KENWOOD

TK-2170/ TK-2170ST/ TK-3170

VHF FM TRANSCEIVER/
VHF FM TRANSCEIVER/
UHF FM TRANSCEIVER

INSTRUCTION MANUAL

VHF FM 트랜시버/
VHF FM 트랜시버/
UHF FM 트랜시버

사용설명서

VHF 調頻對講機/
VHF 調頻對講機/
UHF 調頻對講機

使用説明書

KENWOOD CORPORATION

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VHF FM TRANSCEIVER/
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UHF FM TRANSCEIVER

TK-2170/ TK-2170ST/ TK-3170

ENGLISH

INSTRUCTION MANUAL

KENWOOD CORPORATION

Thank You

We are grateful you have chosen **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-2170: VHF FM Transceiver
- TK-2170ST: VHF FM Transceiver
- TK-3170: 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 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.

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 a 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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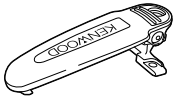
UNPACKING AND CHECKING EQUIPMENT

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

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
Belt clip	J29-0701-XX	1
Speaker/ microphone jacks cap	B09-0686-XX	1
Speaker/ microphone locking bracket	J19-5483-XX	1
Instruction manual	B62-1810-XX	1



Belt clip

Speaker/ microphone jacks cap

Speaker/ microphone locking bracket

Battery Pack Precautions

Do not use battery packs or battery chargers not recommended by **KENWOOD**.

CAUTION

- Do not recharge the battery pack if it is already fully charged. Doing so may cause the life of the battery pack to shorten or the battery pack may be damaged.
- After recharging the battery pack, disconnect it from the charger. If the charger power is reset (turned ON after being turned OFF), recharging will start again and the battery pack will become overcharged.
- Do not use the transceiver while charging the battery pack. We recommend you switch the transceiver power OFF while charging is taking place.
- Do not charge the battery pack when the battery pack or transceiver is wet, to avoid the risk of fire or damage. Wipe the water from the battery pack or transceiver using a dry cloth before charging.
- Do not short the battery terminals or dispose of the battery by fire.
- Never attempt to remove the casing from the battery pack.

■ Charging the Battery Pack

For charging procedures, refer to the battery charger Instruction Manual.

Information concerning the (optional) Li-ion battery pack:

The battery pack includes flammable objects such as organic solvent. Mishandling may cause the battery to rupture producing flames or extreme heat, deteriorate, or cause other forms of damage to the battery. Please observe the following prohibitive matters.

- **Do not disassemble or reconstruct battery!**

  The battery pack has a safety function and protection circuit to avoid danger. If they suffer serious damage, the battery may generate heat or smoke, rupture, or burst into flame.

- **Do not short-circuit the battery!**

  Do not join the + and – terminals using any form of metal (such as a paper clip or wire). Do not carry or store the battery pack in containers holding metal objects (such as wires, chain-necklace or hairpins). If the battery pack is short-circuited, excessive current will flow and the battery may generate heat or smoke, rupture, or burst into flame. It will also cause metal objects to heat up.

- **Do not incinerate or apply heat to the battery!**

  If the insulator is melted, the gas release vent or safety function is damaged, or the electrolyte is ignited, the battery may generate heat or smoke, rupture, or burst into flame.

- **Do not use or leave the battery near fires, stoves, or other heat generators (areas reaching over 80°C/ 176°F)!**

  If the polymer separator is melted due to high temperature, an internal short-circuit may occur in the individual cells and the battery may generate heat or smoke, rupture, or burst into flame.

- **Do not immerse the battery in water or get it wet by other means!**

  If the battery's protection circuit is damaged, the battery may charge at extreme current (or voltage) and an abnormal chemical reaction may occur. The battery may generate heat or smoke, rupture, or burst into flame.

- **Do not charge the battery near fires or under direct sunlight!**

  If the battery's protection circuit is damaged, the battery may charge at extreme current (or voltage) and an abnormal chemical reaction may occur. The battery may generate heat or smoke, rupture, or burst into flame.

- **Use only the specified charger and observe charging requirements!**

  If the battery is charged in unspecified conditions (under high temperature over the regulated value, excessive high voltage or current over regulated value, or with a remodelled charger), it may overcharge or an abnormal chemical reaction may occur. The battery may generate heat or smoke, rupture, or burst into flame.

- **Do not pierce the battery with any object, strike it with an instrument, or step on it!**

  This may break or deform the battery, causing a short-circuited. The battery may generate heat or smoke, rupture, or burst into flame.

- **Do not jar or throw the battery!**

  An impact may cause the battery to leak, generate heat or smoke, rupture, and/or burst into flame. If the battery's protection circuit is damaged, the battery may charge at an abnormal current (or voltage), and an abnormal chemical reaction may occur. The battery may generate heat or smoke, rupture, or burst into flame.

- **Do not use the battery pack if it is damaged in any way!**

  The battery may generate heat or smoke, rupture, or burst into flame.

- **Do not solder directly onto the battery!**

  If the insulator is melted or the gas release vent or safety function is damaged, the battery may generate heat or smoke, rupture, or burst into flame.

- **Do not reverse the battery polarity (and terminals)!**

  When charging a reversed battery, an abnormal chemical reaction may occur. In some cases, an unexpected large amount of current may flow upon discharging. The battery may generate heat or smoke, rupture, or burst into flame.

- **Do not reverse-charge or reverse-connect the battery!**

  The battery pack has positive and negative poles. If the battery pack does not smoothly connect with a charger or operating equipment, do not force it; check the polarity of the battery. If the battery pack is reverse-connected to the charger, it will be reverse-charged and an abnormal chemical reaction may occur. The battery may generate heat or smoke, rupture, or burst into flame.

- **Do not touch a ruptured and leaking battery!**

  If the electrolyte liquid from the battery gets into your eyes, wash your eyes out with fresh water as soon as possible, without rubbing your eyes. Go to the hospital immediately. If left untreated, it may cause eye-problems.

- **Do not charge the battery for longer than the specified time!**

  If the battery pack has not finished charging even after the regulated time has passed, stop it. The battery may generate heat or smoke, rupture, or burst into flame.
- **Do not place the battery pack into a microwave or high pressure container!**

  The battery may generate heat or smoke, rupture, or burst into flame.
- **Keep ruptured and leaking battery packs away from fire!**

  If the battery pack is leaking (or the battery emits a bad odor), immediately remove it from flammable areas. Electrolyte leaking from battery can easily catch on fire and may cause the battery to generate smoke or burst into flame.
- **Do not use an abnormal battery!**

  If the battery pack emits a bad odor, appears to have different coloring, is deformed, or seems abnormal for any other reason, remove it from the charger or operating equipment and do not use it. The battery may generate heat or smoke, rupture, or burst into flame.

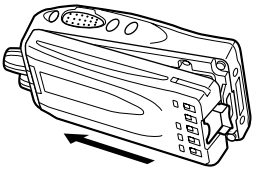
■ Using the Li-ion Battery Pack

- Charge the battery pack before using it.
- To keep the battery discharge at a minimum, remove the battery pack from the equipment when it is not in use. Store the battery pack in a cool and dry location.
- When storing the battery pack for a long period:
  1. Remove the battery pack from the equipment.
  2. Discharge the battery pack, if possible.
  3. Store the battery pack in a cool (below 25°C/ 77°F) and dry location.

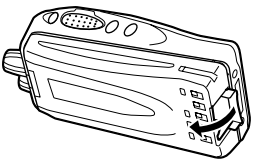
■ Characteristics of the Li-ion Battery Pack

- As the battery pack is charged and discharged repeatedly, the battery capacity decreases.
- Even if the battery pack is unused, the battery pack degrades.
- It takes a longer time to charge the battery pack in cooler areas.
- The life of battery pack is shortened when it is charged and discharged in hotter areas. When the battery pack is stored in a hot location, the battery pack degrades quicker. Do not leave the battery pack in vehicles or near heating appliances.
- When the battery pack operating time becomes short, even if it is fully charged, replace the battery pack. Continuing to charge and discharge the battery pack may result in electrolyte leakage.

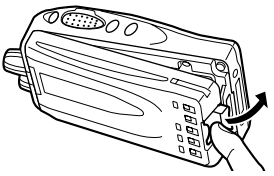
Installing/ Removing the (Optional) Battery Pack or Battery Case



1 Align the battery pack with the back of the transceiver, then press the battery pack and transceiver firmly together until the release latch clicks, locking it in place.



2 Lock the safety catch into place to prevent accidentally pressing the release latch and removing the battery.



3 To remove the battery pack, lift the safety catch on the base of the transceiver, then press the release latch underneath the safety catch while pulling the battery pack away from the transceiver.

Note:

- To lift the battery pack safety catch, use a piece of hardened plastic or metal, such as a screwdriver, that is no more than 6 mm wide and 1 mm thick. It is imperative that you place the implement under only the lip of the safety catch so that you do not damage the release latch.
- Before charging a battery pack that is attached to the transceiver, ensure that the safety catch is firmly closed.
- While operating the transceiver using a Li-ion or Ni-MH battery pack in areas with an ambient temperature of –10°C/ +14°F and lower, operating time may be shortened.

INSTALLING/ REMOVING ALKALINE BATTERIES

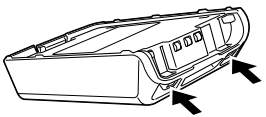
WARNING

- Do not install batteries in a hazardous environment where sparks could cause an explosion.
- Never discard batteries in fire; extremely high temperatures can cause batteries to explode.
- Do not short circuit the battery case terminals.
- Do not use rechargeable batteries.

Note:

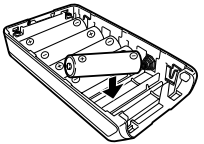
- If you do not plan to use the transceiver for a long period, remove the batteries from the battery case.
- This battery case has been designed for transmitting at a power of approximately 1 W (the low power setting on your transceiver). If you want to transmit a stronger signal (using the high power setting on your transceiver), use an optional rechargeable battery pack.

1 To open the battery case, press on the two tabs on the upper rear of the case, then pull the two halves apart.

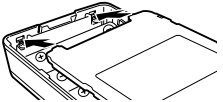


2 Insert 6 AA (LR6) Alkaline batteries into the battery case.

- Be sure to match the polarities with those marked in the bottom of the battery case.



3 Align the tabs of the cover with the base, then push down on the cover until it locks in place.



Installing the (Optional) Antenna

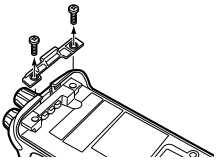
Screw the antenna into the connector on the top of the transceiver by holding the antenna at its base and turning it clockwise until secure.

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

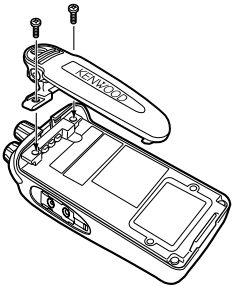
Note: When first installing the belt clip, you must remove the battery pack from the rear of the transceiver.

1 Remove the 2 screws from the rear of the transceiver, then remove the small, plastic black covering that was held in place.



2 Insert the belt clip mount into the space on the rear of the transceiver.

3 Using the 2 screws, affix the belt clip in place.



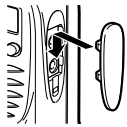
Note: Do not dispose of the plastic black covering! If you remove the belt clip, replace the covering into the space on the rear of the transceiver. Either this covering or the belt clip must be in place, otherwise the battery pack may not remain installed properly.

Installing the Cap over the Speaker/ Microphone Jacks

Install the cap over the speaker/ microphone jacks when not using an optional speaker/ microphone.

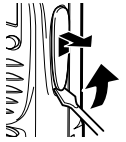
1 Place the cap over the jacks so that the locking tabs insert into the transceiver grooves.

2 While holding the cap in place, push it towards the bottom of the transceiver until the tabs on the cap click into place.



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

- To remove the cap, hold the top of the cap in place with your finger while inserting a 3 mm or smaller flat blade screwdriver under the bottom of the cap. Slowly slide the screwdriver in until its tip touches the tab inside the cap, then gently pry the cap up (handle of screwdriver moving away from the transceiver) to remove the cap.

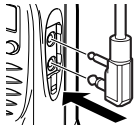


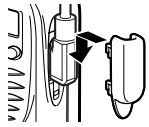
Installing the (Optional) Speaker/ Microphone

1 Insert the speaker/ microphone plugs into the speaker/ microphone jacks of the transceiver.

2 Place the locking bracket over the speaker/ microphone plugs so that the locking tabs insert into the transceiver grooves.

3 While holding the locking bracket in place, push it towards the bottom of the transceiver until the tabs on the bracket click into place.

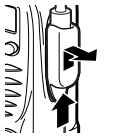


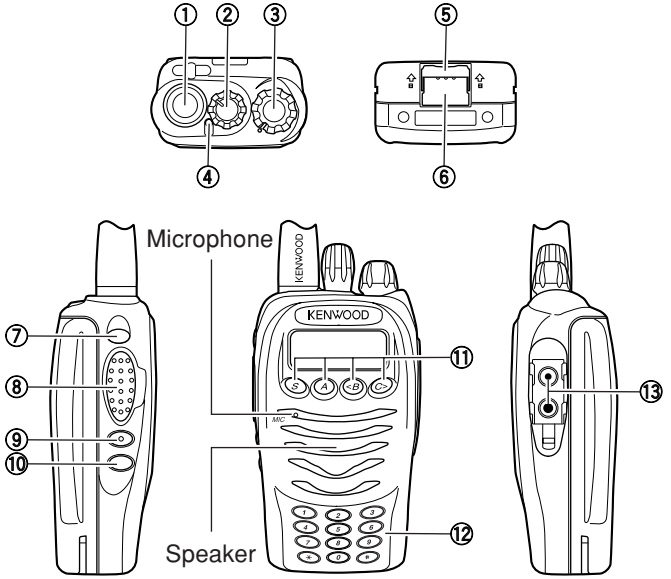


Note:

- When not using an optional speaker/ microphone, install the cap over the speaker/ microphone jacks.
- The transceiver is not fully water resistant when using a speaker/ microphone or headset.

- To remove the locking bracket, push the bracket up from the base.





① **Antenna connector**
Connect an (optional) antenna here {page 9}.

② **Selector**
Rotate to activate its programmable function {page 15}.

③ **Power switch/ Volume control**
Turn clockwise to switch ON the transceiver. Rotate to adjust the volume. Turn counterclockwise fully to switch OFF the transceiver.

④ **LED indicator**
Lights red while transmitting. Lights green while receiving a call. Flashes orange while receiving an encoded (2-tone, DTMF signaling, etc.) call. If programmed by your dealer, flashes red when the battery power is low while transmitting.

⑤ **Safety Catch**
Lock this catch to avoid accidentally pressing the release latch and removing the battery pack {page 7}.

⑥ **Release Latch**
Press the release latch to unlock and remove the battery pack {page 7}.

⑦ **Auxiliary (orange) key**
Press to activate its programmable function {page 15}.

⑧ **PTT (Push-To-Talk) switch**
Press this switch, then speak into the microphone to call a station.

⑨ **Side 1 key**
Press to activate its programmable function {page 15}.

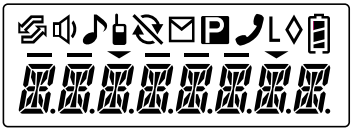
⑩ **Side 2 key**
Press to activate its programmable function {page 15}.

⑪ **S, A, <B, and C> keys**
Press to activate their programmable functions {page 15}.

⑫ **DTMF keypad**
Press the keys on the keypad to make DTMF calls {page 32}.

⑬ **Speaker/ microphone jacks**
Connect an optional speaker/ microphone here {page 10}. Otherwise, keep the supplied cap in place.

DISPLAY



Indicator	Description
	Appears when using SmarTrunk operation.
	Appears when QT, DQT, DTMF, or 2-tone signaling is deactivated (by pressing the **Monitor** key) or when Squelch is open (by pressing the **Squelch Off** key).
	In Conventional zones, appears when using 2-tone or DTMF signaling. In Trunking zones (TK-3170 only), appears when receiving dispatch calls with a Fix ID or Group ID (if enabled by your dealer). (For TK-3170 transceivers, this indicator will not appear in Conventional zones if it is set to appear for Trunking zones.)
	Appears when the Talk Around function has been activated.
	Appears while scanning.
	Lights when a message is stored in the stack memory. Flashes when you receive a new message.
	Appears when the selected channel is programmed as priority.
	TK-3170 Only: Appears when the selected group is programmed as telephone IDs. Flashes when performing an auto telephone search.

Indicator	Description
L	Appears when using low transmit power.
◊	Appears when the scrambler function is activated.
	Displays the battery status. The battery icon with all 3 strength bars represents full power while an empty battery icon represents very low power.
	Appears when the selected zone is added to the scanning sequence.
	Appears when the VOX function has been activated.
	Appears when the AUX function has been activated.
	Appears when the OST function has been activated.
	Appears when the selected group ID or channel is added to the scanning sequence.
	Displays the zone, group ID, and channel numbers. Your dealer can program zone, group ID, and channel names with up to 8 characters, in place of numbers. Also displays received FleetSync messages.

PROGRAMMABLE FUNCTIONS

The **Auxiliary**, **Side 1**, **Side 2**, **S**, **A**, **<B**, and **C>** keys {pages 11 and 12} can be programmed with the functions below. Please contact your dealer for further details on these functions.

Note:

- The selector can be programmed as either CH/GID Up/Down or Zone Up/Down.
- Your dealer can also enable the selector to be used when making setting adjustments (as an optional method for using the **<B** and **C>** keys).

- 2-tone
- Autodial
- Autodial Programming
- Auto Telephone [1]
- AUX
- Call 1 ~ 2
- CH/GID Down
- CH/GID Up
- Channel Entry
- Direct CH/GID 1 ~ 4
- Display Character
- Emergency [2]
- Home CH/GID
- Key Lock
- Lamp
- Low Transmit Power
- Monitor
- Monitor Momentary
- None
- OST
- Scan
- Scan Delete/Add
- Scrambler
- Selcall
- Selcall + Status
- Squelch Level
- Squelch Off
- Squelch Off Momentary
- Status
- Talk Around
- Telephone Disconnect [1]
- Transceiver Password
- Trunking Group Code Select [3]
- VOX
- Zone Down
- Zone Up

[1] "Auto Telephone" and "Telephone Disconnect" are available only for the TK-3170 transceiver.
[2] "Emergency" can be programmed only on the Auxiliary (orange) key.
[3] "Trunking Group Code Select" is available only when the Trunking board has been installed.

Overview

Your dealer can program your transceiver with Conventional Zones. (TK-3170 transceivers can be programmed with Trunking Zones and Conventional Zones.) The transceiver can handle up to 128 zones with up to 128 channels/ 250 group IDs. Zones, channels/ group IDs, and their functions are programmed by your dealer.

Switching Power ON/ OFF

Turn the **Power** switch/ **Volume** control clockwise to switch the transceiver ON.

- A beep sounds and the display momentarily lights up.
- If the Transceiver Password function is programmed, "PASSWORD" appears on the display. You must enter the password to unlock the transceiver. Refer to "Transceiver Password", below.

Turn the **Power** switch/ **Volume** control counterclockwise to switch the transceiver OFF.

■ Transceiver Password

To enter the password without using the DTMF keypad:

1 Rotate the selector to select a digit.

2 Press the **C>** key to accept the entered digit and move to the next digit.

- Press the **A** key to delete an incorrect character. Press and hold the **A** key to delete all entered characters.

3 Repeat steps 1 and 2 to enter the entire password.

4 Press the **S** key to confirm the password.

- If you enter an incorrect password, an error tone sounds and the transceiver remains locked.

To enter the password using the DTMF keypad:

1 Press the DTMF keys corresponding to the password.

- Press the **A** or **#** key to delete an incorrect character. Press and hold the **A** or **#** key to delete all entered characters.

2 Press the **S** or ✱ key to confirm the password.

- If you enter an incorrect password, an error tone sounds and the transceiver remains locked.

Adjusting the Volume

Rotate the **Power** switch/ **Volume** control to adjust the volume. Clockwise increases the volume and counter-clockwise decreases it.

Selecting a Zone and Channel/ Group ID

Select the desired zone using the selector or the keys programmed as **Zone Up**/ **Zone Down**.

Select the desired channel or group ID using the selector or the keys programmed as **CH/GID Up**/ **CH/GID Down**.

Names can be programmed for zones and channels/ group IDs with up to 8 characters each. Your dealer can set the zone name to a length of 0 to 8 digits. Channel/ group ID names will shorten appropriately, to fit in the 8-digit display.

For example, if the channel/ group ID name is “GRP 1” and the zone name is “KENWOOD”, and your dealer sets the zone name to 3-digits, the following display will appear:

Press the key programmed as **Display Character** to toggle the display between the zone and channel/ group ID number and the zone and channel/ group ID name.

Placing a Dispatch Call

1 Press and hold the **PTT** switch.

2 If the “Proceed” tone sounds, communication is possible; speak into the microphone to make your call. 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.
- Your dealer can deactivate the Proceed tone, if necessary. Ask your dealer for details.

Receiving a Dispatch Call

1 When a dispatch call is received, the transceiver will automatically change to the correct group ID and you will hear the call.

- If enabled by your dealer, the ♪ indicator appears on the display.

2 Readjust the volume as necessary.

Placing a Telephone Call

1. Select your desired zone and group ID using the selector and the **Zone** or **CH/GID** keys.
   - Alternatively, you can press the key programmed as **Auto Telephone** to automatically search for a Telephone Repeater.
2. Press and hold the **PTT** switch for approximately 1 second to ensure a connection.
   - Confirm that there is a dial tone after you release the **PTT** switch.
3. Place the call, following the instructions for making a DTMF call, starting on page 32.
4. When the called party responds, press the **PTT** switch and speak into the microphone. Release the **PTT** switch to receive.
   - Only one person can speak at a time.
5. To end the call, press and hold the **PTT** switch, then press the **#** key or the key programmed as **Telephone Disconnect**.

Receiving a Telephone Call

1. When a telephone call is received, the transceiver will automatically change to the correct group ID and you will hear the call.
   - A ringer tone will sound when a call is received.
2. Press and hold the **PTT** switch to speak, and release it to receive.
   - Only one person can speak at a time.
3. To end the call, press and hold the **PTT** switch, then press the key programmed as **Telephone Disconnect**.

Note: SmarTrunk and SmarTrunk II are registered trademarks of SmarTrunk Systems, Inc., Hayward, California, U.S.A.

TK-2170ST transceivers are SmarTrunk ready. On other transceivers, you must install the appropriate trunking board before you can access SmarTrunk Trunking mode. For details, consult your dealer.

While in SmarTrunk Trunking mode, most keys function differently. Below are the new key functions for SmarTrunk Trunking mode:

- Enter a telephone number, then press the **1** or **2** key followed by the ✱ key to connect to a telephone system. Press the **#** key to end the call.
- Enter the number of another transceiver, then press the **3** key followed by the ✱ key to call the other transceiver. Press the **#** key to end the call.
- Press the **4** key followed by the ✱ key to make a group call. Press the **#** key to end the call.
- Press the **0** key followed by the ✱ key to make an emergency call.
- Press the ✱ key followed by a DTMF key (**0** ~ **9**) to recall the Speed Dial numbers (if any) that are stored in your transceiver.
- Press the **S**, **A**, **<B**, and **C>** to recall the Turbo SpeeDial numbers (if any) that are stored in your transceiver, then press the **S** key to make the call.
- Press the **Trunking Group Code Select** key to display the stored codes in your transceiver. Each press of this key cycles to the next stored group code.

The following transceiver functions remain the same:

- Lamp {page 40}
- Low Transmit Power {page 38}
- Squelch Level {page 39}
- VOX {page 23}
- Zone Up {page 17}
- Zone Down {page 17}

Transmitting

1 Select the desired zone and channel using the selector and the **Zone** or **CH/GID** keys.

2 Press the key programmed as **Monitor** or **Squelch Off** to check whether or not the channel is free.

- If the channel is busy, wait until it becomes free.

3 Press the **PTT** switch and speak into the microphone. 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.

Receiving

1 Select the desired zone and channel using the selector and the **Zone** or **CH/GID** keys.

- Alternatively, you can turn the Scan function on if desired.

2 When you hear a caller's voice, readjust the volume as necessary.

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.

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. If a call containing a different tone or code is made on the channel you are using, squelch will not open and you will not hear the call.

Although it may seem like you have your own private channel while using QT/ DQT, other parties can still hear your calls if their transceiver is set up with the same tone or code.

2-TONE SIGNALING

2-tone Signaling is enabled or disabled by your dealer. This function opens the squelch only when the transceiver receives the 2 tones programmed in your transceiver. Transceivers that do not transmit the correct tones will not be heard.

■ TRANSMITTING

1. Select your desired zone and channel.
2. Press the key programmed as **2-tone**.
3. Press the **<B** and **C>** keys, rotate the selector, or enter an appropriate number using the DTMF keypad to select the 2-tone code of the station you want to call.
4. Press the **PTT** switch and begin your conversation.

Note: If Single Tone has been activated, only the first tone of the 2-tone signal will be transmitted.

■ RECEIVING

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

- The ♪ indicator appears on the display. (This indicator will not appear on TK-3170 transceivers if it has been set to store Trunking zone data.)
- The LED indicator flashes orange.
- To mute the speaker after squelch opens, press the key programmed as **Monitor**.
- Your dealer can program the squelch to close again after a specific time period elapses.
- If Transpond for 2-tone Signaling is programmed, an acknowledgment signal is returned to the calling station.
- If Call Alert for 2-tone Signaling is programmed, an alert tone will sound when the correct tones are received.

Operator Selectable Tone (OST)

You can change the preset encode and decode tones for the selected channel. Your dealer can program up to 40 tones on your transceiver.

To turn OST ON or OFF, press the key programmed as **OST**.

- The OST indicator ( ) appears on the display when this function is activated.

To change the preset encode/decode tones:

1 Press and hold the key programmed as **OST** for approximately 1 second.
   - The OST name appears on the display.

2 Press the **<B** and **C>** keys, rotate the selector, or enter an appropriate number using the DTMF keypad to select your desired encode/decode pair.

3 Press the **Side 1**, **S**, or * key to accept the new setting and return to normal operation.

Voice Operated Transmission (VOX)

VOX can be activated or deactivated by your dealer. VOX operation allows you to transmit hands-free. This feature 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 set the VOX Gain level, perform the following steps:

1 Connect the headset to the transceiver.
   - The VOX function does not activate when a headset is not connected to the speaker/ microphone jack of the transceiver.

2 Press the key programmed as **VOX**.

- The current VOX Gain level appears.

3 Press the **<B** and **C>** keys or rotate the selector to increase or decrease the VOX Gain level.

- The VOX Gain can be adjusted from levels 1 to 10.

4 While adjusting the gain level, speak into the headset microphone as you would while under normal operation, to test the sensitivity level.

- When the microphone recognizes a sound, the LED lights orange. This allows you to determine a suitable level where background noise will not activate VOX operation while speaking into the microphone will.
- The transceiver does not transmit your voice during this test procedure.

5 Press the **S** key to save the setting.

To activate the VOX function:

1 Connect the headset to the transceiver.

- The VOX function does not activate when a headset is not connected to the speaker/ microphone jack of the transceiver.

2 Press and hold the key programmed as **VOX** for 2 seconds.

- The VOX indicator ( ) appears on the display.

3 To turn the VOX function OFF, press and hold the **VOX** key again, for 2 seconds.

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, KHS-21, or KHS-22 accessory.

SCAN

If the Scan function is programmed, zones or channels can be scanned by pressing the key programmed as **Scan**. Scan can be used as either Single Scan, Multi Scan, or List Scan (TK-3170 only).

- Single Scan monitors only the channels of the currently selected zone, which have been added to the scanning sequence. If set up to scan the Priority channel, the Priority channel will be scanned even if it is not within the currently selected zone.
- Multi Scan monitors all channels of every zone, which have been added to the scanning sequence.
- List Scan monitors all channels within the specified range of zones, which have been added to the scanning sequence. If set up to scan the Priority channel, the Priority channel will be scanned even if it is not within any of the zones in the list.

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

- The icon and "SCAN" or the revert zone and channel/ group ID number appear on the display.
- The zone add indicator ( ) will appear on the display when the selected zone is added to the scan sequence. The channel/ group ID add indicator ( ) will appear on the display when the selected channel/ group ID is added to the scan sequence.
- When a call is received, scanning stops and the zone and channel/ group ID digits appear. Press the **PTT** switch and speak into the microphone to respond to the call. The transceiver will continue scanning after a predetermined time delay if the **PTT** switch is released and no further signal is received.

To stop scanning, press the **Scan** key again.

Add to Scan/ Delete from Scan

Press the key programmed as **Scan Delete**/**Add**, to add or remove each channel/ group ID to or from the scan sequence.

- The channel/ group ID add indicator (▒▒▒▒▒▒▒▒) will appear on the display when the selected channel/ group ID is added to the scan sequence.

Press and hold the key programmed as **Scan Delete**/**Add**, to add or remove each zone to or from the scan sequence.

- The zone add indicator (▒▒▒▒▒▒▒▒) will appear on the display when the selected zone is added to the scan sequence.

Priority Scan

The Priority channel must be programmed in order for Priority Scan to function.

The transceiver will automatically change to the Priority channel when a signal is received on it, even if a signal is being received on a normal channel.

- The **P** indicator appears on the display when the selected channel is the Priority channel.

Note: Priority cannot be programmed onto the group ID of a Trunking zone; it can be used only on channels of Conventional zones.

Group Scan (TK-3170 Only)

Group Scan is useful when more than one group ID is programmed in a zone. Group Scan is set by your dealer on request. It scans the revert groups as well as groups that are allowed to be scanned.

When a call is received, the group indicator shows the group ID, and that group becomes the revert group. Simply press the **PTT** switch to respond to the call.

Scan Revert

The Revert zone and channel/ group ID is the zone and channel/ group ID which the transceiver automatically selects when pressing the **PTT** switch during Scan, to transmit. Your dealer can program 1 of 6 types of Scan Reverts for your transceiver:

- **Last Called:** The last zone and channel/ group ID received is assigned as the new revert zone and channel/ group ID.
- **Last Used:** The last zone and channel/ group ID responded to is assigned as the new revert zone and channel/ group ID.
- **Selected:** The last zone and channel/ group ID selected is assigned as the new revert zone and channel/ group ID.
- **Selected + Talkback:** If the zone and channel/ group ID has been changed during Scan, the newly selected zone and channel/ group ID is assigned as the new revert zone and channel/ group ID. The transceiver "talks back" on the current receive channel/ group ID.
- **Priority:** If your dealer has programmed the Priority channel, this channel is the revert zone and channel.
- **Priority + Talkback:** If your dealer has programmed the Priority channel, this channel is the revert zone and channel. The transceiver "talks back" on the current receive channel.

Note: "Priority" and "Priority + Talkback" are not available for Trunking Systems.

FleetSync: ALPHANUMERIC 2-WAY PAGING FUNCTION

FleetSync is an Alphanumeric 2-way Paging Function, and is a protocol owned by **KENWOOD** Corporation. FleetSync enables a variety of paging functions on your transceiver, some of which depend on dealer programming.

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/ group ID.
2. Press the key programmed as **Selcall** or **Selcall + Status** to enter Selcall Mode.
3. Press the **<B** and **C>** keys, rotate the selector, or enter an appropriate number using the DTMF keypad to select the ID of the station you want to call.
   - Alternatively, press and hold the **S** or ✱ key to enter Manual Dialing mode. Using Manual Dialing, you can enter digits with the DTMF keypad or selector. When using the selector, rotate it to select a digit, then press the **C>** key to accept the digit. Repeat this process until the entire ID is entered.
4. Press the **PTT** switch to make the call or the **Side 2** key to page the selected recipient.

■ RECEIVING

An alert tone will sound, the transceiver will automatically enter Selcall Mode, and the calling station's ID will appear when a Selcall is received.

To respond to the call, press the **PTT** switch and speak into the microphone. To simply acknowledge the caller, press the **Side 2** key.

■ 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.

- Enter a Fleet number (100 ~ 349) to make a group call.
- Enter an ID number (1000 ~ 4999) to make an individual call in your fleet.
- Enter a Fleet number make a call to all units in the selected fleet (Fleet call).
- Enter an ID number to make a call to the selected ID in all fleets (Supervisor call).
- Select “ALL” Fleet and “ALL” ID to make a call to all units (Broadcast call).

Note: The ID range may be limited by programming.

Status Message

You can send and receive 2-digit Status messages which may be decided in your talk group. Status messages range from 10 to 99 (80 ~ 99 are reserved for special messages), each of which can contain up to 16 alphanumeric characters.

A maximum of 5 received Status calls can be stored in the stack memory of your transceiver. These saved messages can be reviewed after reception. Depending on your dealer settings, when the stack memory is full, either the oldest message will be erased when a new message is received or the new message will not be stored in the stack memory. The ✉ icon lights when a message is stored in the stack memory.

■ Transmitting

1 Select your desired zone and channel/ group ID.

2 Press the key programmed as **Status** to enter Status Mode or **Selcall + Status** to enter Selcall Mode.

- When using the **Status** key to enter Status Mode, the station ID is fixed and cannot be selected. Skip to step 5.

3 In Selcall Mode, press the **<B** and **C>** keys, rotate the selector, or enter an appropriate number using the DTMF keypad to select the ID of the station you want to call.
   - Alternatively, press and hold the **S** or ✱ key to enter Manual Dialing mode. Using Manual Dialing, you can enter digits with the DTMF keypad or selector. When using the selector, rotate it to select a digit, then press the **C>** key to accept the digit. Repeat this process until the entire ID is entered.

4 Press the **S** key to enter Status Mode.

5 Press the **<B** and **C>** keys, rotate the selector, or enter an appropriate number using the DTMF keypad to select the status ID you want to transmit.
   - Alternatively, press and hold the **S** or ✱ key to enter Manual Dialing mode. Using Manual Dialing, you can enter digits with the DTMF keypad or selector. When using the selector, rotate it to select a digit, then press the **C>** key to accept the digit. Repeat this process until the entire ID is entered.

6 Press the **PTT** switch to make the call or the **Side 2** key to page the selected recipient.
   - Alternatively, press the **Call 1** or **Call 2** key to transmit their pre-programmed status messages.
   - "COMPLETE" appears on the display when the call has been successfully transmitted.

■ RECEIVING

The ✉ icon will flash and a calling ID or text message will appear when a Status call is received.

Press any key to return to normal operation.

■ Reviewing Messages in the Stack Memory

1 Press and hold the key programmed as **Selcall**, **Status**, or **Selcall + Status** for 1 second to enter Stack Mode.
   - The last received call ID/ stack number appears on the display.

2 Press the **<B** and **C>** keys or rotate the selector to select the desired message.
   - Press and hold the **S** key to toggle between the call ID/ status message and the channel name.

3 Press the **S** key to return to normal operation.
   - To delete the selected message, press the **A** or **#** key. To confirm the deletion, press the **S** or ✱ key.
   - To delete all messages, press and hold the **A** or **#** key for 1 second. To confirm the deletion, press the **S** or ✱ key.

Short Messages

To send a short message, you must connect the transceiver to a PC. Ask your dealer for details.

- Short messages can contain a maximum of 48 characters.
- Received short messages are displayed the same as Status messages. Only 1 short message can be stored in the stack memory, along with 5 Status calls and 3 Caller IDs. and are stored in the same stack memory.

Long Messages

To send and receive long messages, you must connect the transceiver to a PC. Ask your dealer for details.

- Long messages can contain a maximum of 1024 characters.

Manual Dialing

■ Method 1

Press and hold the **PTT** switch, then enter the desired digits using the front panel keypad.

- If your dealer has activated the Keypad Auto PTT function, you need not press the **PTT** switch while pressing the keys on the keypad in Conventional systems. The DTMF code will be sent automatically when you press a key.

■ Method 2

Enter the desired digits using the front panel keypad (maximum of 16 digits). After entering the complete number, press the **PTT** switch.

- In Conventional systems, the DTMF code is transmitted after pressing the **PTT** switch.
- In Trunking systems, the DTMF code is transmitted after a connection is established. Releasing the **PTT** switch before a connection is established will stop the transmission from occurring.
- In RIC (Repeater Inter-Connect) Trunking systems, the DTMF code is transmitted after a connection with the telephone system is established. Press the key programmed as **Autodial**, followed by the **Side 2** key, to automatically connect to the repeater and transmit the DTMF code.

Note: If you switch the power OFF before sending the number, the number will be cleared from memory.

Store and Send

Store and send allows you to make DTMF calls without the need for a DTMF keypad.

1 Press the key programmed as **Autodial**.
- "CODE" appears on the display.

2 Rotate the selector to select a digit.
- Alternatively, you can enter the digits by using the DTMF keypad.

3 Press the **C>** key to accept the entered digit and move to the next digit.
- Press the **A** key to delete an incorrect character. Press and hold the **A** key to delete all entered characters.

4 Repeat steps 2 and 3 to enter the entire number.
- You can enter up to 16 digits.

5 Press the **PTT** switch to make the call or the **Side 2** key to page the selected recipient.

Autodial

Autodial allows you to store 16 names (up to 8 characters per name) and DTMF numbers (up to 16 digits per number). These operations can be performed with or without a DTMF keypad.

■ Storing DTMF Numbers

1 Press the key programmed as **Autodial Programming**.
- If programmed by your dealer, you can also press and hold the **#** key for 1 second.
- The first entry in the Autodial list appears on the display.

2 Press the **<B** and **C>** keys, rotate the selector, or enter an appropriate number using the DTMF keypad (01 ~ 16) to select your desired Autodial list number.
- Press and hold the **Side 1** key to toggle the display between the list number and the entry name.

3 Press the **S** or * key to confirm the list number.

4 Enter the desired name for the list entry using the DTMF keypad.

- If enabled by your dealer, you can also rotate the selector to select a digit. Press the **C>** key to confirm the digit. Repeat this operation until the complete name is entered.
- Press the **A** or **#** key to delete an incorrect character. Press and hold the **A** or **#** key to delete all entered characters.

5 Press the **S** key to confirm the entry.

- "CODE" appears on the display after confirming the entered name.

6 Enter the desired DTMF number using the DTMF keypad.

- If enabled by your dealer, you can also rotate the selector to select a digit. Press the **C>** key to confirm the digit. Repeat this operation until the complete number is entered.
- Press the **A** or **#** key to delete an incorrect character. Press and hold the **A** or **#** key to delete all entered characters.

7 Press the **S** key to confirm the entry.

- "STORE" appears on the display after confirming the entered number.
- If you are overwriting a previous entry, "OVERWRT" appears on the display.

8 Press the **S** or * key to store the entered name and number in the Autodial list.

- Press the **A** or **#** key to cancel the entry.

■ Dialing Stored DTMF Numbers

1 Press the key programmed as **Autodial**.

- If programmed by your dealer, you can also press the **#** key.
- The first entry in the Autodial list appears on the display.

2 Press the **<B** and **C>** keys, rotate the selector, or enter an appropriate number using the DTMF keypad (01 ~ 16) to select your desired Autodial list number.
   - The stored entry appears on the display. Press and hold the **Side 1** key to toggle the display between the list number and the entry name.

3 Press the **PTT** switch to make the call or the **Side 2** key to page the selected recipient.

■ Clearing Stored DTMF Numbers

1 Press the key programmed as **Autodial Programming**.
   - If programmed by your dealer, you can also press and hold the **#** key for 1 second.

2 Press the **<B** and **C>** keys, rotate the selector, or enter an appropriate number using the DTMF keypad (01 ~ 16) to select your desired Autodial list number.

3 Press the **A** or **#** key.
   - "DELETE" appears on the display after confirming the entered number.

4 Press the **S** or ***** key to delete the entry from the Autodial list.

Redial

You can redial the last number you transmitted.

1 Press the **#** key or the key programmed as **Autodial**.
   - The first entry in the Autodial list appears on the display.

2 Press the ***** key followed by the **0** key to display the last called number.

3 Press the **PTT** switch to make the call or the **Side 2** key to page the selected recipient.

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

Connect/ Disconnect IDs

1 Press the **#** key or the key programmed as **Autodial**.
   - The first entry in the Autodial list appears on the display.

2 Connect ID: Press the * key two times.
Disconnect ID: Press the * key followed by the **#** key.

3 Press the **PTT** switch to make the call or the **Side 2** key to page the selected recipient.

DTMF Signaling

DTMF Signaling is either enabled or disabled by your dealer. This function opens the squelch only when the transceiver receives the DTMF code 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.

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

- The ♪ indicator appears on the display. (This indicator will not appear on TK-3170 transceivers if it has been set to store Trunking zone data.)
- The LED indicator flashes orange.
- To mute the speaker after squelch opens, press the key programmed as **Monitor**.
- Your dealer can program the squelch to close again after a specific time period elapses.
- If Transpond for DTMF Signaling is programmed, an acknowledgment signal is returned to the calling station.
- If Tone Alert for DTMF Signaling is programmed, an alert tone will sound when the correct tones are received.

Stun

This function is used when a transceiver is stolen or lost. 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. Stun is cancelled when the transceiver receives a call with a revive code.

EMERGENCY CALLS

If your transceiver has been programmed with the Emergency function, you can make emergency calls.

Note: Only the Auxiliary (orange) key can be programmed with the Emergency function.

1 Press and hold the key programmed as **Emergency**.

- 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 Emergency mode, the transceiver will change to the Emergency channel and begin transmitting based on how the transceiver is set up by your dealer. Transmit periods are also set by your dealer.

2 To exit Emergency mode, press and hold the **Emergency** key again.

- If the Emergency mode completes the preset number of cycles, Emergency mode will automatically end and the transceiver will return to the channel that was in use before Emergency mode was entered.

Note:

- Your dealer can set the transceiver to emit a tone when Emergency mode starts and stops
- Your dealer can set the transceiver to emit tones and received signals as normal or mute the speaker during Emergency operation.

Selecting a Transmit Power

Each channel is programmed with either high or low transmit power by your dealer. You can change the transmit power of only channels programmed with high transmit power.

When you can reliably communicate with other parties without using high transmit power, select low transmit power by pressing the key programmed as **Low Transmit Power**. Each time you press **Low Transmit Power**, the transmit power toggles between high and low.

- The L icon appears while using low transmit power.
- Using low transmit power conserves battery power and reduces the risk of interfering with other communications.

Note: Pressing **Low Transmit Power** while using a channel programmed with low power causes an error tone to sound.

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. 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**.

- The icon appears on the display while Talk Around is active.
- When using Talk Around, the receive frequency is used for both transmitting and recieving, and the decode signaling is used for both encoding and decoding.

Monitor/ Squelch Off

You can use the key programmed as **Monitor**/ **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.

- The 🔊 icon appears on the display while Monitor/ Squelch Off is activated.

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

- **Monitor:** Momentarily press to deactivate QT, DQT, DTMF, 2-tone, or Fleetsync Signaling. Press the key again to return to normal operation.
- **Monitor Momentary:** Press and hold to deactivate QT, DQT, DTMF, 2-tone, or Fleetsync Signaling. Release the key to return to normal operation.
- **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.

■ Squelch Level

The squelch level can be adjusted only in Conventional operating mode:

1 Press the key programmed as **Squelch Level**.

- The 🔊 icon and the current squelch level appear on the display.

2 Press the **<B** and **C>** keys or rotate the selector to increase (tighten) or decrease (open) the squelch level.

3 Press the **Side 1**, **S**, or ✱ key to store the new setting and exit the squelch level adjustment.

Scrambler

Although the scrambler function does not offer complete privacy with your calls, it does prevent 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 clearly hear your call while you are using the scrambler, all other members must also activate the scrambler functions on their transceivers. This distorts everybody's voice while transmitting and corrects the voice message on your own transceiver when you receive the call.

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

- The ◊ icon appears on the display while the scrambler is active.

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

Note:

- There are 2 options for using the scrambler. Your dealer can activate 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.
- The scrambler does not function while operating in SmarTrunk Trunking mode {page 20}.

Transceiver Backlight

To turn the transceiver display backlight on, press the key programmed as **Lamp**.

- Pressing any key other than the **PTT** switch and the **Power** switch/ **Volume** control while the backlight is on will reset the lamp timer, allowing the backlight to remain lit for an additional 5 seconds.

To turn the display backlight off immediately, press the **Lamp** key while the backlight is on.

Key Lock

This function is used to help prevent any accidental operation of the transceiver.

To lock the transceiver keys, press and hold the key programmed as **Key Lock** for 1 second.

- "LOCKED" momentarily appears on the display.
- You can continue to use the following programmable functions and/or keys (if available): **Auxiliary** (orange) key, **Key Lock**, **Side 1** key, **Side 2** key, **PTT** switch, and **Power** switch/ **Volume** control.

To unlock the keys, press and hold the **Key Lock** key again for 1 second.

Home and Direct Channel/ Group ID

You can set a frequently used channel/ group ID within a zone as your home channel/ group ID, for easy access. Likewise, you can set up to 4 additional frequently used channels/ group IDs as direct channels/ group IDs, for easy access. To set up a channel/ group ID:

1 Select a frequently used channel/ group ID.

2 Press and hold the key programmed as **Home CH**/**GID** or **Direct CH**/**GID** (1 ~ 4) for approximately 3 seconds to store the channel/ group ID in memory.

- A beep sounds when the channel/ group ID is stored.

To use the **Home CH**/**GID** key, press it to jump to the programmed channel/ group ID. You can press this key a second time to return to the previous channel/ group ID you were using.

To use a **Direct CH**/**GID** key, press it to jump to the programmed channel/ group ID.

- Pressing this key a second time will not return you to the previous channel/ group ID you were using.

Direct Channel Entry

Besides the general method of selecting channels/ group IDs (using the selector and the keys programmed as **Zone Up**/ **Down** and **CH**/**GID Up**/ **Down**), you can select a channel/ group ID by direct channel entry.

1 Press the key programmed as **Channel Entry**.

2 Enter your desired channel/ group ID number using the keypad.

- If no more than 9 channels/ group IDs have been programmed on your transceiver, simply enter a 1-digit channel/ group ID number. For example, to select channel/ group ID 5, enter “5” on your keypad.
- If up to 99 channels/ group IDs have been programmed on your transceiver, enter a 2-digit channel/ group ID number. For example, to select channel/ group ID 5, enter “05” on your keypad.
- If over 100 channels/ group IDs have been programmed on your transceiver, enter a 3-digit channel/ group ID number. For example, to select channel/ group ID 5, enter “005” on your keypad.
- Press the **Side 1** key to exit direct channel entry mode.
- Press the **S** key to set the seleted channel/ group ID.
- Press the **A** or **#** key to delete the last entered digit.

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 for Conventional and dispatch (Trunking) operation, and 3 minutes for telephone (Trunking) operation), the transceiver will stop transmitting and an alert tone will sound. To stop the tone, release the **PTT** switch.

Your dealer can program the TOT time in the range of 15 seconds to 20 minutes for Conventional operation and 15 seconds to 10 minutes for Trunking operation.

Busy Channel Lockout (BCL)

When activated, BCL prevents you from interfering with other parties who may be using the same channel that you selected, in Conventional operating mode. 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, 2-tone, or FleetSync signaling.

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.

Battery Status Indicator

The battery status indicator displays the battery power remaining when using an optional battery pack, as illustrated below. (The battery status indicator does not appear while using alkaline batteries.)

High Sufficient Low Very Low

When the battery power is very low, replace or recharge the battery pack. If activated by your dealer, an alert tone will sound every 30 seconds and the LED indicator will blink red when the battery power is low.

Beginning/ End of Transmit Signal

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

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

If End of Transmit 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.