ICOM

INSTRUCTION MANUAL

VHF/UHF DIGITAL TRANSCEIVER

IC-E80D

Icom Inc.

FOREWORD

Thank you for purchasing this fine Icom product. We understand you have a choice of many different radios in the market place. Many hours of research and development went into the design of your IC-E80D, following Icom's philosophy of "technology first."

The IC-E80D VHF/UHF DIGITAL TRANSCEIVER is designed with Icom's superior technology and craftsmanship combining traditional analog technologies with the new digital technology, Digital Smart Technologies for Amateur Radio (D-STAR), for a balanced package.

With proper care, this product should provide you with years of trouble-free operation. We want to take a couple of moments of your time to thank you for making your IC-E80D your radio of choice, and hope you agree with Icom's philosophy of "technology first."

EXPLICIT DEFINITIONS

WORD	DEFINITION
⚠ DANGER!	Personal death, serious injury or an explosion may occur.
⚠ WARNING!	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	Recommended for optimum use. No risk of personal injury, fire or electric shock.

FEATURES

- ❍ *DV mode (Digital voice + Low-speed data communication) operation-ready*
  - *– Text message and call sign exchange*
  - *– Transmitting position data with a GPS receiver*
- ❍ *GPS receiver connectable*
  - *– Optional HM-189GPS is required*
- ❍ *DR (D-STAR Repeater) mode and repeater list allow you to operate a D-STAR repeater simply*
- ❍ *Splash-resistant construction (IPX4*)*

*Only when the supplied battery pack (or optional battery case), antenna and jack cover are attached.

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-E80D.

PRECAUTIONS

⚠**WARNING RF EXPOSURE!** This device emits Radio Frequency (RF) energy. Caution should be observed when operating this device. If you have any questions regarding RF exposure and safety standards please refer to the Federal Communications Commission Office of Engineering and Technology's report on Evaluating Compliance with FCC Guidelines for Human Radio Frequency Electromagnetic Fields (OET Bulletin 65)

⚠**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.

⚠**WARNING! NEVER** operate the transceiver with an earphone, headphones or other audio accessories at high volume levels. Hearing experts advise against continuous high volume operation. If you experience a ringing in your ears, reduce the volume level or discontinue use.

⚠**WARNING! NEVER** operate the transceiver while driving a vehicle. Safe driving requires your full attention—anything less may result in an accident.

NEVER connect the transceiver to a power source of more than 16 V DC. This will ruin the transceiver.

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

DO NOT operate the transceiver near unshielded electrical blasting caps or in an explosive atmosphere.

DO NOT push the PTT unless you actually intend to transmit.

BE CAREFUL! The transceiver will become hot when operating it continuously for long periods.

DO NOT use or place the transceiver in direct sunlight or in areas with temperatures below –20°C or above +60°C.

Place the unit in a secure place to avoid inadvertent use by children.

DO NOT use harsh solvents such as benzene or alcohol to clean the transceiver, because they can damage the transceiver's surfaces.

PRECAUTIONS

KEEP away from heavy rain, and never immerse the IC-E80D in the water. The transceiver meets IPX4* requirements for splash resistance. However, once the transceiver has been dropped, splash resistance cannot be guaranteed because of possible damage to the transceiver's case or waterproof seal.

*Only when the supplied battery pack (or optional battery case), antenna and jack cover are attached.

NEVER operate or touch the transceiver with wet hands. This may result in an electric shock or may damage the transceiver.

Even when the transceiver power is OFF, a slight current still flows in the circuits. Remove the battery pack or batteries from the transceiver when not using it for a long time. Otherwise, the installed battery pack or batteries will become exhausted, and will need to be recharged or replaced.

• Important notes when using GPS receiver

Please do not use the HM-189GPS close to the transceiver's antenna. The transmit signal may cause GPS receiver malfunction.

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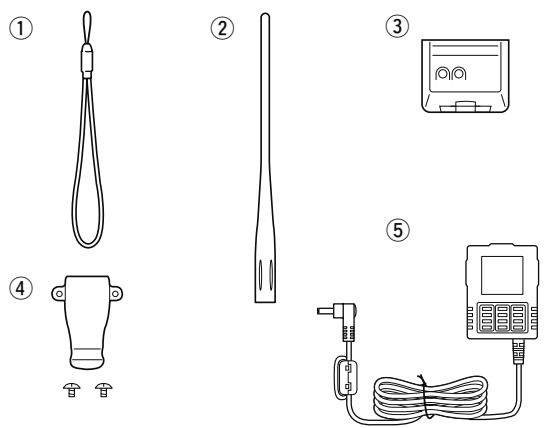
SUPPLIED ACCESSORIES

The following accessories are supplied with the transceiver.

① Hand strap 1
② Antenna 1
③ Battery pack (BP-217) 1
④ Belt clip 1
⑤ Battery charger (BC-167ND)* 1

* Not supplied with some versions.



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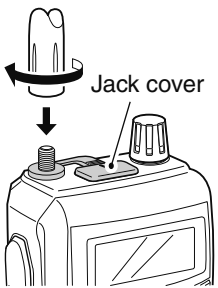
■ Antenna

Insert the supplied antenna into the antenna connector and screw down the antenna as shown below.

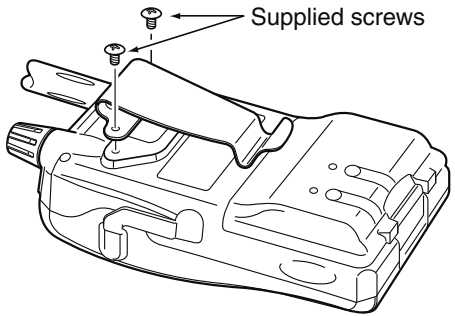


NEVER carry the transceiver by holding the antenna.

KEEP the jack cover attached when jack is not in use to protect the connector from dust and moisture.

✔ For your information
Third-party antennas may increase transceiver performance. An optional AD-92SMA ANTENNA CONNECTOR ADAPTER is available to connect an antenna that has a BNC connector.

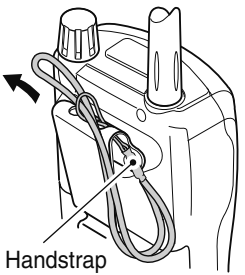
■ Belt clip



CAUTION:
USE the supplied screws only. Using screws longer than specified could damage the transceiver.

■ Hand strap

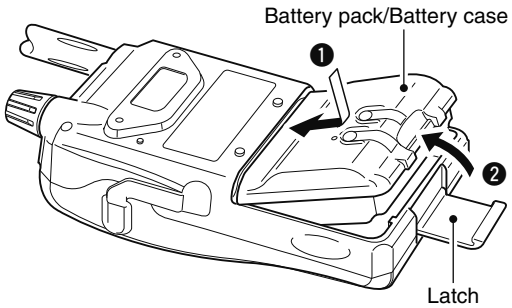
To facilitate carrying the transceiver, slide the hand strap through the loop on the top of the belt clip as illustrated below.



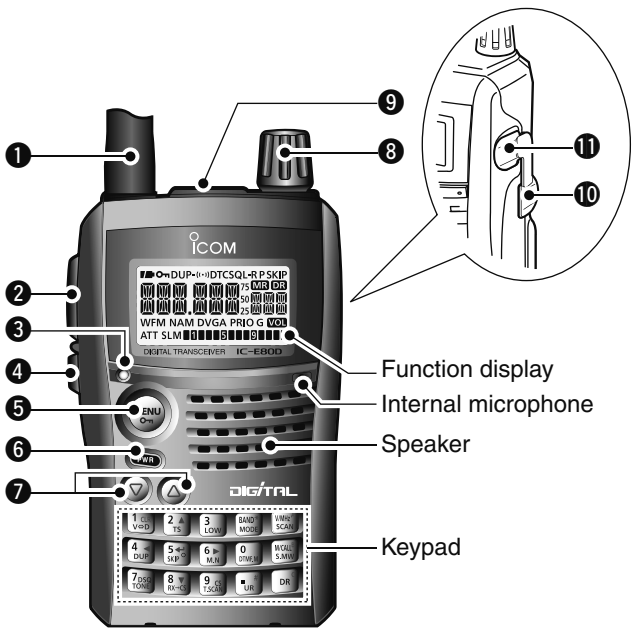
■ Battery pack

Attach the Li-Ion battery pack (BP-217) or battery case (BP-216) as illustrated below.

• Charge the Li-Ion battery pack before use. (pgs. 12, 13)



■ Front, top and side panels



❶ANTENNA CONNECTOR (p. 1)
Connects the supplied antenna.
• An optional AD-92SMA adapter (p. 163) is available for connecting an antenna with a BNC connector.

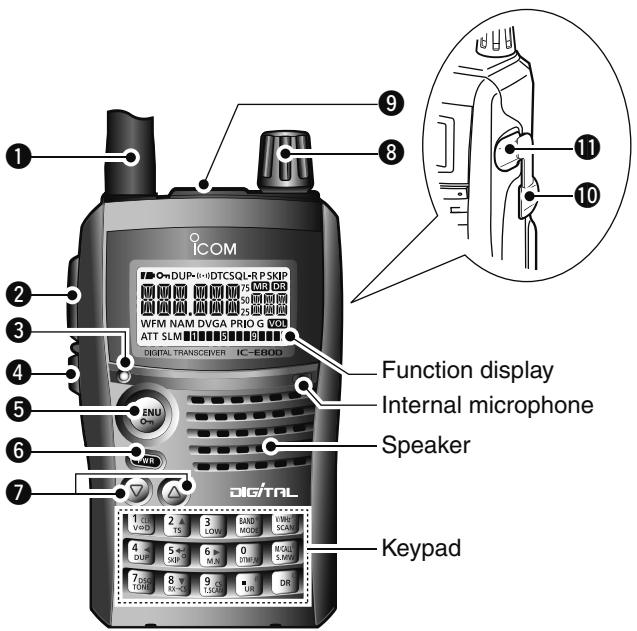
❷PTT SWITCH [PTT]
➥ Push and hold to transmit, release to receive. (p. 26)
➥ Push briefly, then push and hold to transmit a 1750 Hz tone burst. (p. 33)

❸TX/RX INDICATOR [TX/RX] (pgs. 24, 26)
Lights green while receiving a signal or when the squelch is open; lights red while transmitting.

❹SQUELCH KEY [SQL] (p. 17)
➥ Push and hold to open the squelch temporarily and monitor the operating frequency.
➥ While pushing and holding this key, rotate **[DIAL]** to adjust the squelch level.

❺MENU • LOCK KEY [MENU]
➥ Push to enter menu screen indication ON and OFF. (p. 115)
• Pushing **[V/MHz]** also exits from menu screen.
➥ Push and hold for 1 sec. to toggle the lock function ON and OFF. (p. 24)

❻POWER KEY [PWR]
Push and hold for 1 sec. to turn the transceiver power ON and OFF. (p. 16)



❼VOLUME CONTROL KEY [△]/[▽]

- ➥ Adjust audio volume level. (p. 16)
- ➥ **[△]** enters or sends the DTMF code 'D.' (pgs. 143–145)

The function of tuning control and volume control can be traded. See page 20 for details.

❽CONTROL DIAL [DIAL]

- ➥ Rotate to tune the operating frequency. (p. 22)
- ➥ During memory mode, rotate to select the memory channel. (pgs. 18, 92)
- ➥ While scanning, changes the scanning direction. (pgs. 53, 104, 106, 107)
- ➥ While pushing and holding **[SQL]**, sets the squelch level. (p. 17)
- ➥ After pushing **[BAND]** during memory mode operation, selects the programmed bank. (p. 96)
- ➥ During menu screen operation, rotate to select the set items or values. (p. 115)

The function of tuning control and volume control can be traded. See page 20 for details.

❾EXTERNAL SPEAKER/MICROPHONE JACK [SP/MIC]

Connect a cloning cable, optional speaker microphone or headset, if desired.
See page 163 for a list of available options.

Be sure to turn power OFF before connecting/disconnecting optional equipment to/from the [SP/MIC] jack.

⑩ EXTERNAL DC IN JACK [DC IN]

➥ Connects the supplied wall charger, BC-167ND, to charge the attached battery pack. (p. 12)

➥ Connect an external DC power supply through the optional CP-12L, CP-19R or OPC-254L for external DC operation. (p. 15)

⑪ DATA JACK [DATA] (pgs. 74, 77, 157)

Connects a PC through the optional data communication cable, OPC-1529R, for low-speed data communication in the DV mode or cloning operation. The jack and cable are also used to connect a GPS receiver.

◇ KEYPAD

➥ Push to input numeral for frequency input, memory channel selection, etc.

➥ Push to enter or send the DTMF code. (pgs. 143–145)

1 • VOLUME/DIAL KEY [1] • [V⇔D](1)

1 CLR V⇔D

➥ Numeral input and DTMF code: '1'

➥ Push and hold for 1 sec. to exchange the assigned functions between **[DIAL]** and **[△]/[▽]**. (p. 20)

2 • TUNING STEP KEY [2] • [TS](2)

2 ▲ TS

➥ Numeral input and DTMF code: '2'

➥ Push and hold for 1 sec. to enter tuning step set mode. (p. 22)

➥ During menu screen operation or select memory write mode, push to select the set items or values. (p. 115)

3 • OUTPUT POWER KEY [3] • [LOW](3)

3 LOW

➥ Numeral input and DTMF code: '3'

➥ Push and hold for 1 sec. to select the output power. (p. 27)

- Selects the transmit output power from high, mid, low and S-low.
- While pushing and holding this key, **[DIAL]** rotation selects the output power.

4 • DUPLEX KEY [4] • [DUP](4)

4 ◀ DUP

➥ Numeral input and DTMF code: '4'

➥ Push and hold for 1 sec. to select minus duplex, plus duplex, and simplex operation. (p. 32)

- "DUP–" (minus duplex), "DUP" (plus duplex) and no indication (simplex) appear in order.
- While pushing and holding this key, **[DIAL]** rotation selects the duplex operation.

➥ During menu screen operation, push to select the upper layer. (p. 115)

5 • SKIP KEY [5] • [SKIP](5)

➥ Numeral input and DTMF code: '5'
➥ Push and hold to turn the frequency skip function ON and OFF in the VFO mode, or set the memory channel as the following skip channel in memory mode in order. (pgs. 102, 108, 109)
- "SKIP" appears when memory skip, "PSKIP" appears when frequency skip and no indication appears when non skip channel is set.
- While pushing and holding this key, **[DIAL]** rotation selects the skip condition.

➥ During menu screen operation, push to enter or exit to/from the selected set items, etc. (p. 115)

6 • MEMORY NAME KEY [6] • [M.N](6)

➥ Numeral input and DTMF code: '6'
➥ Push and hold for 1 sec. to turn the memory or bank name indication ON and OFF. (p. 98)
- While pushing and holding this key, **[DIAL]** rotation selects the memory or bank indication.

➥ During menu screen operation, push to select the lower layer. (p. 115)

7 • TONE/DIGITAL SQUELCH KEY
[7] • [TONE](7)/[DSQ](7)

➥ Numeral input and DTMF code: '7'
➥ During FM/FM-N mode operation, push and hold for 1 sec. to select repeater tone, tone squelch, tone squelch reverse, DTCS squelch, DTCS squelch reverse and no tone operation in sequence. (p. 150)
- Pocket beep function is available for tone squelch and DTCS squelch. (p. 151)

➥ During DV mode operation, push and hold for 1 sec. to select digital call sign squelch, digital code squelch and no squelch operation in sequence. (p. 151)
- Pocket beep function is available. (p. 151)

8 • RX CALL SIGN SET KEY [8] • [RX→CS](8)

➥ Numeral input and DTMF code: '8'
➥ During DV mode operation, push and hold for 1 sec. to set the received call signs (station and repeaters) to current call sign. (p. 50)
➥ During menu screen operation or select memory write mode, push to select the set items or values. (p. 115)

9 • TONE SCAN/CALL SIGN KEY
[9] • [T.SCAN](9)/[CS](9)

➥ Numeral input and DTMF code: '9'
➥ During FM/FM-N mode operation, push and hold for 1 sec. to start tone scan function. (p. 152)
➥ During DV mode operation (including the DR mode operation), push and hold for 1 sec. to enter the current call sign mode. (pgs. 48, 59)

Count on us!

#02 Europe

<Intended Country of Use>						
■ AT	■ BE	■ CY	■ CZ	■ DK	■ EE	
■ FI	□ FR	■ DE	■ GR	■ HU	■ IE	
□ IT	□ LV	■ LT	■ LU	■ MT	■ NL	
■ PL	■ PT	■ SK	■ SI	■ ES	■ SE	
□ GB	□ IS	■ LI	□ NO	□ CH	■ BG	
■ RO	□ TR	□ HR				

#03 U.K.

<Intended Country of Use>						
□ AT	□ BE	□ CY	□ CZ	□ DK	□ EE	
□ FI	□ FR	□ DE	□ GR	□ HU	□ IE	
□ IT	□ LV	□ LT	□ LU	□ MT	□ NL	
□ PL	□ PT	□ SK	□ SI	□ ES	□ SE	
■ GB	□ IS	□ LI	□ NO	□ CH	□ BG	
□ RO	□ TR	□ HR				

#04 Italy

<Intended Country of Use>						
□ AT	□ BE	□ CY	□ CZ	□ DK	□ EE	
□ FI	□ FR	□ DE	□ GR	□ HU	□ IE	
■ IT	□ LV	□ LT	□ LU	□ MT	□ NL	
□ PL	□ PT	□ SK	□ SI	□ ES	□ SE	
□ GB	□ IS	□ LI	□ NO	□ CH	□ BG	
□ RO	□ TR	□ HR				

#06 France

<Intended Country of Use>						
□ AT	□ BE	□ CY	□ CZ	□ DK	□ EE	
□ FI	■ FR	□ DE	□ GR	□ HU	□ IE	
□ IT	□ LV	□ LT	□ LU	□ MT	□ NL	
□ PL	□ PT	□ SK	□ SI	□ ES	□ SE	
□ GB	□ IS	□ LI	□ NO	□ CH	□ BG	
□ RO	□ TR	□ HR				

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