

INSTRUCTION MANUAL

TK-2160/TK-3160-1

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.

NOTICES TO THE USER

WARNING:

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.

DO NOT OPERATE YOUR TRANSCEIVER IN EXPLOSIVE ATMOSPHERES (GASES, DUST, FUMES, ETC.).

TURN OFF YOUR TRANSCEIVER WHILE TAKING ON FUEL, OR WHILE PARKED IN GASOLINE SERVICE STATIONS.

SAFETY:

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

WARNING:

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

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

One or more of the following statements may be applicable:

FCC WARNING

This equipment generates or uses radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

INFORMATION TO THE DIGITAL DEVICE USER REQUIRED BY THE FCC

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can generate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer for technical assistance.

**ATTENTION (U.S.A. Only):**

The RBRC Recycle seal found on **KENWOOD** nickel-cadmium (Ni-Cd) battery packs indicates **KENWOOD**'s voluntary participation in an industry program to collect and recycle Ni-Cd batteries after their operating life has expired. The RBRC program is an alternative to disposing Ni-Cd batteries with your regular refuse or in municipal waste streams, which is illegal in some areas.

For information on Ni-Cd battery recycling in your area, call (toll free) 1-800-8-BATTERY (1-800-822-8837). **KENWOOD**'s involvement in this program is part of our commitment to preserve our environment and conserve our natural resources.

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.

Accessories

Item	Part Number	Quantity
		K
Instruction Manual	B62 -1716 - *0	1
Belt Hook	J29 -0701-05	1
Screw	N35-3004-45	1
Cap	B09 - 0676 - *3	1
Hardware Fixture	J21 – 8464 - 04	1

Installing/ Removing the Optional Battery Pack

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

CAUTION:

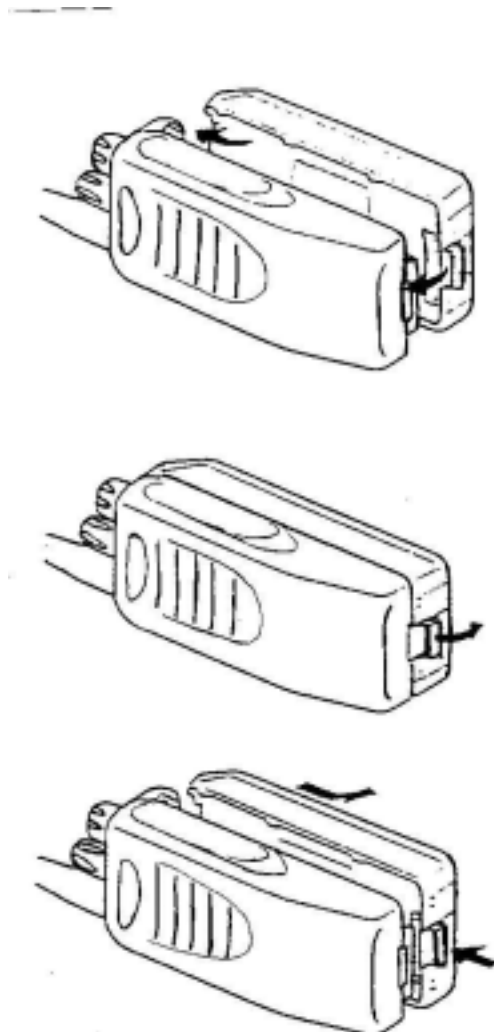
DO NOT RECHARGE THE BATTERY PACK IF IT IS ALREADY FULLY CHARGED. DOING SO MAY CAUSE THE LIFE OF THE BATTERY PACK TO SHORTEN OR THE BATTERY PACK MAY BE DAMAGED.

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 SHORT THE BATTERY TERMINALS OR DISPOSE OF THE BATTERY BY FIRE.

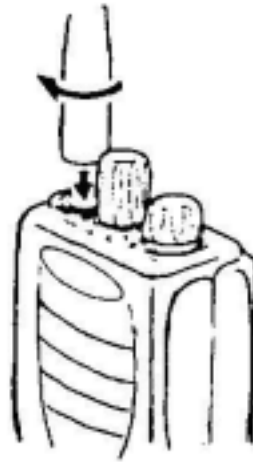
NEVER ATTEMPT TO REMOVE THE CASING FROM THE BATTERY PACK.

- 1** Match the guides of the battery pack with the corresponding grooves on the upper rear of the transceiver, then firmly press the battery pack t
- 2** Flip 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, press the release latch, then 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.



Installing the Belt Clip

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

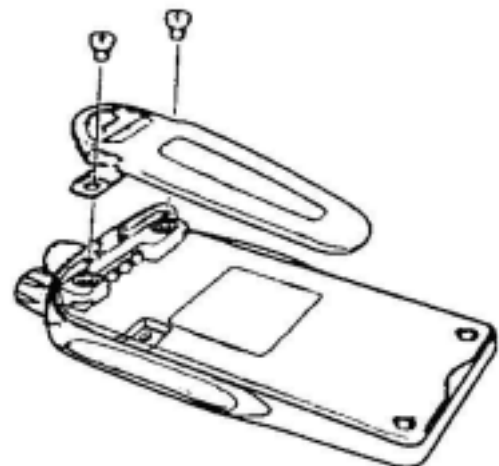
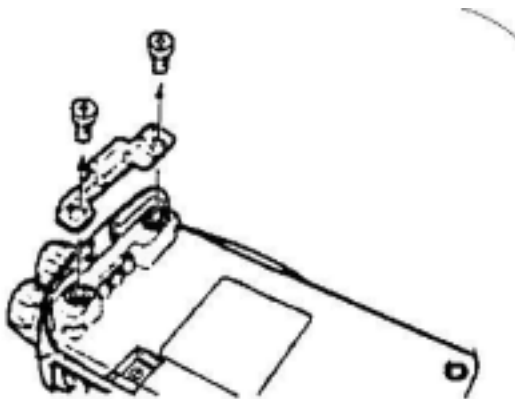
2 Insert the belt clip mount into the space on the rear of the transceiver.

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.

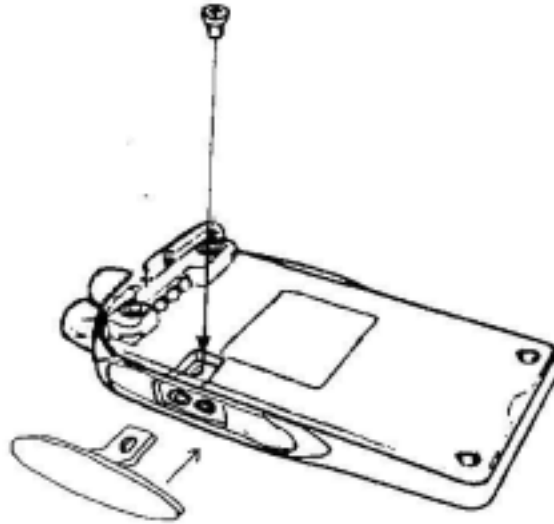


Installing the Cap over the Speaker/Microphone Jacks

If you are not using an optional speaker/ microphone, install the cap over the SP/MIC jacks using the supplied screw.

Note:

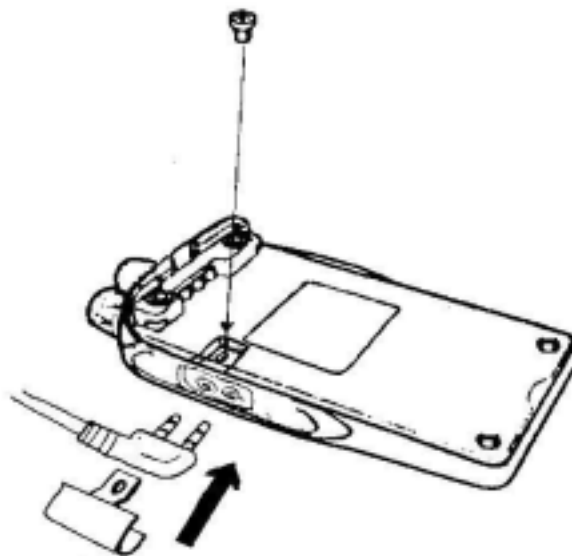
To keep the transceiver water resistant, you must cover the SP/MIC jacks with the cap or the cap or the speaker/microphone connector.



Installing the Optional Speaker/ Microphone

1 Insert the guide of the speaker/ microphone plugs into the SP/MIC jacks.

2 Install the speaker/microphone locking Hardware Fixture over the plugs using the supplied screw.



GETTING ACQUAINTED

Knob

NO .	Name	Lock/ Non Lock	Description
1	Power switch/ Volume control	Lock/ Non Lock	Power SW (CCW : Power OFF) Audio Volume adjuster
2	Selector switch	Lock	Channel Selector

Switch

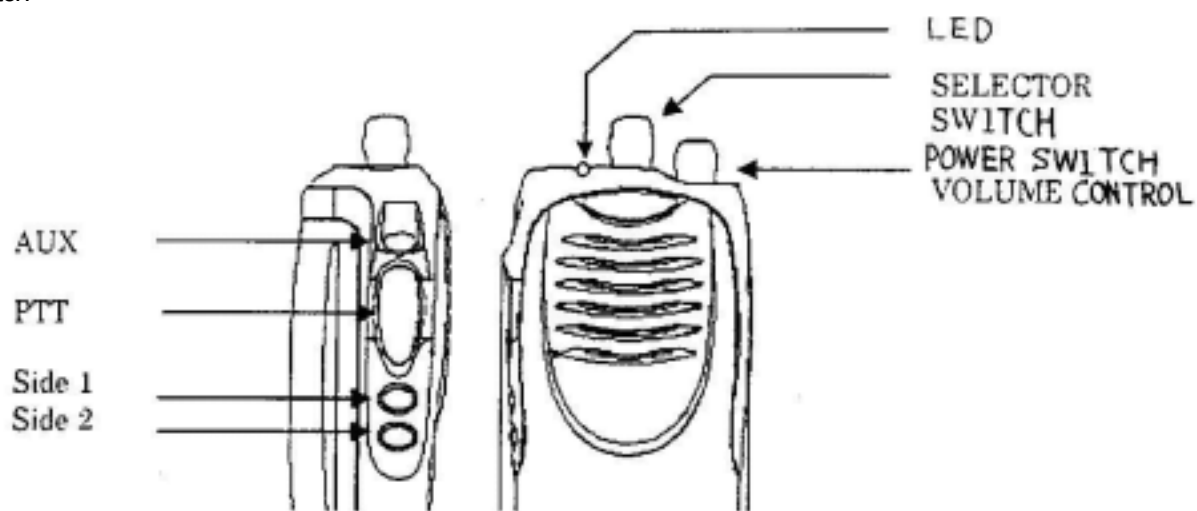


Fig. 1 Left Side

Fig. 2 Front

< Left side >

NO .	Name	Lock/ Non Lock	Description
1	PTT	Non Lock	TX ON/OFF
2	Side 1	Non Lock	Programmable default : No Function
3	Side 2	Non Lock	Programmable default : Monitor Momentary
4	AUX(Orange)	Non Lock	Programmable default : No Function

LED

NO .	Name	Description
1	LED	The LED is three colors . Lights green while receiving at user mode .Light red while transmitting , flashes red when the battery power is low while transmitting . Lights orange when individual called .

TERMINAL

SP/MIC jacks

SP/MIC covering for blindfold mode of resin is possible .

NO .	Name	Description	I/O
1	PTT/RXD	PTT input / Serial data input	I
2	MIC	MIC input	I
3	MIC IN	To internal MIC	-
4	OPTDET	Option Detect	I
5	5MS	5V output	O
6	AE	Audio Earth	-
7	TXD	Serial data output	O
8	NC	No Connect	-
9	SPI	To internal SP	-
10	SPO	AF power output	O

Battery Terminal

It's type of spring plate. The minus terminal connect to chassis ground

It's mounted rear side of radio and mounting instruction is slide method .

OTHER

Rear

A rail and a hook for battery installation .

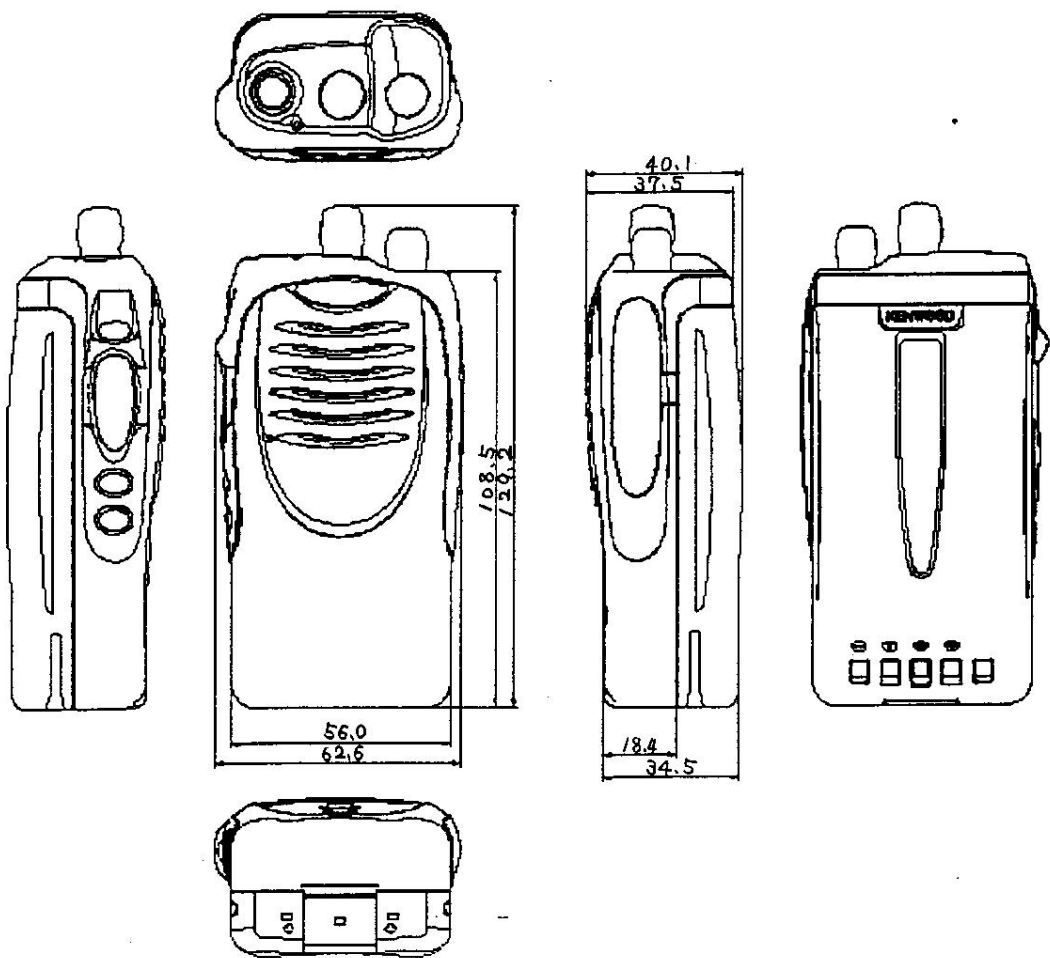
Space which affixes name plate . Model name plate

Screw hole for belt hook installation .

Bottom

Battery release lever

Appearance



Appearance with KNB-24L

OPERATING BASICS

Switching Power ON/OFF

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

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

Adjusting the Volume

Rotate the **Power** switch/ **Volume** control to adjust the volume.

Selecting a Channel

Rotate the **Channel selector** to select a channel.

Clockwise increases the channel number and counterclockwise decreases it.

Making a Call

1 Select the desired channel.

2 Press and hold the **Monitor** key (Programmed function `Monitor`) to determine whether or not the current channel is being used.

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

3 Press and hold the **PTT** switch, then speak into the microphone in your normal voice.

- For best results, hold the microphone approximately 3 to 4 cm (1 1/2 inches) from your lips.

4 Release the **PTT** switch to receive.

AUXILIARY FEATURES

Time-out Timer (TOT)

The TOT is used to automatically inhibit transmission after a specified time elapse. If the PTT switch is held down for longer than specified time, the transceiver will stop transmitting and a tone will sound. Release the PTT switch, then press it again to continue transmitting.