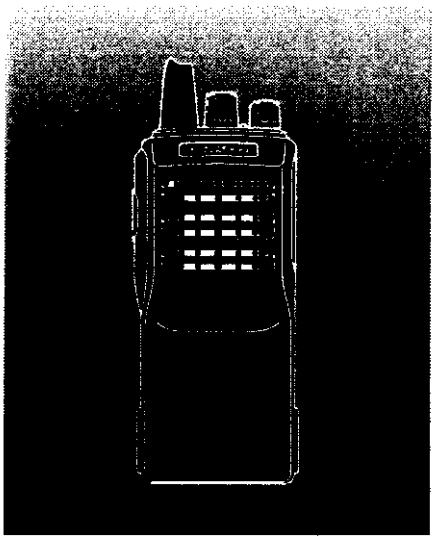
FCC ID: ALH27303110
2.983 (d)(8) MANUAL

KENWOOD

INSTRUCTION MANUAL



UHF TRANSCEIVER

TK-3101

KENWOOD CORPORATION
© B62-1075-00 (K)
09 08 07 06 05 04 03 02 01 00

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 comfortable communications.

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.

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):

Nickel-cadmium batteries must be recycled or disposed of properly. State laws vary regarding the handling and disposal of nickel-cadmium batteries.

*Please contact your authorized **KENWOOD** dealer for more information.*

CONTENTS

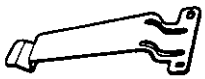
UNPACKING AND CHECKING EQUIPMENT

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 have been damaged during shipment, file a claim with the carrier immediately.

■ Supplied Accessories

Item	Part Number	Quantity
Antenna	T90-0694-X5	1
Battery charger	W08-0552-X5	1
AC adapter	W08-0551-X5	1
Battery pack	W09-0882-X5	1
Speaker/ microphone jack cap	B09-0351-X3	1
Speaker/ microphone locking bracket	J21-4493-X4	1
Belt hook	J29-0624-X3	1
Screw set	N99-0396-X5	1
Warranty card	–	1
License card	–	1
Instruction manual	B62-1075-XX	1



Belt hook

Speaker/ microphone jack cap

Screw set

Speaker/ microphone locking bracket

PREPARATION

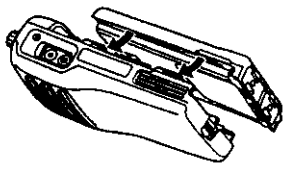
■ Installing the NiCd Battery Pack

Charge the pack before use {page 17}.

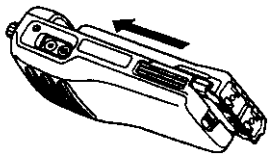
CAUTION:

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

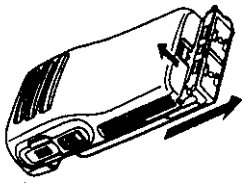
1 Match the four grooves of the battery pack with the corresponding guides on the back of the transceiver.



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.



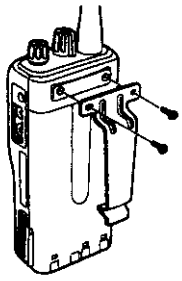
■ Installing the Antenna

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 Hook

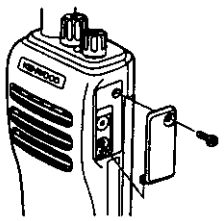
If necessary, attach the belt hook using the two supplied 3 x 8 mm screws.

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



■ Installing the Cap over the Speaker/ Microphone Jacks

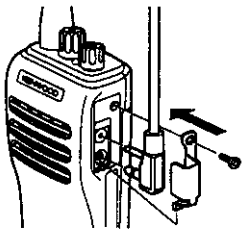
When you are not using a speaker/ microphone, install the cap over the speaker/ microphone jacks using the supplied 3 x 6 mm screw.



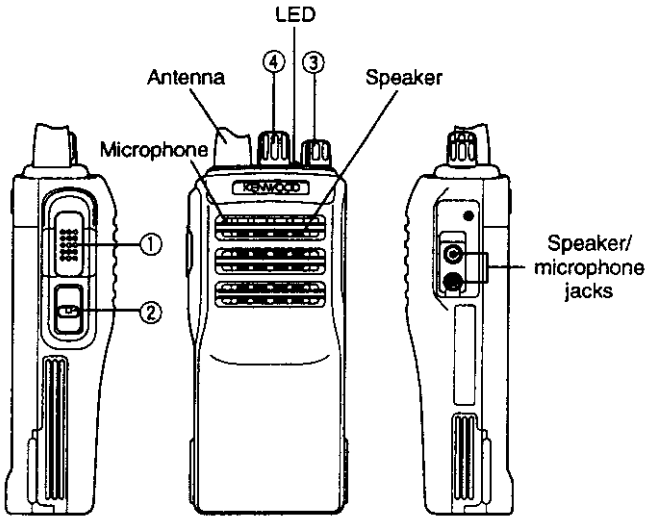
Note: *To keep the transceiver water resistant, you must cover the speaker/ microphone jacks with the cap or the speaker/ microphone connector.*

■ Installing the 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.



GETTING ACQUAINTED



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

② Monitor key
Press this key to activate its programmable function {page 10}.

③ Power switch/ Volume control
Turn clockwise to switch ON the transceiver. Turn counterclockwise, until a click sounds, to switch OFF the transceiver. Rotate to adjust the volume level.

④ Channel selector
Rotate to ~~switch between~~ select channels 1 ~ 15.

OPERATING BASICS

1 Switch ON the transceiver by turning the **Power** switch/ **Volume** control clockwise.
- A beep sounds.

2 Adjust the volume by rotating the **Power** switch/ **Volume** control.

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

4 To make a call, press and hold the **PTT** switch, then speak into the microphone using your normal speaking voice.
- Hold the microphone about 3 to 4 cm (1 1/2 inches) 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 8.*
- *When the battery pack voltage becomes too low, transmission will stop and the LED will blink red. Refer to "Low Battery Warning" on page 12.*

TRANSCEIVER FUNCTIONS

■ Quiet Talk (QT) and Digital Quiet Talk (DQT)

QT and DQT allow you to hear only signals on your channel which are coded to match your transceiver. When a received signal has a code different from the one set up on your transceiver, squelch will not open and you will not hear the signal. When a received signal has a code that matches your code, squelch will open and you will hear the signal.

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.

- QT tones are selected from one of 38 different standard signalling codes (see the table on page 9).
- DQT codes are 3-digit codes with each digit ranging from 0 ~ 7 (a code cannot include the numbers 8 and 9). Thus, there are a total of 512 codes ranging from 000 ~ 777.

Note: *You cannot use QT and DQT together on the same channel.*

01	67.0	11	97.4	21	136.5	31	192.8
02	71.9	12	100.0	22	141.3	32	203.5
03	74.4	13	103.5	23	146.2	33	210.7
04	77.0	14	107.2	24	151.4	34	218.1
05	79.7	15	110.9	25	156.7	35	225.7
06	82.5	16	114.8	26	162.2	36	233.6
07	85.4	17	118.8	27	167.9	37	241.8
08	88.5	18	123.0	28	173.8	38	250.3
09	91.5	19	127.3	29	179.9		
10	94.8	20	131.8	30	186.2		

Note: *Your dealer can change the codes in the above table to include codes for DQT, and also to select OFF. For future reference, please fill in the table on page 19 with the codes programmed by your dealer.*

■ Monitor

Your dealer can program this key 4 different ways:

OFF
No function is programmed.

Monitor Momentary
Press and hold the **Monitor** key to turn Monitor ON and disable signalling decoding. You will hear audio only when a signal is present. Release the **Monitor** key to turn Monitor OFF and enable signalling decoding.

Monitor Lock
Press the **Monitor** key to turn Monitor ON and disable signalling decoding. You will hear audio only when a signal is present. Press the **Monitor** key again to turn Monitor OFF and enable signalling decoding.

Squelch OFF
Press and hold the **Monitor** key to turn the squelch OFF. You will hear background noise. Release the **Monitor** key to turn the squelch back ON.

■ Time-out Timer (TOT)

The Time-out Timer prevents any single person from using a channel for an extended period of time.

When you continuously transmit for a pre-determined length of time, 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.

Note:

- *For transceiver protection, setting the TOT to OFF will automatically select the 10 minute TOT limit. This means you can transmit continuously for 10 minutes, then the transceiver will stop transmitting and a tone will sound.*
- *Your dealer can program the TOT time in 30 second intervals.*

■ Busy Channel Lockout (BCL)

Busy Channel Lockout prevents you from interrupting another group's conversation.

If you are not using QT or DQT and the channel is busy, pressing the **PTT** switch will cause a tone to sound. Also, if you are using QT or DQT but your signalling code doesn't match any received signals, pressing the **PTT** switch when the channel is busy will cause a tone to sound. In both cases, the transceiver does not transmit.

Use the **Monitor** key to determine whether or not the channel is busy.

Note: *Your dealer can turn this function ON or OFF.*

■ Battery Save

The Battery Save function decreases the amount of power used when a signal is not being recieved and no operations are being performed (no keys are being pressed, and no knobs are being turned).

While the channel is not busy and no key is being pressed for 10 seconds continuously, Battery Save is enabled. When a signal is received or an operation is performed, Battery Save is disabled.

Note: *Your dealer can turn this function ON or OFF.*

■ 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.

SELF PROGRAMMING MODE

You can program the signalling code of a channel and you can set up the transceiver for simplex (default) of semi-duplex operation without using any external equipment. The signalling codes must be pre-programmed into your transceiver's memory by your dealer.

Note: *Alternatively, you can use the optional KPT-60 programming unit to program your transceiver.*

To enter Self Programming Mode:

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.

2 Release the **PTT** switch and **Monitor** key.

Note: *Self Programming Mode will exit if you do not select signalling programming or simplex/ semi-duplex operation within 5 seconds.*

■ Signalling Programming

1 Enter Self Programming Mode {page 13}.

2 Press the **Monitor** key.
- The LED changes from orange to green and a tone sounds.

3 Use the **Channel** selector to select 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 tone sounds and the 10's digit of the signalling number changes. There are a total of 4 different numbers (0 ~ 4).
- If you don't press the **PTT** switch for 2 seconds, the beep pattern of the 10's digit number you selected will sound (see the beep pattern table on page 16).

5 After waiting for 2 seconds, press the **PTT** switch to select the 1's digit of the signalling number.
- Each time you press the **PTT** switch, a tone sounds and the 1's digit of the signalling number changes. There are a total of 10 different numbers (0 ~ 9).
- If you don't press the **PTT** switch for 2 seconds, the beep pattern of the full signalling number you selected will sound (see the beep pattern table on page 16).

6 Press the **Monitor** key to set the signalling number.
- The LED blinks twice and the beep pattern of the selected signalling number sounds (see the beep pattern table on page 16).

7 Repeat steps 3 to 6 to set up another channel.

Note:

- *Refer to the default signalling codes on page 9 or the programmed signalling codes on page 19.*
- *When you want to select "0", do not press the PTT switch for 2 seconds. The selection will be made automatically.*
- *To turn signalling OFF, select "00".*
- *When selecting a single digit number (0 ~ 9), always use 2 digits (00 ~ 09).*

■ Simplex/ Semi-duplex Operation

1 Enter Self Programming Mode {page 13}.

2 Press the **PTT** switch.
- The LED changes from orange to red and a tone sounds.

3 Press the **PTT** switch to select semi-duplex or simplex (default) mode.
- A tone sounds each time the mode is changed.

4 Press the **Monitor** key to set the mode of operation.
- The LED blinks twice and a tone sounds.

SETUP CONFIRMATION

You can confirm the signalling code settings that are programmed in your transceiver.

Note: *After confirming a setting, you must turn the power OFF and then ON again so the transceiver can operate normally.*

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.

3 Turn the power OFF after confirming the number.

■ Confirmation Beep Patterns

0	–	5	• • • • •
1	•	6	– •
2	• •	7	– • •
3	• • •	8	– • • •
4	• • • •	9	– • • • •

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.

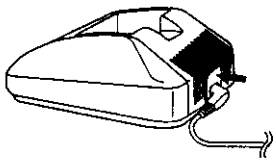
CAUTION:

- *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:

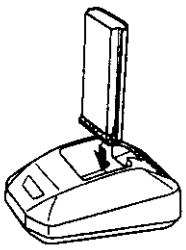
- *The ambient temperature should be between 5 and 40°C while charging is in progress. Charging outside this range may not fully charge the battery.*
- *Always switch OFF the transceiver equipped with a NiCd battery pack before charging. Using the transceiver while charging its battery pack will interfere 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 on the rear of the charger.

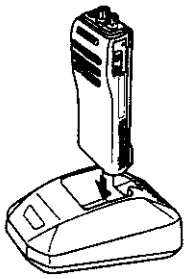


2 Plug the AC adaptor into an AC outlet.

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 LED lights and charging begins.



4 After charging the 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.

REFERENCE TABLES

Programmed Signalling Codes

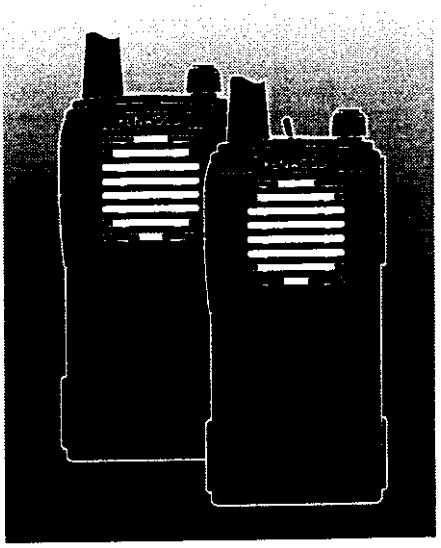
01		11		21		31	
02		12		22		32	
03		13		23		33	
04		14		24		34	
05		15		25		35	
06		16		26		36	
07		17		27		37	
08		18		28		38	
09		19		29			
10		20		30			

Channel Frequencies & Signalling Settings

1	462.5500	467.5500	462.5500	
2	462.5750	467.5750	462.5750	
3	462.6000	467.6000	462.6000	
4	462.6250	467.6250	462.6250	
5	462.6500	467.6500	462.6500	
6	462.6750	467.6750	462.6750	
7	462.7000	467.7000	462.7000	
8	462.7250	467.7250	462.7250	
9	462.5625	462.5625	462.5625	
10	462.5875	462.5875	462.5875	
11	462.6125	462.6125	462.6125	
12	462.6375	462.6375	462.6375	
13	462.6625	462.6625	462.6625	
14	462.6875	462.6875	462.6875	
15	462.7125	462.7125	462.7125	

KENWOOD

INSTRUCTION MANUAL



VHF FM TRANSCEIVER

TK-2100

UHF FM TRANSCEIVER

TK-3100

KENWOOD CORPORATION
© B62-0950-00 (K)
09 08 07 06 05 04 03 02 01 00

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 comfortable communications.

INTRODUCTION

KENWOOD welcomes you to the Business Radio Service (BRS). Your **KENWOOD** 2-way Business Radio is called a "transceiver", meaning "transmitter and receiver".

For your convenience, this transceiver is equipped with automatic squelch control which quiets your transceiver when you are not receiving any calls. For your privacy, this transceiver provides you with a feature called Quiet Talk. This feature allows you to use the same channel as others without having to listen to their conversations.

Your transceiver provides safety and convenience almost anywhere, indoors or out. The distance depends on your location; you'll get maximum distance of up to approximately 2 miles in open areas (less in buildings or vehicles).

Your **KENWOOD** transceiver is a precision device. Treat it with care, and you will enjoy years of reliable operation.

FCC License Information

Your **KENWOOD** radio operates on communications frequencies which are subject to FCC Rules & Regulations. FCC Rules require that all operators using Private Land Mobile radio frequencies obtain a radio license before operating their equipment. Application for license must be made on FCC form 600, and schedules D, E, and F.

FAX: Forms can be obtained by fax from the FCC Fax on demand system. Call 1-202-418-0177 from your fax machine, and request document number 000600 for the form, schedules, and instructions.

MAIL: Forms can be ordered by telephone, and will be sent to you by first class mail. Call the FCC Forms Hotline at 1-800-418-3676.

INTERNET: Form 600 and instructions can be downloaded from the FCC Forms website at: http://www.fcc.gov/formpage.html

Before filling out your Form 600 application Technical Data section, you must decide on which frequency (or frequencies) you will operate. See the frequency charts on pages 11 and 12.

QUESTIONS? Call the FCC for license application questions at 1-888-CALL-FCC (1-888-225-5322).

MODELS COVERED BY THIS MANUAL

TK-2100: VHF FM Transceiver
TK-3100: UHF FM Transceiver

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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 in explosive atmospheres (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, and wet areas, nor on unstable surfaces.

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- *Consult the dealer for technical assistance.*

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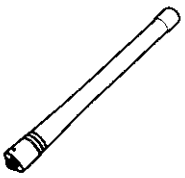
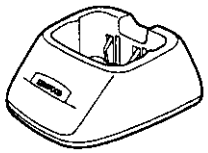
AC adapter		W08-0551-X5	1
Battery pack		W09-0882-X5	1
Speaker/ microphone jack cap		B09-0351-X3	1
Speaker/ microphone locking bracket		J21-4493-X4	1
Belt hook		J29-0624-03	1
Screw set		N99-0396-X5	1
Warranty card		–	1
License card		B59-1602-XX	1
Instruction manual		B62-0950-XX	1

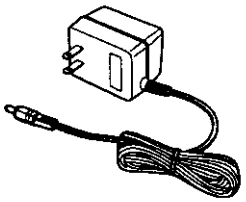


Antenna
(TK-2100)

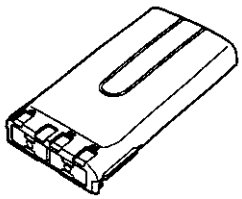
Antenna
(TK-3100)



Battery charger



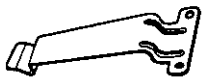
AC adapter



Battery pack

Speaker/ microphone
jack cap

Speaker/ microphone
locking bracket



Belt hook

Screw set

PREPARATION

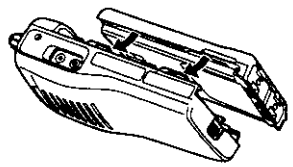
■ Installing the NiCd Battery Pack

The battery pack is not charged at the factory; charge it before use {page 15}.

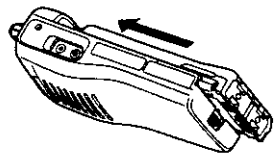
CAUTION:

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

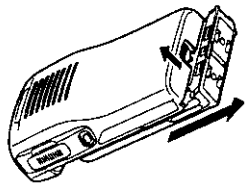
1 Match the four grooves of the battery pack with the corresponding guides on the back of the transceiver.



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

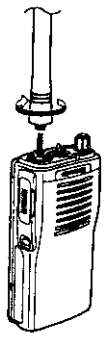


3 To remove the battery pack, pull back on the release latch and slide the pack away from the transceiver.



■ Installing the 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.

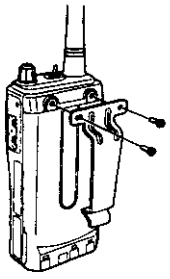


■ Installing the Belt Hook

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

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

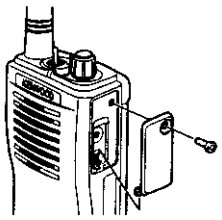
CAUTION: *DO NOT USE GLUE WHICH IS EXCLUSIVELY DESIGNED TO PREVENT SCREW LOOSENING WHEN INSTALLING THE BELT HOOK, AS IT MAY CAUSE DAMAGE TO THE TRANSCEIVER. (ACRYLIC ESTER, WHICH IS CONTAINED IN THESE GLUES, MAY CRACK THE TRANSCEIVER'S BACK PANEL.)*



■ Installing the Cap over the Speaker/ Microphone Jacks

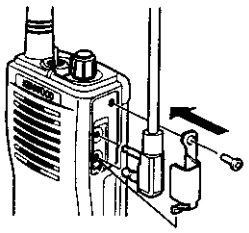
When you are not using a speaker/ microphone, install the cap over the speaker/ microphone jacks using the supplied 3 x 6 mm screw.

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



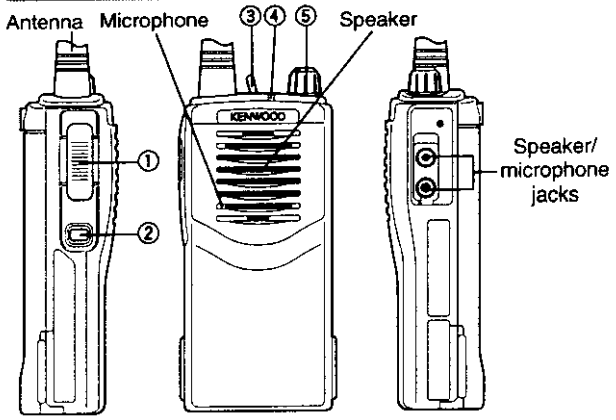
■ Installing the Speaker/ Microphone

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 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 this key to turn the squelch OFF. You will hear background noise. Release the key to turn the squelch back ON.

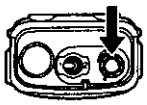
③ Channel switch (2 channel model only)
Toggle this switch to select channel 1 or channel 2.

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.

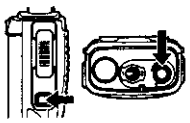
⑤ Power switch/ Volume control
Turn clockwise to switch ON the transceiver. Turn counterclockwise until a click sounds, to switch OFF the transceiver. Rotate to adjust the volume level.

OPERATING BASICS

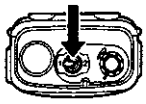
1 Switch ON the transceiver by turning the **Power** switch/ **Volume** control clockwise.
- A beep sounds.



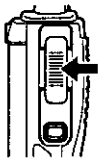
2 Adjust the volume by pressing and holding the **Monitor** key, then rotating the **Power** switch/ **Volume** control.



3 Use the **Channel** switch (2 channel model) to select your desired channel.
- When you receive an appropriate signal, you will hear audio from the speaker.



4 To make a call, press and hold the **PTT** switch, then speak into the microphone using your normal speaking voice.
- Hold the microphone about 3 to 4 cm (1 1/2 inches) 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)" on page 8.*
- *When the battery pack voltage becomes too low, transmission will stop and the LED will blink red. Refer to "Low Battery Warning" on page 13.*

QUIET TALK (QT)

QT allows you to hear only signals on your channel which are coded to match your transceiver. When a received signal has a code different from the one set up on your transceiver, squelch will not open and you will not hear the signal. When a received signal has a code that matches your code, squelch will open and you will hear the signal.

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

- QT tones are selected from 38 standard signalling codes (see the table below).
- Selecting "00" will turn signalling OFF.

No.	Freq. (Hz)	No.	Freq. (Hz)	No.	Freq. (Hz)	No.	Freq. (Hz)
01	67.0	11	97.4	21	136.5	31	192.8
02	71.9	12	100.0	22	141.3	32	203.5
03	74.4	13	103.5	23	146.2	33	210.7
04	77.0	14	107.2	24	151.4	34	218.1
05	79.7	15	110.9	25	156.7	35	225.7
06	82.5	16	114.8	26	162.2	36	233.6
07	85.4	17	118.8	27	167.9	37	241.8
08	88.5	18	123.0	28	173.8	38	250.3
09	91.5	19	127.3	29	179.9		
10	94.8	20	131.8	30	186.2		

■ QT Tone Setup

Note:

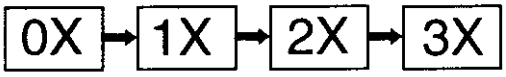
- *Refer to the signalling codes listed in the table on page 8.*
- *When selecting a single digit number (0 ~ 9), always use 2 digits (00 ~ 09).*
- *When you are confirming the selected signalling number, there is a short pause between the 10's digit and the 1's digit.*
- *Setup mode will exit if no 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.

2 Press the **Monitor** key.
- The LED changes from orange to green and a tone sounds.

3 Use the **Channel** switch (2 channel model only) to select 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 tone sounds and the 10's digit of the signalling number changes. There are a total of 4 different numbers (0 ~ 3).

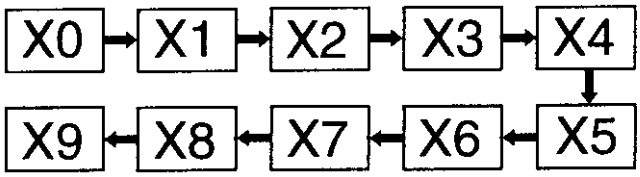


Note:

- *To select "0", press and hold the **PTT** switch until a tone sounds (approximately 2 seconds).*
- *Pressing the **PTT** switch more than 3 times will cause an error tone to sound, and no value will be selected.*

- Do not press the **PTT** switch for 2 seconds to hear the beep pattern of the 10's digit number you selected (see the beep pattern table on page 14).

5 After waiting for 2 seconds, press the **PTT** switch to select the 1's digit of the signalling number.
- Each time you press the **PTT** switch, a tone sounds and the 1's digit of the signalling number changes. There are a total of 10 different numbers (0 ~ 9).



Note:

- *To select "0", press and hold the **PTT** switch until a 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 set the 10's digit to "3", an error will occur after pressing the **PTT** switch 8 times.)*

- Do not press the **PTT** switch for 2 seconds to hear the beep pattern of the 1's signalling number you selected (see the beep pattern table on page 14).

6 Press the **Monitor** key to complete the setting.
- The LED blinks twice.

7 Press the **Monitor** key again to confirm the beep pattern of the selected signalling number (see the beep pattern table on page 14).

8 On the 2 channel model, repeat steps 3 to 7 to set up the other channel.

CHANNEL FREQUENCY SELECTION

You can change the frequency on each channel.

Note: *Setup mode will exit 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.

2 Press the **PTT** switch.
- The LED changes from orange to red and a tone sounds.

3 Use the **Channel** switch (2 channel mode only) to select the channel you want to set up.

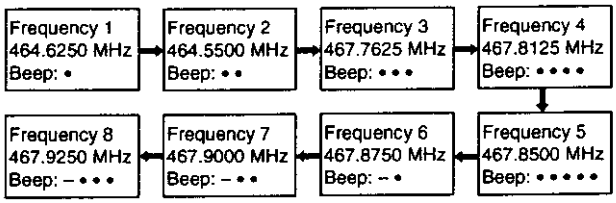
4 Press the **PTT** switch to change the frequency number.
- Each time you press the **PTT** switch, a tone sounds and the frequency number changes. There are a total of 4 different frequencies (1 ~ 4) for the TK-2100 and 8 different frequencies (1 ~ 8) for the TK-3100.

TK-2100:

Frequency 1	→	Frequency 2	→	Frequency 3	→	Frequency 4
151.6250 MHz		151.9550 MHz		154.5700 MHz		154.6000 MHz
Beep: •		Beep: • •		Beep: • • •		Beep: • • • •

Note: *Pressing the PTT switch more than 4 times will cause an error tone to sound, and no value will be selected.*

TK-3100:



Note: *Pressing the **PTT** switch more than 8 times will cause an error tone to sound, and no value will be selected.*

- Do not press the **PTT** switch for 2 seconds to hear the beep pattern of the selected frequency number.

5 Press the **Monitor** key complete the setting.
- The LED blinks twice.

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

7 On the 2 channel model, repeat steps 3 to 6 to set up the other channel.

Default Channel Settings

Channel	TK-2100	TK-3100
1	151.6250 MHz/ QT OFF	464.5000 MHz/ QT OFF
2	154.6000 MHz/ QT OFF	464.5500 MHz/ QT OFF

Programmed Channel Settings

Channel number	Frequency setting	Signalling setting
1		
2		

TRANSCEIVER FUNCTIONS

■ Time-out Timer (TOT)

The Time-out Timer prevents any single person from using a channel for an extended period of time.

When you continuously transmit for 3 minutes, 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 recieved and no operations are being performed (no keys are being pressed, and no knobs are being turned).

While the channel is not busy and no key is being pressed for 10 seconds continuously, 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.

CHANNEL SETTING CONFIRMATION

You can confirm the settings that are programmed in your transceiver.

Note: *After confirming a setting, you must turn the power OFF and then ON again so the transceiver can operate normally.*

■ 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.

3 Turn the power OFF after confirming the number.

■ QT 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.

3 Turn the power OFF after confirming the number.

Note: *There is a short pause between the confirmation of the 10's digit and the confirmation of the 1's digit.*

■ Confirmation Beep Patterns

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

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.

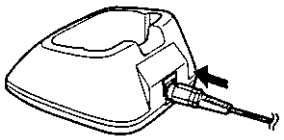
CAUTION:

- *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:

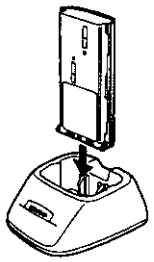
- *The ambient temperature should be between 5 and 40°C while charging is in progress. Charging outside this range may not fully charge the battery.*
- *Always switch OFF the transceiver equipped with a NiCd battery pack before charging. Using the transceiver while charging its battery pack will interfere 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 on the rear of the charger.

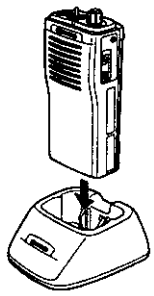


2 Plug the AC adaptor into an AC outlet.

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 LED lights and charging begins.



4 After charging the 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.*

OPTIONAL ACCESSORIES

You can use the following accessories with your transceiver:

- KNB-14: Standard Battery (7.2 V/ 600 mAh)
- KNB-15A: Long Life Battery (7.2 V/ 1100 mAh)
- KSC-15: Regular Battery Charger
- KSC-16: Rapid Battery Charger
- KHS-1: Head Set
- KWR-1: Water Resistant Bag
- KMC-17: Speaker/ Microphone
- KMC-21: Speaker/ Microphone
- KBH-7: Belt Hook
- KBP-1: Battery Case