.

- ① When a scan started with the Power ON Scan or Auto Scan function, pushing this key pauses the scan. The paused scan resumes after the preset time period has passed.

<For the Simple key and Ten-key types>

To select the scan group, hold down this key to display scan groups, then push [CH Up] or [CH Down] to select a desired group.

Scan Add/Del (Tag)

<Only for the Simple key and Ten-key types>

- Push to add a channel to, or delete it from the current scan group.
 - ① **Information**
 - When a channel is added to the current scan group, the display shows "SCAN ON."
 - When a channel is deleted from the current scan group, the display shows "SCAN OFF."
 - After displaying "SCAN ON" or "SCAN OFF," the current scan group text is displayed.
- You can add a channel to, or delete it from a selected Scan group.
 1. Hold down for 1 second to display the current scan group, and then push [CH Up] or [CH Down] to select a group.
 2. Push this key to add a channel to, or delete it from the selected group.
 - ① When a channel is added to the selected scan group, the display shows "SCAN ON."
 - ① When a channel is deleted from the selected scan group, the display shows "SCAN OFF."
 3. Hold down this key to exit the Scan group selection mode.
- While a Scan is paused by detecting a signal on a channel (except for priority channel), push this key to remove the channel from the Scan group.

TIP: When the Nuisance Delete function is ON, the removed channel is automatically added to the Scan group again, after the Scan is canceled.

Prio A, Prio B

Push to select the Priority A or Priority B channel.

Prio A (Rewrite), Prio B (Rewrite)

- Push to select the Priority A or Priority B channel.
- Hold down for 1 second to assign the operating channel to the Priority A or Priority B channel.

1 PANEL DESCRIPTION

Assignable function keys

MR-CH 1, MR-CH 2, MR-CH 3, MR-CH 4

Push to directly select the set Memory channel (1, 2, 3, or 4).

Moni <Only for the LMR model>

- Hold down to cancel the CTCSS (DTCS) or 2-Tone mute.
 - ① The transceiver enters "Audible" mode.
- Push to turn OFF the function.

Moni (Audi) <Only for the PMR model>

- Hold down to cancel the CTCSS (DTCS) or 5-Tone mute.
 - ① The transceiver enters "Audible" mode.
- Push or hold down to activate one or two functions if programmed.

Lock

Hold down for 1 second to turn the Key Lock function ON or OFF.

- ① All assignable keys except the following are electronically locked: [Moni], [Moni(Audi)], [Call], [Call A], [Call B], [Emergency], [Lock], [Lone Worker], [Siren], [Surveillance], [Shift], and [PTT].
- ① You can also make or receive calls, or turn the transceiver ON or OFF, while the Key Lock function is ON.

<For the Simple key and Ten-key types>

- Hold down until "LOCK ON" is displayed to turn the Key Lock function ON.
- To turn OFF the Key Lock function, hold down until "LOCK OFF" is displayed.

Lone Worker

Push to turn the Lone Worker function ON or OFF.

- ① If no operation occurs during a specified period, the Lone Worker function automatically makes the transceiver enter the Emergency mode.

NOTE: To use the Lone Worker function, set the related settings using the programming software.

High/Low

Push to select the transmit output power level temporarily or permanently, depending on the presetting.

C.Tone CH Ent

<Only for the Simple key and Ten-key types>

Push to enter the continuous tone selection mode. Select the tone frequency or DTCS code using [CH Up] or [CH Down].

Talk Around

The Talk Around function equalizes the transmit frequency to the receive frequency, for transceiver-to-transceiver communication.

<For the Non-display type>

- Hold down for 1 second to turn ON the Talk Around function.
- Push to turn OFF the function.

<For the Simple key and Ten-key types>

Push to turn the Talk Around function ON or OFF.

Wide/Narrow

Push to temporarily set the bandwidth to Wide, Middle*, or Narrow.

- ① The wide bandwidth can be preset to either 25.0 kHz (Wide) or 20.0 kHz (Middle).

* Only for the PMR model. The Middle bandwidth cannot be used in the SWE version transceivers.

DTMF Autodial

<For the Non-display type>

Push to transmit a DTMF code set in Code No.1.

<For the Simple key and Ten-key types>

1. Push to display the DTMF Code Selection screen.
2. Select a DTMF code using [CH Up] or [CH Down].
3. Push this key again to transmit the DTMF code.

Re-dial

Push to transmit the last transmitted DTMF code.

NOTE: TX memories will be cleared when the transceiver is turned OFF once.

Assignable function keys

Call

Push to transmit a 2-Tone or 5-Tone in the operating channel.

Call A (Code 1), Call B (Code 2) <Only for the LMR model>

Push to transmit a 2-Tone, that is programmed in channel 1 (Code A) or channel 2 (Code B).

Call A (Code 30), Call B (Code 29) <Only for the PMR model>

Push to transmit a 5-Tone, that is programmed in channel 30 (Code A) or channel 29 (Code B).

Emergency

- Hold down during the Emer SW ON Timer (Sec) period to enter the Emergency mode.
 - ① After the Start or Repeat Timer period has passed, an Emergency call is automatically transmitted once, or repeatedly, depending on the presetting.
 - ① Hold down during the Emer SW OFF Timer (Sec) period to cancel the Emergency function, before transmitting an Emergency call.

NOTE: Set the related settings using the programming software.

Surveillance

<For the Non-display type>

- Hold down to turn ON the Surveillance function.
- Push to turn OFF the function.

<For the Simple key and Ten-key types>

Push to turn the Surveillance function ON or OFF.

- ① When this function is turned ON, the beep does not sound, and the backlight and the status indicator do not light, even when a signal is received, or a key is pushed.

Siren

Hold down for the Emer SW ON Timer period to emit a siren sound from the speaker to let surrounding people know that the user is in an Emergency situation.

- ① The siren will sound continuously until the transceiver is turned OFF.

TX Code Enter

<Only for the PMR model, (the Simple key and Ten-key types)>

Push to enter the TX Code edit mode (5-Tone).

1. Push [CH Up] or [CH Down] to select the desired digit.
 - ① You can also enter the digit using the Ten-key pad, if it is on your transceiver.
2. Push [TX Code Enter] to set.
 - The digit to the right will automatically blink.
3. Repeat step 1 and step 2 to input all editable digits.
4. After editing, push [TX Code Enter] to save the setting and return to the standby mode.

TX Code CH Select

<Only for the Simple key and Ten-key types>

Push to enter the TX code channel selection mode.

- Push [CH Up] or [CH Down] to select a desired TX code channel.
 - ① After selecting, push [TX Code CH Select] to save the setting and return to the standby mode.

<For the PMR model>

During TX code selection mode, hold down to enter the TX code edit mode (5-Tone).

1. Push [CH Up] or [CH Down] to select the desired digit.
 - ① You can also enter the digit using the Ten-key pad if it is on your transceiver.
2. Push [TX Code Enter] to set.
 - The digit to the right will automatically blink.
3. Repeat step 1 and step 2 to input all editable digits.
4. After editing, push [TX Code Enter] to save the settings and return to the standby mode.

Assignable function keys

TX Code CH UP, TX Code CH DN

<Only for the LMR model,
(the Simple key and Ten-key types)>

Push to select a preprogrammed TX code channel.

TX Code CH Up/TX Code CH Down

<Only for the PMR model,
(the Simple key and Ten-key types)>

- Push to select a preprogrammed TX code channel.
- Push to select a desired digit in the TX code edit mode.

ID-MR Select

<Only for the PMR model,
(the Simple key and Ten-key types)>

- Push to recall the received ID code.
 - ① The transceiver can memorize up to 5 codes.
- Select a desired code by pushing [CH Up] or [CH Down].
- Hold down to clear the selected ID code.

User Set Mode

<Only for the Simple key and Ten-key types>

- Hold down for 1 second to enter the User Set mode. The User Set mode is used to change settings, without using a PC.
 - ① Hold down for 1 second again to exit the User Set mode.
- In the User Set mode, momentarily push this key to select an item, and then push [CH Up] or [CH Down] to change the value or setting.

NOTE: To use the [User Set Mode], [CH Up], or [CH Down] must be assigned to any assignable keys using the programming software.

Sp. Func 1, Sp. Func 2

Sp. Func 1 and Sp. Func 2 are reserved for PC commands.

Announce

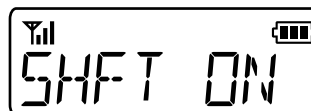
Push to turn the Channel Announce function ON or OFF.

NOTE: When the Beep function (pp. 4-4, 4-6) is OFF, the operating channel is not announced, regardless of this setting.

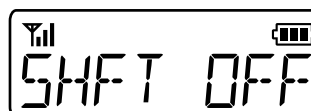
Shift

<Only for the Simple key and Ten-key types>

- Push to switch the key functions, assigned into the Normal mode and the Shift mode.
 - The Shift mode enables a programmable function key to have two functions at the same time.
1. Push to turn ON the Shift mode key functions.
 - “SHFT ON” is briefly displayed.



2. Push another key to activate its secondary function.
3. Push [Shift] again to turn OFF the function.
 - The transceiver returns to the Normal mode, then “SHFT OFF” is briefly displayed.



Section 2 BASIC OPERATION

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Turning ON the transceiver

◇ Turning ON the transceiver

NOTE: Before using the transceiver for the first time, the battery pack must be fully charged for optimum life and operation. See the INSTRUCTIONS for details.

Rotate [VOL] to turn ON the transceiver.

- ① The battery voltage or the opening text may be displayed, depending on the presetting.

◇ Adjusting the audio level

When receiving a call, rotate [VOL] to adjust the audio output level.



◇ Entering the password

<For the Simple key and Ten-key types>

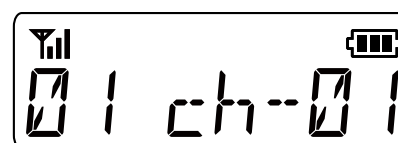
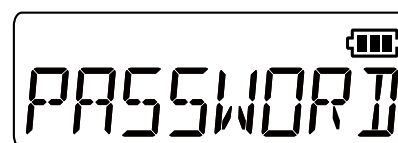
If the transceiver is preset for a Power ON Password, "PASSWORD" is displayed when turning ON the transceiver.

In that case, enter the password.

1. Push the appropriate keys to enter numbers, as described below.

Key	[P0]	[P1]	[P2]	[P3]	[Down]
Number	0	1	2	3	4
	5	6	7	8	9

2. After entering the correct password, the transceiver automatically displays the Standby screen.



Standby screen (Example)

<For the Ten-key type>

You can also enter the password using the Ten-key.

NOTE: If the transceiver does not display the Standby screen after entering the password, the entered code may be incorrect. Turn OFF the transceiver, then ON again to re-enter the password.

Selecting a channel

◇ Selecting an operating channel

There are several types of channel selections.
Methods may differ, depending on the presetting.

NON-ZONE TYPE:

To select the desired operating channel:

- Rotate [Rotary Selector].
- Push [CH Up] or [CH Down].
- Push one of [MR-CH 1] to [MR-CH 4].
- Push [Prio A], [Prio B], [Prio A (Rewrite)], or [Prio B (Rewrite)].

ZONE TYPE:

To select the desired operating channel:

1. Push [Zone] to enter the Zone selection mode.
2. Push [CH Up] or [CH Down] to select a Zone.
3. Rotate [Rotary Selector].

AUTOMATIC SCAN TYPE:

Depending on the presetting, when the user turns ON the transceiver, a scan automatically starts. The scan stops when a call is received.

◇ Selecting the Priority A or B channel

Push [Prio A], [Prio A (Rewrite)], [Prio B], or [Prio B (Rewrite)] to select the Priority A or Priority B channel.

◇ Rewriting the Priority A or B channel

Hold down [Prio A (Rewrite)] or [Prio B (Rewrite)] for 1 second to set the currently selected channel as the Priority A or B channel.

Receiving and transmitting

CAUTION: DO NOT transmit without an antenna. It may damage the transceiver.

Receiving:

1. Turn ON the transceiver. (p. 2-2)
2. Select a channel. (p. 2-3)
3. When receiving a call, rotate [VOL] to adjust the audio output level to a comfortable listening level.

NOTE: Depending on the presetting, the transceiver may automatically transmit the microphone audio for the preset time period when a matched signal is received (Auto TX function).

Transmitting:

1. Wait for the channel to become clear to avoid interference.
2. While holding down [PTT], speak at your normal voice level.
① When a tone signaling system is used, the call procedure described to the right may be necessary.
3. Release [PTT] to receive.

IMPORTANT:

To maximize the readability of your signal:

1. Pause briefly after pushing [PTT].
2. Hold the microphone 5 ~ 10 cm (2 ~ 4 inches) from your mouth, then speak at your normal voice level.

◇ Transmitting notes

Transmit inhibit function:

The transceiver has several inhibit functions which restrict transmission under the following conditions:

- The channel is in the Inaudible mode (“”: Audible icon is not displayed.)
- The channel is busy.
① However, depending on the presetting, you can transmit when a call is received that includes a non-matching (or matching) CTCSS (DTCS) tone.
- The selected channel is a ‘receive only’ channel.

Time-Out Timer:

If continuous transmission exceeds the preset Time-Out Timer time, the transmission is cut off.

Penalty timer:

After the transmission is cut off by the Time-Out Timer, transmission is further inhibited for a preset penalty period of time.

◇ Receiving a Stun, Kill and Revive call

The dispatcher can send a 2-Tone or 5-Tone that will stun, kill, or revive your transceiver.

- When the Stun call is received, beeps sound*, and you cannot receive or transmit. Receiving a Revive call or entering a password* is necessary to operate the transceiver again.
- When the Kill call is received, beeps sound*, and the transceiver becomes unusable. Programming the transceiver is necessary to operate the transceiver again, in this case.

* Depending on the presetting.

Section 3

ADVANCED OPERATION

Emergency Call3-2

◇ Transmitting an Emergency call.....3-2

Emergency Call

IMPORTANT: It is recommended that the dealer sets an Emergency channel in each Zone, to provide a reliable Emergency call operation.

NOTE: Depending on the presetting, the following functions may be automatically activated.

Auto TX function:

After an Emergency call transmission, the transceiver transmits the microphone audio for a preset period of time*.

Auto RX function:

After an Emergency call transmission, the transceiver stands by in the Audible mode for a preset period of time*.

* Depending on the presetting.

◇ Transmitting an Emergency call

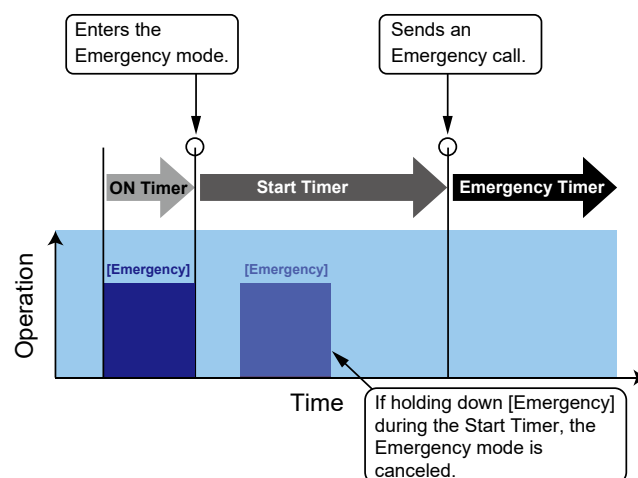
- When the transceiver enters the Emergency mode, a countdown starts. The transceiver counts down during the Start Timer set time.
 - After the Start, Reminder, or Repeat Timer set time expires, the transceiver transmits an Emergency call once, or repeatedly*, on the specified Emergency channel.
 - * Depending on the presetting.
 - If no Emergency channel is specified, the Emergency call is made on the previously selected channel.
- ① The transceiver automatically transmits a repeat Emergency call until it receives an acknowledgement, or until a user turns OFF the transceiver.
 - ① If the transceiver is set for the Silent operation, it transmits an Emergency call without a beep sounding or the status indicator lighting.

The transceiver enters the Emergency mode through the following functions:

• The [Emergency] key

When a user holds down [Emergency] for the Emer SW ON Timer preset time.

- ① If a user holds down [Emergency] for the Emer SW OFF Timer set time before the Start Timer expires, the Emergency mode is canceled.



Emergency Call

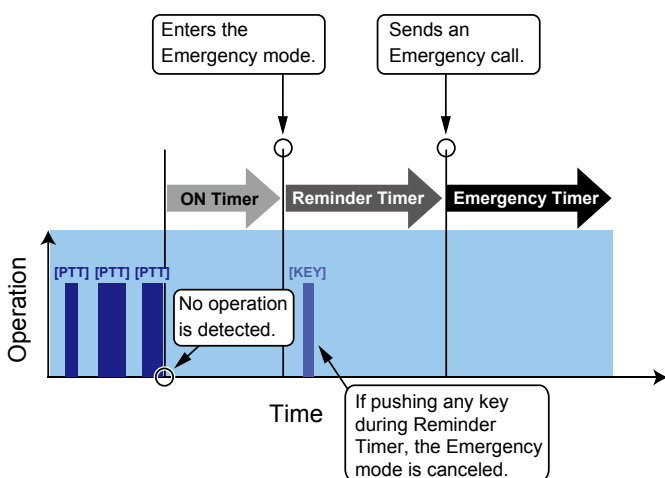
◇ Transmitting an Emergency call

The transceiver enters the Emergency mode through the following functions:

• The Lone Worker function

When the Lone Worker function is ON, and if no operation occurs for the ON Timer (Min) preset time.

- ① If a user pushes any key before the Reminder Timer set time expires, the Emergency mode is canceled.



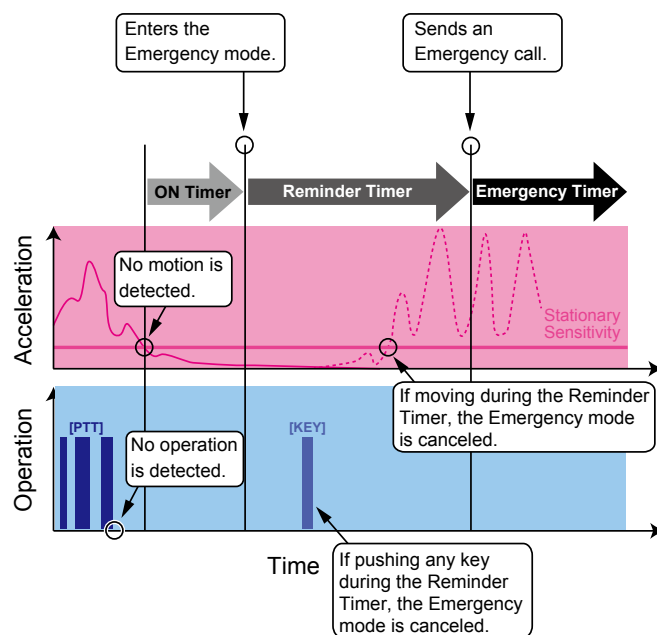
Lone Worker with Stationary Sens

- When no operation occurs for the ON Timer preset time.
AND
- The transceiver is detected as stationary (no motion) for the ON Timer preset time.

- ① If a user pushes any key, or moves the transceiver before the Reminder Timer set time expires, the Emergency mode is canceled.

(Example)

- ON Timer: 60 minutes
- Reminder Timer: 60 seconds



Emergency Call

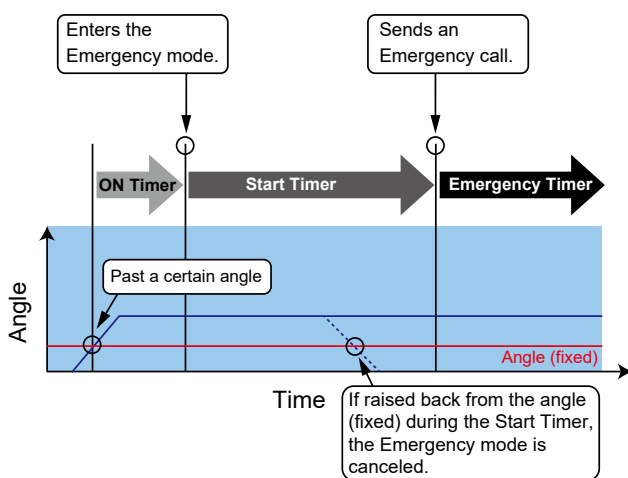
◇ Transmitting an Emergency call

The transceiver enters the Emergency mode through the following functions:

• The Man Down function

When the transceiver has been left in a horizontal position for the ON Timer (Sec) preset time.

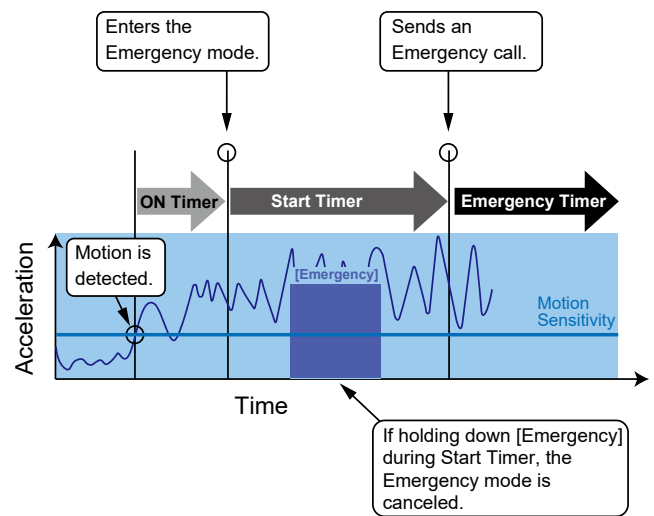
- ① If a user raises the transceiver back to a vertical position before the Start Timer set time expires, the Emergency mode is canceled.



• The Motion Detection function

When the transceiver continuously moves for the Motion Detection Timer (Sec) preset time.

- ① If a user holds down [Emergency] for the Emer SW OFF Timer set time, before the Start Timer set time expires, the Emergency mode is canceled.



Section 4 USER SET MODE

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◇ User setting operation.....	4-6
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User Set Mode description

<For the Non-display type>

The user can also customize the Beep function, the Beep level, the Ringer level, the microphone gain, the squelch level, the VOX function, and the VOX gain. See pages 4-6 and 4-7 for detailed settings.

<For the Simple key and Ten-key types>

The user can enter the "User Set Mode" to customize certain transceiver setting without using the programming software.

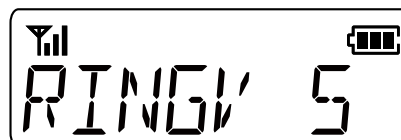
◇ Operation in the User set mode

Example: Changing the Ringer level 3 to 5.

1. Hold down [User Set Mode] for 1 second to enter the User set mode.
2. Push [User Set Mode] to select an item.
(Example: Selecting Ringer Level (RINGV))



3. Push [CH Up] or [CH Down] to select an option.
(Example: Selecting Level 5)



- The selected option is automatically set.

4. Hold down [User Set Mode] for 1 second to return to the Standby screen.

User Set Mode items

Item	Description	Display	Reference
Backlight	Sets the Key Backlight status.	LIGT	p. 4-4
Beep	Turns the key-touch beeps ON or OFF.	BEEP	p. 4-4
Beep Level	Sets the beep and announce output level.	BEPV	p. 4-4
Ringer Level	Sets the Ringer output level.	RINGV	p. 4-4
SQL Level (Squelch Level)	Sets the squelch level.	SQL	p. 4-4
AF Min Level (AF Minimum Level)	Sets the minimum audio output level.	AFMIN	p. 4-4
Mic Gain (Microphone Gain)	Sets the microphone sensitivity.	MIC	p. 4-4
VOX*	Turns the VOX function ON or OFF.	VOX	p. 4-4
VOX Gain*	Sets the VOX gain.	VGAIN	p. 4-4
VOX Delay (Sec)*	Sets the VOX Delay.	VDLY	p. 4-4
Battery Voltage	Displays the battery voltage.	BATT	p. 4-4
Signal Moni (Signal Monitor)	Sets whether or not to release the mute while using a 2-Tone, 5-Tone, or DTMF code signaling.	SMON	p. 4-4
Lone Worker	Turns the Lone Worker function ON or OFF.	LONE	p. 4-4
Stationary Sens (Stationary Sensitivity)	Sets the acceleration sensor sensitivity to detect if the user is stationary or not for the Stationary Detection function.	STNARY	p. 4-5
Motion Sens (Motion Sensitivity)	Sets the acceleration sensor sensitivity to detect whether the user is moving or not, for the Motion Detection function.	MOTION	p. 4-5

* To use the function, a headset and a VOX converter cable are required (purchase separately).

User Set Mode items

Backlight

<For the Simple key and Ten-key types>

Sets the Backlight status.

- ON: The backlight turns ON all the time.
- AU2: When pushing any key (except [PTT]) or when changing the displayed contents of the LCD, the backlight automatically turns ON for 5 seconds.
- AUT: When pushing any key (except [PTT]), the backlight automatically turns ON for 5 seconds.
- OFF: Turns OFF the backlight.

Beep

Turns the key-touch beeps ON or OFF.

Beep Level

Sets the beep and announce output level.

- Range: 1 ~ 5, or 1* (Linked) ~ 5* (Linked).
When setting the Linked option, the beep level is adjustable with [VOL].

Ringer Level

Sets the Ringer output level.

- Range: 1 ~ 5, or 1* (Linked) ~ 5* (Linked).
When setting the Linked option, the ringer level is adjustable with [VOL].

SQL Level (Squelch Level)

Sets the squelch level.

- Range: 0 (open) ~ 9 (tight)

AF Min Level (AF Minimum Level)

Sets the minimum audio output level.

This function determines the minimum audio output level not to let the audio level become lower than the set level.

- Range: 0 ~ 255

Mic Gain (Microphone Gain)

Sets the microphone sensitivity.

- Range: 1 (low sensitivity) ~ 4 (high sensitivity)

VOX

Turns the VOX function ON or OFF.

NOTE: To use the function, a headset and a VOX converter cable are required (purchase separately).

VOX Gain

Sets the VOX gain.

The VOX function automatically switches between receive and transmit by detecting sounds. Higher values make the VOX function more sensitive to sounds.

- Range: 1 ~ 10

VOX Delay (Sec)

Sets the period of time the transceiver continues transmitting after the user stops speaking, and then the VOX switches to receive.

- Range: 0.5 ~ 3.0 seconds

Battery Voltage

<For the Simple key and Ten-key types>

Sets whether or not to display the battery voltage when turning ON the transceiver.

Signal Moni (Signal Monitor)

Sets whether or not to release the mute while using a 2-Tone, 5-Tone, or DTMF code signaling.

- OFF: The mute status is kept (Inaudible) even when pushing [Moni] or [Moni (Audi)].
- ON: The mute is released (Audible) when pushing [Moni] or [Moni (Audi)].

Lone Worker

Sets whether or not to automatically enter the Emergency mode when no operation occurs during the set period of time.

User Set Mode items

Stationary Sens (Stationary Sensitivity)

Sets the acceleration sensor sensitivity to detect if the user is stationary or not.

This setting is used for the Lone Worker function, and it determines the acceleration threshold level to activate the Lone Worker ON Timer.

- Range: 1 (high sensitivity) ~3 (low sensitivity)

① If you set at a higher level, the transceiver will enter the Emergency mode more easily.

Motion Sens (Motion Sensitivity)

Sets the acceleration sensor sensitivity to detect whether the user is moving or not, for the Motion Detection function.

This setting is used for the Motion Detection function, and it determines the acceleration threshold level to activate the Motion Detection Timer (Sec).

- Range: 1 (high sensitivity) ~ 3 (low sensitivity)

① If you set at a lower level, the transceiver will enter the Emergency mode more easily.

User setting for the Non-display type

◇ User setting operation

For the Non-display type, the Beep function, the Beep level, the Ringer level, the microphone gain, and the squelch level are settable with key operation and hearing beeps.

◇ Turning the Beep function ON or OFF

NOTE: Turn ON the Beep function when you set the Beep level, the Ringer level, the microphone gain, the squelch level, the VOX function, and the VOX gain.

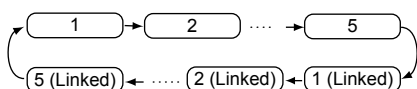
1. Rotate [VOL] to turn OFF the transceiver.
2. Set [Rotary Selector] to any channel other than Channel 16.
3. While holding down [Lower], rotate [VOL] to turn ON the transceiver.
 - The transceiver enters the Beep level set mode.
4. Push [Lower] to turn the Beep function ON or OFF.

① Information

- If a beep sounds after pushing [Lower], the Beep function is ON. If no beep sounds after pushing [Lower], the Beep function is OFF.
 - The transceiver saves the setting every time you change it.
 - If desired, push [Upper] to adjust the Beep level.
5. Rotate [VOL] to turn OFF the transceiver, then turn ON again to restart the normal operation.

◇ Setting the Beep level

1. Rotate [VOL] to turn OFF the transceiver.
 2. Set [Rotary Selector] to any channel other than Channel 16.
 3. While holding down [Lower], rotate [VOL] to turn ON the transceiver.
 - The transceiver enters the Beep level set mode.
 4. Push [Upper] to change the Beep level.
 - A beep at the set level sounds every time you push [Upper].
- ① Repeatedly pushing [Upper] changes the Beep level as shown below.

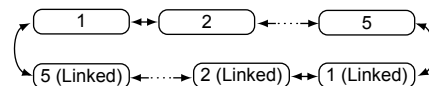


- ① The settable range is 1 to 5 and 1 (Linked) to 5 (Linked). When setting the Linked option, the Beep level is adjustable with [VOL].
5. Rotate [VOL] to turn OFF the transceiver, then turn ON again to restart the normal operation.

◇ Setting the Ringer level

NOTE: Be sure to turn ON the Beep function before you start setting the Ringer level.

1. Rotate [VOL] to turn OFF the transceiver.
 2. Set [Rotary Selector] to Channel 16.
 3. While holding down [Lower], rotate [VOL] to turn ON the transceiver.
 - The transceiver enters the Ringer level set mode.
 4. Push [Upper] to increase, or push [Lower] to decrease the Ringer level.
 - A beep at the set level sounds every time you push [Upper] or [Lower].
- ① Repeatedly pushing [Upper] or [Lower] changes the Ringer level as shown below.



- ① The settable range is 1 to 5 and 1 (Linked) to 5 (Linked). When setting the Linked option, the Ringer level is adjustable with [VOL].
5. Rotate [VOL] to turn OFF the transceiver, then turn ON again to restart the normal operation.

◇ Setting the microphone gain

The higher value makes the microphone more sensitive to the user voice.

NOTE: Be sure to turn ON the Beep function before you start setting the microphone gain.

1. Rotate [VOL] to turn OFF the transceiver.
 2. Set [Rotary Selector] to Channel 16.
 3. While holding down [Upper], rotate [VOL] to turn ON the transceiver.
 - The transceiver enters the microphone gain set mode.
 4. Push [Upper] to increase, or push [Lower] to decrease the microphone gain.
 - A beep sounds after pushing [Upper] or [Lower]. An error beep sounds if you try to exceed the settable range.
- ① The settable range is between 1 (low sensitivity) to 4 (high sensitivity).
5. Rotate [VOL] to turn OFF the transceiver, then turn ON again to restart the normal operation.

User setting for the Non-display type

◇ Setting the squelch level

The squelch circuit mutes the received audio signal, depending on the signal strength.

NOTE: Be sure to turn ON the Beep function before you start setting the squelch level.

1. Rotate [VOL] to turn OFF the transceiver.
2. Set [Rotary Selector] to any channel other than Channel 16.
3. While holding down [Upper], rotate [VOL] to turn ON the transceiver.
 - The transceiver enters the squelch level set mode.
4. Push [Upper] to increase the squelch level or push [Lower] to decrease the squelch level.
 - A beep sounds after pushing [Upper] or [Lower]. An error beep sounds if you try to exceed the settable range.
 - ① The settable range is between 0 (open) to 9 (tight).
5. Rotate [VOL] to turn OFF the transceiver, then turn ON again to restart the normal operation.

◇ Setting the VOX Gain

The higher value makes the VOX function more sensitive to the user voice.

NOTE: Be sure to turn ON the Beep function before you start setting the VOX gain.

1. Rotate [VOL] to turn OFF the transceiver.
2. Set [Rotary Selector] to Channel 16.
3. While holding down [PTT] and [Upper], rotate [VOL] to turn ON the transceiver and turn the VOX function ON or OFF.
4. Push [Upper] to increase the VOX gain or push [Lower] to decrease the VOX gain.
 - ① The settable range is between 1 (low sensitivity) to 10 (high sensitivity).
 - A beep sounds after pushing [Upper] or [Lower]. An error beep sounds if you try to exceed the settable range.
5. Rotate [VOL] to turn OFF the transceiver, then turn ON again to restart the normal operation.

◇ Setting the VOX function

The VOX function can be turned ON or OFF. The VOX function automatically switches between receive and transmit during voice operation.

NOTE: Be sure to turn ON the Beep function before you start setting the VOX function.

1. Rotate [VOL] to turn OFF the transceiver.
2. Set [Rotary Selector] to any channel other than Channel 16.
3. While holding down [PTT] and [Upper], rotate [VOL] to turn ON the transceiver and turn the VOX function ON or OFF.
 - When the VOX function is ON, a beep sounds.
 - When the VOX function is OFF, two beeps sound.
4. Rotate [VOL] to turn OFF the transceiver, then turn ON again to restart the normal operation.

Section 5

MDC 1200 SYSTEM OPERATION

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◇ Receiving a PTT ID call4-3

◇ Receiving an MDC Emergency Call4-3

◇ Receiving an MDC Stun or Revive Call4-3

Transmitting a call4-4

◇ Transmitting a PTT ID call4-4

◇ Transmitting an MDC Emergency Call.....4-4

MDC 1200 system operation

The MDC 1200 signaling system enhances your transceiver's capabilities. The user can receive and transmit PTT ID and Emergency calls, and receive Radio Check, Stun, and Revive calls.

Set one of the assignable software key functions for the MDC 1200 system operations. (p. 1-6)

NOTE: Set the related settings using the CS-F2000N PROGRAMMING SOFTWARE when using the MDC 1200 system. See the Help file for details.

Receiving a call

◇ Receiving a PTT ID call

When a PTT ID call is received:

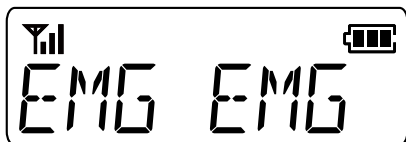
- Beeps sound, depending on the presetting.
- The calling station's ID (or alias) is displayed.*1



◇ Receiving an MDC Emergency Call

When an MDC Emergency call is received:

- Beeps sound.
- The calling station's ID (or alias) and "EMG EMG" is alternately displayed.*1



Hold down [PTT] to speak.

- ① The transceiver may automatically transmit an acknowledgment to the calling station, depending on the setting.
- ① To stop the Emergency beeps, turn OFF the transceiver, or change the channel.

◇ Receiving an MDC Stun or Revive Call

If an MDC Stun call is received that matches your station ID, the transceiver displays the stun text*1 and you can not receive*2 or transmit.



To use the transceiver again, you need to:

- Receive*2 an MDC Revive call that matches your station ID.
- Enter the password.
- Setup again using the CS-F2000N PROGRAMMING SOFTWARE.

*1 For the Simple key and Ten-key types. The message may differ, depending on the presetting.

*2 Depending on the presetting, reception may be enabled.

Transmitting a call

◇ Transmitting a PTT ID call

You can transmit a call with your station ID.
When another station receives a PTT ID call, your station ID (or alias) is displayed.

Push [PTT] to make a call.

- Beeps sound, depending on the presetting.
- Your station ID is transmitted when you push [PTT] (at the beginning of the transmission) or release [PTT] (at the end of transmission), depending on the presetting.

◇ Transmitting an MDC Emergency Call

An MDC Emergency call can be transmitted in the same way as the 2-Tone or 5-Tone signaling operation. See “Emergency call” for details. (pp. 3-2 ~ 3-4)

The transceiver can also be set to keep the microphone open in the Emergency mode to monitor the situation, depending on the presetting.

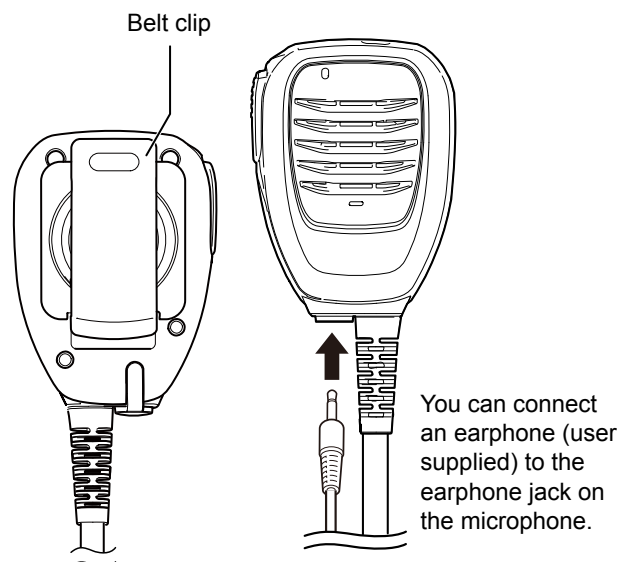
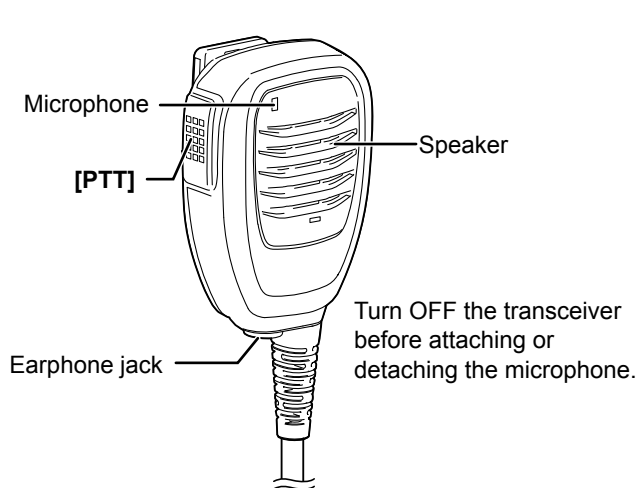
IMPORTANT: It is recommended to set an emergency channel individually to provide the certain emergency call operation.

Section 6

OPTIONS

HM-222HLWP SPEAKER MICROPHONE	5-2
◇ Attaching	5-2
BC-213 DESKTOP CHARGER	5-3
BC-214N MULTI CHARGER	5-4

HM-222HLWP SPEAKER MICROPHONE



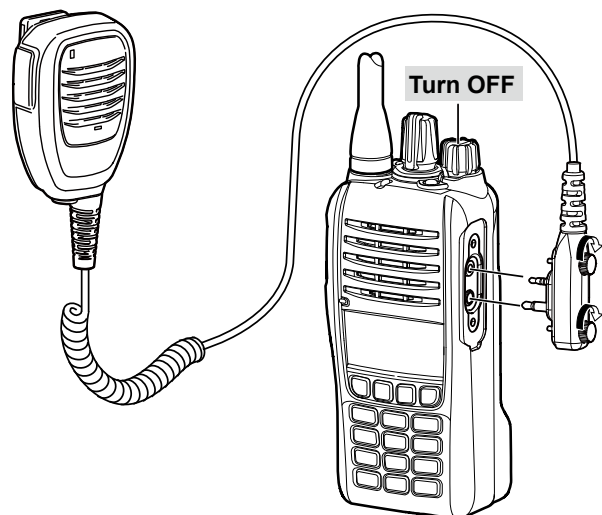
NOTE:

- **NEVER** immerse the connector in water. If the connector becomes wet, be sure to dry it **BEFORE** attaching to the transceiver.
- The microphone element is located at the top left of the speaker microphone, as shown in the illustration above. To maximize the readability of your transmitted audio, hold the microphone approximately 5 ~ 10 cm (2 ~ 4 inches) from your mouth, and then speak at your normal voice level.

CAUTION: The HM-222HLWP meets IP68 requirement for dust-tight and waterproof protection only when the earphone jack cover is firmly closed. The microphone **DOES NOT** meet dust-tight and waterproof protection if an earphone is attached.

◆ Attaching

Attach the connector of the speaker microphone to the speaker microphone jack on the transceiver and tighten the screw.



NOTE: KEEP the jack cover attached to the transceiver when the speaker microphone is not in use to keep the IP67 dust-tight and waterproof protection.

CAUTION: Firmly attach to the speaker microphone jack, but do not overtighten. A loose connection will allow water intrusion into the connector. An overtightened connection will damage the connector pins on the transceiver.

BC-213 DESKTOP CHARGER

CAUTION: Before using the charger, read the 'Battery caution' and 'Charging caution' on the INSTRUCTIONS boxed with the transceiver.

Charging time:

- For the BP-279 Approximately 2 ~ 3 hours
- For the BP-280 Approximately 3 ~ 4 hours

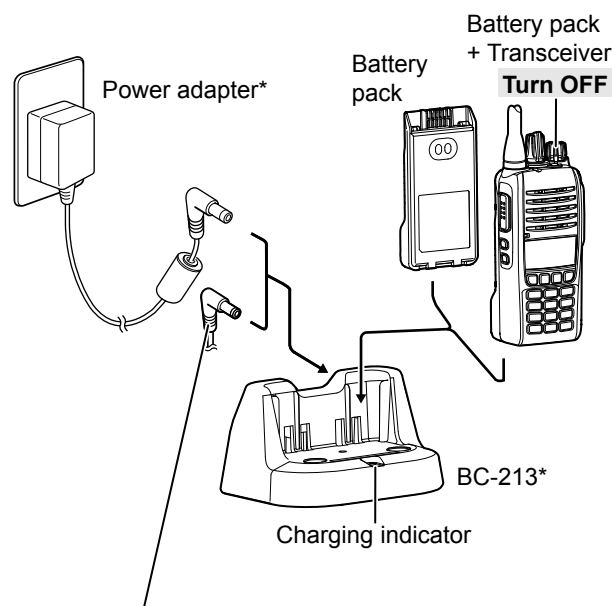
Additionally required item (purchase separately):

A power adapter (may be supplied with the charger, depending on the charger version) or the CP-23L CIGARETTE LIGHTER CABLE.

Charging indicator:

Light color	Status
Orange	Charging.
Green	Charging is completed.
Blinks orange and green	Charging failed. It may have some problems.

NOTE: If the charging indicator alternately blinks green and orange, remove the battery pack or the transceiver from the charger, then reinsert it.



The CP-23L (for a 12 V cigarette lighter socket) can be used instead of the power adapter.

* A different type, or no power adapter is supplied, depending on the transceiver version.

BC-214N MULTI CHARGER

CAUTION: Before using the charger, read the 'Battery caution' and 'Charging caution' on the INSTRUCTIONS boxed with the transceiver.

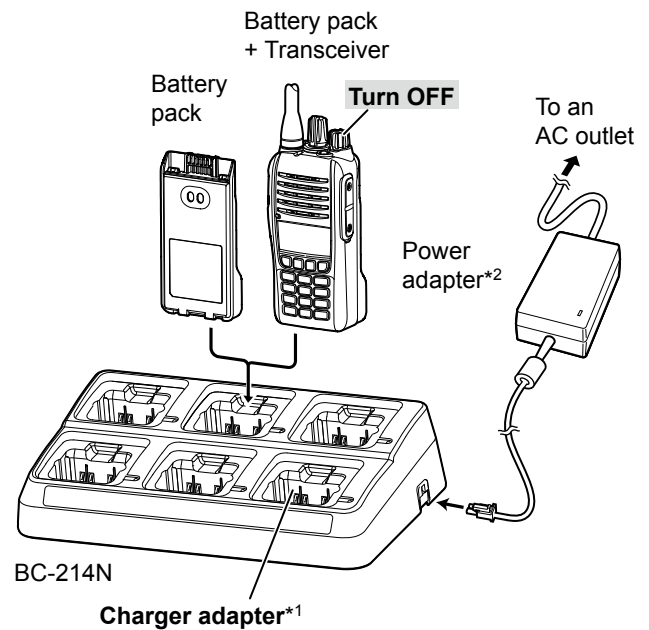
Charging time:

- For the BP-279 Approximately 2 ~ 3 hours
- For the BP-280 Approximately 3 ~ 4 hours

NOTE: The BC-214N has a charging timer that stops charging after approximately 5.3 hours of charging.

Additionally required item (purchase separately):

The BC-157S AC ADAPTER



*1: Charger adapter's shape may differ, depending on the charger version.

*2: A different type, or no power adapter is supplied, depending on the charger version.

