İCOM

PMR446 TRANSCEIVER
IC-F29SR2

Icom Inc.

INTRODUCTION

Thank you for choosing this Icom product.
This product 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.

IMPORTANT

**FIRST, CAREFULLY READ THE BASIC
MANUAL** that is provided with the transceiver.

SAVE THIS OPERATING GUIDE— This
operating guide contains additional important operating
instructions for the IC-F29SR2 PMR446 TRANSCEIVER.

TABLE OF CONTENTS

Section 1   ACCESSORIES

Accessory attachments

◇ Battery pack

Attach or detach the battery pack, as shown to the right.

To attach the battery pack:
1. Place the tabs on the bottom of the battery pack into the slots at the bottom of the transceiver. (❶)
2. Push the battery pack until the battery release buttons make a 'click' sound. (❷)

To detach the battery pack:
1. Push the battery release buttons in the direction of the arrow, as shown to the right. (❸)
2. The battery pack is then released, and you can detach it. (❹)
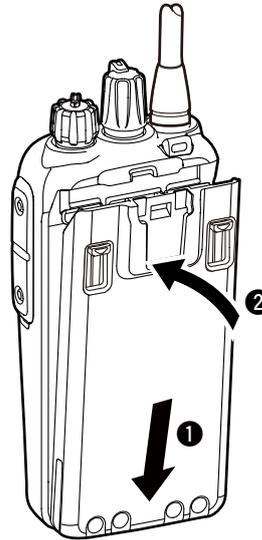
To attach

To detach

Battery release buttons
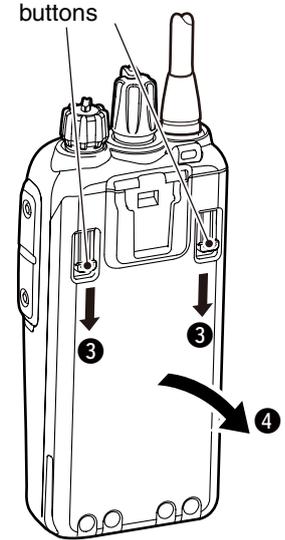
◇ Belt clip

NOTE: Before attaching or detaching the belt clip, detach the battery pack from the transceiver, if it is attached.

To attach the belt clip:
Slide the belt clip in the direction of the arrow until the belt clip locks in place, and makes a 'click' sound. (❶)

To detach the belt clip:
Lift the tab up (❷), and slide the belt clip in the direction of the arrow (❸).

To attach   **To detach**

Tab
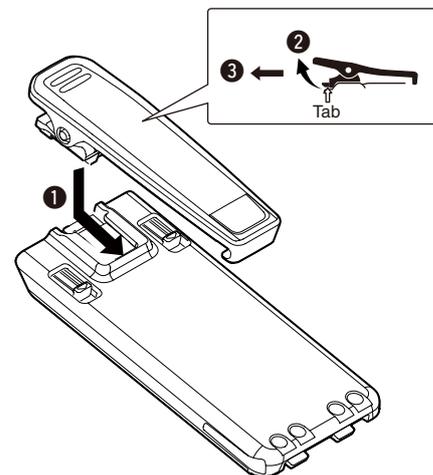
Accessory attachments (Continued)

◇ **Jack cover**

**NOTE:** The transceiver meets IP67 requirements for dust-tight and waterproof protection only when the jack cover or the optional HM-168LWP speaker microphone is attached.

To attach the jack cover:
1. Place the jack cover over the speaker-microphone jack. (❶)
2. Insert and tighten the screws. (❷)
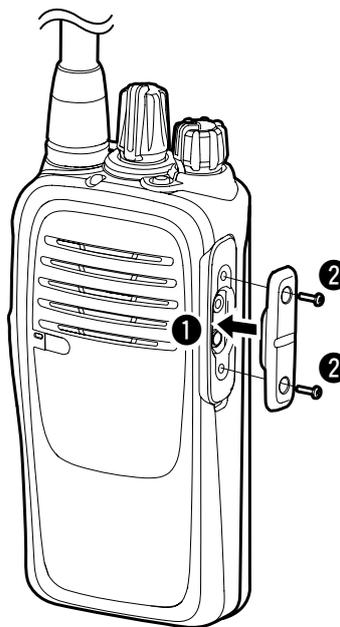
CAUTION: DO NOT detach the jack cover when optional equipment is not in use. Otherwise the terminals of the speaker microphone jack may be shorted by a metal object, or become rusty by water intrusion. This could damage the transceiver.

To detach the jack cover:
1. Unscrew the screws using a Phillips screwdriver. (❸)
2. Detach the jack cover. (❹)

Section 2   PROGRAMMABLE KEY FUNCTIONS
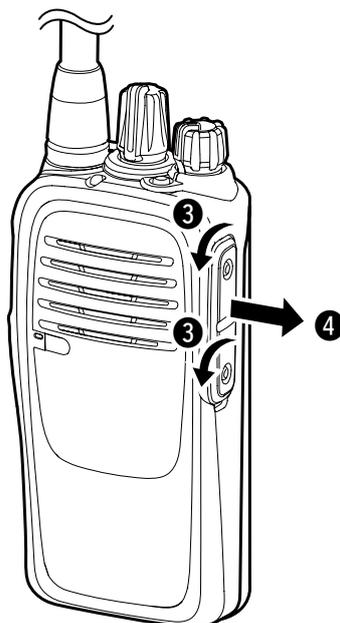
Programmable key functions

If you use the CS-F29SR2 PROGRAMMING SOFTWARE (purchase separately), you can assign the functions described below to [TOP], [Upper], and [Lower].

NOTE: Refer to the instruction manual that comes with the transceiver for the default settings of these keys.

[TOP]

[Upper]
[Lower]
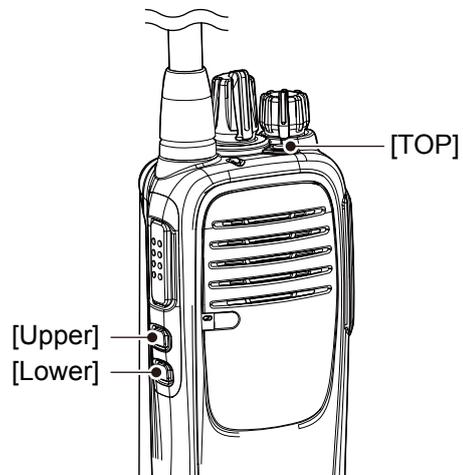
ZONE
● Push to select a desired Zone.
● Hold down for 1 second to announce the current Zone number.
  ⓘ The Zone number is announced when selecting a Zone, regardless of the Channel Announce setting.

SCAN START/STOP
Push to start and stop a scan.
ⓘ When a scan is started with the Power ON Scan or Automatic Scan function, push this key to pause it. The paused scan resumes after a preset period of time.

PRIORITY A CHANNEL, PRIORITY B CHANNEL
Push to select the Priority A or Priority B channel.

PRIORITY A CHANNEL (REWRITE), PRIORITY B CHANNEL (REWRITE)
● Push to select the Priority A or Priority B channel.
● Hold down for 1 second to set the operating channel as the Priority A or Priority B channel.

MEMORY CHANNEL 1, MEMORY CHANNEL 2 MEMORY CHANNEL 3, MEMORY CHANNEL 4
Push to select Memory channel 1, 2, 3, or 4.

MONI
● Push to turn the CTCSS (DTCS) mute ON or OFF.
● While holding down this key, the transceiver opens any squelch, or releases any mute.

LOCK
Hold down for 1 second to turn the Key Lock function ON or OFF.
ⓘ Even if the function is ON, [MONI] and [SURVEILLANCE] are not locked.

SURVEILLANCE
● Hold down for 1 second to turn ON the Surveillance function.
● Push to turn OFF the function.
  ⓘ When the function is ON and a signal is received, a beep does not sound and the status indicator does not light, even if you push any key.

SIREN
Hold down for 2 seconds to emit a siren sound.
ⓘ The siren continues to sound until turning OFF the transceiver.
ⓘ This function is for situations other than an emergency alert, such as a security alarm.

SCRAMBLER
● Hold down for 1 second to turn ON the Voice Scrambler function.
● Push to turn OFF the function.

COMPANDER
● Hold down for 1 second to turn ON the Compander function.
● Push to turn OFF the function.
  ⓘ The Compander function reduces noise components from the transmitted audio to provide clear communication.

S-RING/C-RING
● Push to make a Smart-Ring call.
● Hold down for 1 second to make a Call-Ring call.

ANNOUNCE
Push to turn the Channel Announce function ON or OFF.
ⓘ The transceiver announces the position of [Rotary Selector].
ⓘ When the Beep function is OFF, the operating channel is not announced, regardless of this setting. (p. 6)

ZONE/ANNOUNCE
● Push to select a desired Zone.
● Hold down for 1 second to turn the Channel Announce function ON or OFF.
  ⓘ The Zone number is announced when selecting a Zone, regardless of the Channel Announce setting.

Section 3　LED INDICATOR

About the LED indicator

The LED indicator indicates the status of various parameters of the transceiver as follows:
(Reference: R is Red, G is Green, O is Orange)

• Programming (reading or writing data)

G G G G G G G G

• Programming error (if reading or writing fails)

R G R G R G R G R G R G R G R G

• Inh, Blank CH, Unlocked (when you cannot use the channel)

R O R O R O R O R O R O R O R O

• TX Low Battery 1 (while transmitting)

R R

• TX Low Battery 2 (while transmitting)

R R R R

• Transmitting

R

• Receiving

G

• Scanning

G G

• Low Battery 1 (You should charge the battery.)

G G

• Low Battery 2 (You must charge the battery.)

G G G G

• When turning ON the power

R O G R O G

• Making a Smart-Ring call

O O O O O O

• Lockout, TX Inh, TOT (when transmit is inhibited)

R O O O

• Smart-Ring call successful

O G

• Smart-Ring call failed

O R

• Siren

G O R G O R G O R G O R
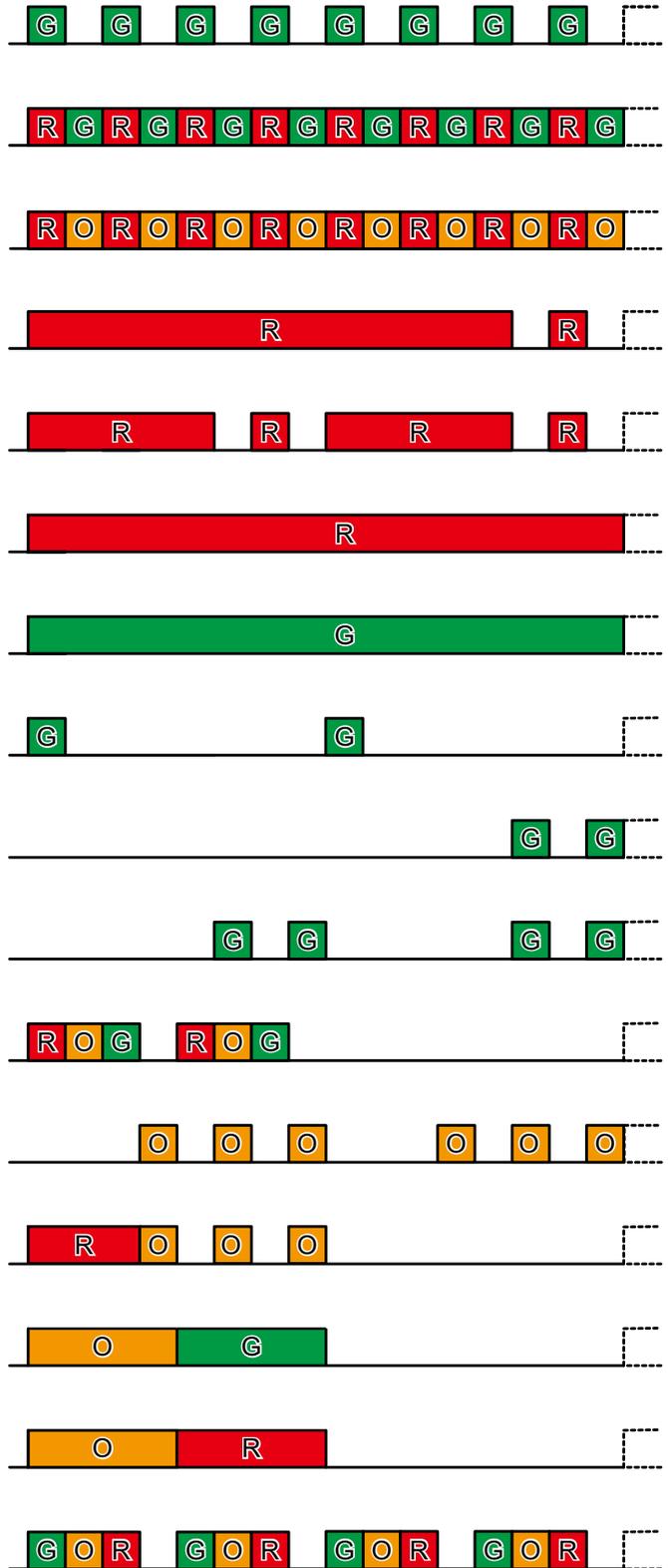
Section 4   SETTINGS

Setting the Beep function

You can turn the Beep function ON or OFF. When it is OFF, the channel announcement is also turned OFF.

NOTE: Turn ON the Beep function when you set the beep and announce level, ringer level, microphone gain, squelch level, VOX function, VOX gain, or the group code number, to check the current level setting by hearing the beeps. (pp. 7 ~ 14)

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 and enter the Beep Level Adjustment mode.
   • An opening beep sounds and the selected channel number is announced.
4. Push [Lower] to turn the Beep function ON or OFF.
   • When a beep sounds after pushing [Lower], the Beep function is ON.
   • When no beep sounds after pushing [Lower], the Beep function is OFF.
   ⓘ The transceiver stores the setting every time you change it.
   ⓘ If desired, push [Upper] to adjust the beep level. See page 7 for details.
5. Rotate [VOL] to turn OFF the transceiver and exit the Beep Level Adjustment mode.

[ROTARY SELECTOR]

[VOL]

[Upper]
[Lower]
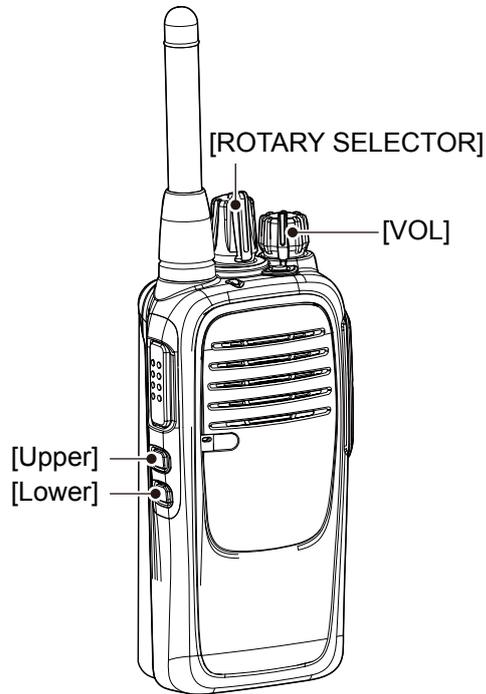
Setting the beep and announcement level

You can adjust the beep and announcement level between 1 and 5, or 1 (linked) and 5 (linked). When a linked option is selected, the beep audio level is adjustable by rotating [VOL].

NOTE: Turn ON the Beep function before you start setting the beep and announcement level. (p. 6)

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 and enter the Beep Level Adjustment mode.
   • An opening beep sounds and the selected channel number is announced.
4. Push [Upper] to change the beep level.
   • A beep sounds every time you push [Upper]. Therefore, you can determine the current level setting by the increasing loudness of the beep that sounds.

   ⓘ **Information**
   • The adjustable range is 1 ~ 5, or 1 (Linked) ~ 5 (Linked).
   • Repeatedly pushing [Upper] first selects 1 (lowest) to 5 (highest), and then selects the lowest linked level, 1 (Linked) to the highest, 5 (Linked).
   Repeatedly pushing [Upper] repeats the cycle. See the illustration to the right.
   • To determine if you have selected a linked level, set [VOL] to minimum, then push [Upper] repeatedly, listening for the loudest beep (level 5). Pushing [Upper] once after the loudest beep will select 1 (Linked). Repeatedly push [Upper] to select the desired linked level.
5. Rotate [VOL] to turn OFF the transceiver and exit the Beep Level Adjustment mode.

[ROTARY SELECTOR]

[VOL]

[Upper]
[Lower]

Pushing
[Upper]

5
↑
4
↑
3
↑
2
↑
1
↑
5 (Linked)
↑
4 (Linked)
↑
3 (Linked)
↑
2 (Linked)
↑
1 (Linked)
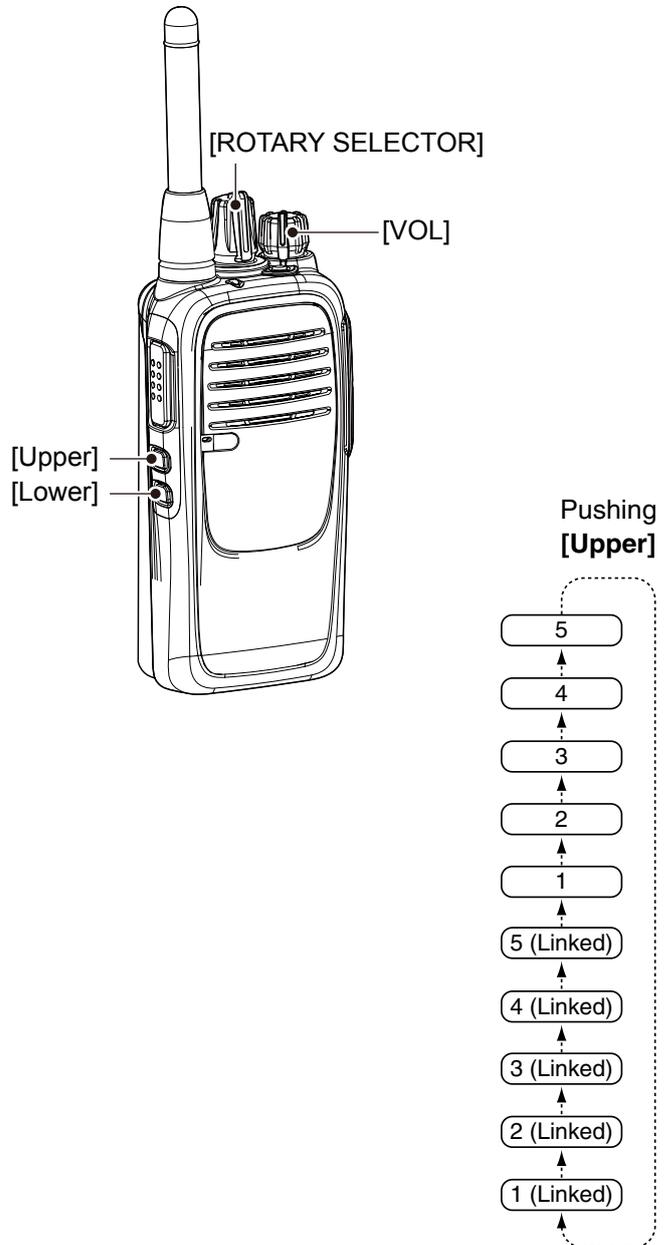
Setting the ringer level

You can adjust the ringer level between 1 ~ 5, or 1 (Linked) ~ 5 (Linked). When a linked option is selected, the ringer audio level is adjustable by rotating [VOL].

NOTE: Turn ON the Beep function before you start setting the ringer level. (p. 6)

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 and enter the Ringer Level Adjustment mode.
   • An opening beep sounds and "Sixteen" is announced.
4. Push [Upper] to increase, or push [Lower] to decrease the ringer level.
   • A beep sounds after pushing [Upper]. Therefore, you can determine the current level setting by the increasing loudness of the beep that sounds.

   ⓘ **Information**
   • The adjustable range is 1 ~ 5, or 1 (Linked) ~ 5 (Linked).
   • Repeatedly pushing [Upper] first selects 1 (lowest) to 5 (highest), and then selects the lowest linked level, 1 (Linked) to the highest, 5 (Linked). Repeatedly pushing [Upper] or [Lower] repeats the cycle. See the illustration to the right.
   • To determine if you have selected a linked level, set [VOL] to minimum, then push [Upper] up to 10 times, listening for the loudest beep (level 5). Pushing [Upper] once after the loudest beep will select 1 (Linked). Repeatedly push [Upper] or [Lower] to select the desired linked level.
5. Rotate [VOL] to turn OFF the transceiver and exit the Ringer Level Adjustment mode.

[ROTARY SELECTOR]

[VOL]

[Upper]
[Lower]

Pushing   Pushing
[Upper]   **[Lower]**

5
4
3
2
1
5 (Linked)
4 (Linked)
3 (Linked)
2 (Linked)
1 (Linked)
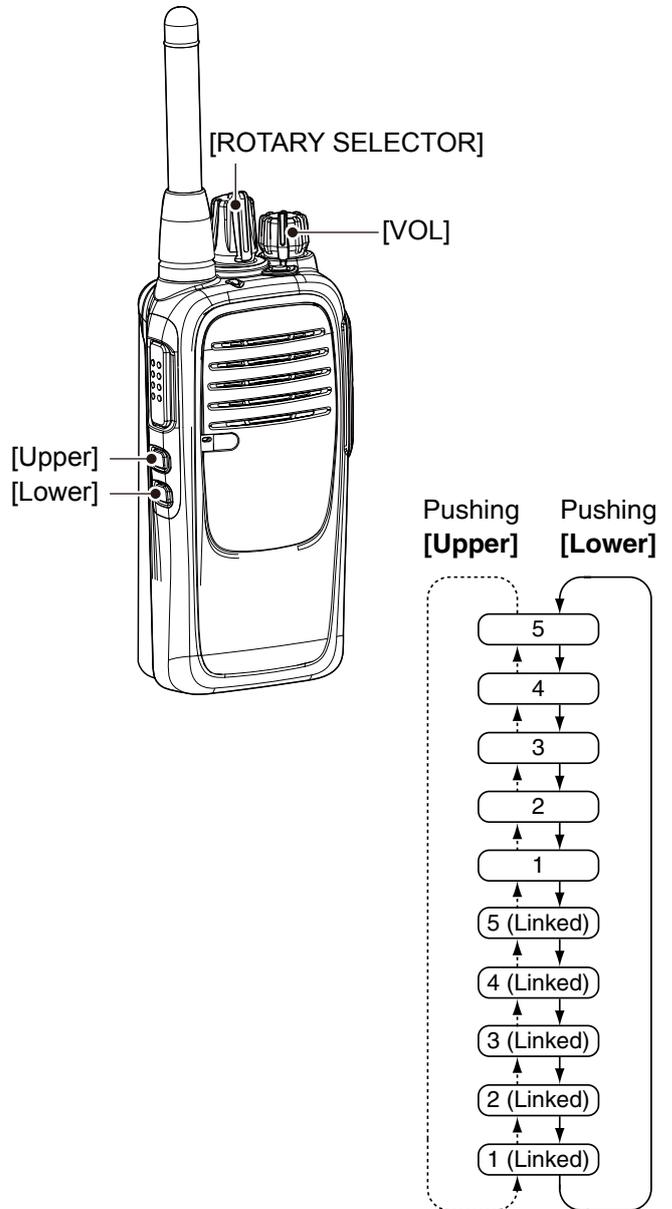
Setting the microphone gain

You can adjust the microphone gain. Higher values make the microphone more sensitive to the user voice.

NOTE: Turn ON the Beep function before you start setting the microphone gain. (p. 6)

1. Rotate [VOL] to turn OFF the transceiver power.
2. Set [ROTARY SELECTOR] to Channel 16.
3. While holding down [Upper], rotate [VOL] to turn ON the transceiver and enter the Microphone Gain Adjustment mode.
   • An opening beep sounds and "Sixteen" is announced.
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 adjustable range.
   ⓘ The adjustable range is 1 (minimum) to 4 (maximum).
5. Rotate [VOL] to turn OFF the transceiver and exit the Microphone Gain Adjustment mode.

[ROTARY SELECTOR]

[VOL]

[Upper]
[Lower]
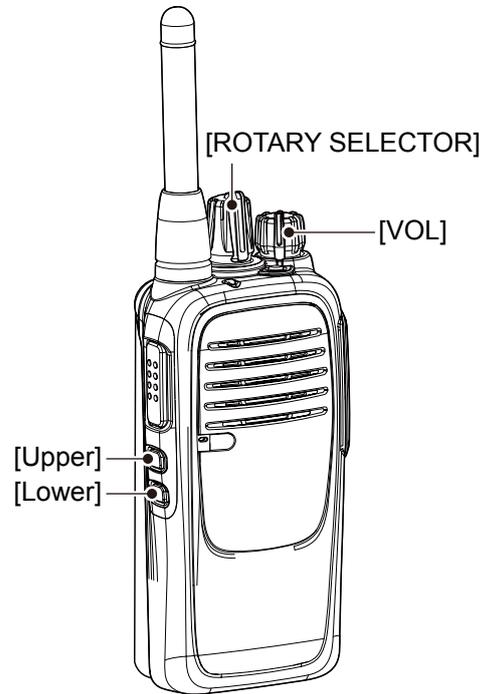
Setting the squelch level

You can adjust the squelch level. The squelch circuit mutes the received audio, depending on the squelch level setting.

NOTE: Turn ON the Beep function before you start setting the squelch level. (p. 6)

1. Rotate [VOL] to turn OFF the transceiver power.
2. Set [ROTARY SELECTOR] to any channel other than Channel 16.
3. While holding down [Upper], rotate [VOL] to turn ON the transceiver and enter the Squelch Level Adjustment mode.
   • An opening beep sounds and the selected channel number is announced.
4. Push [Upper] to increase the squelch level (tight squelch), or push [Lower] to decrease the squelch level (loose squelch).
   • A beep sounds after pushing [Upper] or [Lower]. An error beep sounds if you try to exceed the adjustable range.
   ⓘ The adjustable range is 0 (loose squelch) to 9 (tight squelch).
5. Rotate [VOL] to turn OFF the transceiver and exit the Squelch Level Adjustment mode.

[ROTARY SELECTOR]

[VOL]

[Upper]
[Lower]
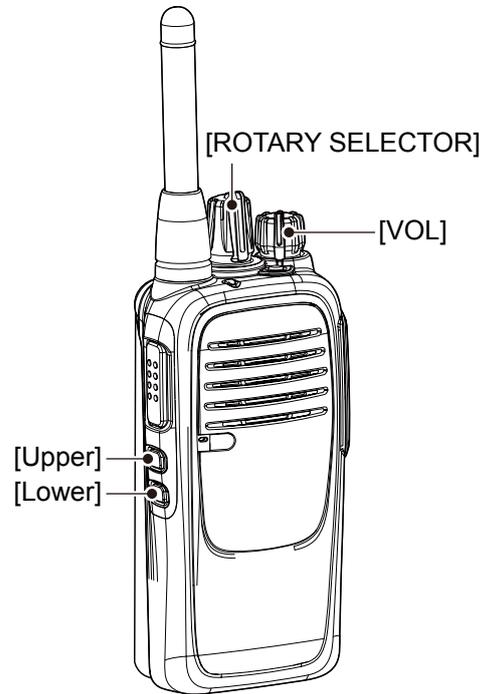
Setting the VOX function

You can turn the VOX function ON or OFF. The VOX function automatically switches between receive and transmit during voice operation.

NOTE: Turn ON the Beep function before you start setting the VOX function. (p. 6)

1. Rotate [VOL] to turn OFF the transceiver power.
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, to turn the VOX function ON or OFF.
   • When the VOX function is ON, a beep and an opening beep sound, and then the selected channel number is announced.
   • When the VOX function is OFF, two beeps and an opening beep sound, and then the selected channel number is announced.
4. Rotate [VOL] to turn OFF the transceiver, then turn ON again to restart the normal operation.

[ROTARY SELECTOR]

[VOL]

[PTT]

[Upper]
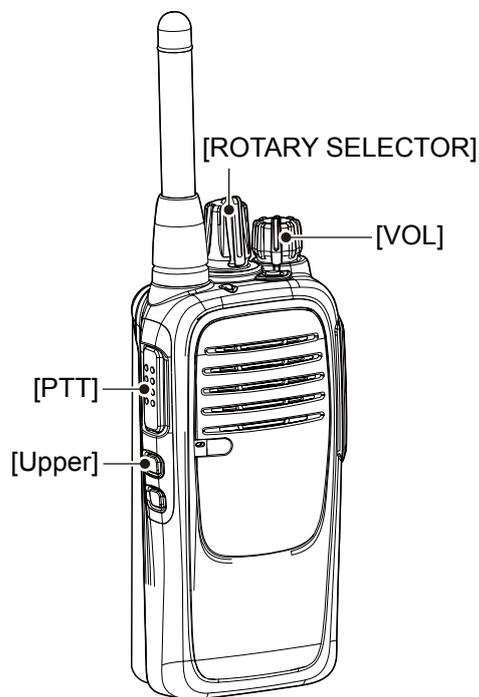
Setting the VOX gain

You can adjust the VOX gain. Higher values make the VOX function more sensitive to the user voice.

NOTE: Turn ON the Beep function before you start setting the VOX gain. (p. 6)

1. Rotate [VOL] to turn OFF the transceiver power.
2. Set [ROTARY SELECTOR] to Channel 16.
3. While holding down [PTT] and [Upper], rotate [VOL] to turn ON the transceiver and enter the VOX Gain Adjustment mode.
   • An opening beep sounds and "Sixteen" is announced.
4. Push [Upper] to increase, or push [Lower] to decrease the VOX gain.
   • A beep sounds after pushing [Upper] or [Lower]. An error beep sounds if you try to exceed the adjustable range.
   ⓘ The adjustable range is 1 (minimum) to 10 (maximum).
5. Rotate [VOL] to turn OFF the transceiver and exit the VOX Gain Adjustment mode.

[ROTARY SELECTOR]

[VOL]

[PTT]

[Upper]
[Lower]
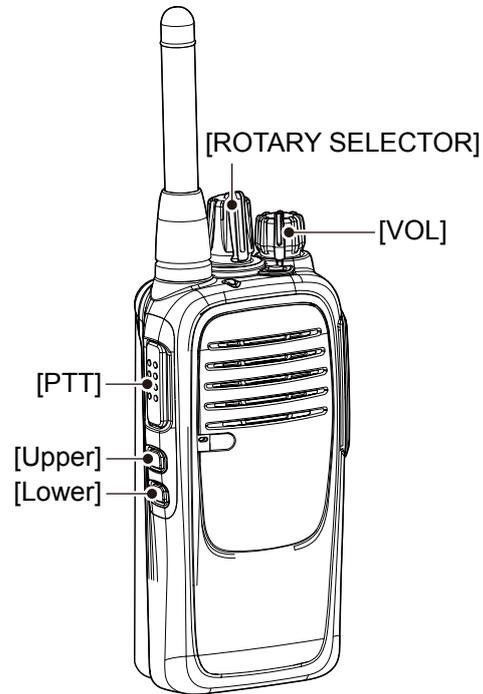
Setting the group code number

◇ CTCSS tone setting

This transceiver has 50 preset CTCSS tones. CTCSS operation enables silent standby, since you will only receive calls from group members using the same CTCSS tone.

1. Rotate [VOL] to turn OFF the transceiver.
2. Set [ROTARY SELECTOR] to any channel other than Channel 16.
3. While holding down [PTT], [Upper], and [Lower], rotate [VOL] to turn ON the transceiver.
   • An opening beep sounds and the selected channel number is announced.
4. Rotate [ROTARY SELECTOR] to select the desired channel (1 to 16) that you want to assign the CTCSS tone to.
5. Hold down [Upper] until two beeps sound.
   • The transceiver enters the CTCSS Tone Setting mode.
6. Push [PTT] the necessary number of times to enter the ten's digit of the desired CTCSS tone number (grey column) as shown in the list to the right.
   ⓘ To enter '0,' skip this step.
7. Push [Upper].
   • The selected number is announced.
8. Push [PTT] the necessary number of times to enter the one's digit of the desired CTCSS tone number (grey column) as shown in the list to the right.
   ⓘ To enter '0,' skip this step.
9. Push [Upper] to complete the setting.
   • The selected number is announced.
10. Turn OFF the transceiver and exit the CTCSS tone setting mode.
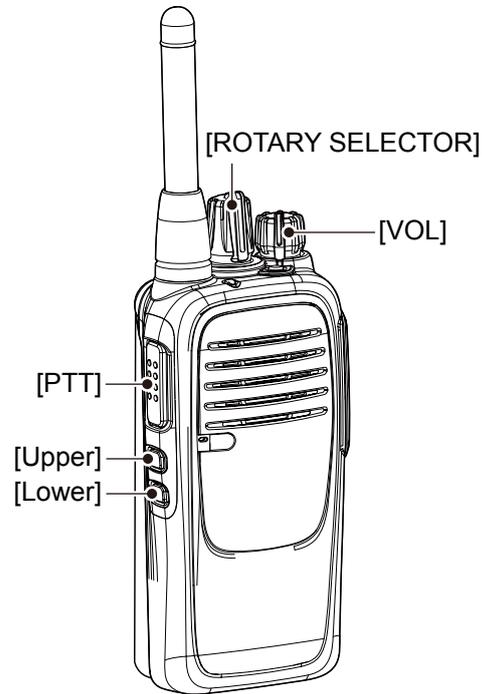
> **TIP:**
> • If you make a mistake, go back to step 1 and follow all the steps again.
> • To turn OFF the CTCSS tone, enter "00."

[Example]: CTCSS tone No. 28 (162.2 Hz) assigned to channel 4

1. Rotate [VOL] to turn OFF the transceiver.
2. Set [ROTARY SELECTOR] to Channel 4.
3. While holding down [PTT], [Upper], and [Lower], rotate [VOL] to turn ON the transceiver.
4. Set [ROTARY SELECTOR] to Channel 4.
5. Hold down [Upper] until two beeps sound.
6. Push [PTT] two times to enter "2" (the ten's digit) of the number 28, then push [Upper].
   • "Two" is announced.
7. Push [PTT] eight times to enter "8" (the one's digit) of the number 28, then push [Upper] to complete the setting.
   • "Eight" is announced.
8. Turn OFF the transceiver to set the CTCSS tone.

[ROTARY SELECTOR]

[VOL]

[PTT]

[Upper]
[Lower]

• Usable CTCSS tone list   (Hz)

No.	Freq.	No.	Freq.	No.	Freq.	No.	Freq.	No.	Freq.
01	67.0	11	94.8	21	131.8	31	171.3	41	203.5
02	69.3	12	97.4	22	136.5	32	173.8	42	206.5
03	71.9	13	100.0	23	141.3	33	177.3	43	210.7
04	74.4	14	103.5	24	146.2	34	179.9	44	218.1
05	77.0	15	107.2	25	151.4	35	183.5	45	225.7
06	79.7	16	110.9	26	156.7	36	186.2	46	229.1
07	82.5	17	114.8	27	159.8	37	189.9	47	233.6
08	85.4	18	118.8	28	162.2	38	192.8	48	241.8
09	88.5	19	123.0	29	165.5	39	196.6	49	250.3
10	91.5	20	127.3	30	167.9	40	199.5	50	254.1
								00	OFF

◇ DTCS code setting

This transceiver has 84 preset DTCS codes. DTCS operation enables silent standby, since you will only receive calls from group members using the same DTCS code.

1. Rotate [VOL] to turn OFF the transceiver.
2. Set [ROTARY SELECTOR] to any channel other than Channel 16.
3. While holding down [PTT], [Upper], and [Lower], rotate [VOL] to turn ON the transceiver.
   • An opening beep sounds and the selected channel number is announced.
4. Rotate [ROTARY SELECTOR] to select the desired channel (1 to 16) that you want to assign the DTCS code to.
5. Hold down [Lower] until two beeps sound.
   • The transceiver enters the DTCS Code Setting mode.
6. Push [PTT] the necessary number of times to enter the ten's digit of the desired DTCS code number (grey column) as shown in the list to the right.
   ① To enter '0,' skip this step.
7. Push [Upper].
   • The selected number is announced.
8. Push [PTT] the necessary number of times to enter the one's digit of the desired DTCS code number (grey column) as shown in the list to the right.
   ① To enter '0,' skip this step.
9. Push [Upper].
   • The selected number is announced.
10. If you want to use Inverse mode, push [PTT] again.
    • If you want to use Normal mode, skip this step.
11. Push [Upper] to complete the setting.
12. Turn OFF the transceiver and exit the DTCS Code Setting mode.

TIP:
• If you make a mistake, go back to step 1 and follow all the steps again.
• To turn OFF the DTCS code, enter "0."

**[Example]:** DTCS code No. 16 (114) Inverse mode assignment to channel 5
1. Rotate [VOL] to turn OFF the transceiver.
2. Set [ROTARY SELECTOR] to Channel 5.
3. While holding down [PTT], [Upper], and [Lower], rotate [VOL] to turn ON the transceiver.
4. Hold down [Lower] until two beeps sound.
5. Push [PTT] one time to enter "1" (the ten's digit) of the number 16, then push [Upper].
   • "One" is announced.
6. Push [PTT] six times to enter "6" (the one's digit) of the number 16, then push [Upper].
   • "Six" is announced.
7. Push [PTT] again, to use Inverse mode.
8. Push [Upper] to complete the setting.
9. Turn OFF the transceiver to set the DTCS code.

[ROTARY SELECTOR]

[VOL]

[PTT]

[Upper]

[Lower]

• Usable DTCS code list

No.	Code	No.	Code	No.	Code	No.	Code	No.	Code
01	023	21	132	41	271	61	466	81	732
02	025	22	134	42	306	62	503	82	734
03	026	23	143	43	311	63	506	83	743
04	031	24	152	44	315	64	516	84	754
05	032	25	155	45	331	65	532	00	OFF
06	036	26	156	46	343	66	546		
07	043	27	162	47	346	67	565		
08	047	28	165	48	351	68	606		
09	051	29	172	49	364	69	612		
10	054	30	174	50	365	70	624		
11	065	31	205	51	371	71	627		
12	071	32	223	52	411	72	631		
13	072	33	226	53	412	73	632		
14	073	34	243	54	413	74	654		
15	074	35	244	55	423	75	662		
16	114	36	245	56	431	76	664		
17	115	37	251	57	432	77	703		
18	116	38	261	58	445	78	712		
19	125	39	263	59	464	79	723		
20	131	40	265	60	465	80	731		

Count on us!