



VHF/UHF MULTIBAND FM TRANSCEIVER

# IC-T90A

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

**5 Watts on 50MHz, 144MHz,  
and 440MHz**

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

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



#### Wideband receiver — 495kHz to 999.990MHz

The commercial grade IC-T90A transceiver 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 also you can listen to shortwave, AM and FM broadcast radio stations with good sound quality. Police, fire, military, aircraft and various amateur bands also can be tuned.

#### 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.

#### Lithium-Ion technology

Enjoy a full 5 watts 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\*1 of operating time and greatly reduces both the size and weight needed to get full output power. Just recharge and go!

\*1 Tx high: Rx: Stand-by duty ratio= 1: 1: 8

#### Rugged palm sized\*2, splash resistant construction

This compact 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.

\*2 See back for actual dimensions.

#### DTCS and CTCSS tone squelch

A standard feature of the IC-T90A 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.

#### Simple operation

Simple, one-handed operation is the most valuable feature of the IC-T90A. The backlit ten-key pad allows you to enter frequency, memory number and set various other features. The tuning knob can be customized for either channel selection, or volume control.

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

- DTMF encoder with 10 DTMF memories
- Auto squelch • Morse code synthesizer indicates the frequency in morse code
- Backlit LCD and keypad • High speed scanning • 13 scanning modes
- Antenna tip replaceable • PC Programmable
- 5.5–11V DC operation • Split operation
- Weather alert scan\* (\* U.S.A. version only)
- Wide/narrow transmit capability



**Icom Inc.**

## SPECIFICATIONS

## GENERAL

• Frequency coverage : (Unit: MHz)

Version	50MHz	144MHz	440MHz	Receive
U.S.A.	50-53.995	144-148	430-450**	0.495-999.990*2
Asia	50-53.995	144-148	430-440	0.495-999.990
General	50-53.995	144-148	430-440	0.495-999.990

\*\* Guaranteed range 440-450. \*\* Cellular blocked.

- Mode : FM, AM (Rx. only), WFM (Rx. only)
- Frequency stability :  $\pm 6$ ppm ( $-10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ )
- No. of memory Ch. : 555 (500 reg., 50 scan edges, 5 call)
- Useable temp. range :  $-10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ ;  $+14^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$
- Power supply : 5.5 to 11V DC or specified battery pack
- Current drain (at 8.0V DC):
  - Tx High : 2.0A typ.
  - Low : 0.8A typ. (50/144MHz)
  - 1.2A typ. (430MHz)
  - Rx Rated audio : 220mA
  - Power save : 65mA (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) 2 $\frac{3}{32}$ (W) $\times$ 3 $\frac{1}{16}$  $\times$ 1 $\frac{1}{32}$ (D) in.
- Weight (approx.) : 280g; 9 $\frac{7}{8}$  oz (w/antenna and BP-217)

## TRANSMITTER

- Output power (8.0V DC): High 5W typ. Low 0.5W typ.
- Spurious emissions : Less than  $-60$ dB
- Max. freq. deviation :  $\pm 5.0$ kHz
- Ext. MIC connector : 3-conductor 2.5(d) mm ( $\frac{1}{16}$ ")/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) 5-49.995MHz 0.18 $\mu$ V
  - 50-54MHz 0.16 $\mu$ V
  - 54.005-143.995MHz 0.18 $\mu$ V
  - 144-148MHz 0.16 $\mu$ V
  - 148.005-221.995MHz 0.4 $\mu$ V
  - 222-225MHz 0.32 $\mu$ V
  - 225.005-246.995MHz 0.4 $\mu$ V
  - 247-429.995MHz 0.32 $\mu$ V
  - 430-450MHz 0.16 $\mu$ V
  - 450.005-832.995MHz 0.32 $\mu$ V
  - 833-999.990MHz 1 $\mu$ V

WFM	40-108MHz	1 $\mu$ V
(at 12dB SINAD)	175-221.995MHz	1.8 $\mu$ V
	470-770MHz	3.2 $\mu$ V
AM (at 10dB S/N)	0.495-4.995MHz	1.3 $\mu$ V
	5-29.995MHz	0.56 $\mu$ V
	118-136MHz	0.5 $\mu$ V
	222-229.995MHz	0.79 $\mu$ V
	320-329.995MHz	1 $\mu$ V

- Selectivity (except WFM) : More than 15kHz/-9dB  
Less than 30kHz/-60dB
- Spurious and image rejection ratio:
  - 50MHz : More than 60dB  
(half IF: 50dB, IF: 40dB)
  - 144MHz : More than 60dB (half IF: 50dB)
  - 440MHz : More than 50dB (IF: 60dB)
- Audio output power : 200mW typ. at 10% distortion/8 $\Omega$  load (at 25 $^{\circ}$ C)
- Ext. speaker connector : 2-conductor 3.5(d) mm ( $\frac{1}{8}$ ")/8 $\Omega$

## Supplied accessories (\*depending on version)

- Battery pack (BP-217)
- Wall charger\* (BC-110AR/DR)
- 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**  
LR6 (AA)  
batteries  $\times$  2



**BP-217**  
Li-Ion  
7.4V/1300mAh



BATTERY PACK/CASE	OUTPUT POWER	BATTERY LIFE
BP-216	0.1W typ.	—
BP-217	5W typ.	5 hrs. on 144/440MHz band 6 hrs. on 50MHz band

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-19 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.

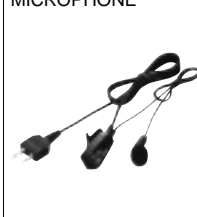
## HS-94 EARHOOK-HEADSET + VS-1 VOX/PTT CASE



Flexible boom microphone and rotating earpad with a spring earhook. Allows you hands-free operation.

**HS-85 HEADSET** is also available. Includes VOX, PTT, "one-touch PTT" (TOT).

## HM-128 EARPHONE-MICROPHONE



Ideal for hands-free operation by clipping the Mic. with PTT switch to your lapel or breast pocket.

## MB-83 SWIVEL BELT CLIP



Prevents accidental dropping from your belt.

**AD-92SMA ANTENNA CONNECTOR ADAPTER**  
Allows you to connect a BNC-type antenna.

**BC-110AR/DR 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.

**SP-13 EARPHONE**  
Provides clear audio in noisy environments.

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Certificate Number Q14190

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

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