



VHF/UHF DUAL BAND TRANSCEIVERS

**IC-91AD** (D-STAR ready)  
**IC-91A**



# 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



**DIGITAL**

## D-STAR

Provides Digital Voice (DV) mode operation

Icom Inc.

# One radio. Two bands. Three times the fun!



## VHF/UHF dual-bander with wideband receiver

### Wide band receiver with dualwatch capability

The IC-91AD/A 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 coverage.

### Large dot-matrix LCD

Using a large full dot-matrix LCD (37.8x20 mm; 1 1/2x25/32 in), the IC-91AD/A clearly shows two-line frequency settings, alphanumeric channel name, bandscope, etc. You can choose large or small font size in the setting mode. In addition, automatic LCD and keypad backlighting 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 and greatly reduces both the size and weight needed to obtain full output power.

\* 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-19 or OPC-254L, simultaneous operation during charging is possible.



### Built-in CTCSS/DTCS encoder and decoder

CTCSS and DTCS tones are used for accessing a repeater or for tone squelch operation. The pocket beep alerts you with a beep sound when the transceiver receives a preset tone.

### Other features

- Squelch release function to monitor a weak signal.
  - Water-resistant construction, equivalent to IPX4
  - Auto power save, power off and power on
  - 26 memory banks with selected bank and bank link scanning
  - 10 channel DTMF memory (16-digit)
  - 10dB (approx) built-in attenuator
  - Total of 1304 memory channels
  - Automatic repeater function\*
  - Weather channel with weather alert\*
- (\* USA version only)



VHF/UHF DUAL BAND  
**IC-91AD**  
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IC-91AD • IC-91A  
VHF/UHF DUAL BAND TRANSCEIVERS





DUAL BAND TRANSCEIVERS  
IC-91A

## D-STAR

*Advanced digital technology in your hand now!*



### D-STAR DV mode available (Digital Voice + data)

The IC-91AD\* provides DV mode operation with an AMBE codec. 950 bps data can be sent simultaneously with the digital voice transmission. When you receive an FM mode (or other mode) signal while operating in DV mode, the automatic DV detection function changes the operating mode to the one detected.

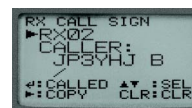
\* Optional UT-121 is required for use with IC-91A.



UT-121

### One touch reply button

The newly adopted one-touch reply [CALL RX->CS] button memorizes the received callsign(s) at the touch of the button. This function allows you to respond to the calling station without hassle. In addition, up to 20 received callsigns are stored in a received call history.



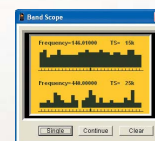
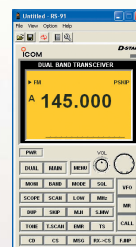
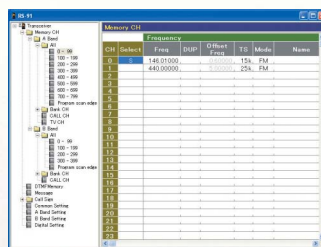
Received callsign example

### Built-in voice recorder and auto reply function

The built-in voice recorder\* records an incoming call for up to 30-seconds (approx.), (or 15 sec. x 2 tracks, 10 sec. x 3 tracks). The 10 sec. transmit memory allows you to record your callsign, CQ and automatically answers when you receive a message. (\* Available in DV mode only)

### Optional PC remote control capability

When connected to a PC via an RS-232C cable, most functions of the IC-91AD/A\* can be controlled from the PC with the optional RS-91 software. In DV mode operation, you can send and receive short messages of 20 characters (Max.) on the PC. (\* Also available in analog mode)



### Position information exchange

When connected to an external GPS receiver (NMEA 0183 format), your own and other station's position information can be sent and received\*. The IC-91AD sends the position data either by holding the PTT switch, or at a preset interval (5 sec.-30 min.), depending on the setting.

\* GPS data receive only when no external GPS receiver is attached.

### DX communication over the D-STAR system

The D-STAR repeaters for 144, 440MHz are now available. It allows cross band (144/440/1200MHz) operation and long distance communication over the D-STAR system.

SPECIFICATIONS

GENERAL

• Frequency coverage and Mode : (Unit: MHz)

Version	Transmit	Receive (Working range)	Mode
IC-91AD/A U.S.A.	144-148, 420-450*1	VFO A: 0.495-999.990*3 VFO B: 118-174, 350-470	FM/WFM**4/AM**4 FM/FM-N/AM**4/DV**5
IC-91A Korea	144-146, 430-440	VFO A: 144-146, 430-440	FM/WFM**4/AM**4 FM/FM-N/AM**4/DV**5
IC-91A Australia	144-148, 420-450*2	VFO A: 0.495-999.990 VFO B: 118-174, 350-470	FM/WFM**4/AM**4 FM/FM-N/AM**4/DV**5
IC-91AD/A Export	137-174, 400-470*2	VFO A: 0.495-999.990 VFO B: 118-174, 350-470	FM/WFM**4/AM**4 FM/FM-N/AM**4/DV**5

\*1 Guaranteed range, 144-148, 440-450MHz. \*2 Cellular blocked.  
\*2 Guaranteed range, 144-148, 430-440MHz.  
\*\*4 Receive only. \*\*5 Optional UT-121 required for IC-91A.

- Memory channels : 1304 channels (including 100 program scan edges and 4 call channels)
- Useable temp. range : -20°C to +60°C; -4°F to +140°F
- Frequency stability : ±2.5ppm (-20°C to +60°C)
- Digital Tx speed : 4.8kbps
- Voice coding speed : 2.4kbps
- 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.
    - DV (Single) 85mA/300mA/140mA 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 (WxHxD) : 58.4x103x34.2 mm; 2<sup>5</sup>/<sub>16</sub>x4<sup>1</sup>/<sub>16</sub>x1<sup>11</sup>/<sub>32</sub> in. (projections not included)
- Weight (approx.) : 300g; 10.6oz (with antenna and BP-217)

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) :
  - FM (at 12dB SINAD, 3.5kHz DEV)
    - VHF (Ham band) 0.14μV
    - 1.625-29.995MHz 0.4μV
    - 76.000-117.995MHz 0.25μV
    - 174.000-259.995MHz 0.32μV
    - 350.000-469.995MHz\* 0.22μV
    - 600.000-999.995MHz 0.56μV
  - UHF (Ham band) 0.16μV
  - 30.000-75.995MHz 0.25μV
  - 118.000-173.995MHz\* 0.18μV
  - 260.000-349.995MHz 0.32μV
  - 470.000-599.995MHz 0.32μV

- 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
- DV (at BER 1%, 4.8kbps)
  - VHF (Ham band) 0.22μV
  - UHF (Ham band) 0.22μV
- 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 : 200mW typ. at 10% distortion (7.4V DC) with an 8Ω load
- Ext. speaker connector : 2-conductor 3.5(d) mm (1/8")/8Ω

Supplied accessories (\*depending on version)


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

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

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 x 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-153: Durable earphone-microphone with revolving clip.  
 HM-128: Lightweight earphone-microphone is also available.

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.  
 CP-12L: Cigarette lighter cable is also available.

LC-163 CARRYING CASE



Helps protect the transceiver from scratches, etc.

REMOTE CONTROL SOFTWARE AND CONNECTION CABLE



RS-91: Provides remote control capability 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 capability. Already installed inside the IC-91AD.

AD-92SMA ANTENNA CONNECTOR ADAPTER

Allows you to connect a BNC-type antenna.

BC-167A/D 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-13 EARPHONE

Provides clear audio in noisy environments.

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