

TRI-BAND FM TRANSCEIVER

IC-T90A (U.S.A.)

IC-E90 (EURO)



Icom proudly announces the debut of the new multi-band handheld transceiver, the IC-T90A/IC-E90. This multi-band FM handheld covers the 50MHz, 144 MHz and 430 MHz bands and is equipped with a wide band receiver between 0.495–999.990MHz bands. A newly employed Li-Ion battery pack provides high power 5W output in all bands for long operating periods. The IC-T90A/E90 also has an ultra compact body. A truly versatile multi-featured unit!

SELLING POINTS

- 50MHz, 144MHz, 430MHz multi band with 0.495–999.990MHz wide band receiver
- 5W output on 50MHz, 144MHz, 430MHz
- High power capacity, long life Li-Ion battery pack standard
- Compact and rugged construction
- Water resistant construction equivalent to JIS 4
- Fully functional keypad provides simple and intuitive operation
- DTCS, CTCSS tone and pocket beep functions
- Total 555 memory channels
- 14 varieties of high speed scan

The above photo shows IC-T90 for Japan version.
The IC-T90A and IC-E90 may differ slightly from this photo.

FEATURES

Multi band + wide band receiver

The IC-T90A/IC-E90 is a tri-band —50, 144, 430MHz— transceiver and its receiver covers from 0.495 to 999.990MHz* in AM/FM/WFM modes. All this capability is packed into a surprisingly compact body, measuring only 58×87×29mm. The IC-T90A/IC-E90 brings the fun of ham radio as well as the listening pleasure of various broadcast and utility radios.

* Some bands are restricted depending on version.



5 Watts output in all bands

Icom's original PA circuit and supplied lithium Ion battery pack enables 5W max. output for all bands. This powerful output widens your contact ability and enlarges the fun.

Standard high capacity, long life Li-Ion battery pack

The IC-T90A/IC-E90 comes with a standard Lithium-Ion battery pack, BP-217. Li-Ion batteries are superior in battery cycle and have little 'memory effect'. The combination of the IC-T90A/IC-E90 and BP-217 provides longer battery life and higher output power. An optional battery case, BP-216, allows you practical 100mW (typical) output with 2 alkaline cells. Useful while charging the battery pack.

Compact and rugged construction

This incredibly small size is realized with a custom designed power amplifier and three dimensional parts layout. The body is covered with a rugged 2-piece aluminum die-cast chassis. The water-resistant construction, equivalent to JIS grade 4, is a practical feature for active outdoor operation.

Simple operation

Simple, one-hand operation is a major feature of the IC-T90A/IC-E90. The backlit ten-keypad allows you to enter frequency, memory number and various other functions. The tuning knob can be assigned for either channel selection or volume control.

DTCS, CTCSS tone and pocket beep function is standard

104 DTCS and 50 CTCSS codes are available for quiet stand-by and repeater access. The pocket beep function gives you an audio alert when a matched tone signal is received.

Total 555 memory channels

A total 555 alphanumeric memory channels (including 50 scan edges and 5 call channels) are available. This large number of memory channels can be efficiently managed with our Dynamic Memory Scan (DMS) system. With a maximum of 18 banks (One bank can store a max. 100 channels), you can pick and choose any desired channel for scanning from the 500 memories.

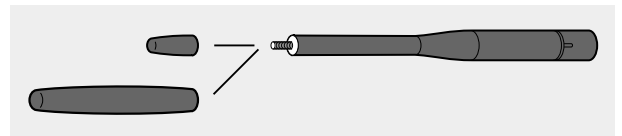
14 varieties of high-speed scan

The IC-T90A/IC-E90 supports 14 types of scan for maximum receiver utilization and ease of use.

- Full VFO scan
- Program scan
- Band scan
- Full memory scan
- Memory bank scan (DMS)
- Priority scan
- CTCSS decode scan
- Full VFO skip scan
- Program skip scan
- Band skip scan
- Full memory skip scan
- Memory bank skip scan
- TV channel search
- DTCS decode scan

Other features

- Auto squelch function adjusts squelch level
- Squelch monitor function
- DTMF encoder with 10 (16 digits) DTMF memories
- Adjustable 12 tuning steps and automatic tuning
- Automatic power saver function
- LCD and keypad backlighting with timer
- 2 VFO (A/B) for split frequency operation
- FM narrow mode available
- ±5kHz adjustable RIT and 10dB attenuator
- Dial speed adaptive tuning
- 5.5-11.5V DC acceptable as an external power supply
- Morse code synthesizer announces the operating frequency in morse code. Morse code speed is adjustable
- Tip-replaceable antenna (FA-S6270D) for wide band operation



The short tip (above) is suitable for 144–430MHz bands, the long tip (bottom) for 50MHz band receive.

SPECIFICATIONS

Specifications described below are target values. They may be subject to change.
DO NOT incorporate this information in your advertisements until it has been confirmed.

■ GENERAL

- Frequency coverage : (Unit: MHz)

Version	50MHz	144(145)MHz	430(440)MHz	Rx
USA/Can	50-53.995	144-148	440-450	0.495-999.990*2
Europe	50-52*1	144-146	430-440	0.495-440*1
General	50-53.995	144-148	430-440	0.495-999.990

*1 Depending on version.

*2 Cellular blocked.

- Mode : FM, AM*, WFM*
*Receive only
- No. of memory Ch. : 555 channels/ 18 banks (including 50 program scan edges and 5 call)
- Frequency resolution : 5, 6.25, 8.33, 9, 10, 12.5, 15, 20, 25, 30, 50, 100 and 200kHz
- Frequency stability : ± 6 ppm (-10°C to $+60^{\circ}\text{C}$)
- Power supply requirement: 5.5 to 11.0V or (negative ground) specified battery pack/case
- Current drain (at 8.0V DC):

Tx	High	2.0A typ.
Rx	Power save	35mA typ. (duty= 1:4)
	Rated output	220mA typ.
	Stand-by	100mA typ.
- Antenna connector : SMA (50 Ω)
- Operating temp. range : -10°C to $+60^{\circ}\text{C}$; $+14^{\circ}\text{F}$ to $+140^{\circ}\text{F}$
- Dimensions : 58(W) \times 87(H) \times 29(D) mm (projections not included) 2 $\frac{1}{32}$ (W) \times 3 $\frac{7}{16}$ (H) \times 1 $\frac{9}{32}$ (D) in
- Weight (approx.) : 240g; 8.46oz (w/ant. & BP-217)

■ TRANSMITTER

- Modulation system : Variable reactance modulation
- Output power : High 5W typ. (at 8.0V DC) Low 0.5W typ.
- Spurious emissions : Less than -60 dB
- Max. freq. deviation : ± 5.0 kHz
- Ext. MIC connector : 3-conductor 2.5 (d) mm ($\frac{1}{8}$ ")/2k Ω

■ RECEIVER

- Receiver system : Double-conversion superheterodyne
- Intermediate freq. : 1st 69.450MHz (FM/AM) 13.350MHz (WFM)
2nd 450kHz
- Sensitivity (typical):

FM (at 12dB SINAD)		
1.625 - 4.995MHz	0.4 μ V	
5.000 - 49.995MHz	0.18 μ V	
50.000 - 54.000MHz	0.16 μ V	
54.005 - 143.995MHz	0.18 μ V	
144.000 - 148.000MHz	0.16 μ V	
148.005 - 221.995MHz	0.4 μ V	
222.000 - 225.000MHz	0.32 μ V	
225.005 - 246.995MHz	0.4 μ V	
247.000 - 429.995MHz	0.32 μ V	
430.000 - 450.000MHz	0.16 μ V	
450.005 - 832.995MHz	0.32 μ V	
833.000 - 999.990MHz	1 μ V	
WFM (at 12dB SINAD)		
40.000 - 108.000MHz	1 μ V	
175.000 - 221.995MHz	1.8 μ V	
470.000 - 770.000MHz	3.2 μ V	
AM (at 10dB S/N)		
0.495 - 4.995MHz	1.3 μ V	
5.000 - 29.995MHz	0.56 μ V	
118.000 - 136.000MHz	0.5 μ V	
222.000 - 229.995MHz	0.79 μ V	
320.000 - 329.995MHz	1 μ V	
- Selectivity (AM/FM) : Less than -9 dB/15kHz
More than -60 dB/30kHz
WFM : Less than -3 dB/350kHz
More than -20 dB/700kHz
- Spurious and image rejection ratio:

50MHz bands	More than 60dB (50dB for half IF; 40dB for IF)
144MHz bands	More than 60dB (50dB for half IF)
430(440)MHz band	More than 50dB (60dB for IF)
- Audio output power : 200mW typ. at 10% distortion (at 25 $^{\circ}\text{C}$) with an 8 Ω load
- AF output impedance : 8 Ω

OPTIONS

- **BC-110 A/AR/D/DR/V** WALL CHARGER
- **BC-139*** DESKTOP CHARGER
- **BP-216*** BATTERY CASE (2 dry or alkaline cells)
- **BP-217*** BATTERY PACK (Li-Ion; 7.4V/1300mAh)
- **CP-19*** CIGARETTE LIGHTER CABLE (DC-DC converter is built-in)
- **CS-T90A*** CLONING SOFTWARE (for Microsoft[®] Windows[®] 95/98/Me)
- **HM-54** SPEAKER MICROPHONE
- **HM-75A** REMOTE CONTROL SPEAKER MICROPHONE
- **HM-128** EARPHONE MICROPHONE
- **HM-131** SPEAKER MICROPHONE
- **HS-85** HEADSET
- **HS-94** EARHOOK-HEADSET + **VS-1** VOX/PTT CASE
- **LC-152A*** CARRYING CASE (cannot use with MB-83)
- **MB-83** SWIVEL BELT CLIP
- **OPC-474** CLONING CABLE (transceiver to transceiver)
- **OPC-478** CLONING CABLE (PC to transceiver)
- **SP-13** EARPHONE

*New option

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