

ICOM

MULTIBAND FM TRANSCEIVERS

IC-T81A (U.S.A. version)

IC-T81E (Europe version)

### Amazingly compact 4-bander

The IC-T81A/E multiband transceivers are compact, built tough, offer a wide variety of functions and yet are as simple to operate as single band handhelds.

#### Ultra-compact and water-resistant

The IC-T81A/E includes the 50\*, 144, 430(440) MHz and 1.2 GHz bands and yet is surprisingly compact, measuring only 58(W) x 106(H) x 28.5(D) mm\*. The newly designed power amplifier circuit provides a powerful 5 W\*\* of output power. And water-resistant (JIS grade 4) means safe operation out of doors.

\*Depending on country; \*\*2%±(W) x 4%±(H) x 1%±(D) in.;  
\*net 13.5 V DC typ. († 1 W for 1.2 GHz)

#### Multi-function 'joy-stick' switch

A 'joy-stick' style multi-function switch is adopted and can be toggled left/right, up/down or pushed straight on (5-way action). This allows quick and easy changing of bands, volume, set mode contents, etc. Operation is so simple you might be fooled into thinking you're using a single band transceiver rather than a full function, multiband one!



#### Wide FM and AM receive modes

Wide FM and AM receive allows you to monitor FM broadcasting and VHF air band\* communications.

\*Depending on version.

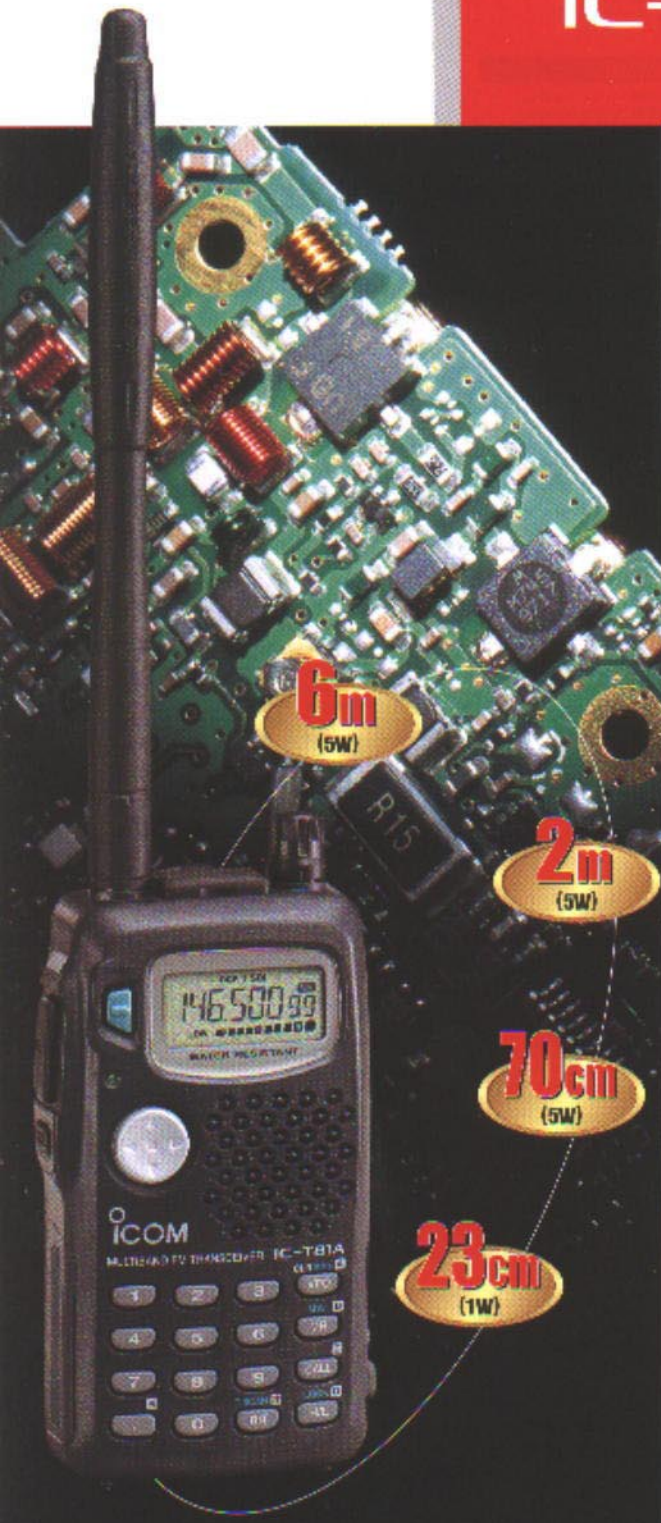
#### Tone squelch standard

Tone squelch and pocket beep functions are standard, providing quiet stand-by. Pocket beep also provides a 'pager-like' function. In addition, a tone scan function is standard, allowing you to determine subaudible tones required to access repeaters.

#### Other features

- RIT and VXO functions for 1200 MHz band
- Ni-MH battery standard (depending on version)
- Durable, commercial-grade construction
- 124 memory channels with name capability (except call channels)
- Excellent frequency stability of ± 3 ppm
- Narrow FM capability (Italy and Europe versions)
- Auto repeater function (USA version only)
- Simultaneous charging and operating capability
- PC programmable (options: cloning software and cable are required)
- 8 DTMF memories
- Built-in guide function and more...

Icom Inc.



## SPECIFICATIONS

## GENERAL

• Frequency coverage (Unit: MHz)

Version	50 MHz	144 MHz	430-440 MHz	1.2 GHz	WPM*
USA	50-52.995 52.995	144-145.995 145.995	430-439.995 439.995	1200-1300	96-127.995
Europe, UK	50-52	144-145	433-440	1200-1300	66-127.995
Italy	50-52	144-145.995 145.995	430-439.995 439.995	1200-1300	66-127.995
Asia	50-52	144-145.995 145.995	430-439.995 439.995	1200-1300	96-127.995
General	50-52	144-145.995 145.995	430-439.995 439.995	1200-1300	66-127.995

\* 0.5 W output 44-144 MHz, 0.5 W output 440-480 MHz or 0.5 W output 430-440 MHz only. \*\* 1W guaranteed.

• Mode FM, AM (the only WPM (6.3) only)

• No. of memory ch. 124 (120 reg., 31 ch. assign. 4 ch.)

• Frequency stability  $\pm 0.5$  ppm  $\pm 100$  Hz @ 20°C

• Usable temp. range  $-10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  ( $+14^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$ )

• Power supply 4.5 to 18 V DC (rechargeable battery pack)

• Current drain at 100% P.O.

Tx max. power 1.4 A @ 14.4 V @ 1200 MHz

Rx (100  $\mu\text{A}$ ) 220 mA

power source 40 mA

standby 70 mA @ 14.4 V @ 1200 MHz

• Tuning steps (Hz) 5, 1, 12.5, 15, 20, 25, 30, 50, 100

(\* Not available for 1500 MHz band)

- Antenna connector SMA (50  $\Omega$ )
- Dimensions (WxDxH) 66x55x25 mm (2.6x2.2x1.0 in)
- Weight (battery pack) 250 g (8.8 oz) (w/o P.O.)
- Weight (battery pack) 270 g (9.5 oz) (w/o P.O.)
- Weight (battery pack) 280 g (9.8 oz) (w/o P.O.)

## TRANSMITTER

- Output power High 5.0 W (1.0 W at 1200 MHz) (at 10.5 V DC)
- Low 0.5 W (0.1 W at 1200 MHz)
- Modulation system Variable reactance linear modulation
- Spurious emissions Less than  $-60$  dB
- 1-50 dB for carrier wave at 1200 MHz  $\pm 40$  dB for others at 1200 MHz
- Max. freq. deviation  $\pm 4.5$  kHz
- Ext. MIC connector 3-conductor 2.5 (5) mm (1.0 (0.2) in)

## RECEIVER

- Receive system Double conversion superheterodyne
- Intermediate freq. 1st: 89.45 MHz (2.25 MHz IFBW)
- 2nd: 490 kHz

• Sensitivity\* (rechargeable battery)

	50 MHz	144 MHz	430-440 MHz	1.2 GHz	91.5 MHz
FM	0.3 $\mu\text{V}$	0.10 $\mu\text{V}$	0.15 $\mu\text{V}$	0.25 $\mu\text{V}$	—
AM	0.55 $\mu\text{V}$	—	—	—	—
WPM	—	—	—	—	2.0 $\mu\text{V}$

\* 100 VPM (rechargeable), 2.25 MHz IFBW, 20% modulation (12.5 dB SIN)

• SQL sensitivity 0.18  $\mu\text{V}$  (156.025  $\mu\text{V}$  at 1200 MHz)

(rechargeable)

0.50  $\mu\text{V}$  (WPM)

0.70  $\mu\text{V}$  (USA)

• Selectivity More than 16 kHz  $\pm 6$  dB

rechargeable Less than  $-60$  dB

• Spurious and image reject on rx side

50, 144 MHz Less than  $-60$  dB

430-440 MHz Less than  $-60$  dB

1200 MHz Less than  $-60$  dB

rechargeable 20 kHz and 60 kHz FM WPM

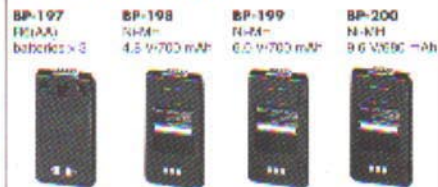
• Audio output power 250 mW @ 10% modulation (at 12.5 V DC)

## Supplied accessories

- Battery pack/case
- Antenna
- Belt clip
- Wall charger\* (rechargeable)

## OPTIONS

## BATTERY PACKS AND CASE



Approx. output powers and operating times (using the BP-197 as a base)

BATTERY PACK	OUTPUT POWER	BATTERY LIFE
BP-197	1 W (0.5 A) typical	6 hrs.
BP-198	1.6 W (0.5 A) typical	5 hrs.
BP-200	4 W (0.5 A) typical	4 hrs.

\* 12.0 V DC

BC-119 DESKTOP CHARGER  
AD-87 DESKTOP CHARGER  
ADAPTER

Rapidly charges battery packs BP-197, BP-198 or BP-200. Built AC (using an AC adapter) and DC can be used to power the charger. The AD-87 must be purchased separately.

## SPEAKER-MICROPHONES



HM-46: Compact and lightweight. Equipped with an expansion jack.  
HM-54: D-rack, full size speaker microphone.  
HM-75A: Allows you to remotely select memory channels operating frequency, etc. Single remote and normal remote are selectable.

LC-148 CARRYING  
CASE

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

## HS-85 HEAD SET



Allows you hands-free operation. Includes VOX, PTT, intercom, PTT, TOT.

CP-12/L CIGARETTE LIGHTER  
CABLE WITH NOISE FILTER  
OPC-254/L DC POWER CABLE

Allows you to operate the transceiver through a 12 V cigarette lighter socket or a 4.5 to 16 V vehicle DC power supply with the CP-12/L or OPC-254/L, respectively. The connected battery pack is charged automatically (3.5 to 18 V necessary).

## SP-13 EARPHONE



Provides clear audio in noisy environments.

BC-110A/C/D/V  
WALL CHARGER

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

CS-781 CLONING SOFTWARE  
- OPC-478 CLONING CABLE

Provides quick and easy programming of memory channels, memory names and set mode contents, for local receiver frequencies, etc.

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

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Certificate Number 02-1590

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

Your local distributor/dealer: