



VHF/UHF MULTIBAND FM TRANSCEIVER

# IC-E90

*Surprisingly compact, full featured tri-bander  
with wideband receiver*

**5 Watts on 50MHz, 144MHz,  
and 430MHz**

**Wideband receiver—  
495kHz–999.990MHz!**

**555 alphanumeric memory  
channels with Icom's  
NEW DMS (Dynamic Memory Scan)  
technology!**

#### **5 Watts on 50MHz, 144MHz and 430MHz**

Enjoy a full 5 watts on all three bands from the supplied 1300mAh Lithium-Ion battery pack, BP-217. Along with the energy conserving settings, the BP-217 provides up to 5 to 6 hours\*<sup>1</sup> of operating time and greatly reduces both the size and weight needed to get full output power. Just recharge and go!

\*<sup>1</sup> Tx high: Rx: Stand-by duty ratio= 1: 1: 8

#### **Wideband receiver — 495kHz to 999.990MHz\*<sup>2</sup>**

The IC-E90 offers a wideband AM, FM, and WFM scanning receiver. Not only you can hear your favorite TV programs with the pre-programmed TV memories, but you can also listen to shortwave, AM and FM broadcast radio stations with excellent sound quality.

\*<sup>2</sup> Receiver range and pre-programmed memories differs depending on version.

#### **Rugged palm sized\*<sup>3</sup>, splash resistant construction**

This compact, lightweight radio is comfortable in the smallest of hands, and offers full radio control for large fingers. The aluminum die-cast case and chassis is designed for the most rugged environments with splash resistance equivalent to JIS 4 specifications.

\*<sup>3</sup> 58(W)×87(H)×29(D) mm ; 280g (With antenna and BP-217)

#### **DTCS and CTCSS tone squelch**

A standard feature of the IC-E90 is both DTCS and CTCSS encode and decode capability. Choose from either 104 DTCS or 50 CTCSS codes for receive and transmit, individually. In addition, a pocket beep function gives you an audio alert when a matched tone signal is received — a great feature for quiet group operations.

#### **DMS (Dynamic Memory Scan) bank scanning**

With 555 alphanumeric memory channels, including 50 band edges and 5 call channels, Icom's DMS technology gives you flexible scanning lists. With a maximum of 18 banks or 100 channels per bank, you can pick and choose the desired channel for scanning from the 500 memories.

#### **Rich in features but simple in operation**

Simple, one-handed operation is the most valuable feature of the IC-E90. The backlit ten-key pad allows you to enter frequency, memory number and set various other features. The tuning knob can be customized for channel selection, or volume control.

#### **Wait! There's more...**

- DTMF encoder with 10 memories
- Morse code synthesizer indicates the frequency in morse code
- Backlit LCD and keypad
- Auto squelch • 13 scanning modes
- High speed scanning
- PC Programmable • Antenna tip replaceable
- 5.5–11V DC operation • Split operation
- Wide/narrow transmit capability



**Icom Inc.**

## SPECIFICATIONS

## GENERAL

- Frequency coverage : (Unit: MHz)

Version	50MHz	144MHz	430MHz	Receive
EUR	50-52	144-146	430-440	0.495-999.990
UK	50-52	144-146	430-440	
ITR	50-51	144-146	430-434, 435-438	
EUR-1	—	144-146	430-440	0.495-29.995, 50-52, 76-135.995,
FRA	50.2-51.2	144-146	430-440	144-146, 430-440
ESP	—	144-146	430-440	50-50.2, 144-146, 430-440

- Mode : FM, AM (Rx. only), WFM (Rx. only)
- No of memory Ch. : 555 (500 reg., 50 scan edges, 5 call)
- Operating temp. range : -10°C to +60°C
- Frequency stability :  $\pm 6$ ppm (-10°C to +60°C)
- Power supply : 5.5 to 11V DC or specified battery pack
- Current drain (at 8.0V DC):
  - Tx High (5.0W) 2.0A typ.
  - Rx Rated audio 220mA typ.
  - Standby 100mA typ.
  - Power saved 65mA typ. (duty=1:4)
- Tuning steps (kHz) : 5, 6.25, 8.33, 9, 10, 12.5, 15, 20, 25, 30, 50, 100, 200
- Antenna impedance : 50 $\Omega$  (SMA)
- Dimensions : 58(W) $\times$ 87(H) $\times$ 29(D) mm (projections not included)
- Weight (approx.) : 280g (with BP-217 and antenna)

## TRANSMITTER

- Output power (8.0V DC): High 5W typ. Low 0.5W typ.
- Spurious emissions : Less than -60dB
- Max. freq. deviation :  $\pm 5.0$ kHz
- Ext. MIC connector : 3-conductor 2.5(d) mm/2k $\Omega$

## RECEIVER

- Receive system : Double-conversion superheterodyne
- Intermediate freq. : 1st 69.45MHz (FM/AM)  
13.35MHz (WFM)  
2nd 450kHz
- Sensitivity\* (typ., except spurious points):
  - FM 1.625-4.995MHz 0.4 $\mu$ V
  - (at 12dB SINAD) 5.000-49.995MHz 0.18 $\mu$ V
  - 50.000-54.000MHz 0.16 $\mu$ V
  - 54.005-143.995MHz 0.18 $\mu$ V
  - 144.000-148.000MHz 0.16 $\mu$ V
  - 148.005-221.995MHz 0.4 $\mu$ V
  - 222.000-225.000MHz 0.32 $\mu$ V
  - 225.005-246.995MHz 0.4 $\mu$ V
  - 247.000-429.995MHz 0.32 $\mu$ V
  - 430.000-450.000MHz 0.16 $\mu$ V
  - 450.005-832.990MHz 0.32 $\mu$ V
  - 833.000-999.990MHz 1 $\mu$ V

WFM (at 12dB SINAD)	40.000-108.000MHz	1 $\mu$ V
	175.000-221.995MHz	1.8 $\mu$ V
	470.000-770.000MHz	3.2 $\mu$ V
AM (at 10dB S/N)	0.495-4.995MHz	1.3 $\mu$ V
	5.000-29.995MHz	0.56 $\mu$ V
	118.000-136.000MHz	0.5 $\mu$ V
	222.000-229.995MHz	0.79 $\mu$ V
	320.000-329.995MHz	1 $\mu$ V

- Selectivity (except WFM) : More than 15kHz/-9dB
- Spurious and image rejection ratio: Less than 30kHz/-60dB
- 50MHz : More than 60dB (half IF: 50dB, IF: 40dB)
- 144MHz : More than 60dB (half IF: 50dB)
- 430MHz : More than 50dB (IF: 60dB)
- Audio output power : 200mW typ. at 10% distortion/8 $\Omega$  load (at 25°C)
- Ext. speaker connector : 2-conductor 3.5(d) mm/8 $\Omega$

## Supplied accessories (\*depending on version)

- Battery pack (BP-217)
- Wall charger\* (BC-110DR)
- Antenna (FA-S6270D)
- Swivel belt clip (MB-83)

All stated specifications are subject to change without notice or obligation.

## OPTIONS

## BATTERY PACK AND CASE

## BP-216

R6 (AA) batteries  $\times$  2



## BP-217

Li-Ion 7.4V/1300mAh



BATTERY PACKS AND CASE		BP-216	BP-217
OUTPUT POWER		0.1W typ.	5.0W typ.
BATTERY LIFE	50MHz	—	6hours
	144/430MHz	—	5hours

Battery life is approx. time; (Tx high: Rx: Stand-by=1: 1: 8)

## BC-139 DESKTOP CHARGER



Rapidly charges battery pack BP-217. Charging time (approx.): 2.5 hours.

## CP-19E CIGARETTE LIGHTER CABLE WITH NOISE FILTER



Allows you to operate the transceiver with 11V DC output through a cigarette lighter socket (12V). The connected battery pack is charged simultaneously.

## LC-152A CARRYING CASE



Helps protect the transceiver from scratches, etc. Fits any battery pack.

## SPEAKER-MICROPHONES



- HM-46 : Slim dimensions. Equipped with an earphone jack and transmit indicator.
- HM-75A : Allows you to remotely select operating channels, etc., according to cloning.
- HM-131 : Compact and durable body. Equipped with an earphone jack and a revolving clip.

## HS-94 EARHOOK-HEADSET



Flexible boom microphone and rotating earpad with a spring earhook. Use with the VS-1.

## VS-1 VOX/PTT CASE



Allows you hands-free operation. Use with the HS-94.



For hands-free operation. Includes VOX, PTT and "one-touch" PTT with a time-out timer.

## MB-83 SWIVEL BELT CLIP



Prevents accidental dropping from your belt. Same as supplied.

## SP-13 EARPHONE



Provides clear audio in noisy environments.

## HM-128 EARPHONE-MICROPHONE



A light weight earphone-mic has a PTT switch that clips to your lapel.

## AD-92SMA ANTENNA CONNECTOR ADAPTER



Allows you to connect a BNC-type antenna.

## BC-110DR WALL CHARGER



Regularly charges battery packs. The same as supplied with some versions.

CS-T90A CLONING SOFTWARE + OPC-478 CLONING CABLE  
Provides quick and easy editing of memory channels, memory names and set mode contents, for local repeater frequencies, etc.

OPC-474 CLONING CABLE  
Used for handheld-to-handheld data cloning.

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Certificate Number Q14190

Icom Inc. (Japan), is an ISO9001 certification acquired company.

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