



## INSTRUCTION MANUAL

144 MHz FM TRANSCEIVER

**IC-T21A**

**IC-T21E**

UHF FM TRANSCEIVER

**IC-T41A**

**IC-T41E**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Icom Inc.**



## IMPORTANT

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

### SAVE THIS INSTRUCTION MANUAL

— This instruction manual contains important safety and operating instructions for the IC-T21A/E and IC-T41A/E.

This instruction manual uses the IC-T21A/E for most of the example displays. Please note that only the frequency differs from the IC-T41A/E.

## EXPLICIT DEFINITIONS

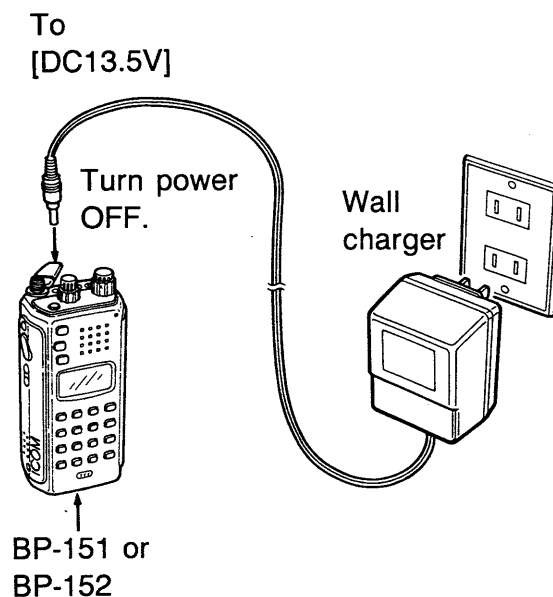
**CAUTION :** Equipment damage may occur.

**NOTE :** If disregarded, inconvenience only. No risk of personal injury, fire or electric shock.

## WHEN FIRST APPLYING POWER

### ◇ Battery pack charging

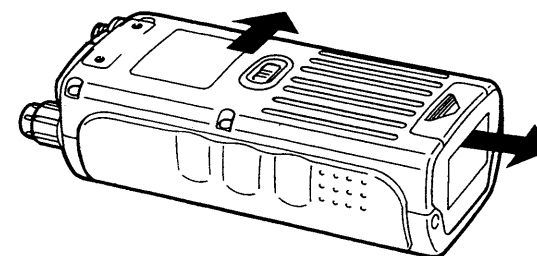
- ① Insert the battery pack into the transceiver.
- ② Connect the wall charger to the [DC13.5V] jack to charge the battery pack.
  - Charging period of the BP-151 and BP-152 is approx. 15 hrs.



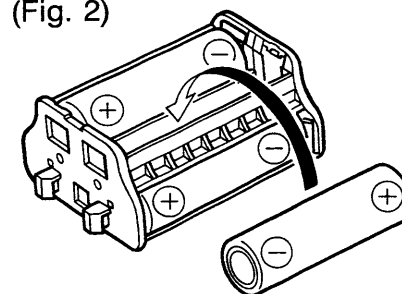
### ◇ Installing batteries into the battery case

- ① Remove the battery case from the transceiver as shown below. (Fig. 1)
- ② Install four dry cell batteries as shown below. (Fig. 2)
  - Pay attention to the polarities.
- ③ Insert the battery case into the transceiver until hearing a click.

(Fig. 1)

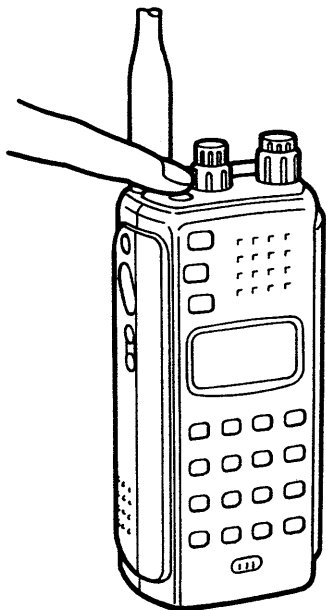


(Fig. 2)



### ◆ Power ON

Push and hold [POWER] on the top panel for 1 sec. to turn power ON.

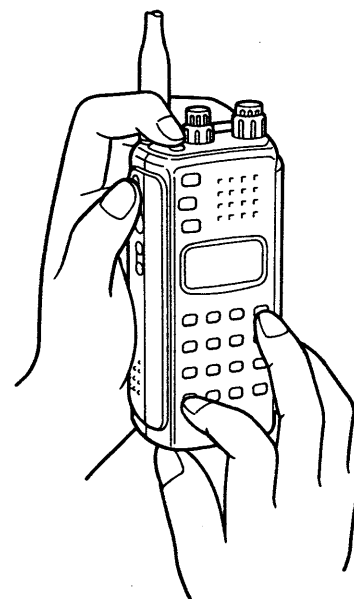


Push and hold [POWER] for 1 sec. again to turn power OFF.

### ◆ Resetting the transceiver

Reset the transceiver before operating for the first time, or when the internal CPU malfunctions.

- ① Turn power OFF.
- ② While pushing [FUNC], [A CLR] and [⊛ ▽], push and hold [POWER] for 1 sec. to reset the CPU.



Partial resetting is alternatively available. See p. 48. for details.

# CAUTIONS

**NEVER** connect the transceiver to an AC outlet or to a power source of more than 16 V DC.

**NEVER** connect the transceiver to a power source using reverse polarity. This connection will ruin the transceiver.

**NEVER** allow children to touch the transceiver.

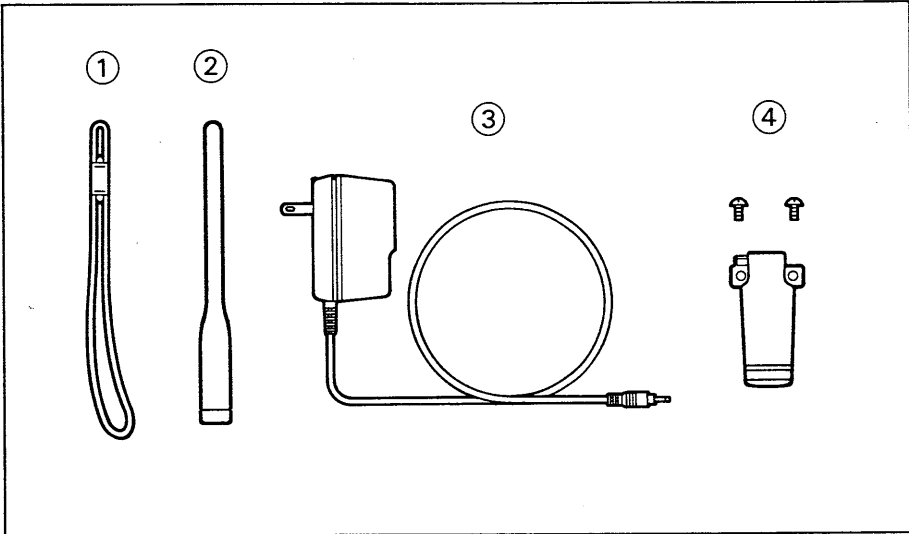
**AVOID** using or placing the transceiver in direct sunlight or in areas with temperatures below  $-10^{\circ}\text{C}$  ( $+14^{\circ}\text{F}$ ) or above  $+60^{\circ}\text{C}$  ( $+140^{\circ}\text{F}$ ).

**BE CAREFUL!** When transmitting for a long time with high output power, the rear panel will become hot.

The use of non-Icom battery packs/chargers may impair transceiver performance and invalidate the warranty.

Even when the transceiver power is OFF, a slight current still flows in the circuits. Remove the battery pack or case from the transceiver when not using the transceiver for a long time. Otherwise, the battery pack or installed dry cell batteries in the battery case will become exhausted.

# UNPACKING



Accessories included with the transceiver:	Qty.
① Handstrap .....	1
② Antenna (FA-S270A) .....	1
③ Wall charger* .....	1
④ Belt clip and screws .....	1 set
Battery pack (BP-151) or battery case (BP-159) (attached to the transceiver) .....	1

\*Not included with versions which include a battery case.

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## ■ Front and side panels

### FUNCTION SWITCH [FUNC] (pgs. 3, 4)

While pushing this switch, other switches and the tuning dial perform secondary functions.

- “Push [FUNC] + a switch” means “while pushing the [FUNC] switch, push the switch.”

### PTT SWITCH [PTT] (p. 14)

Push and hold to transmit; release to receive.

### MONITOR SWITCH [MONI] (p. 14)

Manually opens the squelch and monitors the transmit frequency.

### LIGHT SWITCH [LIGHT] (p. 13)

- Lights the display and keyboard backlighting for 5 sec.
- [FUNC] + [LIGHT] manually turns the backlighting ON and OFF.

### DTMF SWITCH [DTMF] (p. 32)

Emits the selected DTMF memory contents.

### TX/RX INDICATOR

(p. 14)

### HIGH/LOW/TUNING STEP SWITCH [H/L/TS]

- Selects high or low output power. (p. 15)
- [FUNC] + [H/L/TS] enters the tuning step setting condition. (p. 12)
- [H/L/TS] + [DIAL] rotation selects low power level. (p. 15)

### SPEAKER

### BAND SWITCH [BAND/SPLIT/WSPR]

(p. 10)

Assigns the operating band to the 144 MHz band or 430(440) MHz band alternately.

- [FUNC] + [WSPR] for 1 sec. after selecting the sub band activates the whisper function. (p. 45)

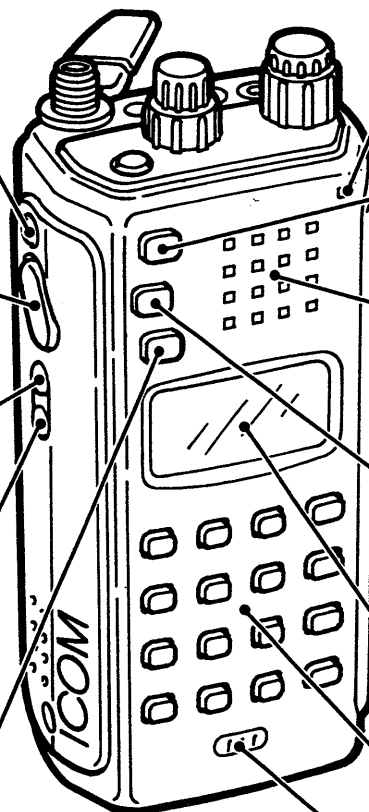
### FUNCTION DISPLAY

(pgs. 5, 6)

### KEYBOARD

(pgs. 3, 4)

### MICROPHONE



## ■ Top panel

### EXTERNAL DC POWER JACK

[DC13.5V]

(p. 53)

Allows operation with a 13.5 V DC power source using the optional cables, CP-12 or OPC-254.

**CAUTION:** Operation with an external DC power source simultaneously charges batteries inside the battery case or the battery pack. This may cause battery leakage and damage the transceiver or cause battery overcharging and shorten the life of the battery pack, respectively.

### ANTENNA CONNECTOR

(p. 9)

Connects the supplied antenna.

### POWER SWITCH [POWER]

(p. ii)

Turns the power ON and OFF when pushed for 1 sec.

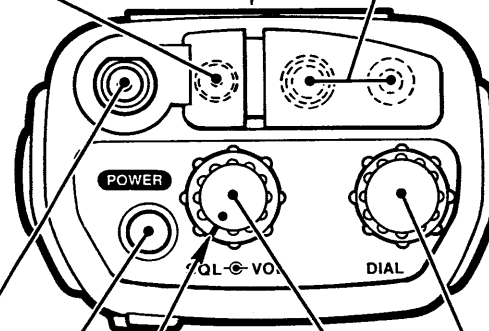
### SQUELCH CONTROL [SQL]

(p. 14)

Varies the squelch threshold point for noise mute.

### BATTERY PACK RELEASE BUTTON

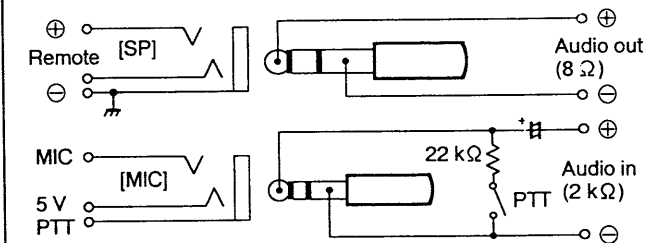
(p. i)



### EXTERNAL SPEAKER AND MICROPHONE JACKS [SP]/[MIC]

Connect an optional speaker-microphone or headset, if desired. The internal microphone will not function when either is connected. The HM-9 cannot be used. (p. 54)

### ◇ External connection



The above diagram does not apply when a condenser microphone is connected.

### TUNING DIAL [DIAL]

Sets operating frequency, memory channel and set mode contents.

### VOLUME CONTROL [VOL]

(p. 14)

Adjusts the audio level.

# 1 PANEL DESCRIPTION

## Keyboard

T/TSQL (1)	PGR/C SQL (2)	SKIP (3)	CLR/M→V (A)
DUP (4)	CODE (5)	MASK (6)	MR/MW (B)
PRI (7)	SET (8)	TIMER (9)	RPT-M (C)
▽/SCAN (*)	D SEL (0)	△/SCAN (#)	CALL/LOCK (D)

KEY	FUNCTION	SECONDARY FUNCTION (+ [FUNC])
T/TSQL (1)	<ul style="list-style-type: none"> <li>• Input the appropriate digit while in VFO and memory modes. (pgs. 11, 21)</li> <li>• Transmit the appropriate DTMF code while transmitting.</li> </ul>	Activates the following optional* functions in this sequence: subaudible tone encoder → pocket beep → tone squelch → non-tone operation. (pgs. 17, 44)
PGR/C SQL (2)		Activates the following functions in this sequence: pager → code squelch → non-selective calling. (pgs. 41, 42)
SKIP (3)		Sets the selected memory channel as a skip memory channel in memory mode. (p. 31)
DUP (4)		Selects the duplex direction in this sequence: – duplex → + duplex → simplex. (p. 17)
CODE (5)		Programs the code channel for pager and code squelch operation. (p. 40)
MASK (6)		Hides and displays the selected memory channel in memory mode. Memory channel 0 cannot be hidden. (p. 23)
PRI (7)		Starts the priority watch. (p. 34)
SET (8)		Enters set mode. (Various pages)
TIMER (9)		Enters timer mode. (p. 36)
D SEL (0)		Selects the dial select step. (p. 12)

\*Built-in to the U.S.A. version.



**Count on us!**

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