KENWOOD

INSTRUCTION MANUAL

VHF FM TRANSCEIVER

TK-2207

UHF FM TRANSCEIVER

TK-3207

KENWOOD CORPORATION
© B62-1765-00 (M)
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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-2207: 16-channel VHF FM Transceiver

TK-3207: 16-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.
- **KENWOOD** does not guarantee the safety and operation of the transceiver when using accessories and/or attachments not sold by **KENWOOD.**

WARNING

EXPLOSIVE ATMOSPHERES (GASES, DUST, FUMES, etc.)

Turn off your transceiver while taking on fuel, or while parked in gasoline service stations.

Precautions

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

- Do not modify or attempt to adjust this transceiver for any reason.
- Do not expose the transceiver to long periods of direct sunlight, nor place it close to heating appliances.
- Do not place the transceiver in excessively dusty, humid, and/or wet areas, nor on unstable surfaces.
- If an abnormal odor or smoke is detected coming from the transceiver, switch OFF the power immediately and remove the optional battery pack from the transceiver. Contact your **KENWOOD** dealer.

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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
Antenna (TK-3207)	T90-1039-XX	1
Hand strap (TK-2207)	J69-0352-XX	1
Speaker/ microphone jack cover	B09-0680-XX	1
Speaker/ microphone locking bracket	J19-5472-XX	1
Belt clip	J29-0713-XX	1
Screw set	N99-2043-XX	1
Instruction manual	B62-1765-XX	1

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 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.

Installing the Hand Strap

1 Slide the small loop of the hand strap through the eyelet on the upper rear of the transceiver.

2 Pull the entire hand strap through the small loop to secure the hand strap in place.

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 ~ 16.

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 7).

Side 2 key
Press to activate its programmable function (page 7).

Speaker/ microphone jacks

Battery pack

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 9.

- Autodial
- 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)
- Temporary Delete

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 17.

The following functions are programmable by your dealer, as described on page 7.

Autodial

Press and hold the **PTT** switch, then press the key programmed as **Autodial** to transmit the stored DTMF code. Release the **Autodial** key, then speak into the microphone while still pressing the **PTT** switch to call the other party.

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: Autodial, 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, DQT, DTMF, or FleetSync signalling. Press the key again to return to normal operation.
- **Monitor Momentary:** Press and hold to deactivate QT, DQT, DTMF, or FleetSync 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.

Note: There are 2 options for using the Scrambler. Your dealer can aetivate or deactivate the built-in Scrambler function of the transceiver, or they can add a more secure optional scrambler board to your transceiver. Ask your dealer for details.

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,DQT, DTMF, or FleetSync signalling.

Battery Save

If activated by your dealer, the Battery Save 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 Save turns ON. When a signal is received or an operation is performed, Battery Save turns OFF.

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.

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 near 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.

Stun

When the transceiver receives a call containing a stun code, either transmit mode will be disabled, or both receive mode and transmit mode will be disabled. (This function is used when a transceiver is stolen or lost, for example.) Stun is cancelled when the transceiver receives a call with a stun reset code.

Dual-Tone Mult-Frequency (DTMF) Signalling

DTMF Signalling is either enabled or disabled by your dealer. This function opens the squelch only when the transceiver receives the DTMF code (3 to 10 digits) programmed in your transceiver. Each transceiver is normally programmed with a unique code. You will not hear calls from transceivers that are not programmed with a matching code.

Your dealer may also program a Group Code in your transceiver. Ask your dealer for further details.

When you receive a signal containing the correct tones, squelch opens and you will hear the call.

The LED indicator momentarily flashes orange.

To mute the speaker after squelch opens, press the key programmed as **Monitor** or **Monitor Momentary.**

Your dealer can program the squelch to close again after a specific time period elapses.

If Transpond for DTMF Signalling is programmed, an acknowledgment signal is returned to the calling station.

If Call Alert for DTMF Signalling is programmed, an alert tone will sound when the correct code is received.

FleetSync Operation

FleetSync is a protocol owned by **KENWOOD** Corporation and is enabled or disabled by your dealer. This function opens the squelch only when the transceiver receives the Fleet code and ID code programmed in your transceiver. Calls that do not contain the correct codes will not be heard.

■ Receiving

When you receive a signal containing both your Fleet code and your ID code, squelch opens and you will hear the call.

- An alert tone will sound.
- The LED indicator flashes orange.
- To mute the speaker after squelch opens, press the key programmed as **Monitor** or **Monitor Momentary.**

■ Transmitting

To transmit a FleetSync signal, simply press the **PTT** switch and make the call. If the selected channel has been programmed with a FleetSync PTT ID, it will be transmitted when the call is made.

Beginning/ End of Transmission Signal

The Beginning of Transmission and End of Transmission identification signals are used to access and release some repeaters and telephone systems.

If Beginning of Transmission is set, the ID signal is transmitted when you press the **PTT** switch.

If End of Transmission is set, the ID signal is transmitted when you release the **PTT** switch.

If both are set, the ID signal is transmitted when you press and release the **PTT** switch.