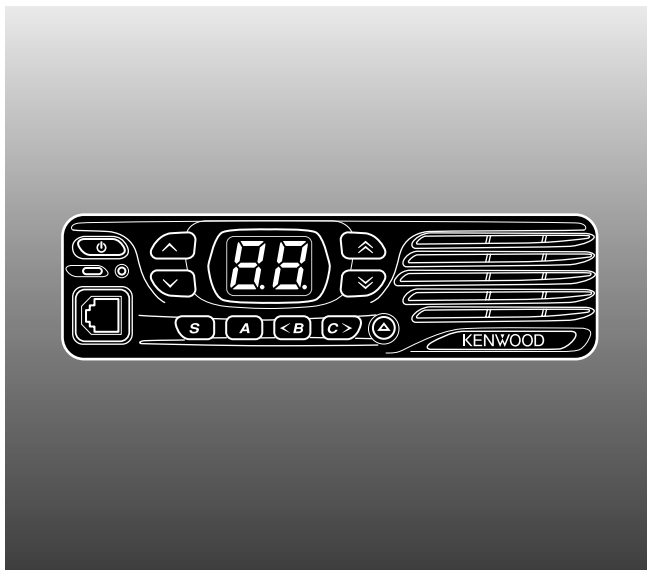


# KENWOOD

## INSTRUCTION MANUAL



VHF FM TRANSCEIVER/ UHF FM TRANSCEIVER

# TK-7302/ TK-8302

JVC KENWOOD Corporation

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09 08 07 06 05 04 03 02



## THANK YOU

We are grateful you have chosen **Kenwood** for your personal mobile applications.

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This instruction manual covers only the basic operations of your mobile radio. Ask your dealer for information on any customized features they may have added to your radio.

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## NOTICES TO THE USER

- ◆ Government law prohibits the operation of unlicensed transmitters within the territories under government control.
- ◆ Illegal operation is punishable by fine and/or imprisonment.
- ◆ Refer service to qualified technicians only.

**SAFETY:** It is important that the operator is aware of, and understands, hazards common to the operation of any transceiver.



### WARNING

- ◆ **EXPLOSIVE ATMOSPHERES (GASES, DUST, FUMES, etc.)**  
Turn OFF your transceiver while taking on fuel or while parked in gasoline service stations. Do not carry spare fuel containers in the trunk of your vehicle if your transceiver is mounted in the trunk area.
- ◆ **INJURY FROM RADIO FREQUENCY TRANSMISSIONS**  
Do not operate your transceiver when somebody is either standing near to or touching the antenna, to avoid the possibility of radio frequency burns or related physical injury.
- ◆ **DYNAMITE BLASTING CAPS**  
Operating the transceiver within 500 feet (150 m) of dynamite blasting caps may cause them to explode. Turn OFF your transceiver when in an area where blasting is in progress, or where "TURN OFF TWO-WAY RADIO" signs have been posted. If you are transporting blasting caps in your vehicle, make sure they are carried in a closed metal box with a padded interior. Do not transmit while the caps are being placed into or removed from the container.

### Firmware Copyrights

The title to and ownership of copyrights for firmware embedded in Kenwood product memories are reserved for JVC KENWOOD Corporation.

## PRECAUTIONS

Observe the following precautions to prevent fire, personal injury, and transceiver damage.

- Do not attempt to configure the transceiver while driving; it is too dangerous.
- Do not disassemble or modify the transceiver for any reason.
- Do not expose the transceiver to long periods of direct sunlight, nor place it near heating appliances.
- If an abnormal odor or smoke is detected coming from the transceiver, switch the transceiver power off immediately, and contact your **Kenwood** dealer.
- Use of the transceiver while you are driving may be against traffic laws. Please check and observe the vehicle regulations in your area.
- Do not use options not specified by **Kenwood**.



### CAUTION

- ◆ The transceiver operates in 12 V negative ground systems only! Check the battery polarity and voltage of the vehicle before installing the transceiver.
- ◆ Use only the supplied DC power cable or a **Kenwood** optional DC power cable.
- ◆ Do not cut and/or remove the fuse holder on the DC power cable.



### WARNING

For passenger safety, install the transceiver securely using the supplied mounting bracket and screw set so the transceiver will not break loose in the event of a collision.

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# GETTING STARTED

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**Note:** The following instructions are for use by your **Kenwood** dealer, an authorized **Kenwood** service facility, or the factory.

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## SUPPLIED ACCESSORIES

Carefully unpack the transceiver. We recommend that you identify the items listed below before discarding the packing material. If any items are missing or have been damaged during shipment, file a claim with the carrier immediately.

DC power cable (with fuses) . . . . .	1
• 10 A fuse . . . . .	4
Mounting Bracket . . . . .	1
Screw set	
• 5 x 16 mm self-tapping screw . . . . .	4
• Hex-headed screw with washer . . . . .	4
• Spring washer . . . . .	4
• Flat washer . . . . .	4
Instruction manual . . . . .	1

## PREPARATION



### WARNING

Various electronic equipment in your vehicle may malfunction if they are not properly protected from the radio frequency energy which is present while transmitting. Typical examples include electronic fuel injection, anti-skid braking, and cruise control. If your vehicle contains such equipment, consult the dealer for the make of vehicle and enlist his/her aid in determining if they will perform normally while transmitting.

## ■ Power Cable Connection



### CAUTION

The transceiver operates in 12 V negative ground systems only! Check the battery polarity and voltage of the vehicle before installing the transceiver.

- 1 Check for an existing hole, conveniently located in the firewall, where the power cable can be passed through.
  - If no hole exists, use a circle cutter to drill a hole, then install a rubber grommet.
- 2 Run the power cable through the firewall and into the engine compartment.
- 3 Connect the red lead to the positive (+) battery terminal and the black lead to the negative (-) battery terminal.
  - Place the fuse as close to the battery as possible.
- 4 Coil the surplus cable and secure it with a retaining band.
  - Be sure to leave enough slack in the cables so the transceiver can be removed for servicing while keeping the power applied.

## ■ Installing the Transceiver



### WARNING

For passenger safety, install the transceiver securely using the supplied mounting bracket and screw set, so the transceiver will not break loose in the event of a collision.

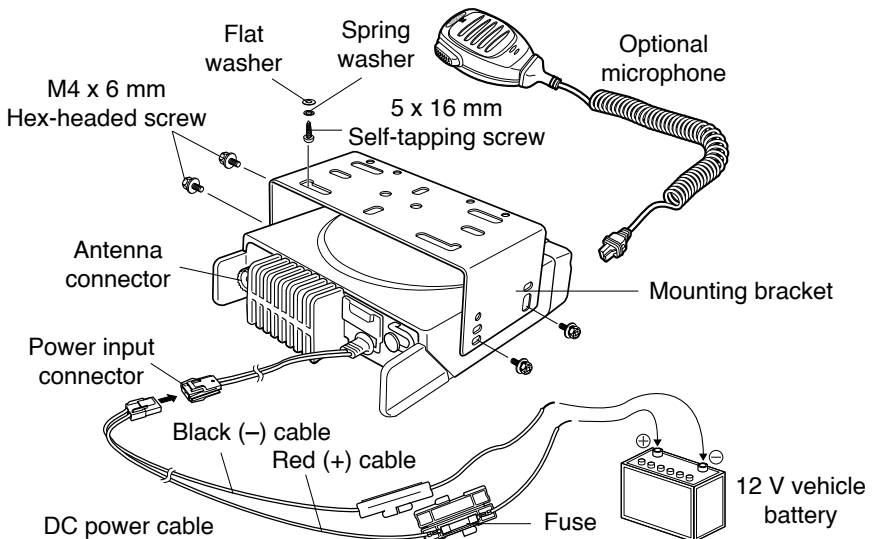
**Note:** Before installing the transceiver, check how far the mounting screws will extend below the surface. When drilling mounting holes, be careful not to damage vehicle wiring or parts.

- 1 Mark the position of the holes in the dash, using the mounting bracket as a template. Using a 4.2 mm (5/32 inch) drill bit, drill the holes, then attach the mounting bracket using the supplied screws.
  - Mount the transceiver within easy reach of the user and where there is sufficient space at the rear of the transceiver for cable connections.
- 2 Connect the antenna and the supplied power cable to the transceiver.
- 3 Slide the transceiver into the mounting bracket and secure it using the supplied hex-headed screws.
- 4 Mount an optional microphone hanger in a location where it will be within easy reach of the user.
  - The microphone and microphone cable should be mounted in a place where they will not interfere with the safe operation of the vehicle.



### CAUTION

When replacing the fuse in the DC power cable, be sure to replace it with a fuse of the same value. Never replace a fuse with one that is rated with a higher value.



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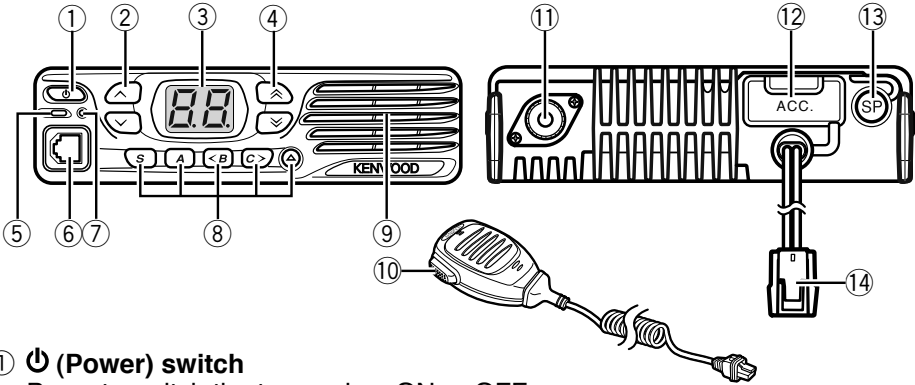
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# GETTING ACQUAINTED

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## FRONT/REAR PANEL



- ① **⏻ (Power) switch**  
Press to switch the transceiver ON or OFF.
- ② **^ / ∨ keys**  
Press to activate their programmable functions {page 4}.
- ③ **Display**  
Refer to page 4.
- ④ **^ / ∨ keys**  
Press to activate their programmable functions {page 4}.
- ⑤ **TX/RX Indicator**  
Lights red while transmitting. Lights green while receiving a signal. Flashes orange when receiving an optional signaling call.
- ⑥ **Microphone jack**  
Insert the microphone plug into this jack.
- ⑦ **Status Indicator**  
Lights during a specified mode, based on dealer programming.
- ⑧ **S / A / <B / C> / Δ keys**  
Press to activate their programmable functions {page 4}.
- ⑨ **Speaker**  
Internal speaker.
- ⑩ **PTT switch**  
Press this switch, then speak into the microphone to call a station.
- ⑪ **Antenna connector**  
Connect the antenna to this connector.
- ⑫ **ACC connector**  
Connect the ACC to this connector, via the KCT-60.
- ⑬ **External speaker jack**  
Connect an external speaker to this jack.
- ⑭ **Power input connector**  
Connect the DC Power Cable to this connector.

## DISPLAY



The display shows the channel number and the 2 dots show various modes of operation.

The left and right dots on the display can be programmed to indicate specific modes of operation, as listed below.

- AUX
- External Speaker
- Horn Alert
- Lone Worker
- Priority Channel
- Scan Delete/Add
- Scrambler
- Talk Around
- Zone Delete/Add

The right dot will blink during special operations (such as Autodial and OST).

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## PROGRAMMABLE FUNCTIONS

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The  $\wedge$ ,  $\vee$ ,  $\hat{\wedge}$ ,  $\hat{\vee}$ , **S**, **A**, **<B, C>**, and  $\blacktriangle$  keys can be programmed with the functions listed below. Ask your dealer for details on these functions.

- None
- 2-tone Encode
- AUX
- Autodial
- Channel Down
- Channel Entry
- Channel Up
- Direct Zone Channel <sup>1</sup>
- Display Brightness
- Emergency <sup>2</sup>
- External Speaker
- Horn Alert
- Lone Worker
- Monitor
- Monitor Momentary
- Operator Selectable Tone
- Paging Call
- Public Address
- Scan Del/Add
- Scan On/Off
- Scrambler
- Send the GPS Data
- Status 1
- Status 2
- Squelch Level
- Squelch Off
- Squelch Off Momentary
- Talk Around
- Volume Down
- Volume Up
- Zone Down
- Zone Up

<sup>1</sup> Direct Zone Channel can be programmed only on the **S**, **A**, **<B, C>**, and  $\blacktriangle$  keys.

<sup>2</sup> Emergency can be programmed only on the  $\blacktriangle$  key.



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# BASIC OPERATIONS

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## SWITCHING POWER ON/ OFF

Press **⏻** to switch the transceiver ON.

- A beep sounds and the display illuminates.
- If the Transceiver Password function is programmed, “PS” will appear on the display when the power is turned ON. Refer to “Transceiver Password”, below.

Press **⏻** again to switch the transceiver OFF.

## ■ Transceiver Password

To enter the password:

- 1 Press **↗/↘** to select a digit.
  - When using a keypad, simply enter the password digits and proceed to step 3.
- 2 Press **C>** to accept the entered digit and move to the next digit.
  - Press **A** or **#** to delete an incorrect digit. Press and hold **A** or **#** to delete all digits.
  - Repeat steps 1 and 2 to enter the entire password.
- 3 Press **S** or **\*** to confirm the password.
  - If you enter an incorrect password, the transceiver remains locked.

## ADJUSTING THE VOLUME

Press the **Volume Up** key to increase the volume. Press the **Volume Down** key to decrease the volume.

If Squelch Off has been programmed onto a key, you can use that function to listen to background noise while adjusting the volume level.

## SELECTING A ZONE AND CHANNEL

Select the desired zone and channel using the keys programmed as **Zone Up/ Zone Down** and **Channel Up/ Channel Down**.

- “G1” (Zone 1) appears on the display.

## TRANSMITTING/ RECEIVING

- 1 Select your desired zone and channel.
  - In Voting and Voting with Signaling zones, the channel is selected automatically.
- 2 Press microphone **PTT** switch and speak into the microphone to transmit. Release the **PTT** switch to receive.
  - For best sound quality at the receiving station, hold the microphone approximately 1.5 inches (3 ~ 4 cm) from your mouth.

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# SCAN

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Scan monitors for signals on the transceiver channels. While scanning, the transceiver checks for a signal on each channel and only stops if a matching signal is present.

To start/stop scanning, press the key programmed as **Scan On/Off**.

- “Sc” appears on the display during Scan.
- When a signal is detected, Scan pauses at that channel. The transceiver will remain on the busy channel until the signal is no longer present, at which time Scan resumes.

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**Note:** To use Scan, there must be at least 2 channels added to the scanning sequence.

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## PRIORITY SCAN

If a Priority channel has been programmed, the transceiver will automatically change to the Priority channel when a call is received on that channel, even if call is being received on a normal channel.

- “P” appears on the display to indicate the Priority channel (depending on dealer setting).

## TEMPORARY CHANNEL LOCKOUT

During scan, you can temporarily remove specific channels from the scanning sequence by pressing the key programmed as **Scan Delete/Add** while Scan is paused at the undesired channel. To temporarily remove a zone, press and hold **Scan Delete/Add** while Scan is paused at a channel in the undesired zone.

- The channel/zone is no longer scanned. However, when scanning is ended and restarted, the Scan settings return to normal.

## SCAN DELETE/ADD

You can add and remove zones and/or channels to and from your scan list.

- 1 Select your desired zone and/or channel.
- 2 Press the key programmed as **Scan Delete/Add** to remove a channel or press and hold the key for approximately 1 second to remove a zone.
  - When a channel is added to scan, “cA” appears on the display. When it is removed, “cd” appears on the display.
  - When a zone is added to scan, “GA” appears on the display. When it is removed, “Gd” appears on the display.

## SCAN REVERT

The Scan Revert channel is the channel selected when you press the **PTT** switch to transmit during scan. Your dealer can program one of the following types of Scan Revert channels:

- **Selected:** The last channel selected before scan.
- **Selected + Talkback:** Same as “Selected”, plus you can respond to calls on the channel at which scan is paused.

- **Priority:** The Priority channel.
- **Priority + Talkback:** Same as “Priority”, plus you can respond to calls on the channel at which scan is paused.
- **Last Called + Selected:** The last channel on which you receive a call or the last channel selected before scan, whichever operation occurred latest.

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## DTMF CALLS

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**Note:** To make DTMF calls, you must use an optional microphone with a DTMF keypad.

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### MANUAL DIALING

- 1 Press and hold the **PTT** switch.
- 2 Enter the desired digits using the keypad.
  - If Keypad Auto-PTT is enabled by your dealer, you do not need to press the **PTT** switch to transmit; you can make the call simply by pressing the keys.

### AUTODIAL

Autodial allows you to quickly call DTMF numbers that have been programmed onto your transceiver.

- 1 Press the key programmed as **Autodial** or the microphone \* key.
  - “Ad” appears on the display.
- 2 Enter the desired memory location number (1 ~ 9).
- 3 Press the **PTT** switch to make the call.

### REDIALING

- 1 Press the key programmed as **Autodial** or the microphone \* key.
  - “Ad” appears on the display.
- 2 Press the microphone **0** key.
  - “rd” appears on the display.
  - If there is no data in the redial memory, an error tone will sound.
- 3 Press the **PTT** switch to make the call.

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**Note:** Switching the transceiver power OFF clears the redial memory.

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### STUN

This function is used when a transceiver is stolen or lost. When the transceiver receives a call containing a stun code, the transceiver becomes disabled. The stun code is cancelled when the transceiver receives a call with a revive code.

- “St” appears on the display while the transceiver is stunned.

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# SIGNALING

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## QUIET TALK (QT)/ DIGITAL QUIET TALK (DQT)

Your dealer may have programmed QT or DQT signaling on your transceiver channels. A QT tone/ DQT code is a sub-audible tone/code which allows you to ignore (not hear) calls from other parties who are using the same channel.

## OPTIONAL SIGNALING

Your dealer may also program several types of optional signaling for your transceiver channels.

**2-tone Signaling:** 2-tone Signaling opens the squelch only when your transceiver receives a call containing matching 2 tones.

**DTMF Signaling:** DTMF Signaling opens the squelch only when the transceiver receives a call containing a matching DTMF code.

**FleetSync Signaling:** Refer to “SELCALL (SELECTIVE CALLING)” on page 9.

**MDC-1200:** MDC-1200 is a data system using Audio Frequency Shift Keying (AFSK). Transceivers communicate at a 1200 baud rate, using 1200 Hz and 1800 Hz tones.

## OPERATOR SELECTABLE TONE (OST)

You can change the preset encode and decode tones for the selected channel. Up to 16 OST pairs can be pre-programmed by your dealer.

- 1 Select your desired channel.
- 2 Press the key programmed as **Operator Selectable Tone** or press and hold the microphone \* key.
  - “ot” appears on the display, followed by the current OST number.
- 3 Press **<B** and **<C>** to select the desired OST number.
- 4 Use the transceiver the same as in a regular call; press the **PTT** switch to transmit and release it to receive.
- 5 To exit OST mode and return to the preset encode and decode tones, press **S**.

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## FleetSync: ALPHANUMERIC 2-WAY PAGING FUNCTION

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FleetSync is an Alphanumeric 2-way Paging Function and is a protocol owned by **JVC KENWOOD Corporation**.

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**Note:** If set up by your dealer, your transceiver may use the MDC-1200 feature in place of FleetSync. MDC-1200 and FleetSync cannot be operated simultaneously.

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## SELCALL (SELECTIVE CALLING)

A Selcall is a voice call to a particular station or to a group of stations.

### ■ Transmitting

- 1 Select your desired zone and channel.
- 2 Press the microphone **PTT** switch and begin your conversation.

### ■ Receiving

If enabled by your dealer, an alert tone will sound and the LED will blink when a Selcall has been received.

To respond to the call, press the **PTT** switch and speak into the microphone.

### ■ Identification Codes

An ID code is a combination of a 3-digit Fleet number and a 4-digit ID number. Each transceiver must have its own Fleet and ID number.

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**Note:** The ID range may be limited by programming.

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## PAGING CALL

- 1 Select your desired zone and channel.
- 2 Press and hold the key programmed as **Paging Call** for 1 second to transmit your PTT List ID, to request a call.

## STATUS MESSAGE

You can transmit pre-programmed status messages by pressing the keys programmed as **Status 1** and **Status 2**.

Status messages are 2-digit codes ranging from 10 to 99 (80 ~ 99 are reserved for special messages).

- “dt” appears on the display when sending a status message. “Ed” appears on the display when receiving an acknowledgement. “Er” appears on the display during status message no reply.

## GPS REPORT

If a GPS unit (NMEA-0183 format) is installed on your transceiver, you can press the key programmed as **Send the GPS data** to send your location data.

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# ADVANCED OPERATIONS

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## EMERGENCY CALLS

If your transceiver has been programmed with the Emergency function, you can make emergency calls. There are 2 levels of emergency calls: 1st Emergency mode and 2nd Emergency mode.

- 1 Press and hold the key programmed as **Emergency** to enter 1st Emergency mode.
  - Depending on the delay time programmed into your transceiver, the length of time you must hold the **Emergency** key will vary.
  - When the transceiver enters 1st Emergency mode, the transceiver will change to the Emergency channel and begin transmitting based on how the transceiver is set up.
- 2 Press and hold the **Emergency** key again to enter 2nd Emergency mode.
  - When the transceiver enters 2nd Emergency mode, the transceiver will begin to control its function port, such as the vehicle headlights or horn, based on how the transceiver is set up.
- 3 To exit Emergency mode, press and hold the **Emergency** key a third time.
  - If the Emergency mode completes the preset number of cycles, Emergency mode will automatically end and the transceiver will return to normal.

## ■ Lone Worker Mode

Lone Worker Mode is a safety feature built into the transceiver. If the transceiver is not operated for a pre-programmed period of time, the transceiver will emit a tone and automatically enter Emergency operation.

Press and hold the key programmed as **Lone Worker** for 2 seconds to toggle the Lone Worker function ON or OFF.

- “Ln” appears on the display while Lone Worker is activated.

## TALK AROUND

During interruptions in service (such as a power failure), you can continue to communicate by using the Talk Around feature. Talk Around allows you to communicate directly with other transceivers without the use of a repeater, as long as they are not too far away or there are no geographical obstacles in the way.

Press the key programmed as **Talk Around** to toggle the Talk Around function ON or OFF.

- “tA” appears on the display while Talk Around is activated.

## VOICE SCRAMBLER

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**Note:** Your dealer can activate the built-in scrambler function, or they can add a more secure optional scrambler board to your transceiver. Ask your dealer for details.

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The built-in scrambler prevents others from easily listening in on your calls. When activated, the transceiver distorts your voice so that anybody listening to your conversation will not be able to clearly hear what you are saying.

In order for members of your own group to hear your call while you are using the scrambler, all members must activate their scrambler functions.

Press the key programmed as **Scrambler** to toggle the Scrambler function ON or OFF.

- “Sr” appears on the display while the Scrambler is activated.

When using an optional scrambler board, you can change the internal and external scrambler codes:

- 1 Press and hold the key programmed as **Scrambler** for 2 seconds.
  - “co” (code) appears on the display, followed by the current scrambler code.
- 2 Press **<B** and **>C** to select your desired scrambler code.
- 3 Press **S** or **▲** to store the new setting.
  - After changing your scrambler code, be sure to inform all of your group members of the new code so they can also reset their transceivers. The scrambler function will not work with transceivers set up with different scrambler codes.

## MONITOR/ SQUELCH OFF

You can use the key programmed as **Monitor** or **Squelch Off** to listen to weak signals that you cannot hear during normal operation and to adjust the volume when no signals are present on your selected channel.

Your dealer can program a key with one of 4 functions:

- **Monitor:** Press to deactivate QT, DQT, DTMF, or FleetSync Signaling. Press again to return to normal operation.
- **Monitor Momentary:** Press and hold to deactivate QT, DQT, DTMF, or FleetSync Signaling. Release to return to normal operation.
- **Squelch Off:** Press to hear background noise. Press again to return to normal operation.
- **Squelch Off Momentary:** Press and hold to hear background noise. Release to return to normal operation.

## ■ Squelch Level

If a key has been programmed as **Squelch Level**, you can readjust your transceiver’s squelch level:

- 1 Press the key programmed as **Squelch Level**.
  - “SL” appears on the display, followed by the current squelch level.
- 2 Press **<B** and **>C** to select the desired squelch level from 0 to 9.
- 3 Press **S** or **▲** to store the new setting.

## PUBLIC ADDRESS (PA)

The PA system can only be used with an optional relay unit and external speaker.

- 1 Press the key programmed as **Public Address** to activate the Public Address function.
  - “PA” appears on the display.
- 2 Press and hold the **PTT** switch, then speak into the microphone to make your address through the external speaker.
- 3 Press the **Public Address** key again to exit Public Address.

## **HORN ALERT**

The Horn Alert function can only be used with an optional relay unit.

Press the key programmed as **Horn Alert** to toggle the Horn Alert function ON or OFF.

- “HA” appears on the display while Horn Alert is activated.

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# **BACKGROUND OPERATIONS**

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## **TIME-OUT TIMER (TOT)**

The Time-out Timer is used to prevent you from using a channel for an extended duration. If you continuously transmit for a preset time, the transceiver will stop transmitting and an alert tone will sound. Release the **PTT** switch.

## **AUXILIARY PORT**

Press the key programmed as **AUX** to activate the auxiliary port. The auxiliary port is used with optional boards.

- “AU” appears on the display when the auxiliary port is active.

## **DISPLAY BRIGHTNESS**

You can cycle the display brightness between high, low, and off by pressing the key programmed as **Display Brightness**.

## **DIRECT ZONE CHANNEL**

Press the key programmed as **Direct Zone Channel** to immediately select the lowest channel of the lowest zone.

## **BUSY CHANNEL LOCKOUT (BCL)**

If BCL is set up by your dealer, you will be unable to transmit if the channel is already in use. Use a different channel or wait until the channel becomes free.

## **PTT ID**

PTT ID is the transceiver unique ID code which is sent each time the **PTT** switch is pressed and/or released.

## **COMPANDER**

If programmed by your dealer for a channel, the compander will remove excessive noise from transmitted signals, to provide higher clarity of signals.

## **VOICE ANNOUNCEMENT**

When changing the channel, an audio voice will announce the new channel.



# KENWOOD

## 使用说明书



VHF 调频车载对讲机/ UHF 调频车载对讲机

# TK-7302/ TK-8302

JVC KENWOOD Corporation



# 鸣谢

感谢您选择**建伍**产品用于您的个人移动通信应用。

本使用说明书仅包含该无线电设备的基本操作。对于设备上可能添加的定制化功能，请咨询经销商。

## 用户注意事项

- ◆ 政府法律禁止在政府控制的区域内使用未经当局许可的无线电发射机。
- ◆ 非法操作将会受到罚款及/或者监禁处罚。
- ◆ 只能由具备资格的技术人员进行维修。

安全性：操作人员应该知道并了解通信机操作的一般危险。



### 警告

- ◆ **易爆环境（气体、粉尘以及烟雾等）**  
在加油或者停车于加油站时，请关闭通信机。如果通信机安装在汽车的行李箱部位，请勿将备用油箱放在行李箱内。
- ◆ **射频辐射伤害**  
当有人站立于天线附近或触摸天线时，请勿操作通信机，以免造成射频辐射灼伤或相关人体伤害。
- ◆ **炸药起爆雷管**  
在距离炸药起爆雷管150米的范围以内操作通信机可能引起雷管的爆炸。当位于爆破现场或标有“关掉双向无线电”标志的区域内时，请关闭通信机电源。如您正在使用车辆运输雷管，务必确保将雷管装在内有衬垫的封闭式金属箱中。将雷管放入箱内或从箱中取出时，请勿进行发射操作。

## 固件版权

JVC建伍株式会社保留 KENWOOD 产品存储器内嵌固件的产权和版权的所有权。

产品中有毒有害物质或元素的名称及含量

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
框架	×	○	○	×	○	○
安装基板	×	○	○	○	○	○
电缆	○	○	○	○	○	○
扬声器	○	○	○	×	○	○
其他（附件）	○	○	○	×	○	○

○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。

×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。



表示例

该标识中所示的数字为自生产日期开始对环境的保护期限，表示不会因产品中含有的有毒有害物质或元素的外泄造成环境污染、以及对人体或财产造成严重损害的年数。该环境保护期限并不是对于性能、功能的保证期限。

在产品以及电池等正常使用结束、进行废弃时，请遵守各地方政府的法律和规定予以处理。

## 注意事项

请遵照以下注意事项，以防止火灾、人身伤害和通信机损坏。

- 开车时请勿尝试配置通信机；这样做非常危险。
- 无论何种原因请勿拆卸或改装通信机。
- 请勿将本机长时间暴晒于阳光下，也不可靠近热源。
- 如发现本机发出异味或冒烟，请立即关闭通信机电源，并与您的**建伍**经销商联系。
- 开车时使用通信机可能会违反交通法规。请查阅并遵守当地的交通法规。
- 请勿使用非**建伍**指定的选件。



### 注意

- ◆ 本通信机仅能在12V的负极接地系统中工作！安装通信机前请检查电池极性 & 车辆的电压数值。
- ◆ 只能使用随带的直流电源电线或选购的**建伍**直流电源电线。
- ◆ 请勿切断和/或移除直流电源电线上的保险丝管座。



### 警告

为了乘客安全起见，请使用随带的安装支架和螺丝组将通信机安装牢固，以防在发生车辆碰撞时通信机松脱。

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# 开始使用

注：以下说明供**建伍**经销商、经授权的**建伍**服务机构或工厂使用。

## 随机附件

小心拆开通信机的包装。在丢弃包装材料前，建议您先验明下表所列的物品。如果有物品缺失或在运输过程中损坏，请立即向承运人提出书面要求。

直流电源线（带保险丝）.....	1
• 10 A 保险丝.....	4
安装支架.....	1
螺丝组	
• 5 x 16 mm 自攻螺丝.....	4
• 六角螺丝+垫圈.....	4
• 弹簧垫.....	4
• 平垫.....	4
使用说明书.....	1

## 准备工作



### 警告

您车上的各种电子设备如未得到妥善保护，发射时产生的射频能量可能导致其出现故障。典型设备包括电子燃油喷射、防抱死制动及巡航控制系统。如果您的汽车装有这些设备，请咨询经销商车辆的制造信息。为了确定这些系统在发射时能否正常工作，应考虑经销商的建议。

## ■ 电源电线连接



### 注意

本通信机仅能在12V的负极接地系统中工作！安装通信机前请检查电池极性 & 车辆的电压数值。

- 1 查找预留于隔热板上的电源电线可以穿过的小孔。
  - 如果没有，请使用圆形剪钻一个孔，然后安装橡皮环。
- 2 使电源电线穿过隔热板进入发动机室。
- 3 将红色引线连接到蓄电池的正极(+)端子，将黑色引线连接到蓄电池的负极(-)端子。
  - 使保险丝位于尽可能接近蓄电池的位置。
- 4 用定位带将多余电线绕成盘状并固定好。
  - 确保电线留有足够裕量，以便在拆下通信机进行维修时可以继续为其供电。

## ■ 安装通信机



### 警告

为了乘客安全起见，请使用随带的安装支架和螺丝组将通信机安装牢固，以防在发生车辆碰撞时通信机松脱。

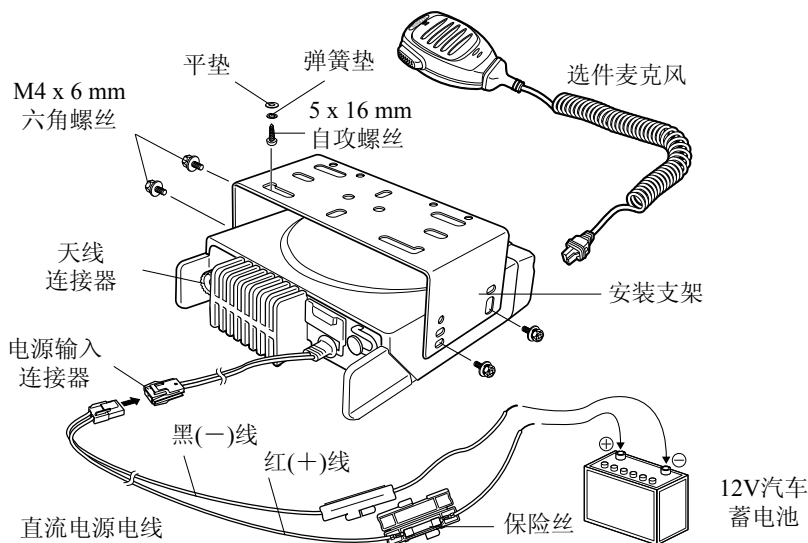
注：安装通信机前，请检查安装螺丝探出安装表面下的深度。钻安装孔时要小心，不要破坏汽车的布线或零件。

- 1 以安装支架为样板，大致标出安装孔的位置。用4.2 mm的钻头钻孔，然后利用随带的螺丝安装好固定支架。
  - 在用户伸手可得的范围内安装通信机，并确保后面留有足够的空间用于电线连接。
- 2 将天线和附带的电源电线连接到通信机上。
- 3 将通信机滑进安装支架，并用附带的六角螺丝固定。
- 4 在用户伸手可得的范围内安装麦克风挂件。
  - 麦克风和麦克风电缆应安装在不妨碍车辆安全操作的位置。



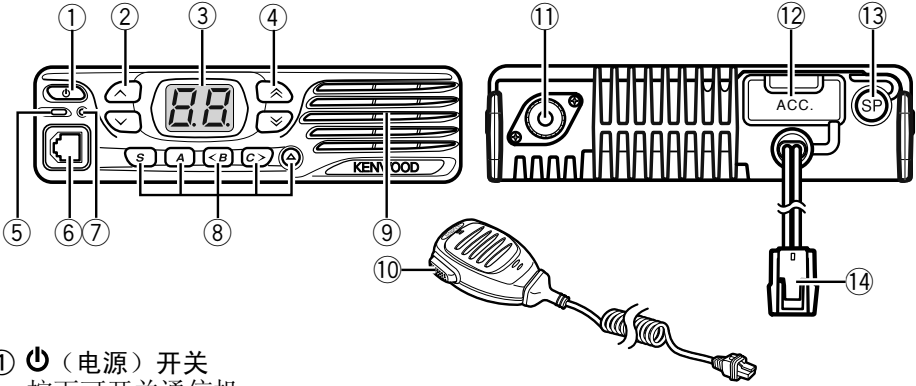
### 注意

替换直流电源电线中的保险丝时，确保使用相同电流值的保险丝。切勿换用额定值更高的保险丝。



# 熟悉本机

## 前/后面板



- ① **⏻ (电源) 开关**  
按下可开关通信机。
- ② **^ / ∨ 键**  
按下可启动其可编程功能{第4页}。
- ③ **显示屏**  
请参阅第4页。
- ④ **∧ / ∩ 键**  
按下可启动其可编程功能{第4页}。
- ⑤ **发射/接收指示灯**  
发射时亮红色。接收信号时亮绿色。接收可选信令呼叫时闪烁橙色。
- ⑥ **麦克风插孔**  
将麦克风插头插入该插孔。
- ⑦ **状态指示灯**  
根据经销商的编程设置，在指定的模式期间点亮。
- ⑧ **S / A / <B / C> / ▲ 键**  
按下可启动其可编程功能{第4页}。
- ⑨ **扬声器**  
内部扬声器。
- ⑩ **PTT开关**  
按下此开关，然后对着麦克风讲话，可呼叫某个电台。
- ⑪ **天线连接器**  
将天线连接到此连接器上。
- ⑫ **ACC连接器**  
通过KCT-60将ACC连接到该连接器上。
- ⑬ **外部扬声器插孔**  
将外部扬声器连接到该插孔上。
- ⑭ **电源输入连接器**  
将直流电源电线连接到该连接器上。

## 显示屏



显示信道号码，两个点指示各种操作模式。

显示屏上的左右两个点可通过编程来指示特定的操作模式，如下所示。

- 辅助
- 外部扬声器
- 喇叭提示
- 单独工作者
- 优先信道
- 扫描删除/添加
- 扰频器（语音加密）
- 脱网通信
- 区域删除/添加

在特殊操作过程中（如自动拨号及OST操作者可选亚音），右侧的点将闪烁。

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## 可编程功能

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∧、∨、∧、∨、S、A、<B、C>及▲键可通过编程设置为以下所列的功能。有关这些功能的详情，请向经销商咨询。

- 无
- 2-音编码
- 辅助
- 自动拨号
- 信道下调
- 信道输入
- 信道上调
- 直接区域信道<sup>1</sup>
- 显示亮度
- 紧急报警<sup>2</sup>
- 外部扬声器
- 喇叭提示
- 单独工作者
- 监听
- 瞬时监听
- 操作者可选亚音
- 寻呼
- 车外扩音
- 扫描删除/添加
- 扫描打开/关闭
- 扰频器（语音加密）
- 发送GPS数据
- 状态1
- 状态2
- 静噪级别
- 静噪打开
- 瞬时静噪打开
- 脱网通信
- 音量下调
- 音量上调
- 区域下调
- 区域上调

<sup>1</sup> 直接区域信道只能设置在S、A、<B、C>及▲键上。

<sup>2</sup> 紧急报警只能设置在▲键上。



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# 基本操作


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## 切换电源开/关










按可打开通信机电源。

- 此时发出哔音，同时显示屏亮起。
- 如果设置了通信机密码功能，当电源打开时，显示屏上将出现“PS”字样。请参阅下面的“通信机密码”部分。

再按一下将关闭通信机电源。

## ■ 通信机密码

若要输入密码：

- 1 按/选择数字。
  - 使用键盘时，只需输入密码数字并转到步骤3。
- 2 按键确认所输入的数字，然后移到下一数字。
  - 按或键可删除错误的数字。按住或键可删除所有数字。
  - 重复步骤1和2，输入完整密码。
- 3 按键或，确认密码。
  - 如果您输入不正确的密码，通信机就会保持锁定。

## 音量调节

按音量上调键可提高音量。按音量下调键可降低音量。

如果已将静噪打开功能设置到某个键上，则在调节音量的过程中可利用该功能来监听背景噪音。

## 选择区域和信道

请利用设置为区域上调/区域下调和信道上调/信道下调的键选择所需的区域和信道。

- 显示屏上将出现“G1”（区域1）字样。

## 发射/接收

- 1 选择想要的区域和信道。
  - 在表决和信令表决区域，将自动选择信道。
- 2 按下麦克风上的PTT开关并对着麦克风讲话即可进行发射。松开PTT开关转换到接收。
  - 为使接收电台获得最佳的音质，嘴和麦克风之间应保持约3~4厘米的距离。

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# 扫描

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扫描功能可监听通信机信道上的信号。扫描时，通信机将检查每个信道的信号，并仅在某个匹配信号存在的情况下才会停止。

若要开始和停止扫描，请按下设置为**扫描开/关**的键。

- 扫描过程中，显示屏上将出现“Sc”字样。
- 检测到信号时，扫描就会暂停在该信道上。通信机将处在繁忙信道上，直至信号消失，之后扫描继续。

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注：若要使用扫描功能，在扫描序列中至少要有2个信道。

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## 优先扫描

如果设置了优先信道，当在优先信道上接收到呼叫时通信机将自动切换到优先信道，即使正在一个普通信道上接收呼叫。

- 显示屏上将出现“P”字样，用于指示优先信道（取决于经销商设置）。

## 信道暂时锁定

在扫描期间，当暂停于不需要的信道上时，可通过按下设置为**扫描删除/添加**的键将某些特定的信道从扫描序列中临时删除。若要临时删除某个区域，请在扫描暂停于不需要的区域的信道上时按住**扫描删除/添加**键。

- 相应的信道/区域将不再予以扫描。但是，当结束本次扫描并重新开始扫描时，扫描设置将返回正常状态。

## 扫描删除/添加

用户可以向扫描列表中增删区域和/或信道。

- 1 选择想要的区域和/或信道。
- 2 按下设置为**扫描删除/添加**的键可删除信道，而按住此键约1秒钟则可删除区域。
  - 向扫描列表中添加信道时，显示屏上将出现“cA”字样。从中删除信道时，则出现“cd”字样。
  - 向扫描列表中添加区域时，显示屏上将出现“GA”字样。从中删除区域时，则出现“Gd”字样。

## 扫描返回

扫描返回信道就是扫描期间按下**PTT**开关进行发射时所选的信道。经销商能够在以下扫描返回信道类型中设置一种信道：

- **选择**：扫描前所选的最后一个信道。
- **选择+当前通话**：同“选择”，此外还可以在扫描暂停的信道上响应呼叫。
- **优先**：优先信道。
- **优先+当前通话**：同“优先”，此外还可以在扫描暂停的信道上响应呼叫。
- **最后呼叫+选择**：收到呼叫的最后一个信道或扫描前所选的最后一个信道，取两者中最后发生的那个。

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# DTMF呼叫

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注：若要进行DTMF呼叫，必须使用带有DTMF键盘的麦克风选项。

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## 手动拨号

- 1 按住PTT开关。
- 2 用键盘输入想要的数字。
  - 如果经销商已启用键盘自动PTT功能，则无需按PTT开关进行发射；您只需按下按键即可进行呼叫。

## 自动拨号

自动拨号允许您快速呼叫已在通信机上进行了编程的DTMF号码。

- 1 按下设置为**自动拨号**的键或麦克风上的\*键。
  - 显示屏上将出现“Ad”字样。
- 2 输入所需的存储器位置编号(1~9)。
- 3 按下PTT开关进行呼叫。

## 重拨

- 1 按下设置为**自动拨号**的键或麦克风上的\*键。
  - 显示屏上将出现“Ad”字样。
- 2 按麦克风上的0键。
  - 显示屏上将出现“rd”字样。
  - 如果重拨存储器中没有数据，就会发出错误音提示。
- 3 按下PTT开关进行呼叫。

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注：关闭通信机电源将清除重拨存储器。

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## 遥毙

本功能用于通信机被盗或丢失时。当通信机接收到包含了遥毙码的呼叫时，通信机即变为不可用。当收到含有恢复码的呼叫时，遥毙才会被取消。

- 通信机被遥毙时，显示屏上将出现“St”字样。

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# 信令

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## 亚音频(QT)/数字亚音频(DQT)

经销商可能已将QT或DQT信令预编程在通信机信道上。QT亚音/DQT代码是一种亚音频/代码，使您可以忽略（听不到）来自正在使用同一信道的其他人的呼叫。

## 可选信令

经销商也可能为通信机信道编程了若干类型的可选信令。

**2-音信令：**只有当通信机收到包含匹配的2音的呼叫时，2-音信令才会打开静噪。

**DTMF信令：**只有当通信机收到包含匹配的DTMF代码的呼叫时，DTMF信令才会打开静噪。

**FleetSync信令：**请参阅第9页上的“选择呼叫”。

**MDC-1200：**MDC-1200是一个使用音频频移键控(AFSK)功能的数据系统。通信机的通信波特率为1200，采用1200 Hz和1800 Hz频率的音。

## 操作者可选亚音(OST)

用户可以更改所选信道的预置编码和解码亚音。经销商最多可预编入16对OST。

- 1 选择想要的信道。
- 2 按下设置为**操作者可选亚音**的键或按住麦克风上的\*键。
  - 显示屏上将出现“ot”字样，后面跟着当前的OST编号。
- 3 按<B和C>键，选择想要的OST编号。
- 4 像普通呼叫那样使用通信机；按下PTT开关可进行发射，松开则进行接收。
- 5 若要退出OST模式并返回到预置的编码和解码亚音，请按S键。

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## FleetSync：数字字母双向寻呼功能

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FleetSync是一种数字字母双向寻呼功能，它是一个所有权归属JVC建伍株式会社的协议。

注：经销商也可以将通信机设置为使用MDC-1200功能。MDC-1200和FleetSync功能不能同时使用。

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## 选择呼叫

选择呼叫是对某一无线电台或一组无线电台的语音呼叫。

### ■ 发射

- 1 选择想要的区域和信道。
- 2 按下麦克风上的PTT开关并开始对话。

## ■ 接收

在经销商启用的情况下，将会响起提示音，且LED处于闪烁状态。  
若要响应呼叫，请按下PTT开关并对着麦克风讲话。

## ■ 识别码

识别码是一个由3位队号和4位ID号组成的代码。每台通信机都有自己的队号和ID号。

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注：ID范围可通过编程方式加以限制。

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## 寻呼

- 1 选择想要的区域和信道。
- 2 按住设置为寻呼的键1秒钟以发射您的PTT列表ID，以此请求一个呼叫。

## 状态信息

通过按下设置为状态1和状态2的键，可以发射预编入的状态信息。

状态信息为2位数的代码，其取值范围为10到79。

- 发送状态信息时，显示屏上将出现“dt”字样。接收确认时，显示屏上将出现“Ed”字样。当状态信息无回复时，显示屏上将出现“Er”字样。

## GPS报告

如果通信机上安装了GPS装置（NMEA-0183制式），可通过按下设置为发送GPS数据的键来发送您的位置信息。

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# 高级操作

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## 紧急呼叫

如果通信机对紧急报警功能已进行了编程，则可进行紧急呼叫。紧急呼叫分为两级：第1紧急报警模式和第2紧急报警模式。

- 1 按住设置为**紧急报警**的键，进入第1紧急报警模式。
  - 取决于通信机中设置的延迟时间，按住**紧急报警**键的时间也会有所不同。
  - 进入第1紧急报警模式后，通信机将切换到紧急报警信道，并根据设置情况开始发射。
- 2 再次按住**紧急报警**键，进入第2紧急报警模式。
  - 进入第2紧急报警模式后，通信机将根据设置情况开始控制其功能端口，如车辆前灯或喇叭。
- 3 若要退出紧急报警模式，请再次（第三次）按住**紧急报警**键。
  - 完成预设次数的轮换后，紧急报警模式将会自动结束，通信机也将返回正常操作状态。

## ■ 单独工作者模式

单独工作者模式是一种通信机内置的安全功能。如果通信机在设置的时段内未进行任何操作，就会发出提示音并自动进入紧急报警操作。

按住设置为**单独工作者**的键2秒钟可切换单独工作者功能的开/关。

- 启动单独工作者功能时，显示屏上将出现“Ln”字样。

## 脱网通信

在服务中断期间（如电源故障），用户可以继续利用脱网通信功能进行通信。脱网通信功能允许在不使用中继站的情况下直接与其他通信机进行通信，当然前提是它们之间的距离不太远，且中间没有障碍物。

按下设置为**脱网通信**的键可切换脱网通信功能的开/关。

- 启动脱网通信功能时，显示屏上将出现“tA”字样。

## 扰频器（语音加密）

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注：经销商可以启动内置扰频器（语音加密）功能，也可以为通信机添加更为安全的扰频器板选件。详情请向经销商咨询。

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内置扰频器（语音加密）功能可以防止他人轻易地监听到您的通话。启动该功能后，通信机将对语音进行失真处理，从而使监听对话的人无法听清您的谈话内容。

在使用扰频器（语音加密）功能的情况下，为使自己所在组的成员能听到您的通话，所有组成员均需启动自己的扰频器（语音加密）功能。

按下设置为**扰频器（语音加密）**的键可切换扰频器（语音加密）功能的开/关。

- 启动扰频器（语音加密）功能时，显示屏上将出现“Sr”字样。

使用扰频器电路板选件时，可以更改内部和外部扰频器（语音加密）代码：

1 按住设置为**扰频器（语音加密）**的键2秒钟。

- 显示屏上将出现“co”（代码）字样，后面跟着当前的扰频器（语音加密）代码。

2 按<B和C>键，选择所需的扰频器（语音加密）代码。

3 按S键或▲，存储新的设置。

- 更改扰频器（语音加密）代码后，请务必将新代码通知给所有组成员，以便他们也能重设自己的通信机。对于设置了不同扰频器（语音加密）代码的通信机，扰频器（语音加密）功能将无法使用。

## 监听/静噪打开

利用设置为**监听**或**静噪打开**的键可以收听正常操作条件下听不到的微弱信号，以及在所选的信道上没有信号时对音量进行调节。

经销商可以将按键设置为以下四项功能之一：

- **监听**：按下可停用QT、DQT、DTMF或FleetSync信令。再次按此键将返回正常操作状态。
- **瞬时监听**：按住可停用QT、DQT、DTMF或FleetSync信令。松开将返回正常操作状态。
- **静噪打开**：按下可监听背景噪音。再次按此键将返回正常操作状态。

- **瞬时静噪打开**：按住可监听背景噪音。松开将返回正常操作状态。

## ■ 静噪级别

如果某个键已被设置为**静噪级别**，则可重新调节通信机的静噪级别：

- 1 按下设置为**静噪级别**的键。
  - 显示屏上将出现“SL”字样，后面跟着当前的静噪级别。
- 2 按<B和C>键，选择所需的静噪级别（0~9）。
- 3 按S键或▲，存储新的设置。

## 车外扩音(PA)

PA系统只能与继电器装置选件及外部扬声器一起使用。

- 1 按下设置为**车外扩音**的键，启动车外扩音功能。
  - 显示屏上将出现“PA”字样。
- 2 按住PTT开关，然后对着麦克风讲话，以便通过外部扬声器对外发出声音。
- 3 再次按**车外扩音**键，退出车外扩音功能。

## 喇叭提示

喇叭提示功能只能与继电器装置选件一起使用。

按下设置为**喇叭提示**的键可切换喇叭提示功能的开/关。

- 启动喇叭提示功能时，显示屏上将出现“HA”字样。

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# 后台操作

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## 超时定时器(TOT)

使用超时定时器是为了防止一个用户过久地使用某一信道。如果用户连续发射超过了规定时间，通信机将停止发射并发出警告提示音。此时请松开PTT开关。

## 辅助端口

按下设置为**辅助**的键可启动辅助端口。辅助端口与选件板一起使用。

- 启动辅助端口时，显示屏上将出现“AU”字样。

## 显示亮度

通过按下设置为**显示亮度**的键，可以使显示亮度在高、低和关闭之间轮换。

## 直接区域信道

按下设置为**直接区域信道**的键可立即选定最低区域的最低信道。

## 繁忙信道锁定(BCL)

在经销商已设置BCL的情况下，如果信道处于使用状态，则无法进行发射。请换用其他信道或者等待该信道空闲。

## PTT ID

PTT ID是通信机特有的ID代码，每次按下和/或松开PTT开关时将发送该代码。

## 压扩器

如果经销商针对某一信道进行了编程，压扩器将从发射的信号中去掉多余的噪音，从而提供更清晰的信号。

## 语音指导

当更改信道时，有一个语音将播报新的信道。