KENWOOD

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INSTRUCTION MANUAL
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MANUAL DE INSTRUCCIONES
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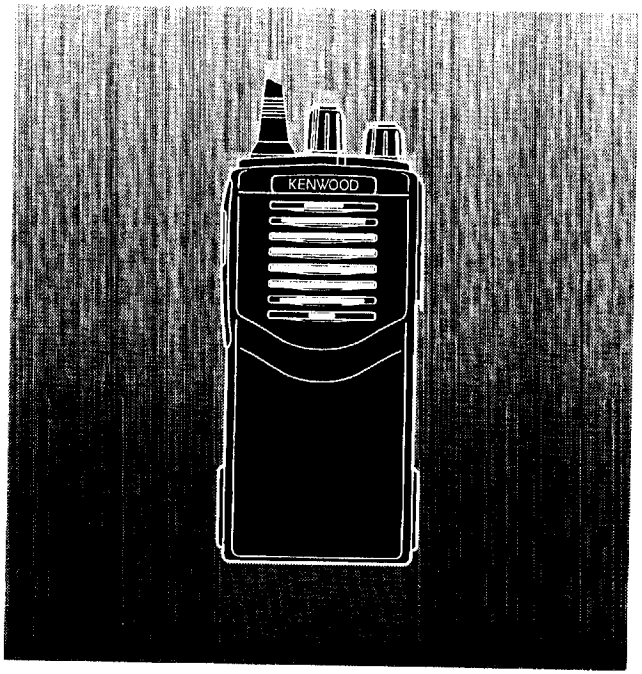


TK-3101

UHF FM TRANSCEIVER
EMETTEUR-RECEPTEUR UHF FM
TRANSCEPTOR FM UHF
UHF-FM-TRANSCEIVER
UHF FM ZENDONTVANGER

KENWOOD CORPORATION

09 08 07 06 05 04 03 02 01 00

TK-3101

ENGLISH

UHF FM TRANSCEIVER
INSTRUCTION MANUAL

THANK YOU!

We are grateful for your purchase of this **KENWOOD** transceiver. We believe this easy-to-use transceiver will provide you with dependable and reliable communications.

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

KENWOOD MEANS WIRELESS

KENWOOD is a major developer and producer of wireless and digital wireless communications products. **KENWOOD** provides top quality Amateur Radio products for the serious hobbyist, and commercial radio products and systems for business, industry, and public safety users worldwide.

INFORMATION

KENWOOD is on the Web

Amateur, Land Mobile (Commercial), Systems:

http://www.kenwood.net

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.*

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

PRECAUTIONS

- Refer service to qualified technicians only.
- Do not operate your transceiver or charge your battery pack in an explosive atmosphere (gases, dust, fumes, etc.).
- Turn OFF your transceiver while taking on fuel, or while parked in gasoline service stations.
- Do not modify 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, or wet areas, nor on unstable surfaces.

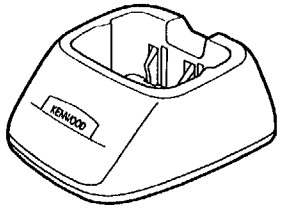
CONTENTS

UNPACKING AND CHECKING EQUIPMENT

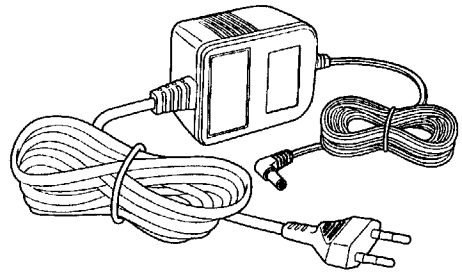
Carefully unpack the transceiver. We recommend that you identify the items listed in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, file a claim with the carrier immediately.

■ Supplied Accessories

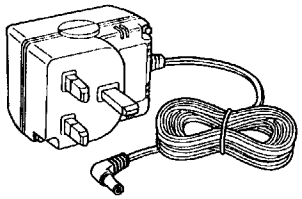
Item		Part Number	Quantity
Battery charger		W08-0552-X5	1
AC adaptor	Europe	W08-0574-X5	1
	U.K.	W08-0576-X5	
NiCd battery pack (KNB-14)		W09-0939-X5	1
Speaker/ microphone jack cover		B09-0351-X3	1
Speaker/ microphone locking bracket		J21-4493-X4	1
Belt clip		J29-0624-X3	1
Screw set		N99-0396-X5	1
Warranty card		—	1
Instruction manual		B62-1130-XX	1



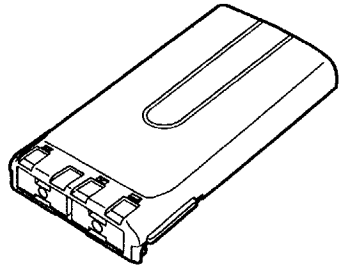
Battery charger



AC adaptor
(Europe)

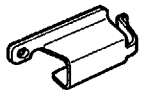


AC adaptor
(U.K.)

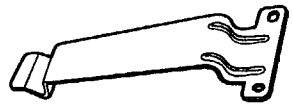


NiCd Battery
pack (KNB-14)

Speaker/ microphone
jack cover



Speaker/ microphone
locking bracket



Belt clip

Screw set

PREPARATION

■ Installing/ Removing the NiCd Battery Pack

The battery pack is not charged at the factory; charge it before use {page 19}.

Average battery pack life:

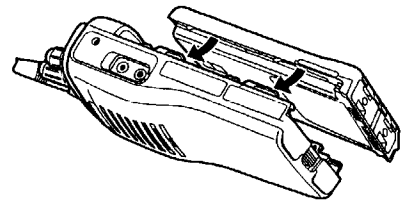
- KNB-14 (supplied): 8 hours
- KNB-15A (optional): 10 hours

Average times are calculated using 5% transmit time, 5% receive time, and 90% standby time.

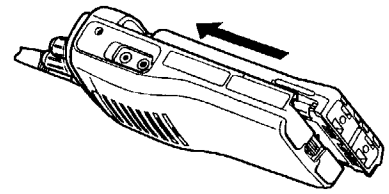
CAUTION

- *DO NOT SHORT THE BATTERY TERMINALS OR DISPOSE OF THE BATTERY BY FIRE.*
- *NEVER ATTEMPT TO REMOVE THE CASING FROM THE BATTERY PACK.*

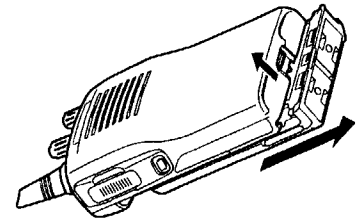
1 Match the four grooves of the battery pack with the corresponding guides on the back of the transceiver.



2 Slide the battery pack along the back of the transceiver until the release latch on the base of the transceiver locks.



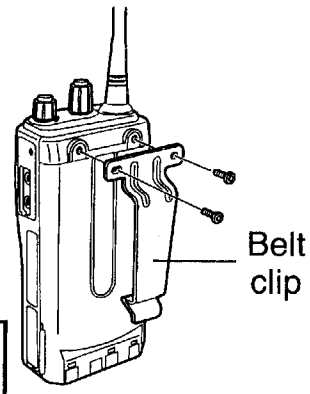
3 To remove the battery pack, pull back on the release latch and slide the pack away from the transceiver.



■ 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.*



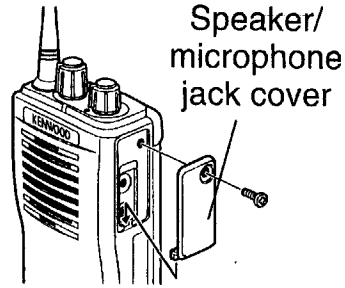
CAUTION

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

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

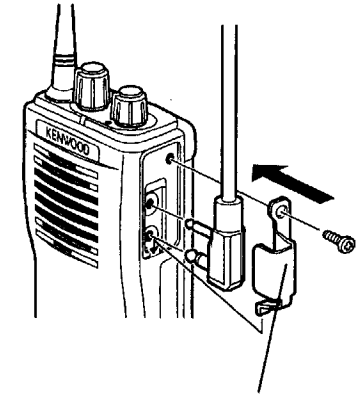
Note: *To keep the transceiver water resistant, you must cover the speaker/ microphone jacks with the supplied cover.*



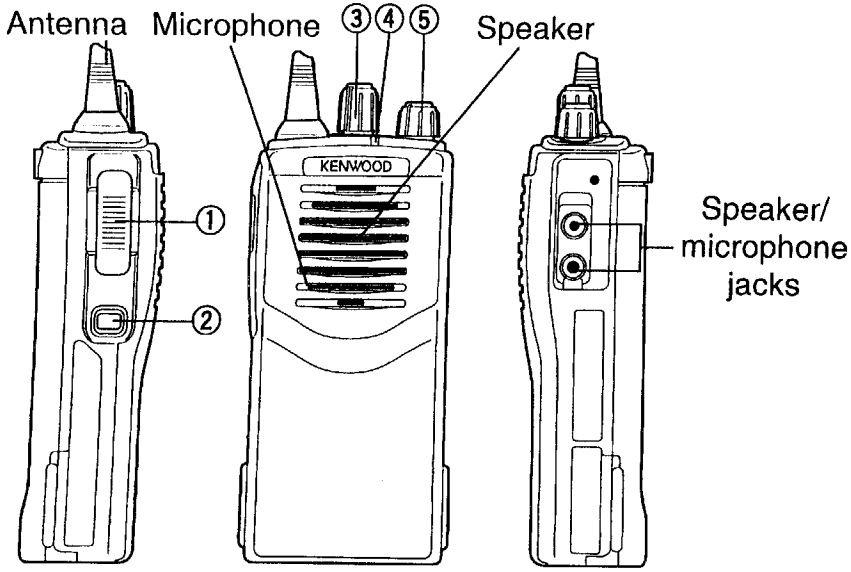
■ Installing the (Optional) Speaker/ Microphone

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

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



GETTING ACQUAINTED



① PTT (Push-To-Talk) switch
Press this switch, then speak into the microphone to call a station. Release the switch to receive.

② Monitor key
Press and hold to monitor how busy the current channel is and to monitor signals being received that do not contain the matched QT/DQT code {page 11}.

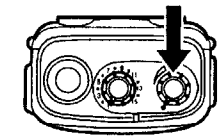
③ Channel selector
Rotate to select channels 1 ~ 15.

④ LED indicator
Lights red while transmitting, green while receiving a signal, and orange while in setup mode. Flashes red when the battery voltage is low while transmitting.

⑤ Power switch/ Volume control
Turn clockwise to switch the transceiver ON. Turn counterclockwise until a click sounds, to switch the transceiver OFF. Rotate to adjust the volume level.

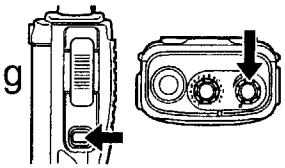
OPERATING BASICS

1 Switch the transceiver ON by turning the **Power** switch/ **Volume** control clockwise.

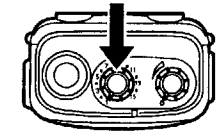


- A beep sounds.

2 Adjust the volume by pressing and holding the **Monitor** key, then rotating the **Power** switch/ **Volume** control.

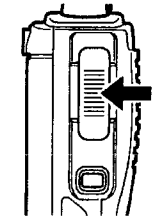


3 Rotate the **Channel** selector to choose your desired channel.



- 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:

- *The channel in use may have been programmed with a signalling code. Refer to "QUIET TALK (QT) AND DIGITAL QUIET TALK (DQT)" on page 11.*
- *When the battery pack voltage becomes too low, transmission will stop and the LED will blink red. Refer to "Low Battery Warning" on page 18.*

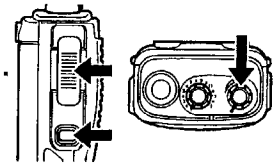
CHANGING THE PROGRAMMED FREQUENCIES

You can change the preprogrammed frequencies of the 15 channels. Select a value from 0 ~ 8 to reprogram the desired channel. (For Spanish market models, select a value from 0 ~ 7.)

Note: *To make a channel blank (no frequency), select "0" for the frequency number.*

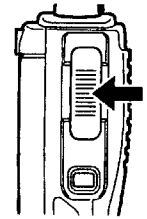
The transceiver will exit setup mode if no operation is performed within 5 seconds.

1 Press and hold the **PTT** switch and **Monitor** key, then turn the power ON.



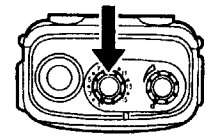
- Continue to hold the **PTT** switch and **Monitor** key until the LED lights orange, then release the keys.

2 Press the **PTT** switch.

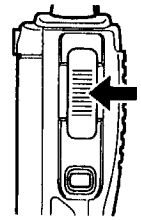


- The LED changes from orange to red and a beep sounds. The transceiver is now in frequency setup mode.

3 Rotate the **Channel** selector to choose the channel you want to set up.



4 Press the **PTT** switch to select the frequency number.



- Each time you press the **PTT** switch, a beep sounds and the frequency number changes. There are 9 different numbers available: 0 ~ 8. (0 ~ 7 for Spanish market models.)

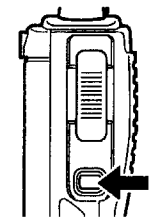
Action	Value	Beep pattern
Press and hold **PTT** for 2 seconds	0	1 second tone
Press **PTT** 1 time	1	•
Press **PTT** 2 times	2	••
Press **PTT** 3 times	3	•••
Press **PTT** 4 times	4	••••
Press **PTT** 5 times	5	•••••
Press **PTT** 6 times	6	–•
Press **PTT** 7 times	7	–••
Press **PTT** 8 times	8	–•••

Note:

- *To select "0", press and hold the **PTT** switch until a 1 second tone sounds (approximately 2 seconds).*
- *Pressing the **PTT** switch more than 8 times (7 times for the Spanish market model) will cause an error tone to sound, and no value will be selected.*

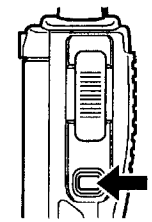
5 Wait for 2 seconds to hear the beep pattern of the number you selected.

6 Press the **Monitor** key to complete the setting.



- The red LED blinks twice.

7 Press the **Monitor** key again to confirm the beep pattern of the selected frequency number.



8 Repeat steps 3 to 7 to set up another channel.

Example of setting a channel to frequency no. 3:

1 After entering frequency setup mode, select channel 1.

2 Press the **PTT** switch 3 times to select 3 for the frequency number.

- A beep sounds each time you press the **PTT** switch.

3 Wait for 2 seconds.

- Three (3) short beeps will sound to confirm that 3 has been selected.

4 Press the **Monitor** key.

- The red LED blinks twice.

5 Press the **Monitor** key again.

- Three (3) short beeps will sound to confirm that 3 has been selected.

QUIET TALK (QT) AND DIGITAL QUIET TALK (DQT)

QT and DQT are functions that reject signals from undesired persons that are using the same channel as you. A QT tone or DQT code is programmed at the factory in each of the channels. After selecting a channel, you will hear audio from the speaker only when you receive a signal that contains the matched code.

Likewise, when you transmit on a channel set up with QT or DQT, the receiving station must have a matching code in order to hear your signal.

You can change the codes programmed in the channels. Select from among the 38 codes listed below. After changing a code, confirm that other members in your group have selected the same code.

No.	QT/DQT	No.	QT/DQT	No.	QT/DQT
1	67.0 Hz	14	107.2 Hz	27	D132N
2	71.9 Hz	15	110.9 Hz	28	D155N
3	74.4 Hz	16	114.8 Hz	29	D134N
4	77.0 Hz	17	118.8 Hz	30	D243N
5	79.7 Hz	18	123.0 Hz	31	D311N
6	82.5 Hz	19	127.3 Hz	32	D346N
7	85.4 Hz	20	131.8 Hz	33	D315N
8	88.5 Hz	21	136.5 Hz	34	D351N
9	91.5 Hz	22	141.3 Hz	35	D423N
10	94.8 Hz	23	146.2 Hz	36	D664N
11	97.4 Hz	24	151.4 Hz	37	D431N
12	100.0 Hz	25	156.7 Hz	38	D723N
13	103.5 Hz	26	162.2 Hz		

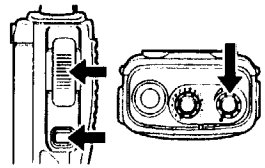
■ Changing the Programmed QT/DQT Tones

Note:

- *Refer to the signalling tones listed in the table on page 11.*
- *When you are confirming the signalling number of a channel programmed with a signalling number from 10 ~ 38, there is a short pause between the 10's digit and the 1's digit.*

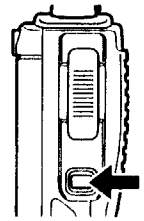
The transceiver will exit setup mode if no operation is performed within 5 seconds.

1 Press and hold the **PTT** switch and **Monitor** key, then turn the power ON.



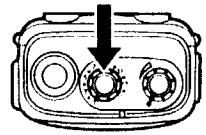
- Continue to hold the **PTT** switch and **Monitor** key until the LED lights orange, then release the keys.

2 Press the **Monitor** key.

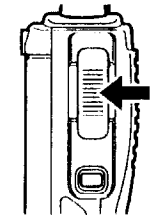


- The LED changes from orange to green and a beep sounds. The transceiver is now in QT/DQT tone setup mode.

3 Rotate the **Channel** selector to choose the channel you want to set up.



4 Press the **PTT** switch to select the 10's digit of the signalling number.



- Each time you press the **PTT** switch, a beep sounds and the signalling number changes. There are 3 different numbers available for the 10's digit: 1 ~ 3

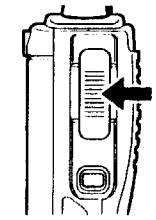
Action	Value	Beep pattern
Press **PTT** 1 time	1 x	•
Press **PTT** 2 times	2 x	••
Press **PTT** 3 times	3 x	•••

Note:

- *Do not enter a 10's digit for numbers 0 ~ 9. Only select a 1's digit (see step 6) then proceed to step 7.*
- *If you press the **PTT** switch more than 3 times, no value will be selected.*

5 Wait for 2 seconds to hear the beep pattern of the 10's digit number you selected.

6 Press the **PTT** switch to select the 1's digit of the frequency number.



- Each time you press the **PTT** switch, a beep sounds and the frequency number changes. There are 10 different numbers available for the 1's digit: 0 ~ 9.

Action	Value	Beep pattern
Press and hold **PTT** for 2 seconds	x 0	1 second tone
Press **PTT** 1 time	x 1	•
Press **PTT** 2 times	x 2	••
Press **PTT** 3 times	x 3	•••
Press **PTT** 4 times	x 4	••••
Press **PTT** 5 times	x 5	•••••
Press **PTT** 6 times	x 6	–•
Press **PTT** 7 times	x 7	–••
Press **PTT** 8 times	x 8	–•••
Press **PTT** 9 times	x 9	–••••

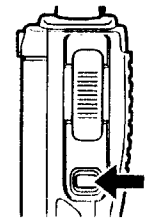
Note:

- *To select "0", press and hold the **PTT** switch until a 1 second tone sounds (approximately 2 seconds).*
- *Pressing the **PTT** switch more than 9 times will cause an error tone to sound, and no value will be selected. (If you have set the 10's digit to "3", pressing the **PTT** switch more than 9 times will set the number to "9".)*

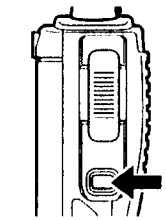
7 Wait for 2 seconds to hear the beep pattern of the 1's digit number you selected.

8 Press the **Monitor** key to complete the setting.

- The green LED blinks twice.



9 Press the **Monitor** key again to confirm the beep pattern of the selected signalling number.



10 Repeat steps 3 to 9 to set up another channel.

Example of setting up a channel with QT tone no. 15:

1 After entering QT/DQT tone setup mode, select channel 1.

2 Press the **PTT** switch 1 time to select 1 for the 10's digit.

3 Wait for 2 seconds.

- One (1) short beep will sound to confirm that 1 has been selected.

4 Press the **PTT** switch 5 times to select 5 for the 1's digit.

- A beep sounds each time you press the **PTT** switch.

5 Wait for 2 seconds.

- Five (5) short beeps will sound to confirm that 5 has been selected.

6 Press the **Monitor** key.

- The green LED blinks twice.

7 Press the **Monitor** key again.

- One (1) short beep will sound, there will be a short pause, then five (5) short beeps will sound to confirm that 15 has been selected.

CHANNEL SETTING CONFIRMATION

You can confirm the channels settings of your transceiver.

Note:

- *After confirming a setting, you must turn the power OFF and then ON again for the transceiver to operate normally.*
- *If you have selected "0" for the 10's digit, no tone will sound for the 10's digit during the confirmation beeps.*

■ Frequency Confirmation

1 Select the channel you want to confirm.

2 Press and hold the **PTT** switch, then turn the power ON.

- The beep pattern will sound. (i.e.- If frequency 3 is set up on the channel, three (3) short beeps will sound.)

3 Turn the power OFF after confirming the number.

■ QT/DQT Tone Confirmation

1 Select the channel you want to confirm.

2 Press and hold the **Monitor** key, then turn the power ON.

- The beep pattern will sound. (i.e.- If tone 15 is set up on the channel, one (1) short beep will sound, there will be a short pause, then five (5) short beeps will sound.)

3 Turn the power OFF after confirming the number.

■ Confirmation Beep Patterns

Number	Beep pattern	Number	Beep pattern
0	1 second tone	5	• • • • •
1	•	6	– •
2	• •	7	– • •
3	• • •	8	– • • •
4	• • • •	9	– • • • •

■ Channel Default Settings (for all markets other than Spain)

Channel number	Default frequency	Default QT/DQT
1	1 (446.00625 MHz)	10 (94.8 Hz)
2	8 (446.09375 MHz)	8 (88.5 Hz)
3	3 (446.03125 MHz)	13 (103.5 Hz)
4	6 (446.06875 MHz)	5 (79.7 Hz)
5	4 (446.04375 MHz)	17 (118.8 Hz)
6	2 (446.01875 MHz)	18 (123.0 Hz)
7	7 (446.08125 MHz)	19 (127.3 Hz)
8	5 (446.05625 MHz)	7 (85.4 Hz)
9	1 (446.00625 MHz)	14 (107.2 Hz)
10	8 (446.09375 MHz)	15 (110.9 Hz)
11	3 (446.03125 MHz)	16 (114.8 Hz)
12	6 (446.06875 MHz)	6 (82.5 Hz)
13	4 (446.04375 MHz)	27 (123N)
14	2 (446.01875 MHz)	28 (155N)
15	5 (446.05625 MHz)	29 (134N)

TRANSCEIVER FUNCTIONS

■ Time-out Timer (TOT)

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

If you continuously transmit for 1 minute (30 seconds for the Spanish market model), the transceiver will stop transmitting and a tone will sound. To stop the tone, release the **PTT** switch. You can press the **PTT** switch again to resume transmitting.

■ Battery Save

The Battery Save function decreases 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 10 seconds, Battery Save is enabled. When a signal is received or an operation is performed, Battery Save is disabled.

■ Low Battery Warning

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

While transmitting, if the battery power goes below a pre-determined value, the LED will blink red. When a tone sounds, the transceiver stops transmitting. Replace or recharge the battery pack.

CHARGING THE NiCd BATTERY PACK

Initially charging the battery pack after purchase or extended storage (greater than 2 months) will not bring the battery pack to its normal operating capacity. After repeating the charge/discharge cycle two or three times, the operating capacity will increase to normal.

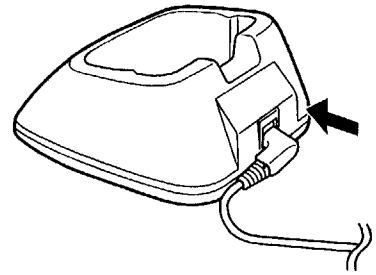
CAUTION

- *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. CHARGING THE BATTERY PACK FOR MORE THAN 5 DAYS MAY REDUCE THE BATTERY PACK LIFE DUE TO OVERCHARGING.*

Note:

- *The ambient temperature should be between 41 and 104°F (5 and 40°C) while charging is in progress. Charging outside this range may not fully charge the battery.*
- *Always switch OFF the transceiver equipped with a NiCd battery pack before charging. Using the transceiver while charging its battery pack will interfere with correct charging.*
- *The battery pack life is over when its operating time decreases even though it is fully and correctly charged. Replace the battery pack.*

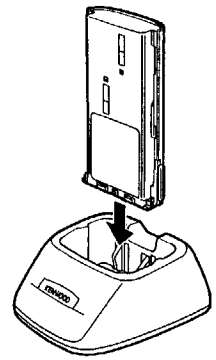
1 Plug the AC adaptor cable into the adaptor jack located on the rear of the charger.



2 Plug the AC adaptor into an AC outlet.

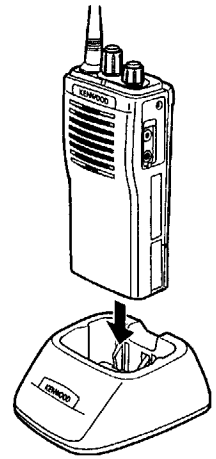
3 Slide the NiCd battery pack or the transceiver equipped with a NiCd battery pack into the charging slot.

- Make sure the metal contacts on the battery pack come in contact with the charging terminals.
- The charger LED lights and charging begins.



4 After charging the supplied KNB-14 battery pack for 8 hours, remove it or the transceiver from the charger.

- The charger does not turn OFF automatically after charging is completed.



5 Unplug the AC adaptor from the AC outlet.

Note: *It takes approximately 15 hours to fully charge the optional KNB-15A battery pack.*

TROUBLESHOOTING GUIDE

Problem	Solution
No power.	• The battery pack may be dead. Recharge or replace the battery pack. • The battery pack may not be installed correctly. Remove the battery pack and install it again.
Battery power dies shortly after charging.	• The battery pack life is finished. Replace the battery pack with a new one.
Cannot talk to or hear other members in your group.	• Make sure you are using the same frequency and QT/DQT tone as the other members in your group. • Other group members may be too far away. Make sure you are within range of the other transceivers.
Other voices (besides group members) are present on the channel.	• Change the QT/DQT tone. Be sure to change the tone on all transceivers in your group.