

ICOM

VHF/UHF DUAL BAND TRANSCEIVER

IC-E91

One radio. Two bands. Three times the fun!

Wide Band Receiver

With V/V, U/U dualwatch capability

VHF/UHF DUAL BAND

5W (typ.) output on both bands

D-STAR (Option)

Provides Digital Voice (DV) mode operation with optional UT-121

DIGITAL

Rugged
MIL-STD 810



Wide band receiver with dualwatch capability

The IC-E91 has dualwatch receiver capability, allowing you to receive* two bands simultaneously (including same band). By pushing and holding the [Main/Dual] button, you can easily turn dualwatch on and off, while a press of the button allows you to toggle the active VFO channels.

* See specifications for receive range restrictions.

Large dot-matrix LCD

Using a large full dot-matrix LCD (37.8x20 mm), the IC-E91 clearly shows two-line frequency settings, alphanumeric channel name, bandscope, etc. In addition, automatic LCD and keypad back-lighting provides bright illumination for night time operation.

Simple bandscope

Spectrum activity is displayed on the screen and audio is heard while sweeping the range. It is useful for finding new or interfering signals.



Simple bandscope example

5 Watts (typical) output

Icom's original wideband PA circuit and supplied lithium-ion battery pack provides 5W (typ.) output. The supplied BP-217 provides up to 5/4.5 hours* of operating time.

* VHF/UHF single mode, Tx high: Rx: Stand-by duty ratio= 1: 1: 8

Keypad navigation

The 4 cursor direction buttons on the keypad gives you quick and intuitive access to many settings. The twin volume/channel knob provides convenient channel/volume setting.



External DC power jack

An external DC power jack allows for operation with an external DC power supply (10-16V DC). When used with the CP-19R or OPC-254L, simultaneous operation during charging is possible.

D-STAR digital voice (DV) mode operation

With optional UT-121, Digital Unit, the IC-E91 provides DV mode operation. 950 bps data like a short message or location data* can be sent simultaneously with the digital voice transmission.

* External GPS receiver (NMEA 0183 format) is required.

Other features

- Optional remote control software, RS-91
- Squelch release function to monitor a weak signal.
- Water-resistant construction, equivalent to IPX4
- CTCSS and DTCS tone squelch operation for quiet stand-by
- 1750Hz tone for repeater access
- Total of 1304 memory channels
- 26 memory banks with selected bank and bank link scanning
- Auto power save, power off and power on
- 10 channel DTMF memory (16-digit)
- 10dB (approx) built-in attenuator

SPECIFICATIONS

GENERAL

• Frequency coverage : (Unit: MHz)

Version	Transmit	Receive (Working range)
Europe, UK	144-146, 430-440	VFO A: 0.495-999.990 VFO B: 118-174, 350-470
France	144-146, 430-440	VFO A: 0.495-29.995, 50-52, 76-136.995, 144-146, 430-440 VFO B: 118-136.995, 144-146, 430-440

• Mode VFO A : FM, WFM*, AM**
VFO B : FM, FM-N, AM**, DV**

• Memory channels : 1304 channels (including 100 program scan edges and 4 call channels)

• Useable temp. range: -20°C to +60°C
• Frequency stability : ±2.5ppm (-20°C to +60°C)

• Power supply : 7.4V DC (with BP-217)
External DC power 10-16V DC

• Current drain (at 7.4V DC):
Tx High (VHF/UHF) 2.1/2.2A typ.
Rx Power save(Duty=1:4)/Rated output/Stand-by
FM (Single) 65mA/220mA/100mA typ.
FM/FM (Dual) 75mA/260mA/130mA typ.
FM/DV (Dual) 95mA/340mA/170mA typ.

• Tuning steps (kHz) : 5*, 6.25*, 8.33*, 9*, 10, 12.5, 15, 20, 25, 30, 50, 100, 125, 200
* Not available on all bands or modes.

• Antenna impedance : 50Ω (SMA)

• Dimensions (W×H×D) : 58.4×103×34.2 mm

(projections not included)

• Weight (approx.) : 300g (with antenna and BP-217)

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

TRANSMITTER

• Output power : High 5W typ. Low 0.5W typ.
• Spurious emissions : Less than -60dB
• Max. freq. deviation : ±5.0/2.5kHz (FM Wide/narrow)
• Ext. MIC connector : 3-conductor 2.5(d) mm (1/8")/2kΩ

RECEIVER

• Intermediate frequency :
VFO A (1st/2nd) 61.65MHz/450kHz (Except WFM)
WFM (1st/2nd/3rd) 59.25MHz/13.35MHz/1.95MHz
VFO B (1st/2nd) 46.35MHz/450kHz

• Sensitivity (typical, except spurious points) :
FM (at 12dB SINAD, 3.5kHz DEV)
VHF (Ham band only) 0.14μV
UHF (Ham band only) 0.16μV
1.625-29.995MHz 0.4μV
30.000-75.995MHz 0.25μV
76.000-117.995MHz 0.25μV
118.000-173.995MHz* 0.18μV (* Except ham bands)
174.000-259.995MHz 0.32μV
260.000-349.995MHz 0.32μV
350.000-469.995MHz* 0.22μV (* Except ham bands)
470.000-599.995MHz 0.32μV
600.000-999.995MHz 0.56μV
WFM (at 12dB SINAD, 52.5kHz DEV)
76.000-108.000MHz 1μV
175.000-221.995MHz 1.8μV
470.000-770.000MHz 2.5μV

AM (at 10dB S/N, 30% Mod.)
0.495-4.995MHz 1.3μV
5.000-29.995MHz 0.56μV
118.000-136.995MHz 0.5μV
222.000-246.995MHz 0.79μV
247.000-329.995MHz 1μV

• Selectivity :
AM/FM Wide More than 50dB
FM-Narrow, DV More than 45dB
WFM More than 300kHz/-3dB
Less than 700kHz/-20dB

• Spurious and image rejection :
VHF (Ham band) More than 60dB
UHF (Ham band) More than 50dB (IF more than 60dB)
• Spurious radiation : Less than -57dBm
• Audio output power : More than 200mW at 10% distortion (7.4V DC) with an 8Ω load
• Ext. speaker connector : 2-conductor 3.5(d) mm (1/8")/8Ω

Applicable U.S. Military Specifications

The IC-E91 has been tested to and passed the following MIL-STD requirements and strict environmental standards.

Standard	MIL 810 F	
	Method	Procedure
Temperature Shock	503.4	I
Rain Drip	506.4	III
Vibration	514.5	I
Shock	516.5	I, IV

Supplied accessories (*depending on version)

- Battery pack (BP-217)
- Wall charger* (BC-167D)
- Antenna (FA-S270C)
- Belt clip (MB-107)
- Hand strap

OPTIONS

Some options may not be available in some countries. Please ask your dealer for details.

BATTERY PACK AND CASE



Battery pack/case	Type and capacity	Output power (VHF/UHF)	Operating time* (VHF/UHF)
BP-216	AA (LR6) batteries × 2	0.1W typ.	-
BP-217	Li-Ion 7.4V/1300mAh	5W typ.	5/4.5 hours

* VHF/UHF single mode, Tx: Rx: standby=1:1:8. Operating time is approximate (at 20°C).

SPEAKER-MICROPHONES



HM-75A: Remote control speaker microphone.
HM-131: Compact and durable body with a revolving clip.
HM-166: Lightweight durable lapel-microphone with an earphone.
HM-128: Lightweight earphone-microphone is also available.

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BC-139 DESKTOP CHARGER



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

POWER SUPPLY CABLES



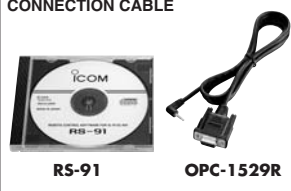
CP-19R: Cigarette lighter cable with DC-DC converter. 10-16V DC required.
OPC-254L: For use with an external power supply. 10-14V DC required for high power output.

LC-163 CARRYING CASE



Helps protect the transceiver from scratches, etc.

REMOTE CONTROL SOFTWARE AND CONNECTION CABLE



RS-91: Provides remote control capability and easy memory channel management from a PC. OPC-1529R is included.
OPC-1529R: RS-232C type PC/GPS cable.

UT-121 DIGITAL UNIT



Digital unit provides D-STAR digital voice capability.
Digital TX speed: 4800 bps
Voice coding speed: 2400 bps

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

BC-167D WALL CHARGER
Charges the BP-217 in 5 hours (approx.). Same as supplied with some versions.

HS-85 HEADSET
Allows you hands-free operation. Includes VOX, PTT, "one-touch PTT" with time out timer (TOT).

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

SP-133 EARPHONE
Provides clear audio in noisy environments.

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