THANK YOU!

We are grateful you decided to purchase this **KENWOOD** FM transceiver. This series of handhelds were developed to satisfy the requirement for a compact rig that's simple to operate yet contains numerous sophisticated features.

PRECAUTIONS

Please observe the following precautions to prevent fire, personal injury, and transceiver damage:

- Do not modify this transceiver unless instructed by this manual or by **KENWOOD** documentation.

- Do not expose the transceiver to long periods of direct sunlight nor place the transceiver close to heating appliances.

- Do not place the transceiver in excessively dusty areas, humid areas, wet areas, nor on unstable surfaces.

- If an abnormal odor or smoke is detected coming from the transceiver, turn OFF the power immediately and remove the batteries from the transceiver. Contact a **KENWOOD** service station or your dealer.

CONTENTS

i

OPTIONAL ACCESSORIES

The following optional accessories can be used with the transceiver. Contact a **KENWOOD** service station or your dealer.
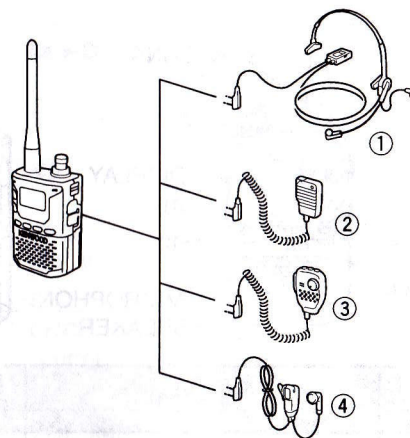
① HMC-3
Headset

② SMC-32
Speaker/ Microphone

③ SMC-34
Remote Control
Speaker/ Microphone

④ EMC-3
Clip Microphone
with Earphone

GETTING ACQUAINTED

LAYOUT

The following table lists the transceiver keys and controls, and gives a brief explanation of what they do. For more information see the appropriate reference page.

ANTENNA
DISPLAY
MICROPHONE
SPEAKER
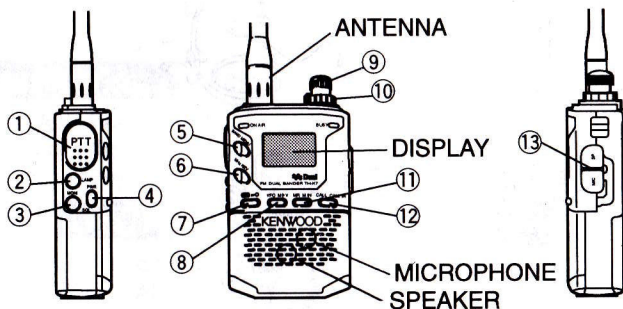
Num	Key	Function	Ref. Page
①	PTT switch	Press and hold to transmit; release to receive.	8
②	LAMP	Press to activate the lamp. Hold for more than one second to latch the lamp on/off.	—
③	MONI SQL	While pressed unmutes the speaker. In Function mode, press to set the Squelch level.	10
④	PWR	Press to turn the power on/ off.	6
⑤	BAND MENU	Press to select operating band. In Function mode, press to enter Menu mode.	7, 16

Num	Key	Function	Ref. Page
⑥	MHz REV	Press to use MHz step. In Function mode, press to activate the Reverse function.	5, 9
⑦	F ⊶	Press to enter Function mode and change key functions to their corresponding blue names. Hold for more than one second to lock/unlock keys.	15, 38
⑧	VFO M ▶ V	Press to enter VFO mode. In Function mode, press to copy memory data to VFO.	12
⑨	ENC. control	Turn to select operating channel, Menu number/ selection, or Squelch level.	7
⑩	VOLUME control	Turn to increase or decrease volume.	6
⑪	MR M.IN	Press to enter MR mode. In Function mode, press to enter displayed data into a selected memory position.	13, 21
⑫	CALL CALL IN	Press to enter CALL mode. In Function mode, press to enter displayed data into Call channel.	12
⑬	MIC/SP jacks	Connect an external speaker/ microphone	40, 41

The following table lists the display icons and a brief explanation of each indicator. For more information see the appropriate reference page.

LIGHTS WHILE TRANSMITTING   LIGHTS WHILE RECEIVING

ON AIR   BUSY

CT ⊡ + −   R

S APO ⌗⊙ ▮▮▮▮▮▮/▰▰▰ ★▼ 188

≋ **Dual**
FM DUAL BANDER TH-K7
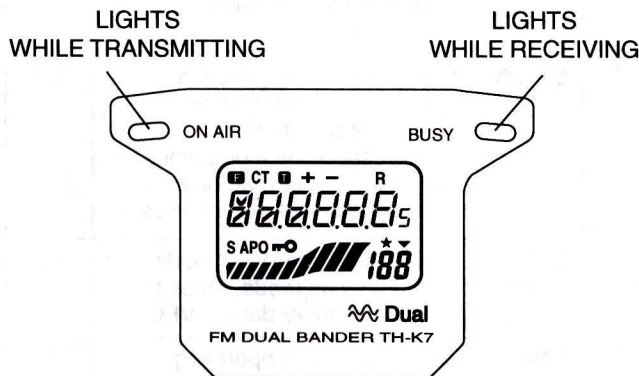
Displays the current operating frequency. In Menu mode, displays the current menu function. After pressing **F** then **SQL**, displays the current Squelch level.

Displays the current memory channel when in MR or CH mode. In Menu mode, displays the current Menu number.

Displays the current battery level while transmitting, or works as an S-meter while receiving.

Item	Function	Ref. Page
F	Appears when in Function mode.	15
CT	Appears when CTCSS is active.	26
T	Appears when Tone is active.	17
+ −	Appears when using different TX and RX frequencies (split channel). Also either "+" or "−" appears when offset is active; "+" for positive offset, "−" for negative offset.	20
R	Appears when Reverse is active. Reverse swaps the receive and transmit frequencies.	3
★	In MR mode, appears when the current memory channel is locked out.	36
▼	In Function mode, appears when the current memory channel contains data.	–
⌗⊙	Appears when Key Lock is active.	38
APO	Appears when Auto Power Off (APO) is active.	17
S	Appears when Battery Save is active.	39

OPERATING BASICS

POWER ON/OFF

Turn the power on/off by pressing **PWR** for more than one second. If the Beep function is active {page 19} when the power is turned on, a double high beep will sound and when the power is turned off a double low beep will sound.
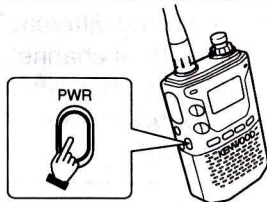
Note: Most of the transceiver settings are stored and thus will remain when the power is turned off or the batteries are removed.

VOLUME CONTROL

Turn the **VOLUME** control clockwise to increase the volume; counterclockwise to decrease the volume. To adjust the volume while hearing the speaker, press and hold **MONI**, then turn the **VOLUME** control.

Note: When the Beep function is on {page 19}, the beep volume depends on the position of the **VOLUME** control.

CHANGING BANDS

This transceiver has the following bands:

Band	Default	RX/TX
VHF (144 MHz)	144.000 MHz	Receive/Transmit
UHF (430 MHz)	430.000 MHz	Receive/Transmit

To switch between the bands, press **BAND** while in VFO mode.
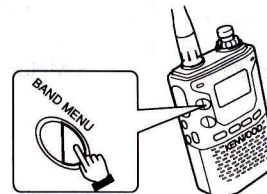
Note: While scanning, excluding Priority scan, pressing **BAND** will stop scanning. If in VFO mode, press **BAND** again to change bands.

CHANNEL SELECT

In VFO mode, turn the **ENC.** control clockwise to increase the frequency; counterclockwise to decrease the frequency.
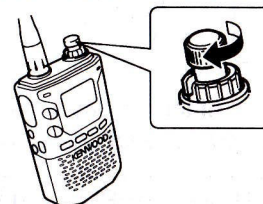
Note: The **ENC.** control is locked while the Key Lock function is active and Menu 13 (ENC. Enable) is set to OFF. Set Menu 13 to On, to enable the **ENC.** control while Key Lock is active {page 19}.

RECEIVING

The transceiver will receive on the currently displayed frequency. While signals are present, the BUSY indicator lights green and the bars on the bottom of the display work as an S-meter showing the relative strength of the received signal. The more bars lit the stronger the received signal.

S-Meter

TRANSMITTING

To transmit, press and hold **PTT** and talk into the microphone. Release **PTT** to stop transmitting and return to receive mode. While transmitting, the ON AIR indicator lights red.
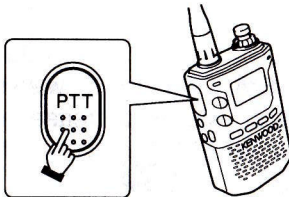
The bars on the bottom of the display work as a battery meter showing the relative strength of the batteries.

NORMAL (Lights or Blinks)	REPLACE (Lights or Blinks)
◢◢◢◢◢◢	◢

Note:

◆ *While transmitting, only **LAMP** is unlocked.*
◆ *Transmission is disabled while TX Lock is active {page 19}.*
◆ *TOT will automatically stop transmissions of longer than 10 minutes.*
◆ *After pressing **PTT**, if beeps sound and transmission is prohibited, change the operating frequency to within the transmission range.*

MHz STEP

To change the VFO frequency in increments of 1 MHz, press **MHz** while in VFO mode. The 1 MHz digit blinks. To stop the 1 MHz step, press any key other than **LAMP** or **MONI**.

MHz Digit
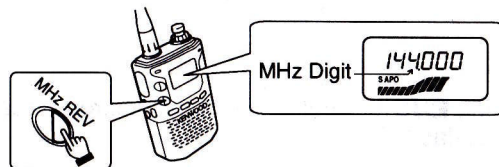
Note:

◆ *If you are in MR or CALL mode when you press **MHz**, no change occurs.*
◆ *The transceiver will automatically stop the MHz step if any key other than **LAMP** or **MONI** is pressed or the **ENC.** control is not turned within a 10 second period.*

BATTERY LIFE

Approximate battery life: 34 hours

Note: The battery life was measured with the following repeated cycle: 6 second TX, 6 second RX, and 48 second standby.

8

9

SETTING SQUELCH LEVEL

The Squelch function is useful for blocking out unwanted noise. It unmutes the speaker every time a signal greater than the set level is received. Squelch can be set to one of five levels (0 to 5). With 0 being the lowest setting (OFF) and 5 the highest setting (MAX.).

To set the desired Squelch level:

1 Press **F**, then **SQL**.

```
┌─────────────────────┐
│                     │
│   5 9 L.    2       │
│   S APO             │
│                     │
└─────────────────────┘
```
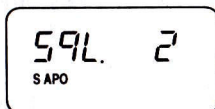
2 Turn the **ENC.** control to select the desired Squelch level (default: 2).

3 To exit, press any key other than **LAMP** or **MONI**.

Note: The Squelch level setting applies to all bands.

PROGRAMMABLE VFO

The programmable VFO (PVFO) function enables you to change the VFO frequency range. You can set a different frequency range for the VHF band, and the UHF band.

To set a frequency range:

1 In VFO mode, press **BAND** to select the desired band.

2 Press **F**, then **MENU** to enter Menu mode.

3 Turn the **ENC.** control to select Menu 16.

4 Press **BAND**.
   - The first three digits of the currently set PVFO lower frequency limit blink.

5 Turn the **ENC.** control to select the desired lower frequency limit.

6 Press **BAND**.
   - The first three digits of the currently set PVFO upper frequency limit blink.

7 Turn the **ENC.** control to select the desired upper frequency limit.

8 Press **BAND**.

To exit Menu mode, press any key other than **MONI**, **LAMP**, or **BAND**.

Note:
- *After exiting Menu mode, you must turn the **ENC.** control for the set PVFO range to take effect.*
- *After setting a frequency range, exiting Menu mode, and turning the **ENC.** control, only those frequencies within the set range are selectable.*
- *PVFO cannot be set when in CALL or MR mode.*
- *The upper frequency cannot be set lower than the set lower frequency. Likewise, the lower frequency cannot be set higher than the set upper frequency.*

OPERATING MODES

RX/TX MODES

The four available RX/TX modes are VFO mode, CALL mode, MR mode, and CH mode. Each mode allows you to transmit and receive; however, each mode has different band access capabilities. Only one mode at a time is accessible.

■ VFO Mode

Press **VFO** to enter VFO mode. In VFO mode, the user can press **BAND** to select the desired band and turn the **ENC.** control to change the frequency. In this mode, the entire frequency range of the transceiver is available for tuning or scanning.
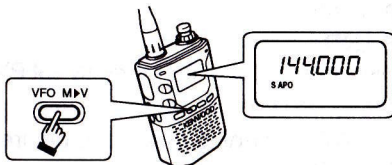
Note:
◆ *Pressing VFO while in VFO mode, has no effect.*
◆ *Turning the ENC. control past the frequency limit causes the frequency to wrap around.*

■ CALL Mode

Press **CALL** to enter CALL mode. Press **CALL** again to exit CALL mode. In CALL mode, the Call channel is available for receiving and transmitting.

A separate Call channel can be stored for the VHF and UHF bands (default: VHF/ 144.000 MHz, UHF/ 430.000 MHz). While in this mode, "C" will appear in the lower right-hand corner of the display.
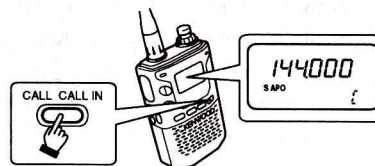
Note: While in CALL mode, press BAND to toggle between the VHF and UHF Call channel.

■ MR Mode

Press **MR** to enter MR mode. In MR mode, the user can turn the **ENC.** control to change the memory channel. In this mode, only memory channels containing data are available for tuning or scanning. While in this mode, the memory channel number appears in the lower right-hand corner of the display.
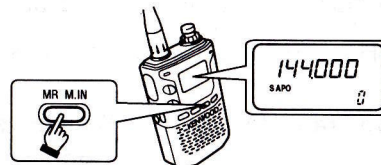
Note: If all memory channels are empty the transceiver will not enter MR mode.

■ CH Mode

In this mode, the transceiver displays only memory channel numbers instead of frequencies. Memory scan is still possible by pressing and holding **MR**. If all memory channels are empty, the transceiver will not enter CH mode. While in this mode, "CH" appears in the middle of the display, and the memory channel number in the lower right-hand corner of the display.

To enter CH mode:

1 Turn the power off.

2 While holding **BAND**, turn the power on.

To exit CH mode, repeat steps 1 and 2 above.

While in CH mode the following operations can be performed:

Receive/Transmit	**Squelch set**
Lamp	**Lamp latch**
Key Lock	**Monitor**
MR scan	**Band select**

Note: *While in CH mode:*
* *The set Menu settings are still active.*
* *Memory Channel Clear, VFO reset, and Full reset are disabled.*

SETTING MODES

The two available Setting modes are Function mode and Menu mode.

■ Function Mode

Press **F** to enter Function mode. In Function mode, the key functions change to their corresponding blue names, "F" appears, and the memory channel blinks.
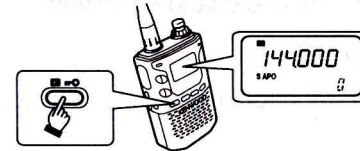
* In Function mode, if no operation is performed within a 10 second period the transceiver will automatically restore the previous mode.

■ Menu Mode

Press **F**, then **MENU** to enter Menu mode. Press any key other than **LAMP**, **MONI**, or **BAND** to exit Menu mode.
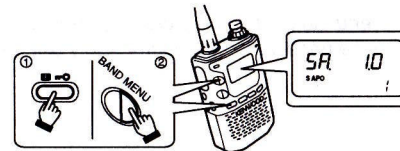
* While in Menu mode, if no operation is performed within a 10 second period the transceiver will automatically restore the previous mode.

MENU

The menu controls most user available settings. The table starting on the next page shows available functions. Shaded functions apply to all modes; unshaded functions apply to the currently selected VFO band, Call channel, or memory channel only.

To enter Menu mode and change a setting:

1 Press **F**, then **MENU**.

2 Turn the **ENC.** control to select the desired menu number.

3 Press **BAND** to select the desired setting.

• For menu numbers 1, 2, 3, 5, 6, and 12, after pressing **BAND**, the menu setting blinks. Turn the **ENC.** control to select the desired setting then press **BAND**. For menu number 16, see page 11.

4 Press any key other than **LAMP**, **MONI**, or **BAND** to exit Menu mode.

Note: *While in Menu mode, if no operation is performed within a 10 second period the transceiver will automatically exit Menu mode.*

Menu Num.	Function	Description
1	Battery Save	Toggles RX power on/off {page 39} Range: OFF, 0.2, 0.4, 0.6, 0.8, 1.0 (default), 2.0, 3.0, 4.0, 5.0 seconds
2	Auto Power Off (APO)	Turns power off after 30 or 60 minutes, if no operation is performed. Range: OFF, 30 (default), 60 minutes
3	Step Frequency	Step tuning frequency Range: 5, 10, 15, 20, 12.5, 25, 50, 100 kHz Default: VHF: 12.5 kHz UHF: 25 kHz
4	Tone/ CTCSS	Turns on/off the Tone or CTCSS function {page 26} Range: OFF[1] (default), T, CT
5	Tone Frequency	Frequency used by Tone function Range: 67.0 to 250.3 Hz (38 different settings) Default: 88.5 Hz

[1] Not displayed

Menu Num.	Function	Description
6	CTCSS Frequency	Frequency used by CTCSS function {page 26} Range: 67.0 to 250.3 Hz (38 different settings) Default: 88.5 Hz
7	Memory Recall Method	Selects method of recalling memory channels when in MR mode {page 23}. Range: bAnd (default), ALL
8	Memory Channel Lockout	Locks out memory channel when using Memory scan {page 36}. Range: OFF[1] (default), ✳
9	Scan Resume Method	Selects the type of resume method scan will use after stopping for a busy signal {page 31}. Range: tO (default), CO, SO
10	Priority Scan	Turns Priority scan on/off {page 36} Range: OFF (default), On
11	Offset Direction	Direction the transmit frequency is offset from the receive frequency. Range: OFF[1] (default), +, −

[1] Not displayed

Menu Num.	Function	Description
12	Offset Frequency	Frequency used by Offset function (Menu 11) Range: 0.00 to 9.95 MHz, in steps of 50 kHz Default: VHF: 0.60 MHz UHF: 5.00 MHz
13	ENC. Enable	Enables the **ENC.** control when Key Lock is active. Range: OFF (default), On
14	TX Lock	When set to "On" and while the **PTT** switch is pressed, "t StOP" appears and transmission is prohibited. Range: OFF (default), On
15	Beep	Turns on/off the beeps which are output when various actions are done. Range: OFF, On (default)
16	Programmable VFO	Sets the VFO frequency tuning range {page 11} Range: All tunable frequencies are available

MEMORY

This transceiver provides the following memory:
120 basic channels (0 to 119), 10 user programmable scan limits for Program scan (L0 to L9, U0 to U9) and a programmable Priority channel (Pr).

Each memory channel can store the same (simplex) or different (split) receive and transmit frequencies. Depending on whether simplex or split frequencies are stored, each memory channel can store the following information:

Simplex Channel	Split Channel
RX/TX Frequency	RX Frequency
RX/TX Step Frequency	TX Frequency
Tone Frequency	RX Step Frequency
Tone On/OFF	TX Step Frequency
CTCSS Frequency	Tone Frequency
CTCSS On/OFF	Tone On/OFF
Shift Status	CTCSS Frequency
Reverse On/OFF	CTCSS On/OFF
Lock Out Status [1]	Lock Out Status [1]

[1] Only memory channels 0 to 119 can store this parameter.

STORING

■ Simplex Channel

To store the same RX and TX frequency:
1 Select the desired frequency and settings.
2 Press **F**.
   • The memory channel will blink.
3 Turn the **ENC.** control until the desired memory storage channel appears.
4 Press **M.IN**.

Note: *When storing in a channel that already contains data, all previously stored data in that channel will be erased.*

■ Split Channel

To store different RX and TX frequencies you must first store the RX frequency (see Simplex Channel). To store the TX frequency:
1 In VFO mode, select the desired transmit frequency.
2 Press **F**.
   • The memory channel will blink.
3 Turn the **ENC.** control until the desired memory storage channel appears.
4 While pressing **PTT**, press **M.IN**.

Note:

♦ *When saving split, Reverse and Shift status are set to OFF. All other settings remain the same.*

♦ *The transmit frequency can only be copied to memory channels that already contain a receive frequency.*

RECALLING

To recall stored data:

1 Press **MR** to enter MR mode.
- The current memory channel is displayed in the lower right-hand corner.

$$144.000$$

S APO

$$0$$

- When recalling a split memory channel "+ –" will also appear.

$$^{+\ -}144.000$$

S APO

$$0$$

2 Turn the **ENC.** control to select the desired memory channel.
- Only those memory channels with data will appear.

Note: *The transceiver will not enter MR mode if:*
- *All memory channels are empty.*
- *"bAnd" is selected for Menu 7, and no channel has a stored receive frequency in the same band as the currently selected VFO band.*

■ Band/All

You can recall all memory channels with stored frequencies or only those memory channels with stored receive frequencies in the currently selected VFO band when entering MR mode.

To select between the two:

1 Press **F**, then **MENU** to enter Menu mode.
2 Turn the **ENC.** control to select Menu 7.
3 Press **BAND** to toggle between "bAnd" (default) and "ALL".
- Select "bAnd" to limit the selectable memory channels to those with receive frequencies within the currently selected band.
- Select "ALL" to recall all memory channels with stored frequencies regardless of which band the stored frequency is in.

To exit Menu mode, press any key other than **LAMP**, **MONI**, or **BAND**.

Note: *While in MR mode and Menu 7 set to "bAnd", press **BAND** to toggle between VHF and UHF bands. If all stored receive frequencies are within the currently selected VFO band, **BAND** is disabled.*

CLEARING

You can clear a single memory channel (Memory Channel Clear), reset all VFO and menu settings (VFO reset), or reset all transceiver settings (Full reset).

Note: *Memory Channel Clear, VFO reset, and Full reset are disabled while the Key Lock function is active {page 38}.*

■ Memory Channel Clear

To erase a single memory channel:

1 Press **MR** to enter MR mode.
2 Turn the **ENC.** control to select the desired channel.
3 Turn the power off.
4 While pressing **MR**, turn the power on.

- The following message appears and the memory channel number selected in step 2 blinks.

```
 CLr  ?
S APO
           0
```
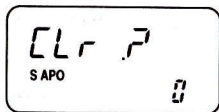
5 Press **MR**.

- To abort the operation, press any key other than **MR**, turn the **ENC.** control, or wait 10 seconds.

Note: *In VFO or CALL mode, Memory Channel Clear is disabled.*

■ VFO Reset

If the transceiver is not operating properly, you might try doing a VFO reset. To reset VFO and menu settings to factory defaults:

1 Turn the power off.
2 While pressing **VFO**, turn the power on.

- The following message appears.

```
 Vr St  ?
S APO
```
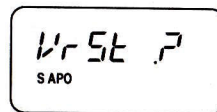
3 Press **VFO**.

- To abort the operation, press any key other than **VFO**, turn the **ENC.** control, or wait 10 seconds.

Note: *All settings stored in memory will remain intact after VFO reset.*

■ Full Reset

Full reset changes all settings to factory defaults.
To do a Full reset:

1 Turn the power off.
2 While pressing **F**, turn the power on.
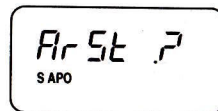
- The following message appears.

```
 Ar St  ?
S APO
```

3 Press **F**.

- To abort the operation, press any key other than **F**, turn the **ENC.** control, or wait 10 seconds.

CTCSS

The Continuous Tone Coded Squelch System (CTCSS) controls the transceiver squelch. When the CTCSS frequency of an incoming signal matches the CTCSS frequency set on your transceiver, squelch opens.

Note: While scanning, if CTCSS is active the transceiver will stop on a busy channel, and check for the correct CTCSS frequency. If the signal contains the correct CTCSS frequency, squelch will open; otherwise, scanning will continue.

The 38 standard CTCSS frequencies in this transceiver are listed in the table below.

Frequency (Hz)				
67.0	91.5	118.8	156.7	210.7
71.9	94.8	123.0	162.2	218.1
74.4	97.4	127.3	167.9	225.7
77.0	100.0	131.8	173.8	233.6
79.7	103.5	136.5	179.9	241.8
82.5	107.2	141.3	186.2	250.3
85.4	110.9	146.2	192.8	
88.5	114.8	151.4	203.5	

ACTIVATING

To activate CTCSS:

1. Press **F**, then **MENU** to enter Menu mode.
2. Turn the **ENC.** control to select Menu 4.
3. Press **BAND** until "CT" appears.
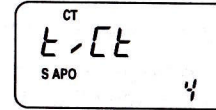
To exit Menu mode, press any key other than **LAMP**, **MONI** or **BAND**.

Note: In MR or CALL mode, the CTCSS status can be changed; however, the changed CTCSS status will not be saved. To save the CTCSS status, copy it into memory.

SETTING

To set the CTCSS frequency:

1 Press **F**, then **MENU** to enter Menu mode.

2 Turn the **ENC.** control to select Menu 6.

3 Press **BAND**.

- The current CTCSS frequency blinks.

4 Turn the **ENC.** control to select a CTCSS frequency.

5 Press **BAND** to set the frequency and continue in Menu mode or press any key other than **LAMP** or **MONI** to set the frequency and exit Menu mode.

Note:

◆ *In MR or CALL mode, the CTCSS frequency can be changed; however, the changed CTCSS frequency will not be saved. To save the CTCSS frequency, copy it into memory.*

◆ *You can set a separate Tone and CTCSS frequency; however, both Tone and CTCSS functions cannot be active at the same time.*

⑥ AUTOMATIC TONE FREQUENCY ID

This function automatically identifies the incoming CTCSS frequency on a received signal.

To use this function:

1 Select the desired channel.

2 Press **F**, then **MENU** to enter Menu mode.

3 Turn the **ENC.** control to select Menu 6.

4 Press and hold **BAND** for more than one second.

- The CTCSS status activates and the 10 Hz dot blinks.

The transceiver will wait for a busy signal. When a signal is received the transceiver will start scanning for the CTCSS frequency.

- The transceiver starts scanning in ascending order. To scan in descending order, turn the **ENC.** control counterclockwise one click while receiving a signal.

When the CTCSS frequency is found the transceiver will emit a beep and the identified CTCSS frequency will start blinking.

- To continue scanning, turn the **ENC.** control.

- The CTCSS frequency will continue to blink even after the received signal drops out.

5 To set the identified CTCSS frequency, press **BAND**. To set the identified CTCSS frequency and exit Menu mode press **PTT**.

- To stop Automatic Tone Frequency ID and reset the CTCSS frequency to the value before this function was initiated, press any key other than **BAND**, **PTT**, **LAMP**, or **MONI**.

Note: *To turn off the CTCSS function after quitting Automatic Tone Frequency ID, toggle Menu 4 to OFF.*

⑥

SCAN

Scan is a useful function for hands-off monitoring of your favorite frequencies. This transceiver offers the following six types of scans.

Scan Name	Function
VFO Scan	Scans currently selected band
MHz Scan	Scans in the current MHz range
CALL Scan	Scans between the CALL channel, and one other selected frequency
Program Scan	Scans a previously stored range
Memory Scan	Scans unlocked memory channels that have data
Priority Scan	Scans the Priority channel every 3 seconds while allowing you to perform other operations

The following three points apply to all Scans except Priority scan.

- The 1 MHz dot blinks while scanning is in progress.
- The transceiver starts scanning in ascending order. To scan in descending order, turn the **ENC.** control counterclockwise.
- While scanning, pressing **VFO**, **MR**, or **CALL** will stop scanning and perform the operation assigned to the key pushed.

Note:

- *While scanning, if CTCSS is active the transceiver will stop on a busy channel, and check for the correct CTCSS frequency. If the signal contains the correct CTCSS frequency, squelch will open; otherwise, scanning will continue.*

- *Scan will not operate if the Squelch level is set too low. Before operating Scan, set the desired Squelch level.*
- *To temporarily pause Scan and listen to a channel, press MONI. When MONI is released Scan will resume.*
- *If the power is turned OFF or the batteries removed while scanning, scanning will resume when the power is turned back on or the batteries are put back in.*

SCAN RESUME METHOD (TO/CO/SO)

The following three types of scan resume methods are available.

Time-Operated (tO)
Scan stops on a busy channel, remains there for approximately 5 seconds, then continues to scan even if the signal is still present.

Carrier-Operated (CO)
Scan stops on a busy channel, and remains until the signal drops out. There is a 2 second delay between the time the signal drops out and scan resumes.

Seek-Operated (SO)
Scan stops on the first busy channel, and quits scanning.

Note: Priority scan is set to Carrier-Operated and cannot be changed.

To change the scan resume method:

1 Press **F**, then **MENU** to enter Menu mode.
2 Turn the **ENC.** control to select Menu 9.
3 Press **BAND** to select the desired resume method.

To exit Menu mode, press any key other than **LAMP**, **MONI** or **BAND**.

Note: Setting applies to all modes.

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VFO SCAN

VFO scan allows you to scan all frequencies from the lowest frequency to the highest frequency on the band. The current frequency step size is used.

1 Select the desired band.

2 Press **VFO** for more than one second.

To stop scanning press any key other than **LAMP** or **MONI**.

Note:
- *If the displayed frequency falls within the range of a programmed scan memory, Program scan will start instead of VFO scan.*
- *VFO scan will only scan the frequency range set in the PVFO, Menu 17.*
- *While scan has stopped on a busy channel, turn the ENC. control to forcibly restart scanning.*

MHz SCAN

To scan over a 1 MHz range:

1 In VFO mode, select the desired 1 MHz.

2 Press **MHz** for more than one second.

To stop scanning press any key other than **LAMP** or **MONI**.

Note: While scan has stopped on a busy channel, turn the ENC. control to forcibly restart scanning.

CALL SCAN

Using Call scan is a good way to monitor the Call channel, and another selected frequency.

To scan:

1 Choose a frequency (VFO, Memory) for Call scan to alternate scanning with.

2 Press **CALL** for more than one second.

To stop scanning press any key other than **LAMP** or **MONI**.

Note: Call scan will scan locked-out memory channels.

PROGRAM SCAN

There are ten programmable memory scan limits available (L0 to L9, U0 to U9). If Scan is started where two memory scan limits occupy the same band space, the lower numbered memory takes precedence. If the displayed frequency falls outside the programmed scan limits when scan is activated, VFO scan will start.
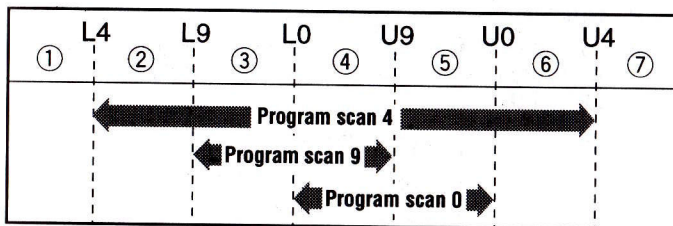
According to the above plan, when Scan is started in sections ① to ⑦ the following will occur:

① ⑦	VFO scan will start
② ③ ⑥	Program scan 4 will start
④ ⑤	Program scan 0 will start

■ Storing Limits

When storing memory scan limits the following must be true:

- The lower frequency must be stored in one of the L memory positions (L0 to L9) and the higher frequency stored in the corresponding U memory position (U0 to U9).
- The two limits must have the same step size and be in the same band.

To store band scan limits:

1 Select the Lower frequency.
2 Press **F**.
3 Turn the **ENC.** control to select the desired Lower memory position (must be an L memory position, L0 to L9).

```
  144.000
S APO
          L 0
```

4 Press **M.IN**.
5 Select the Upper frequency.
6 Press **F**.
7 Turn the **ENC.** control to select the corresponding Upper memory position as chosen in step 3 (must be a U memory position, U0 to U9).

```
  144.500
S APO
          U 0
```

8 Press **M.IN**.

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■ Scanning

To scan a stored range:

1 Change the displayed frequency so that it falls within the stored frequency range.

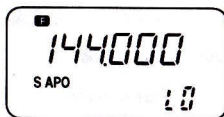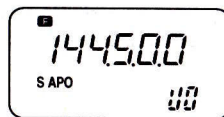- When starting Program scan, the current frequency step size must be the same as when the two limits were stored.

2 Press **VFO** for more than one second.

To stop scanning press any key other than **LAMP** or **MONI**.

Note:

- ◆ *When starting Scan, if the displayed frequency falls outside the range of a programmed scan memory, VFO scan will start.*
- ◆ *While Scan has stopped on a busy channel, turn the* **ENC.** *control to forcibly restart scanning.*

MEMORY SCAN

To scan all memory channels containing data:

1 Select the MR or CH mode.
2 Press **MR** for more than one second.

To stop scanning, press any key other than **LAMP** or **MONI**.

Note:

- ◆ *Memory scan does not scan channels (L0 to L9, U0 to U9), the Pr channel, or the Call channel.*
- ◆ *If only one channel is stored in memory, Memory scan will not activate.*
- ◆ *In CH mode, the 1 MHz dot will not blink while scanning.*
- ◆ *When Menu 7 is set to ALL, all memory channels not locked out will be scanned, regardless of which band the stored frequencies are in. When Menu 7 is set to bAnd, only those memory channels with receive frequencies in the same band as the current VFO band will be scanned.*
- ◆ *While scan has stopped on a busy channel, turn the* **ENC.** *control to forcibly restart scanning.*

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■ Memory Channel Lockout

To skip a memory channel during Memory scan:

1 In MR mode, select the desired memory channel.
2 Press **F**, then **MENU** to enter Menu mode.
3 Turn the **ENC.** control to select Menu 8.
4 Press **BAND**.
   - A star appears to show that the channel will not be scanned during Memory scan.

```
 L OUt
S APO        * 8
```

To exit Menu mode, press any key other than **LAMP**, **MONI** or **BAND**.

To cancel channel lockout, repeat the above steps.

Note: Channels L0 to L9, U0 to U9, the Pr channel, and the Call channel cannot be locked out.

PRIORITY SCAN

To store a Pr channel see "STORING" under "MEMORY" {page 21} and select "Pr" in step 3. To automatically check for busy signals on the Priority channel while performing other operations:

1 Press **F**, then **MENU** to enter Menu mode.
2 Turn the **ENC.** control to select Menu 10.
3 Press **BAND** to select On.
   - To deactivate Priority scan, select OFF.

4 To exit Menu mode and initiate Priority scan, press any key other than **LAMP**, **MONI** or **BAND**.
   - The 100 kHz and 10 MHz dots blink.

When a signal is received on the Pr channel, the transceiver will change to the Pr channel, and "Pr" will blink.

- Press **PTT** to transmit on the Pr channel.
- Turning the **ENC.** control or pressing any key other than **PTT**, **LAMP**, **MONI**, or **F** will cancel Priority scan and leave the transceiver in the Pr channel.

Three seconds after the received signal drops out and no operation is performed, the transceiver will switch to the previous channel and reactivate Pr scan.

Note:
♦ If the Pr channel has no data stored in it, Menu 10 cannot be set to On.
♦ If CTCSS is active when a signal is received on the Pr channel, the transceiver will change to the Pr channel. However, squelch will only open if the correct CTCSS tone is received. The previous channel will be restored 3 seconds after the received signal drops out and no operation is performed.
♦ APO and Save work while Priority scan is active.
♦ All other scans can be performed while Priority scan is active.
♦ While Priority scan is active, erasing the Pr channel will also deactivate Priority scan.

MISCELLANEOUS FUNCTIONS

KEY LOCK

The Key Lock function locks most of the keys on the transceiver. It's a good idea to lock the transceiver while not using it to prevent accidental operation.

With Key Lock active, the following keys are disabled:

- **VFO M ▶ V**
- **MR M.IN**
- **CALL CALL IN**
- **MHz REV**
- **BAND MENU**
- **ENC.** control (if Menu 13 is set to OFF)

To activate/ deactivate the Key Lock function, press **F** for more than one second.

- When Key lock is active the key symbol below appears.

```
 144.000
S APO ━O
```

Note:

◆ If a locked key is pressed, a warning tone will sound. If the Beep function is turned OFF, no warning tone will sound.
◆ With Key Lock active, Memory Channel Clear, VFO reset and Full reset are disabled.
◆ With Key Lock active, the optional remote microphone keys are operational but settings cannot be made.
◆ With Key Lock active, you cannot enter/exit CH mode.

BATTERY SAVE

When the transceiver power is on but not being used or receiving a signal for longer than 10 seconds, the Battery Save function automatically turns off the RX circuit and checks for incoming signals after every RX off-time interval. If a signal is received, the RX circuit power stays on and the 10 second timer is reset. The RX off-time interval can be set to one of the following: OFF, 0.2, 0.4, 0.6, 0.8, 1.0 (default), 2.0, 3.0, 4.0, and 5.0 seconds.

To set this function:

1 Press **F**, then **MENU** to enter Menu mode.

2 Turn the **ENC.** control to select Menu 1.

3 Press **BAND**.

- The current RX off-time interval starts blinking.

4 Turn the **ENC.** control to select the desired RX off-time interval.

- Set to OFF to deactivate the Battery Save function.

5 Press **BAND**.

To exit Menu mode, press any key other than **LAMP**, **MONI** or **BAND**.

Note:

◆ The Battery Save setting applies to all modes.
◆ The Battery Save function does not work while scanning (excluding Priority scan).
◆ If the lamp is latched on, Battery Save will not turn the lamp off.

USING AN EXTERNAL SPEAKER/MICROPHONE

To use an external speaker/ microphone simply plug it into the SP/ MIC jacks on the transceiver.

Mic 2
Mic 3
Mic 1

VOLUME control
PTT switch
MICROPHONE
SPEAKER
Clip
LOCK switch
Earphone jack
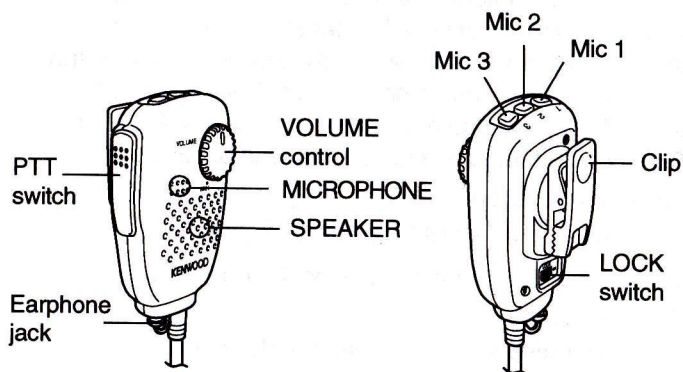
SMC-34 Speaker/ Microphone

When the **LOCK** switch is turned to ON, keys **1**, **2**, and **3** are disabled.

PROGRAMMING KEYS

The keys on the SMC-34 can be programmed with one of the key functions of the transceiver. The defaults for the three keys are as follows:

Key **1** : **VFO** key,
Key **2** : **MR** key,
Key **3** : **CALL** key.

To program a key:

1 Turn the power off.
2 While pressing the desired Mic key, turn the power on.
   - "PF" will appear along with the number of the Mic key pressed. If the Mic **1** key was pressed "PF 1" appears.

```
PF 1
S APO
```
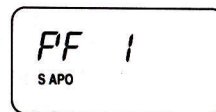
3 Press the key on the transceiver with the desired function within 10 seconds.
   - All key functions can be programmed except the **F** key.
   - Pressing the **PTT** switch, programs the Mic key to toggle between VFO and MR mode.
   - To program a key function written in blue on the transceiver, press the **F** key first.
   - To assign the Up function, rotate the **ENC.** control clockwise. To assign the DOWN function, rotate the **ENC.** control counterclockwise.

Note:
- *The Key Lock function does not lock the keys on the SMC-34. To Lock the keys on the SMC-34 use the **LOCK** switch.*
- *The TX Lock function when active also locks the microphone **PTT** switch.*
- *Microphone keys cannot be programmed while Key Lock is active.*

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SPECIFICATIONS

General	144 MHz	430 MHz
Frequency bandwidth	144 MHz to 146 MHz	430 MHz to 440 MHz
Mode	F3E (FM)	
Usable temperature range	−10°C to +50°C	
Battery terminal voltage	2.2 V to 3.5 V	
Nominal terminal voltage	3.0 V	
CURRENT DRAIN		
Receive (no signals)	Approx. 50 mA	Approx. 55 mA
Transmit (3.0 V input)	Approx. 280 mA	
Battery Save active	Approx. 13 mA average	
Grounding method	Negative ground	
Dimensions W x H x D (projections included)	58.7 x 102.2 x 27.2 mm	
Weight [1]	Approx. 160 g	
Antenna impedance	50 Ω	
Microphone impedance	1.6 kΩ	

[1] Antenna and two AA alkaline batteries included

Transmitter	144 MHz	430 MHz
Power output (3.0 V input)	Approx. 0.3 W	
Modulation	Reactance	
Maximum frequency deviation	±5 kHz or less	
Spurious emissions	−50 dB or less	

Receiver	144 MHz	430 MHz
Circuitry	Double conversion superhetrodyne	
1st intermediate frequency	38.85 MHz	
2nd intermediate frequency	450 kHz	
Sensitivity (12 dB SINAD)	0.16 μV or less	0.18 μV or less
Squelch sensitivity	0.16 μV or less	0.18 μV or less
Selectivity (−6 dB)	12 kHz or more	
Selectivity (−40 dB)	28 kHz or less	
Audio output (8 Ω load, 10% distortion)	40 mW or more	

Specifications are subject to change without notice due to developments in technology.