# OICOM

INSTRUCTION MANUAL

VHF TRANSCEIVER

## IC-F30/LT

**UHF TRANSCEIVER** 

## IC-F40/LT

This device complies with Part 15 of the FCC rules. Operation is subject to the condition that this device does not cause harmful interference.

Icom Inc.

SmarTrunk II™ Compatible



### **IMPORTANT**

**READ ALL INSTRUCTIONS** carefully and completely before using the transceiver.

**SAVE THIS INSTRUCTION MANUAL**—This instruction manual contains important operating instructions for the IC-F30, IC-F30LT, IC-F40 and IC-F40LT.

### **FOREWORD**

Thank you for purchasing the IC-F30/LT VHF or IC-F40/LT UHF TRANSCEIVER. There are versions of these for both the LMR and PMR markets.

Note that the IC-F30/F40 function the same as the "LT" versions with the exception that they have no keypad or function display, and therefore functions which require a keypad (DTMF tones, etc.) are not available. An optional UT-82 DTMF KEYPAD is available for keypad functions.



Versions of these transceivers which display the "CE" symbol on the serial number seal, comply with essential requirements of the 89/336/EEC directive for Electromagnetic Compatibility.

### **CAUTIONS**

⚠ WARNING! NEVER connect the transceiver to an AC outlet. This may cause a fire hazard or result in an electric shock.

⚠WARNING! NEVER hold the transceiver so that the antenna is very close to, or touching exposed parts of the body, especially the face or eyes, while transmitting. The transceiver will perform best if the microphone is 5 to 10 cm away from the lips and the transceiver is vertical.

**NEVER** operate the transceiver near unshielded electrical blasting caps or in an explosive atmosphere.

**NEVER** expose the transceiver to rain, snow or any liquids.

**NEVER** place the transceiver where normal operation of a vehicle may be hindered or where is could cause bodily injury.

**NEVER** disassemble the transceiver. Incorrect reassembly may result in a fire hazard or electric shock.

#### For U.S.A. only

**Caution:** Changes or modifications to this transceiver, not expressly approved by Icom Inc., could void your authority to operate this transceiver under FCC regulations.

### INTRINSICALLY SAFE



Some versions of the transceiver conform to intrinsically safe ratings of the FMRC (Factory Mutual Research Corporation). Ask your lcom Dealer for details.

Intrinsically safe:

Class I, II, III, Division 1, Groups C, D, E, F, G Nonincentive:

Class I, Division 2, Groups A, B, C, D

**Note:** Versions which conform to these ratings only do so when the CM-141 is the connected battery pack.

## **UNPACKING**

The following accessories are included with the transceiver:

① Battery pack (CM-140 or	CM-141*1) 1
② Flexible antenna	
3 Belt clip and screws*2	1 set
*1Intrinsically safe version.	

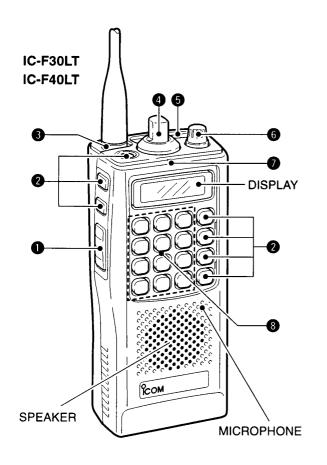
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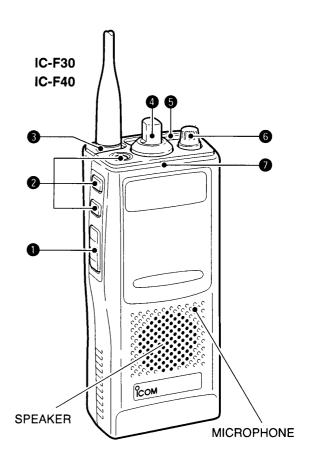
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SmarTrunk II™ is a trademark of SmarTrunk Systems, Inc.

<sup>\*2</sup>Some versions do not include a belt clip.

## **PANEL DESCRIPTION**





#### PANEL DESCRIPTION 1

#### PTT (push-to-talk) SWITCH [PTT]

Push and hold to transmit; release to receive.

#### **2** DEALER-PROGRAMMABLE SWITCHES/KEYS [P]

Can each be programmed for one of several functions by your Icom Dealer. (pgs. 6–10)

In this manual, [P] is meant to stand for one of the dealer-programmable switches/keys (and depends on the transceiver's programming).

#### **3** ANTENNA CONNECTOR [ANT]

Connects the supplied antenna. Screw the antenna on in a clockwise direction.

#### **4** CHANNEL SELECTOR [DIAL] (p. 3)

Selects the operating channel.

• The home position (channel 1) may start scanning. See SCAN FUNCTION on p. 6.

#### **5** MULTI-CONNECTOR

Connects the EM-81 SPEAKER-MICROPHONE, etc.

#### **6** POWER/VOLUME CONTROL [PWR/VOL] (p. 3)

Rotate clockwise to turn power on (and increase audio output); counterclockwise to turn power off (and decrease audio output).

#### **7** ACTIVITY LED (p. 4)

Lights red while transmitting; lights green while receiving.

#### KEYPAD

Used to enter DTMF codes, operating channels, channel banks, etc., depending on programming.

• The IC-F30/IC-F40 requires the optional UT-82 DTMF KEYPAD.

## **BASIC OPERATION**

## **■** Turning power ON

- ① Rotate [PWR] to the 12 o'clock position.
  - A power-up alert tone sounds for about 1 second and an opening message may appear.



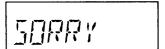
Opening message may differ from this.

② If the transceiver is programmed for a startup password, input digit codes as directed by your system operator.



Input your password if this display appears.

③ To turn power off, rotate the volume control fully counterclockwise until a click is heard.



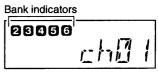
When an incorrect password is input, this display appears. Turn power off, and start over in this case.

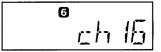
**Note:** If the power-up alert tone does not sound or if a second alert tone sounds, turn the transceiver off, check the battery, then turn the transceiver back on. If the power-up alert tone still does not sound, charge the battery or replace it.

## **■** Channel selection

#### **♦ ROTARY SELECTOR-TYPE**

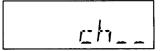
- ① Push a digit, [1]-[6] (according to your system operator's instructions) to select the desired bank.
  - When no banks are programmed, skip this step.
- ② Select the desired channel using the channel selector.



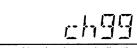


#### **♦ KEYPAD ENTRY-TYPE**

① Push [ ].



- ② Push a 2-digit channel number.
  - When an incorrect channel number is entered, the previous channel appears.



Non-bank type indication

#### **Note: Lock Override**

When the lock override function is assigned to one of the keys, push and hold that key while entering digits via the keypad.

## ■ Receiving and transmitting

**Caution:** Transmitting without an antenna may damage the transceiver. See p. 2 for antenna attachment.

#### Receiving:

- ① Select a channel. See Channel selection on previous page.
- ② Listen for a transmission and adjust the volume to a comfortable listening level.
  - The activity LED lights green when receiving a signal.
  - When no transmission is heard, push and hold [P]([MON]) to adjust the volume.

The transceiver is now set to receive calls on the selected channel.

#### Transmitting:

Wait for the channel to become clear, then:

- ③ Push a programmed switch (e.g. to transmit a tone, etc.) if instructed to do so by your system operator.
  - Refer to DEALER-PROGRAMMABLE FUNCTIONS on pgs. 6-10.
- While pushing and holding [PTT], speak into the microphone at a normal voice level.
  - The activity LED lights red while transmitting.
  - **Do not** hold the transceiver too close to your mouth or speak too loudly. This may distort the signal.
- ⑤ Release [PTT] to receive.

## ■ Transmitting notes

#### **♦ LOW BATTERY CONDITION**

- ➡ When the low battery indicator appears and/or the activity LED flashes red slowly, battery capacity is becoming low and transmitting is not possible.
- ➡ When the low battery indicator appears and flashes and/or the activity LED

battery nearly exhausted IC-F30LT/F40LT

battery low battery low battery nearly exhausted

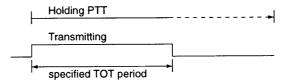
flashes red quickly, battery capacity is nearly exhausted.

#### **♦ TRANSMITTING WHILE SCANNING**

If the scan function is assigned to channel 1 and scan is activated, you can transmit on a pre-programmed channel during the scan (depending on programming, transmit may be inhibited).

#### **♦ TIME-OUT TIMER (TOT)**

After continuous transmission for a pre-programmed period, the TOT activates and receive is automatically selected.



#### 2 BASIC OPERATION

#### **♦ PENALTY TIMER**

Once the time-out timer is activated, transmission is further inhibited for a period determined by the penalty timer.

## ■ Call procedure (Europe versions only)

When your radio is programmed for a 5-tone system, the call operation must be performed prior to voice transmission. 5-tone systems are selective calling systems which allow you to contact specific station(s) only and prevent unwanted stations from contacting you.

- Select the desired Tx code channel or 5-tone code according to your system operator's instructions.
  - This may not be necessary depending on programming.
  - Refer to the description at right for selection.
- ② Push the call switch (assigned to one of the dealer-programmable switches).
  - · Beeps may sound.
- ③ After transmitting a 5-tone code, the remainder of your communication can be carried out in the normal fashion proceed from step ④ in *Receiving and transmitting* on previous page.

## ■ Tx code channel selection (Europe versions only)

Your radio may be programmed for Tx code channel selection. In this case, you can choose a Tx code channel to be transmitted when using the call function (previous page).

Push the Tx code channel switch (assigned to one of the dealer-programmable switches) to activate the function, then enter a digit number via the keypad to select the desired Tx code channel.

 The selected code channel (containing a pre-programmed 5-tone code) is transmitted when using the call function.

## ■ Manual 5-tone codes (Europe versions only)

Depending on programming, you may be able to send 5-tone codes manually.

Push the Tx code channel switch to activate the function, then enter the desired transmit code (up to 7 digits) using the keypad.

- Activate the call function to transmit the 5-tone code.
- A flashing digit indicates keypad entry is acceptable.

## **DEALER-PROGRAMMABLE FUNCTIONS**

3

#### General

Ask your Icom Dealer or system operator for details concerning your transceiver's programming. When available, programmed functions are assigned to one of several switches/keys.

In the following explanations, [P] is meant to stand for one of the dealer-programmable switches/keys (and depends on the transceiver's programming).

#### **■** Channel selection

#### **♦ BANK FUNCTION**

To change memory banks:

Push [P] one or more times; or push a digit key, [1]-[6].

• Indicators appear for banks 2-6 (no indicator appears for bank 1).

#### **♦ PRIORITY FUNCTION**

To select a pre-programmed priority channel:

Push [P] momentarily.

- The pre-programmed priority channel is automatically selected regardless of the channel selector position.
- Push and hold [PTT] to transmit if desired.
- Rotate the channel selector to exit the priority channel.

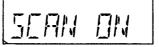
#### **♦ SCAN FUNCTION**

- ① Push [P] momentarily; or set the channel selector to the home position (channel 1).
  - The activity LED flashes green.
  - Scan pauses when a signal is received.
  - Transmitting may be possible depending on programming.
- ② Push a digit key to select a different scan list (scanning channels group) if necessary.
- ③ To stop the scan, push [P] momentarily again or rotate the channel selector off the home position.

#### ♦ SCAN LIST MODIFICATION (scan lockout)

A selected scan can be subtracted from or added to a scan list (scanning channels group). "Bank" channels and scan list channels are related so that channels which do not appear in a "bank" cannot be added to or subtracted from a list.

- ① Select the channel to be added or subtracted.
- ② Push and hold [P] to add or subtract the selected channel from the list.
  - One of the following displays appears to indicate that the selected channel was added to or subtracted from the scan list.





• Some channels cannot be added or subtracted to a list depending on programming.

### 3 DEALER-PROGRAMMABLE FUNCTIONS

#### ■ Receive

#### **♦ MONITOR FUNCTION**

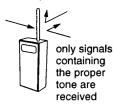
This function allows you to open the transceiver's squelch manually to check whether a channel is busy or not. The transceiver has 2 squelch systems as follows.

Noise squelch:



The squelch mutes audio only when no carrier is present. You can receive (or monitor) any signals on a channel.

Tone squelch:



The squelch mutes all signals except those directed to you. Therefore, you should check a channel's condition (busy or not) with the monitor function before transmitting.

- → Push [P] to turn off the tone squelch for reception of all signals (even those not directed to you specifically).
- → Push and hold [P] for 2 sec. or more to monitor all signals (or noise) regardless of the active squelch system.
  - After releasing [P], tone squelch is activated.

### ■ Transmit

#### **♦ OUTPUT POWER SELECTION**

Push [P] momentarily to change the power output.

- "LOW" appears when one of the low output powers is selected.
- Push and hold [P] for 2 sec. to return to the original power output.
- On some channels, high power cannot be selected.

#### **♦ DTMF TRANSMISSION**

This allows you to send pre-programmed DTMF codes to control a repeater, open another transceiver's squelch, etc.

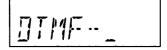
Manual transmission:

Push digit keys while pushing [PTT].

• Pushing [PTT] may not be necessary depending on programming.

Automatic pre-programmed transmission:

► KEYPAD ENTRY TYPE\*: keypad entry Push [P], then a digit key (1 to 8).



➡ ROTARY SEL TYPE\*: channel selector Set the channel selector (1 to 8), then push [P].



\* See Channel Selection, p. 3.

#### ♦ 5-TONE CALL (Europe versions only)

This allows you to transmit a pre-programmed 5-tone code (independently programmable for each channel) to contact specific members in your group.

To transmit a 5-tone code:

Push [P] momentarily to transmit a 5-tone code.

• The transceiver may be set to "audible condition" automatically.

#### **♦ TX CODE CHANNEL SELECTION**

(Europe versions only)

This allows you to select a pre-programmed 5-tone code (programmed into one of the transmit code channels) to be transmitted when using the 5-tone call function.

To select a Tx code channel:

- ① Push [P].
  - The currently selected code channel appears.
- 2 Input the desired code channel number using the keypad.

#### **♦ TX 5-TONE CODE**

(Europe versions only)

5-tone codes can be manually selected for transmission using the call function

To select a 5-tone code manually:

Push [P], then use the keypad to input the desired 5-tone code (up to 7 digits).

• Flashing digits indicate input is acceptable.

#### **♦ DTMF RE-DIAL FUNCTION**

This function allows you to transmit the last-used DTMF code at the push of a switch/key.

To activate the function:

Push [P] momentarily.

- The previously transmitted DTMF code is automatically transmitted.
- If no code has been transmitted since turning the power on, this function does not activate.

#### **♦ EMERGENCY FUNCTION**

The emergency function allows you to send your ID quickly and easily to your base station, etc. in case of an emergency.

To activate the emergency function:

Push and hold [P] for 1 sec.

- The transceiver selects a pre-programmed channel, then sends an emergency signal to your base station.
- The pre-programmed channel remains selected until a control signal is received from the base station or power is turned off.
- The emergency call is repeatedly transmitted at pre-programmed intervals.

### 3 DEALER-PROGRAMMABLE FUNCTIONS

#### **♦ TALK AROUND FUNCTION**

The talk around function changes duplex channels to simplex channels. *Duplex* allows you to contact your base station, repeaters, etc.; *simplex* allows you to contact other portable transceivers directly (portable-to-portable contact).

Push and hold [P] for 1 sec. (portable-to-portable contact).

• Push [P] momentarily to turn the function off (portable-to-base station, portable-to-repeater operation, etc.).

#### **♦ VOX FUNCTION**

This function provides hands-free operation.

Turn the power off and connect an optional headset to the multi-function connector.

 Speak into the headset to transmit automatically without pushing [PTT].

#### **♦ BANK UP**

This function increments a bank number.

Push [P] one or more times to select the SmarTrunk bank. (See SmarTrunk II™ operation on p. 11)

#### ♦ SmarTrunk II™ FUNCTION

This function allows you to communicate using SmarTrunk II™ capabilities. (An optional **UT-105 SmarTrunk II™ Logic Board** must be installed—see p. 15.)

The optional UT-105 allows communication over conventional channels or SmarTrunk II<sup>™</sup> channels. Select a channel bank for SmarTrunk II<sup>™</sup> before trunking operation.

To toggle SmarTrunk II™ channels and conventional channels:

Push [P] one or more times.

- Scanning starts when a channel bank for SmarTrunk II™ is selected.
- Contact your dealer for channel bank details. (See p. 11 for more detailed operation.)

#### Others

#### KEYPAD LOCK FUNCTION

Push and hold [P] for 2 sec.

- " " appears, the keypad is electronically locked and no keys can be accessed.
- The following functions and controls can be operated normally: PTT, call, emergency, lock, DTMF re-dial, channel selector, volume and power on/off.
- Push and hold [P] for 2 sec. again to turn the function off.

#### **♦ LOCK OVERRIDE FUNCTION**

This function allows you to temporarily override the keypad lock function.

To activate the function:

Push and hold [P].

- While pushing [P], keys and switches can be accessed normally.
- Release [P] to return to the "locked" condition.

#### **♦ CUSTOM PROGRAM**

Custom programs can be written to meet a wide variety of operating needs.

To activate a custom program:

Push [P].

Operation proceeds according to the nature of the program.

#### **♦ MAN DOWN FUNCTION**

This function provides a measure of safety when working in hazardous environments, etc., automatically sending an emergency signal to your base station. This is particularly useful if you are accidentally incapacitated, etc. This function requires the installation of the optional UT-100 MAN DOWN UNIT—consult your dealer for details.

To activate this function:

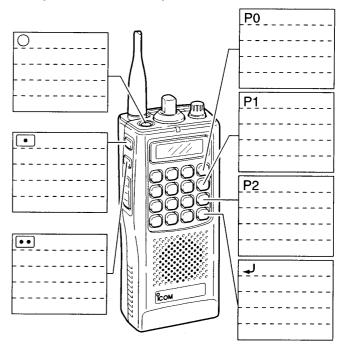
No action is necessary on your part—an emergency signal is automatically sent after a pre-programmed period in which the transceiver remains in a horizontal position.

• To deactivate the function, turn the power off, then on again.

Note: Be careful! If your transceiver is programmed with this function, do not lie it down on its side while the power is turned on, otherwise an emergency signal will be sent unnecessarily.

## ■ Programmable switch reference

Use this page to record the functions which have been assigned to the dealer-programmable switches on your transceiver. (Use a pencil as your transceiver may be reprogrammed in the future.)



## 4

## OPTIONAL SmarTrunk II™ OPERATION

## ■ SmarTrunk II<sup>™</sup> and conventional modes

When the optional UT-105 is installed, you can communicate using conventional channels or SmarTrunk II™ channels. Select a channel bank for SmarTrunk II™ before trunking operation.

Rotate the channel selector or push [P] one or more times to select a channel bank for conventional channels or SmarTrunk II<sup>TM</sup> channels.

- $\bullet$  Scanning starts when a channel bank for SmarTrunk IITM is selected.
- Contact your dealer for channel bank details.

## ■ SmarTrunk II<sup>™</sup> operation

These features are enabled by a dealer or system operator and may not be available in your system. Contact your dealer for details.

#### Placing a telephone call

Enter the phone number followed by [1], [\*].

- · A high-pitched beep indicates that the number is accepted.
- When the called party answers, push [PTT] to talk, and release it to listen.

#### ♦ Calling another local system subscriber

Enter the subscriber number followed by [3], [\*].

- A high-pitched beep indicates that the number is accepted.
- You hear ringing, then two short beeps when the subscriber answers.
- If the other subscriber is on another call or out of range, you hear a fast busy signal and the call terminates automatically.

#### ♦ Receiving a call

When you hear ringing, push [\*] to answer.

• For a group call, you hear a short ring followed by two short beeps. You do not have to answer a group call to hear it over the air.

#### ♦ Terminating a call

After completing a call, push [#] to disconnect (hang up).

**Important:** If one person in the conversation terminates a call, all participants will be cut off.

#### ♦ Last number redial

Push [\*], [\*] to automatically redial the last number called.

• A high-pitched beep indicates that the number is accepted.

#### ♦ Memory speed-dialing

To automatically dial a commonly used number from memory: Push [P] followed by the memory location (0–9).

#### OPTIONAL SmarTrunk II™ OPERATION 4

#### ♦ Turbo SpeeDial

To automatically dial a commonly used number with one push:

Push one of the turbo SpeeDials ([A], [B], [C] or [D]).

#### Programming memory speed dial

- ① Push and hold [\*] until you hear a high-pitched beep.
- ② Enter the memory location (0–9, A, B, C, D), the telephone or subscriber number, then [1] (or [3] if for another system subscriber); then push [\*] to complete the programming sequence.
  - A high-pitched beep indicates successful programming.
  - Memories [A]-[D] are used for the Turbo SpeeDial.

#### ♦ System busy indication

If all channels are busy, three low beeps sound after you initiate a call. Try the call again later.

#### ♦ PTT dispatch operation

- ① Push [PTT] once (without dialing) to initiate a dispatch call.
- ② Begin talking after you hear three beeps (one short, highpitched, two very-short, low-pitched).
- ③ Receiving a dispatch call is indicated by the same threebeep sequence.
  - It is not necessary to push [\*] to answer a dispatch call.

#### ♦ Emergency call

Push [0], [\*] to initiate an emergency call.

· Contact your dealer for details.

#### Clear channel alerting

If all channels are busy, the transceiver automatically begins searching for an open channel and beeps every ten seconds. When two short beeps (low-pitched, then high-pitched) are heard, a channel is available. Push [\*], [\*] immediately to redial the last number.

**Note:** For additional operating instructions, contact your dealer or system operator.

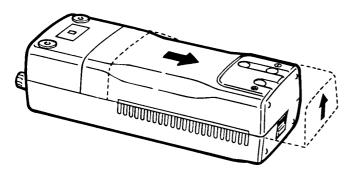
## **BATTERY PACKS**

## ■ Battery pack replacement

Before replacing the battery pack, push and hold the power switch to turn the power OFF.

- ➡ To remove the battery pack from the transceiver: Push and hold the battery pack release button forward (in the direction of the transceiver's front panel) then slide the battery off the transceiver.
- ➡ To attach the battery pack to the transceiver: Align the 4 holes in the battery pack with the 4 prongs on the exposed transceiver chassis, then slide the battery pack until it snaps into place.

See diagram below.



## ■ Battery cautions

**NEVER** incinerate used battery packs. Internal battery gas may cause an explosion.

**NEVER** immerse the battery pack in water. If the battery pack becomes wet, be sure to wipe it dry *before* attaching it to the transceiver.

**NEVER** short terminals of the battery pack. Also, current may flow into nearby metal objects so be careful when placing battery packs in handbags, etc.

If your battery pack seems to have no capacity even after being charged, completely discharge it by leaving the power on overnight. Then, fully charge the battery pack again. If the battery pack still does not retain a charge (or very little), a new battery pack must be purchased.

#### ♦ Recycling information (USA only)



The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its life, under various state and local laws, it may be illegal to dispose of this bat-

tery into the municipal waste stream. Call 1-800-8-BATTERY for battery recycling options in your area or contact your dealer.

## ■ Battery charging

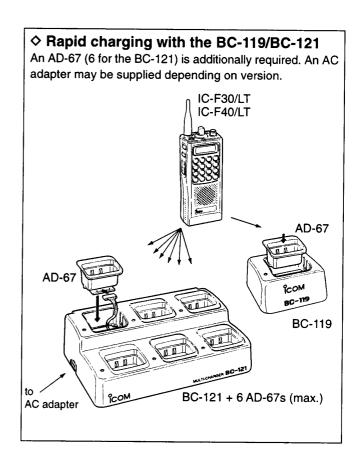
Prior to using the transceiver for the first time, the battery pack must be fully charged for optimum life and operation.

**Caution:** To avoid damage to the transceiver, turn it *off* while charging.

- ① Connect the AC adapter (supplied with a desktop charger) between a domestic AC power outlet and the desktop charger.
- ② Insert the charge guide in its proper position (refer to the charger's instruction manual).
- ③ Insert the transceiver with attached battery pack (or the battery pack by itself) into the charger.
  - The [CHG] indicator lights orange.
- When charging is complete, the charging indicator, [CHG], lights green.

**Note:** Be sure and read the instructions supplied with the optional BM-96 or BM-97 DESKTOP CHARGERS.

Battery pack	Voltage/ capacity	Output power	Approx. operating time
CM-140	7.2 V/ 1400 mAh	5.0 W	8 hours
CM-141 (intrinsically-safe)	7.2 V/ 1400 mAh	5.0 W	8 hours
CM-142	7.2 V/ 1600 mAh	5.0 W	9 hours

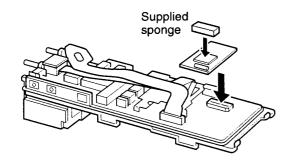


6

## **OPTIONAL UT-105 INSTALLATION**

In order to operate SmarTrunk II<sup>TM</sup> functions, the optional UT-105 SmarTrunk II<sup>TM</sup> Logic Board must be installed. Follow the instructions below to install the UT-105 into the IC-F30/LT, IC-F40/LT or contact your Icom Dealer.

- Disassemble the transceiver as described in the service manual.
- 2 Attach the UT-105 as shown below.
- 3 Attach the supplied sponge to the UT-105.
- Reassemble the transceiver.



## **SPECIFICATIONS AND OPTIONS**

## ■ Specifications

#### General

Frequency coverage\*

IC-F30/LT 136-150 MHz 146-174 MHz

IC-F40LT 400–430 MHz 430–470 MHz 470–520 MHz

\*Varies according to version.

• Mode : 16K0F3E, 14K0F3E, 8K50F3E

Current drain : Transmit

(at 7.5 V DC) high power 2.5 A

Receive

standby 55 mA max. audio output 450 mA

Frequency stability :

USA ±5 ppm

Europe ±2 kHz ±1.5 kHz (narrow)

Usable temperature range

• Dimensions :  $60(W) \times 140(H) \times 42(D)$  mm (projections not included)  $23/(W) \times 51/(H) \times 111/(6(D))$  in

• Weight : 520 g; 1.1 lb

#### **Transmitter**

• Output power : High 5 W Low 2 or 1 W

#### Receiver

• Sensitivity : 0.35 μV for 12 dB SINAD

• Audio output power  $\,$  : 500 mW at 10% distortion with an 8  $\Omega$  load

## ■ Options

- BC-119 DESKTOP CHARGER + AD-67 DESKTOP CHARGE ADAPTER
  Rapidly charge battery packs. The AD-67 must be used with the
  BC-119 for charging the battery pack. The CP-17L can be used instead of an AC adapter. Charging time: 2 hours.
- BC-121 MULTI-CHARGER + AD-67 DESKTOP CHARGE ADAPTER
   Rapidly charge up to 6 battery packs simultaneously. Six AD-67's are necessary. Charging time: 2 hours.
- CM-140, CM-141, CM-142 BATTERY PACKS
  CM-140 (Ni-Cd): 7.2 V, 1400 mAh; CM-141 (Ni-Cd): 7.2 V, 1400 mAh, intrinsically safe; CM-142 (Ni-MH): 7.2 V, 1600 mAh
- EM-81 SPEAKER-MICROPHONE
  Provides convenient hands-free operation.
- MB-56 BELT CLIP Same as supplied.
- UT-80 2-TONE UNIT Provides 2-tone capabilities.
- UT-82 DTMF KEYPAD

Adds keypad operation and functions to the IC-F30/F40.

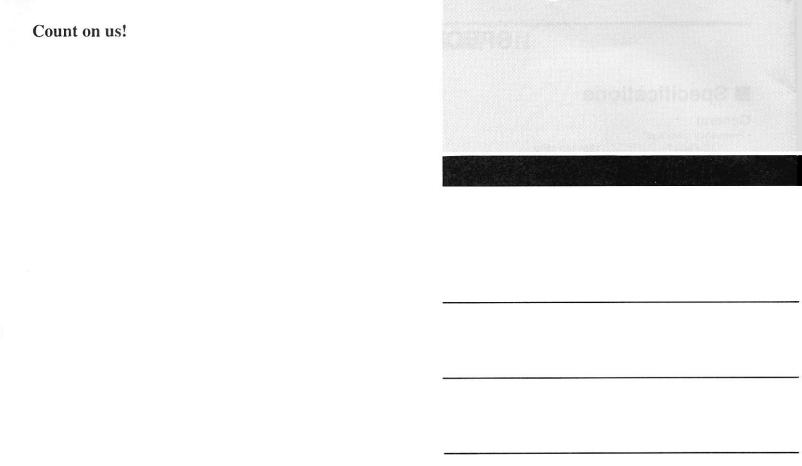
UT-96 5-TONE UNIT
 Provides 5-tone capabilities.

• UT-100 MAN DOWN UNIT

Provides a measure of safety when working in hazardous environments, etc., automatically sending an emergency signal when the transceiver is left in a horizontal position for a pre-set time.

 UT-105 SmarTrunk II<sup>™</sup> Logic Board Provides SmarTrunk II<sup>™</sup> capabilities.

All stated specifications are subject to change without notice or obligation



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