



OPERATING GUIDE

VHF TRANSCEIVER
IC-V88
UHF TRANSCEIVER
IC-U88

Icom Inc.



INTRODUCTION

FOREWORD

We appreciate you choosing Icom for your communication needs.
The MDC 1200 signaling system is built into your IC-V88 VHF TRANSCEIVER and IC-U88 UHF TRANSCEIVER.

IMPORTANT

FIRST, CAREFULLY READ INSTRUCTIONS ① and ② that are provided with the transceiver.

SAVE THIS OPERATING GUIDE— This operating guide contains additional important operating instructions for the IC-V88 VHF TRANSCEIVER and IC-U88 UHF TRANSCEIVER.

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Section 1 ACCESSORIES

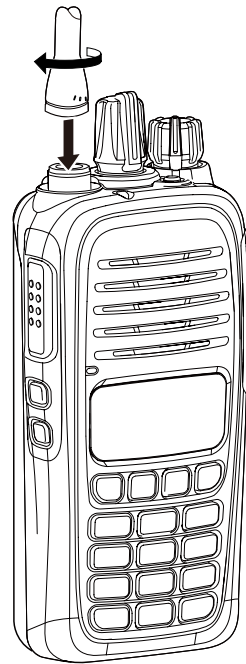
Accessory attachments

◇ Antenna

Connect the supplied or an optional antenna to the antenna connector.

CAUTION:

- **NEVER** carry the transceiver by holding only the antenna.
- **DO NOT** connect any antenna other than those listed in **OPTIONS** in INSTRUCTIONS ② that is provided with the transceiver.
- Transmitting without an antenna may damage the transceiver.

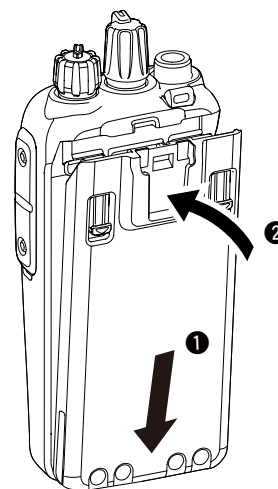


◇ Battery pack

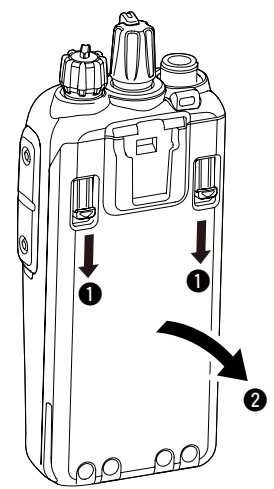
To attach or detach the battery pack:

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

To attach



To detach



◇ Belt clip

To attach the belt clip:

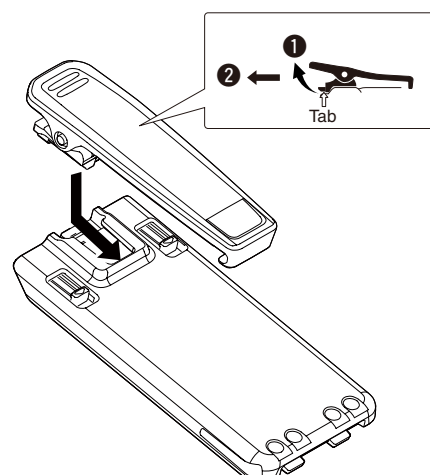
- ① Remove the battery pack from the transceiver, if it is attached.
- ② Slide the belt clip in the direction of the arrow until the belt clip locks in place, and makes a 'click' sound.

To detach the belt clip:

- ① Remove the battery pack from the transceiver, if it is attached.
- ② Lift the tab up (①), and slide the belt clip in the direction of the arrow (②).

To attach

To detach



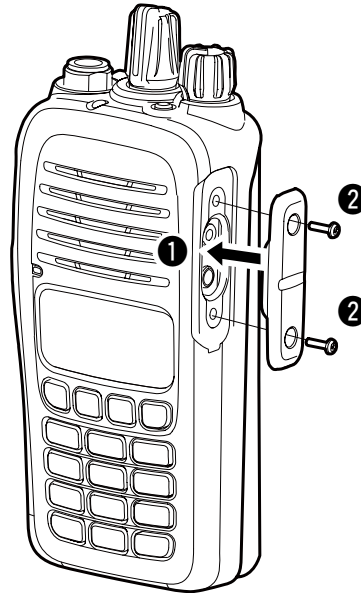
Accessory attachments (Continued)

◇ **Jack cover**

To attach the jack cover:

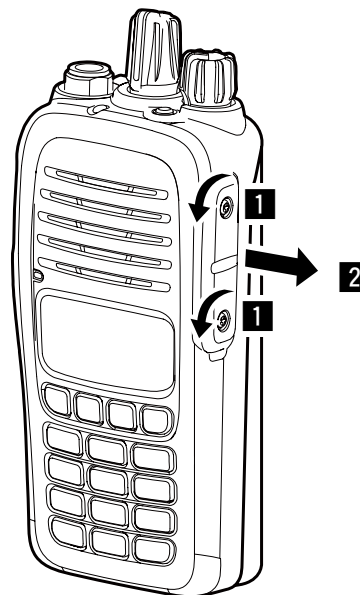
- 1 Place the jack cover over the speaker-microphone jack.
- 2 Insert and tighten the screws.

/// **CAUTION:** 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 detach the jack cover:

- 1 Unscrew the screws using a Phillips screwdriver.
- 2 Detach the jack cover to connect a speaker-microphone or a headset.



Programmable key functions

If you use the CS-V88 CLONING SOFTWARE (purchase separately), you can assign the functions described below to [P0], [P1], [P2], [P3], [TOP], [UP], and [DOWN].

NOTE:

About the default settings of these keys, see the instruction manual that is provided with the transceiver.

CH UP/DOWN

➤ As described in the following topics, after pushing a programmed key, push [CH Up] or [CH Down] to select an option, setting, and so on.

ZONE

➤ Push this key, then select a desired zone by pushing [CH Up] or [CH Down].

What is “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

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

SCAN ADD/DEL (TAG)

➤ Push to add the current channel to, or delete it from, the scan group.

1. Hold down to display the scan group, then push [CH Up] or [CH Down] to select the desired one.
2. Push to add the channel to, or delete it from, the selected scan group.
3. Hold down to exit the scan list selection mode.

➤ While a scan is paused on a non-priority channel, push this key to delete the selected channel from the scan group.

PRIORITY A (Prio A) CHANNEL, PRIORITY B (Prio B) CHANNEL

➤ Push to select the Prio A or Prio B channel.

PRIORITY A (Prio A) CHANNEL (REWRITE), PRIORITY B (Prio B) CHANNEL (REWRITE)

➤ Push to select the Prio A or Prio B channel.
➤ Hold down [Prio A (Rewrite)] or [Prio B (Rewrite)] to assign the operating channel to the Prio A or Prio B channel.

MEMORY CHANNELS 1, 2, 3, 4

➤ Push to directly select memory channel 1, 2, 3, or 4.

MONI

➤ Hold down to cancel the CTCSS (DTCS) mute.
• The transceiver enters the “Audible” mode.
➤ Push to turn OFF the function.

LOCK

➤ Hold down until “LOCK ON” is displayed to lock all programmable keys except [Moni], [Surveillance], [Siren], and [Shift].
➤ To turn OFF the Key Lock function, hold down until “LOCK OFF” is displayed.

HIGH/LOW

➤ Push to temporarily select the transmit output power.

C.Tone CH ENT

➤ Push to enter the Continuous Tone Selection mode. Push [CH Up] or [CH Down] to select the tone frequency or DTCS code.

TALK AROUND

➤ Push to turn the Talk Around function ON or OFF.
• The Talk Around function equalizes the transmit frequency to the receive frequency for transceiver-to-transceiver communication.

WIDE/NARROW

➤ Push to toggle the channel passband width between wide and narrow.

Programmable key functions (Continued)

DTMF AUTODIAL

- Push to enter the DTMF number selection mode, then select a DTMF number by pushing [**CH Up**] or [**CH Down**].
- After selecting the DTMF number, push again to transmit the selected DTMF code.

RE-DIAL

- Push to transmit the last-transmitted DTMF code.

/// **NOTE:** TX memories are cleared after turning OFF the transceiver.

SURVEILLANCE

- Push to turn the Surveillance function ON or OFF.
 - When this function is ON and a signal is received, a beep does not sound and the LED does not light, even if you push any key.

SIREN

- Hold down to sound a siren.
 - You may use this function for other than an emergency alert. For example, use it as a security alarm.
- Turn OFF the transceiver power to stop the siren.

SCRAMBLER

- Push to turn the Voice Scrambler function ON or OFF.

COMPANDER

- Push to turn the Compander function ON or OFF.
 - The Compander function reduces noise components from the transmitted audio to provide clear communication.

USER SET MODE

- Hold down to enter the User Set mode.
 - While in the User Set mode, push this key to select an item, and then change the value or setting by pushing [**CH Up**] or [**CH Down**].
- Briefly hold down this key again to exit the User Set mode.

ANNOUNCE

- Push to turn the Channel Announce function ON or OFF.

/// **NOTE:** When the Beep function (p. 6) is OFF, the operating channel is not announced, regardless of this setting.

SHIFT

1. Push to turn ON the Shift mode key functions.
 - “SHIFT ON” is briefly displayed.
2. Push another key to activate its secondary function.
3. Push [**Shift**] again to turn OFF the function.
 - “SHIFT OFF” is briefly displayed, and then the transceiver returns to the Normal mode.
 - The Shift mode enables a programmable function key to have two functions.

About the MDC 1200 system

The MDC 1200 signaling system enhances your transceiver's capabilities. You can receive or transmit a PTT ID. PTT ID is a calling station ID that is sent by pushing or releasing [PTT].

An additional feature of the MDC 1200 system included in Icom transceivers is called aliasing. Each transceiver on the system has a unique ID number. Aliasing is a substitute for this ID number and you can give an alphanumeric name for each station ID. In transmit, you can use this alias to select a transceiver to call. In receive, the alias of the calling station is displayed instead of the ID.

NOTE:
To use the MDC 1200 system, set the related settings by using the CS-V88 CLONING SOFTWARE (purchase separately).
The factory default is not set to allow the system operation.

Receiving

◇ Receiving a PTT ID

- ① When a PTT ID is received:
 - Beeps sound.
 - The calling station ID (or alias) is displayed.

< Calling station ID >



< Alias >



- ② Hold down [PTT] and speak into the microphone.
- ③ Release [PTT] to receive a response.

Transmitting

◇ Transmitting a PTT ID

Another person can view your station ID. If the same alias is set at the receiving side, the alias is displayed instead of the station ID.

- ① Push [PTT] to make a call.
- ② Beeps sound.
- ③ Your station ID will be transmitted when you push [PTT] (at the beginning of transmission) or release it (at the end of transmission), depending on the setting in the CS-V88.

Section 4 USER SET MODE

User Set mode

The User Set mode enables you to change various settings. You can “customize” the transceiver operation to suit your preferences and operating style.

Entering the User Set mode:

- ➔ Hold down [P0] to enter the User Set mode.
 - While in the User Set mode, push [P0] again to select an item, and then change the value or setting by pushing [CH Up] or [CH Down].
- ➔ Hold down [P0] again to exit the User Set mode.

Backlight

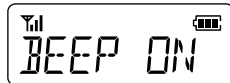
The LCD and key backlight lights according to this setting.

- ON: Always lights.
- AUT: Lights for 5 seconds when pushing any key except [PTT].
- AU2: Lights for 5 seconds every time the display changes the contents.
- OFF: Does not light.



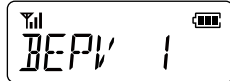
Beep ON/OFF

- ON: Beeps sound.
- OFF: No beeps sound.



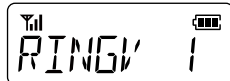
Beep Level

- 1 (minimum) – 5 (maximum)
 - 1* (minimum) – 5* (maximum)
- Linked with the audio level.
Rotate [VOL] to adjust the beep audio level.



Ringer Level

- 1 (minimum) – 5 (maximum)
 - 1* (minimum) – 5* (maximum)
- Linked with the audio level.
Rotate [VOL] to adjust the ringer audio level.



- /// **Beep:** Any sound except ringers.
- /// **Ringer:** Sounds when receiving a call.

SQL (Squelch) Level

Set the SQL level to between 0 to 9. The squelch function suppresses the noise output from a speaker when no signal is received.

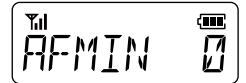
- 0: SQL Open
- 2: SQL Threshold
- 9: SQL Tight



AF Min Level

(Minimum audio output level)
Set the audio output level when you rotate [VOL] to the minimum point.

- 0 (minimum) – 255 (maximum)



Mic Gain

Higher levels make the microphone more sensitive to the user's voice.

- 1 (minimum) – 4 (maximum)



Battery Voltage Display

- ON: Battery voltage is displayed when turning ON the transceiver.
- OFF: Battery voltage is not displayed when turning ON the transceiver.



Signal Moni

While using a DTMF code signaling, select whether or not to sound DTMF tones.

- ON: DTMF tones sound.
- OFF: No DTMF tones sound.



Front Panel Programming mode

The following settings can be changed in the Front Panel Programming mode without a PC. This is a convenient function to immediately change some settings when you operate the transceiver in the field.

- Receive (RX) and Transmit (TX) frequencies
- RX and TX CTCSS tone frequencies
- RX and TX DTCS codes
- Channel name

NOTE:

While the transceiver is in the Front Panel Programming mode, you cannot receive or transmit.

◇ Entering the Front Panel Programming mode

- ① Rotate **[VOL]** to turn OFF the transceiver.
- ② While holding down **[P0]** and **[UP]**, turn ON the transceiver.
 - “SET MODE” is displayed.



- ③ Push **[P0]** to enter the Front Panel Programming mode.
 - A zone number and a channel number are displayed.



To exit the Front Panel Programming mode and return to the normal operation:

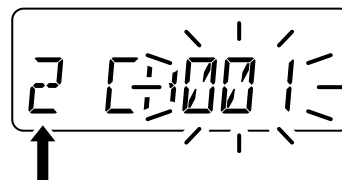
- ➔ Turn OFF the transceiver.

◇ Selecting a channel to program

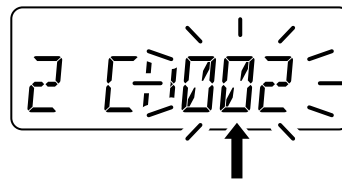
- ① After a zone and a channel number are displayed, as described to the left, push **[P3]** to enter the Channel Selection mode.
 - The channel number blinks.



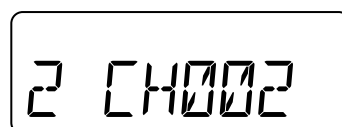
- ② Push **[P1]** several times to select a zone.



- ③ Push **[UP]** or **[DOWN]** to select a channel you want to program.



- ④ Push **[P3]** again to set the channel.
 - The channel number stops blinking.



Front Panel Programming mode (Continued)

◇ **Editing the Receive (RX) and Transmit (TX) frequencies**

These instructions are the same to edit both the RX and TX frequency.

- ① While a zone and a channel number are displayed, as described on page 7, push **[UP]** to first select the RX frequency, or push it again to select the TX frequency.
 - When you select the RX frequency, the LED indicator lights green, and when you select the TX frequency, the LED indicator lights red.

RX frequency:



TX frequency:



- ② Push **[P3]** to enter the Frequency Edit mode.
 - The cursor blinks at the first digit.



- ③ Enter a desired frequency by pushing the keys on the 10-key pad.



- ④ After you finish entering all digits, or push **[P3]**, the frequency will automatically be saved.
 - The cursor stops blinking.



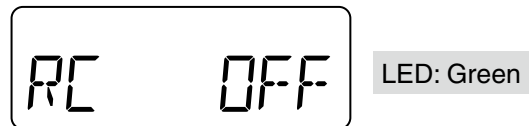
◇ **Selecting the RX and TX tones**

These instructions are the same to select both the RX and TX tones.

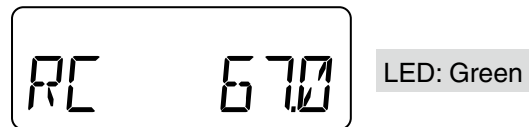
- ① While the TX frequency is displayed as described on page 8, push **[UP]** to first select the RX tones, or push it again to select the TX tones.
 - When you select the RX frequency, the LED indicator lights green, and when you select the TX frequency, the LED indicator lights red.

RX tones screens:

- RX CTCSS tone frequency OFF



- RX CTCSS tone frequency

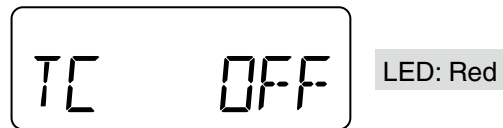


- RX DTCS code

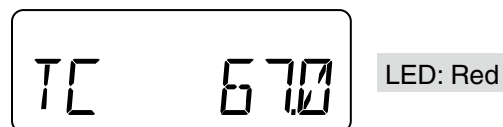


TX tones screens:

- TX CTCSS tone frequency OFF



- TX CTCSS tone frequency



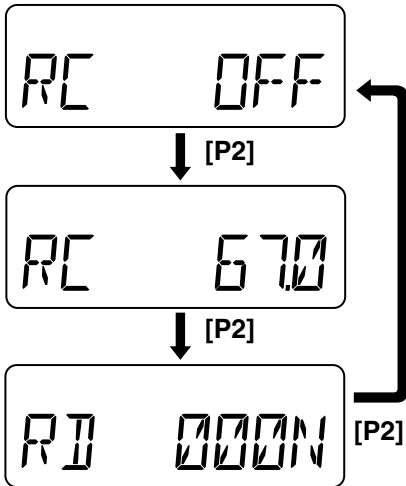
- TX DTCS code



Front Panel Programming mode

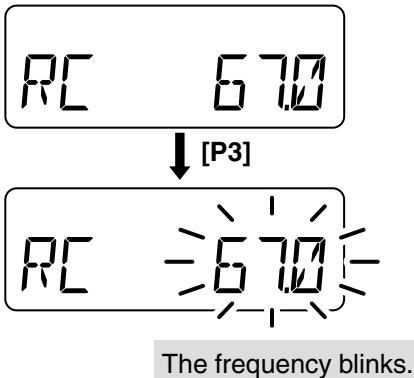
◆ Selecting the RX and TX tones (Continued)

② Push [P2] to select the CTCSS tone frequency, or DTCS code screen, or to turn OFF the CTCSS tone frequency.

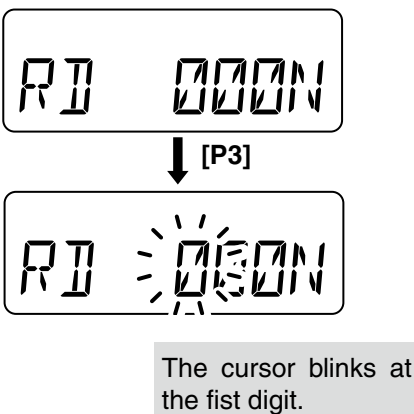


③ Push [P3] to enter the CTCSS Tone Frequency or DTCS Code Selection mode.

• CTCSS Tone Frequency Selection mode

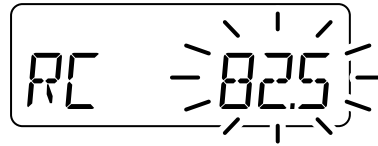


• DTCS Code Selection mode

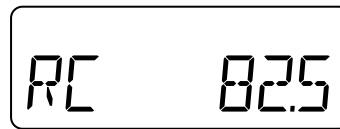


Setting the CTCSS tone frequency:

④ When CTCSS tone is selected, push [UP] or [DOWN] to select the frequency.



⑤ Push [P3] again to set the frequency.
• The frequency stops blinking.



Setting the DTCS code:

④ When DTCS code is selected, push [UP] or [DOWN] to select the code digit.

⑤ Push [P3] to move the cursor to the next digit.

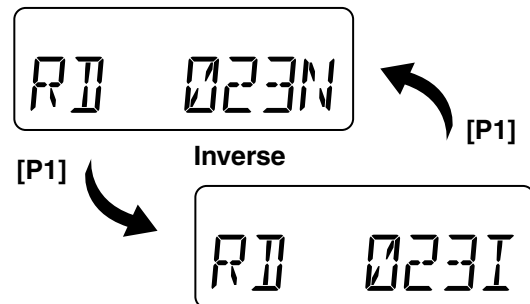


⑥ Repeat steps ④ and ⑤, until you finish selecting the code.

⑦ Push [P1] to toggle the DTCS code's polarity while the cursor is blinking.

• You can select Normal or Inverse polarity.

Normal



⑧ Push [P3] again to save the code.

• The cursor stops blinking.



Front Panel Programming mode (Continued)

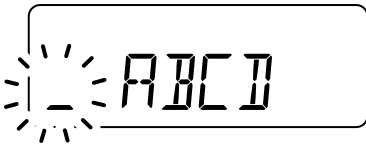
◇ Editing the channel name

You can display the name instead of the channel number.

- ① While any of the TX tones are displayed, as described on page 8, push [UP] to display the channel name.
 - If no channel name is programmed, nothing is displayed.



- ② Push [P3] to enter the Channel Name Edit mode.
 - The cursor blinks at the first digit.

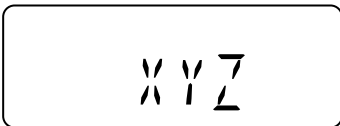


- ③ Enter a character by pushing [UP] or [DOWN], or push the keys on the 10-key pad.
 - About using the 10-key pad and usable characters, see the information to the right.

- ④ Push [P3] to move the cursor to the next digit.



- ⑤ Repeat steps ③ and ④, until you finish entering the name.
- ⑥ Push [P3] again to save the channel name.
 - The cursor stops blinking.



When using the 10-key pad:

- Repeatedly pushing [2], for example, first selects the number “2.” Continuing to push it selects upper case letters “A,” then “B,” then “C,” and then selects lower case letters “a,” then “b,” then “c.”
 - To enter a space, push [1] twice. The cursor blinks, and then push [P3] to move to the next digit.
 - [0] and [1] also select other symbols.
 - [*] and [#] are used to move the cursor to the left or to the right.

NOTE: Once you rewrite the preprogrammed character including a decimal point by using the 10-key pad, the decimal point cannot be displayed again.

• Usable characters

Key	Characters
0	0 . ! ? ' " , ; :
	0 . ! ? ' " , ; :
	- { } ^ _ []
	- () < > []
1	/ # * / + - = \
	1 Space # * / + - = \
	2 3 4 5 6 7 8 9
	& % \$ @ ^
2	2 A B C a b c
	2 A B C a b c
3	3 D E F d e f
	3 D E F d e f
4	4 G H I g h i
	4 G H I g h i
5	5 J K L j k l
	5 J K L j k l
6	6 M N O m n o
	6 M N O m n o
7	7 P Q R S p q r s
	7 P Q R S p q r s
8	8 T U V t u v
	8 T U V t u v
9	9 W X Y Z w x y z
	9 W X Y Z w x y z

Front Panel Programming mode (Continued)

◇ Other settings

To deactivate the channel:

- ① Select a desired zone and a channel, as described on page 7.



- ② Push [P2] to deactivate the selected channel.
 - “*” is displayed.
 - The channel cannot be used until you reactivate it.



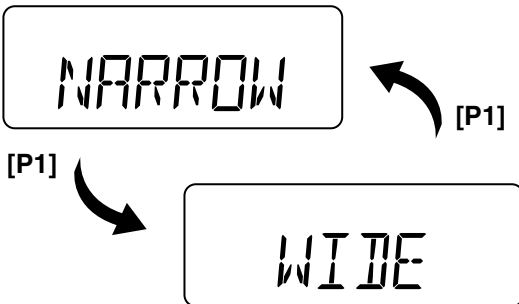
- ➔ Push [P2] to activate the channel.
 - “*” disappears.

To toggle between Wide and Narrow channel passband width:

- ① Select an RX frequency as described on page 8.



- ② Push [P1] to toggle the channel passband width.
 - “WIDE” or “NARROW” is briefly displayed.
 - You cannot toggle the channel passband width while the cursor is blinking.

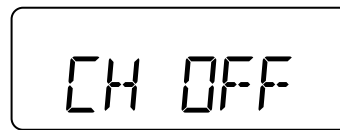


To clear the RX frequency memory:

- ① Select an RX frequency as described on page 8.



- ② Push [P2] to clear the memory.
 - “CH OFF” is displayed and the channel will be cleared.
 - You cannot clear the RX frequency memory while the cursor is blinking.



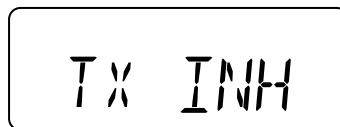
- ➔ To use the channel again, push [P2] and set the RX frequency again.

To Inhibit or allow transmission:

- ① Select a TX frequency as described on page 8.



- ② Push [P2] to inhibit transmission.
 - “TX INH” is displayed.
 - You cannot inhibit transmission while the cursor is blinking.



- ➔ Push [P2] to allow transmission.

Count on us!

