

KENWOOD

TK-2202/ TK-3202



VHF FM TRANSCEIVER/
UHF FM TRANSCEIVER

INSTRUCTION MANUAL

ÉMETTEUR-RÉCEPTEUR FM VHF/
ÉMETTEUR-RÉCEPTEUR FM UHF

MODE D'EMPLOI

TRANSCÉPTOR DE FM VHF/
TRANSCÉPTOR DE FM UHF

MANUAL DE INSTRUCCIONES

RICETRASMETTITORE FM VHF/
RICETRASMETTITORE FM UHF

MANUALE DI ISTRUZIONI

VHF-FM-TRANSCEIVER/
UHF-FM-TRANSCEIVER

BEDIENUNGSANLEITUNG

VHF FM ZENDONTVANGER/
UHF FM ZENDONTVANGER

GEBRUIKSAANWIJZING

Kenwood Corporation

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VHF FM TRANSCEIVER/
UHF FM TRANSCEIVER

TK-2202/ TK-3202

INSTRUCTION MANUAL

Kenwood Corporation

ENGLISH

THANK YOU

We are grateful you chose **KENWOOD** for your land mobile radio applications. We believe this easy-to-use transceiver will provide dependable communications to keep personnel operating at peak efficiency.

KENWOOD transceivers incorporate the latest in advanced technology. As a result, we feel strongly that you will be pleased with the quality and features of this product.

MODELS COVERED BY THIS MANUAL

TK-2202: 8-channel VHF FM Transceiver

TK-3202: 8-channel UHF FM Transceiver

NOTICES TO THE USER

- ◆ Government law prohibits the operation of unlicensed radio transmitters within the territories under government control.
- ◆ Illegal operation is punishable by fine or imprisonment or both.
- ◆ 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.

PRECAUTIONS

- Do not charge the transceiver and battery pack when they are wet.
- Ensure that there are no metallic items located between the transceiver and the battery pack.
- Do not use options not specified by **KENWOOD**.
- If the die-cast chassis or other transceiver part is damaged, do not touch the damaged parts.
- If a headset or headphone is connected to the transceiver, reduce the transceiver volume. Pay attention to the volume level when turning the squelch off.
- Do not place the microphone cable around your neck while near machinery that may catch the cable.
- Do not place the transceiver on unstable surfaces.
- Ensure that the end of the antenna does not touch your eyes.
- When the transceiver is used for transmission for many hours, the radiator and chassis will become hot. Do not touch these locations when replacing the battery pack.
- Do not immerse the transceiver in water.
- Always switch the transceiver power off before installing optional accessories.

**WARNING**

Turn the transceiver power off in the following locations:

- In explosive atmospheres (inflammable gas, dust particles, metallic powders, grain powders, etc.).
- While taking on fuel or while parked at gasoline service stations.
- Near explosives or blasting sites.
- In aircrafts.
- In medical institutions or near persons using pacemakers.

**CAUTION**

- Do not disassemble or modify the transceiver for any reason.
- Do not place the transceiver on or near airbag equipment while the vehicle is running. When the airbag inflates, the transceiver may be ejected and strike the driver or passengers.
- Do not transmit while touching the antenna terminal or if any metallic parts are exposed from the antenna covering. Transmitting at such a time may result in a high-frequency burn.
- If an abnormal odor or smoke is detected coming from the transceiver, switch the transceiver power off immediately, remove the battery pack from the transceiver, 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 expose the transceiver to extremely hot or cold conditions.
- Do not carry the battery pack (or battery case) with metal objects, as they may short the battery terminals.
- When operating the transceiver in areas where the air is dry, it is easy to build up an electric charge (static electricity). When using an earphone accessory in such conditions, it is possible for the transceiver to send an electric shock through the earphone and to your ear. We recommend you use only a speaker/microphone in these conditions, to avoid electric shocks.

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UNPACKING AND CHECKING EQUIPMENT

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

SUPPLIED ACCESSORIES

Item	Part Number	Quantity
Speaker/ microphone jack cover	B09-0680-XX	1
Speaker/ microphone locking bracket	J19-5472-XX	1
Belt clip	J29-0713-XX	1
Screw set	N99-2046-XX	1
Instruction manual	B62-1893-XX	1



Speaker/ microphone
jack cover



Speaker/ microphone
locking bracket



Belt clip



Screw set

PREPARATION

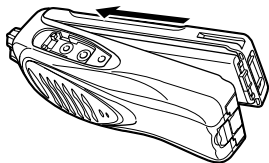
INSTALLING/ REMOVING THE (OPTIONAL) BATTERY PACK

The battery pack is not charged at the factory; charge it before use.

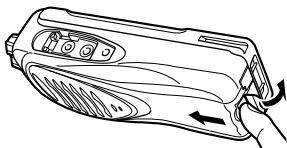


CAUTION

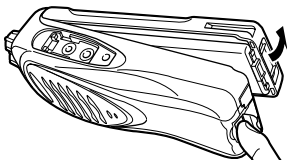
- ◆ Do not short the battery terminals or dispose of the battery by fire.
- ◆ Never attempt to remove the casing from the battery pack.



- 1 Align the battery pack with the back of the transceiver, then press the battery pack and transceiver firmly together until the release latch on the base of the transceiver locks.

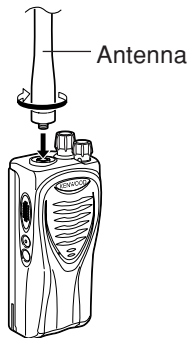


- 2 To remove the battery pack, lift the safety catch on the base of the transceiver, then press the release latch underneath the safety catch.



- 3 While pressing the release latch, pull the battery pack away from the transceiver.

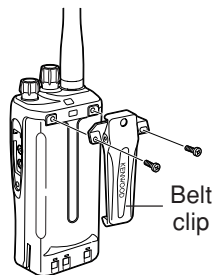
INSTALLING THE (OPTIONAL) ANTENNA



Screw the antenna into the connector on the top of the transceiver by holding the antenna at its base and turning it clockwise until secure.

Note: The antenna is neither a handle, a key ring retainer, nor a speaker/microphone attachment point. Using the antenna in these ways may damage the antenna and degrade your transceiver's performance.

INSTALLING THE BELT CLIP



If necessary, attach the belt clip using the two supplied 3 x 8 mm screws.

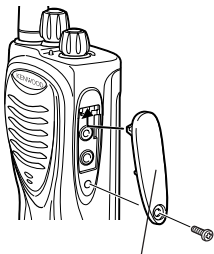
Note: If the belt clip is not installed, its mounting location may get hot during continuous transmission or when left sitting in a hot environment.



CAUTION

Do not use glue which is designed to prevent screw loosening when installing the belt clip, as it may cause damage to the transceiver. Acrylic ester, which is contained in these glues, may crack the transceiver's back panel.

INSTALLING THE COVER OVER THE SPEAKER/ MICROPHONE JACKS

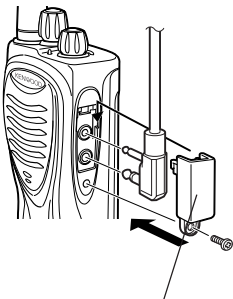


Speaker/ microphone
jack cover

If you are not using a speaker/ microphone, install the cover over the speaker/ microphone jacks using the supplied 3 x 6 mm screw.

Note: To keep the transceiver water resistant, you must cover the speaker/ microphone jacks with the supplied cover.

INSTALLING THE (OPTIONAL) SPEAKER/ MICROPHONE (OR HEADSET)



Speaker/ microphone
locking bracket

- 1 Insert the speaker/ microphone (or headset) plugs into the speaker/ microphone jacks.
- 2 Attach the locking bracket using the supplied 3 x 6 mm screw.

Note: The transceiver is not fully water resistant while using the speaker/ microphone.

GETTING ACQUAINTED

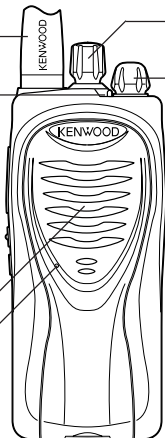
Antenna

LED indicator

Lights red while transmitting. Lights green while receiving a signal. Flashes red when the battery voltage is low while transmitting.

Speaker

Microphone



Channel selector

Rotate to select channels 1 ~ 8.

**Power switch/
Volume control**

Turn clockwise to switch ON the transceiver. To switch OFF the transceiver, turn counterclockwise until a click sounds. Rotate to adjust the volume level.

PTT (Push-To-Talk) switch

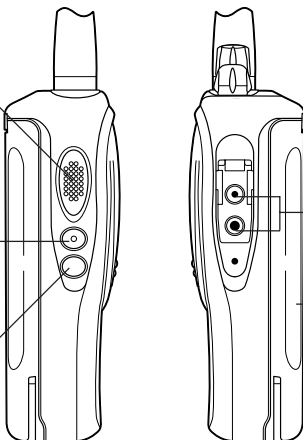
Press, then speak into the microphone to call a station. Release to receive.

Side 1 key

Press to activate its programmable function (page 6).

Side 2 key

Press to activate its programmable function (page 6).



**Speaker/
microphone
jacks**

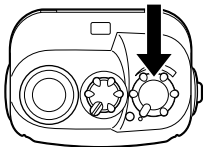
**Battery pack
(KNB-29N)**

PROGRAMMABLE AUXILIARY FUNCTIONS

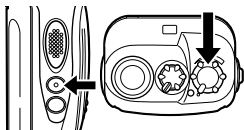
Your dealer can program each of the **Side 1** and **Side 2** keys with one of the following auxiliary functions. Refer to their descriptions, starting on page 8.

- Key Lock
- Key Lock (with Backup)
- Monitor
- Monitor Momentary
- None (No function) (default setting for **Side 1** key)
- Scan
- Scan + Temporary Delete
- Scrambler
- Squelch Off
- Squelch Off Momentary (default setting for **Side 2** key)
- Talk Around
- Temporary Delete

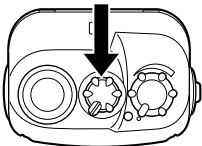
BASIC OPERATIONS



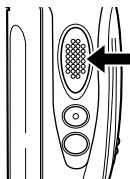
- 1 Turn the **Power** switch/ **Volume** control clockwise to switch the transceiver power ON.
 - A beep sounds if enabled by your dealer.



- 2 Press the key programmed with the **Monitor** or **Squelch Off** function to hear background noise, then rotate the **Power** switch/ **Volume** control to adjust the volume.



- 3 Rotate the **Channel** selector to select your desired channel.
 - When you receive an appropriate signal, you will hear audio from the speaker.



- 4 To make a call, press and hold the **PTT** switch, then speak into the microphone using your normal speaking voice.
 - Hold the microphone approximately 1.5 inches (3 to 4 cm) from your lips.
- 5 Release the **PTT** switch to receive.

Note: When the battery pack voltage becomes too low, transmission will stop and an alert tone will sound. See “Low Battery Warning” on page 14.

ADVANCED OPERATIONS

The following functions are programmable by your dealer, as described on page 6.

KEY LOCK

Press and hold the key programmed as **Key Lock** for 1 second to lock/ unlock the transceiver keys. The following keys/ functions can still be used when Key Lock is active: Key Lock, Monitor, Monitor Momentary, PTT, Squelch Off, Squelch Off Momentary, and Volume.

If the key is programmed “with backup”, when the transceiver power is turned OFF and then ON again, the keys remain locked. Otherwise, when the transceiver power is turned OFF and then ON again, the Key Lock function will be cancelled.

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, to deactivate channel signalling, and to adjust the volume when no signals are present on your selected channel.

- **Squelch Off:** Momentarily press to hear background noise. Press the key again to return to normal operation.
- **Squelch Off Momentary:** Press and hold to hear background noise. Release the key to return to normal operation.
- **Monitor:** Momentarily press to deactivate QT or DQT signalling. Press the key again to return to normal operation.
- **Monitor Momentary:** Press and hold to deactivate QT or DQT signalling. Release the key to return to normal operation.

SCAN

Scan is useful for monitoring signals on the transceiver channels. When scanning, the transceiver checks for a signal on each channel and only stops if a signal is present.

The transceiver will remain on a busy channel until the signal is no longer present. Your dealer programs the delay time between signal drop-out and Scan resumption. If a signal is received during the delay time, the transceiver will remain on the same channel.

Note: You can only use Scan if your dealer has programmed at least 2 channels and they are not locked out of Scan.

To start scanning, momentarily press the key programmed as either **Scan** or **Scan + Temporary Delete**.

- Scanning starts from the current channel and ascends through the channel numbers.
- The LED indicator flashes green.
- When a signal is received on a channel and signalling matches, the LED indicator lights green.

To end Scan, press the **Scan** or **Scan + Temporary Delete** key again.

■ Priority Scan

If enabled, a priority channel is set up one of two ways:

- Your dealer may set up a fixed priority channel on your transceiver.
- You can select your own priority channel, prior to scanning, using the **Channel** selector.

During Scan, if a priority channel has been set up on your transceiver, the transceiver will automatically change to the priority channel when a call is received on it, even if a call is being received on a regular channel.

The transceiver will remain on the Priority channel until the signal drops out. Your dealer programs the delay time between signal drop-out and scan resumption.

■ Temporary Delete

If a key is programmed with the Temporary Delete or Scan + Temporary Delete function, you can temporarily remove specific channels from the scanning sequence during Scan. When Scan stops at a channel, you can remove that channel from the scanning sequence by pressing and holding the key programmed as **Temporary Delete** or **Scan + Temporary Delete** for 1 second.

- You cannot delete the Priority channel, if one has been set up.
- You cannot delete a channel if there will be less than 2 channels available for scanning remaining.
- To add the channel back into the Scan list, simply exit Scan mode or switch the transceiver OFF and then ON again.

■ Revert Channel

During Scan, pressing the **PTT** switch to transmit will cause the transceiver to select the revert channel. Your dealer can program the revert channel using one of the following methods:

- **Selected:** The last channel selected is assigned as the new revert channel.
- **Selected + Talkback:** If the channel has been changed during Scan, the newly selected channel is assigned as the new revert channel. However, the transceiver also transmits on the channel where Scan is currently paused.
- **Priority:** If your dealer has programmed a Priority channel, it is the revert channel.
- **Priority + Talkback:** If your dealer has programmed a Priority channel, it is the revert channel. However, the transceiver also transmits on the channel where Scan is currently paused.

SCRAMBLER

Scrambler allows you to hold a conversation in complete privacy. When activated, any other party listening in on your channel will be unable to understand your conversation. The transceiver scrambles your voice so that anybody listening to your conversation will not be able to understand what you are saying.

In order for members of your own group to understand your call while you are using the Scrambler, all other members must also activate the Scrambler on their transceivers. This scrambles everybody's voice while transmitting and descrambles the voice message on your own transceiver when you receive the message.

To activate the Scrambler, press the key programmed as **Scrambler**.

To deactivate the Scrambler, press the **Scrambler** key again.

TALK AROUND

You may occasionally experience an interruption in service (due to a power failure, etc.). During such an occurrence, you can continue communication by using the Talk Around feature, if it has been programmed by your dealer.

Talk Around allows you to communicate directly with other transceivers, without the use of a repeater. However, if the station you want to contact is too far away, or there are geographical obstacles in the way, you may not be able to contact the station.

Toggle Talk Around ON and OFF by pressing the key programmed as **Talk Around**.

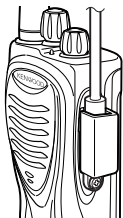
- When using Talk Around, the receive frequency is used for both transmission and reception, and the decode signalling is used for both encoding and decoding.

VOICE OPERATED TRANSMISSION (VOX)

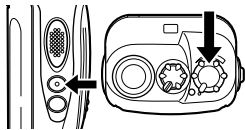
VOX operation allows you to transmit hands-free. This feature must first be activated by your dealer, and can only be used if you are using a supported headset.

When operating VOX, you must set a VOX Gain level. This setting allows the transceiver to recognize sound levels. If the microphone is too sensitive, it will begin transmitting when there is noise in the background. If it is not sensitive enough, it will not pick up your voice when you begin speaking. Be sure to adjust the VOX Gain level to an appropriate sensitivity to allow smooth transmission.

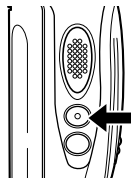
To activate VOX and set the VOX Gain level, perform the following steps:



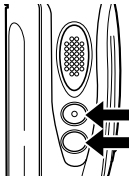
- 1 Connect the headset to the transceiver (page 4).
 - The VOX function does not activate when a headset is not connected to the accessory terminal of the transceiver.



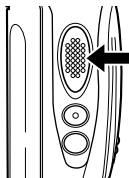
- 2 With the transceiver power OFF, press and hold the **Side 1** key while turning the transceiver power ON.



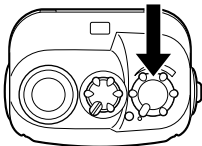
- 3 Continue to hold the **Side 1** key until a beep sounds.
 - The LED indicator lights orange.
 - When the **Side 1** key is released, the transceiver announces the VOX Gain level.



- 4 Press the **Side 1** key to increase the VOX Gain level and the **Side 2** key to decrease the level.
- The VOX Gain can be adjusted from levels 1 to 10 and OFF.
 - The transceiver announces the VOX Gain level as you adjust it. If OFF is selected, a beep sounds.



- 5 Press the **PTT** switch to save the setting.
- A beep will sound.
 - The transceiver announces the new VOX Gain level.



- 6 Turn the transceiver power OFF and the ON again to activate VOX.

Note:

- ◆ If a speaker/ microphone is connected to the transceiver while the VOX function is switched ON and the VOX Gain level is configured to a higher, more sensitive level, louder received signals may cause the transceiver to start transmission.
 - ◆ When you operate the VOX function, you must use an optional KHS-1 or KHS-21 accessory.
-

BACKGROUND OPERATIONS

TIME-OUT TIMER (TOT)

The purpose of the Time-out Timer is to prevent any caller from using a channel for an extended period of time.

If you continuously transmit for a period of time that exceeds the programmed time set by your dealer (default is 1 minute), the transceiver will stop transmitting and an alert tone will sound. To stop the tone, release the **PTT** switch.

Your dealer can program a warning function to alert you before the TOT expires. Continuously transmitting for the time specified by your dealer will cause the warning tone to sound.

BUSY CHANNEL LOCKOUT (BCL)

When activated, BCL prevents you from interfering with other parties who may be using the same channel that you selected. Pressing the **PTT** switch while the channel is in use will cause your transceiver to emit an alert tone and transmission will be inhibited (you cannot transmit). Release the **PTT** switch to stop the tone and return to receive mode.

Note: Ask your dealer for an explanation on how BCL functions when using QT or DQT signalling.

LOW BATTERY WARNING

Low Battery Warning alerts you when the battery needs to be recharged or replaced.

While operating the transceiver, if the battery power becomes low, an alert tone will sound every 30 seconds and the LED indicator will blink red. Replace or recharge the battery pack.

BATTERY SAVER

If activated by your dealer, the Battery Saver function will decrease the amount of power used when a signal is not being received and no operations are being performed (no keys are being pressed, and no switches are being turned).

While the channel is not busy and no operation is performed for 5 seconds, Battery Saver turns ON. When a signal is received or an operation is performed, Battery Saver turns OFF.

Note: While the Battery Saver is operating, the LED may flash green when receiving a QT/DQT signal which does not match the QT/DQT tone/code set up in your transceiver.

CHANNEL ANNUNCIATION

When changing the channel using the **Channel** selector, an audio voice will announce the selected channel number, after you stop changing the channel. (Channel Annunciation can be activated or deactivated by your dealer.)

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

Your dealer may have programmed QT or DQT signalling 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.

When a channel is set up with a QT tone or DQT code, squelch will only open when a call containing a matching tone or code is received. Likewise, signals that you transmit will only be heard by parties whose QT/DQT signalling matches your transceiver.

If a call containing a different tone or code is made on the same channel you are using, squelch will not open and you will not hear the call. This allows you to ignore (not hear) these calls. Although it may seem like you have your own private channel while using QT/DQT, other parties can still hear your calls if they set up their transceiver with the same tone or code.

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