○ICOM | NEW PRODUCT INFORMATION

DUAL BAND TRANSCEIVERS

IC-92AD (U.S.A.)
IC-E92D (EURO)

DIGITAL

Icom proudly announces the debut of submersible dual band transceiver, IC-92AD and IC-E92D. The IC-92AD/E92D is upgraded from the IC-91AD/E91 series and most of the features are retained from the IC-91AD/E91 but provides submersible protection, equivalent to IPX7. Used with the optional HM-175GPS, the IC-92AD/E92D provides GPS position reporting functions in DV mode and GPS functions are fully compatible with IC-2820H/E2820 series. The IC-92AD/E92D and HM-175GPS are targeted to D-STAR enthusiasts, amateurs who are outdoor orientated and safety related organizations who are looking for a simple GPS position reporting system.
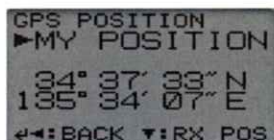
SELLING POINTS

- *IPX7 submersible construction*
- *Optional GPS speaker-microphone, HM-175GPS*
- *4-step RF power selection*
- *GPS position reporting functions (DV mode)*
- *GPS A mode for easy D-PRS operation*
- *Wide band receiver with dual watch receiver capability*
- *Large dot-matrix display*
- *Total 1304 memory channels*
- *Simple bandscope*
- *Keypad navigation*
- *One touch reply button (DV mode)*
- *Built-in voice recorder and auto reply voice message (DV mode)*
- *Optional PC remote control capability*

The photo shows IC-92AD (left) and IC-E92D (right).

NEW FEATURES

Optional GPS speaker-microphone, HM-175GPS

Used with the newly designed GPS speaker-microphone, HM-175GPS, the IC-92AD/E92D shows your position data on the display and offers a position reporting function in DV mode. The IC-92AD/E92D shows the direction to a memory position or to a received D-STAR station with a compass like display needle. In addition, the GPS-A mode assists in easy D-PRS mode operation.

Own (My) position information

Compass display shows the direction to the received station

IPX7 submersible construction

The IC-92AD/E92D and HM-175GPS provide superior waterproof protection equivalent to IPX7 (1m depth of water for 30 minutes). It can be used in harsh outdoor environments, when hiking, mountain biking, touring and alpine sports.

4-step RF power selection

The IC-92AD/E92D provides 5W (typ.) output power both in VHF/UHF bands. The supplied BP-256 provides up to 6/5.5 hours* of operating time. When you don't need full power operation, you can reduce output power to 2.5/0.5/0.1W (typ.) for saving battery consumption.

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

Output power	High (5W typ.)	Mid (2.5W typ.)	Low (0.5W typ.)	Slow (0.1W typ.)
VHF	6 hours	8.5 hours	14.5 hours	19 hours
UHF	5.5 hours	7.5 hours	14.5 hours	19 hours

RETAINED FEATURES (From IC-91AD/E91)

Wide band receiver with dualwatch capability

The IC-92AD/E92D has dualwatch receiver capability, allowing you to receive two bands simultaneously (V/V, U/U, V/U possible). By pushing and holding the [Main/Dual] button, you can easily turn on/off the dualwatch mode, while a press of the button allows you to toggle the active VFO channels. When in the dualwatch mode, the operating frequency and mode are restricted to 495kHz–999.990MHz in FM/WFM/AM mode (VFO A) and 118–174MHz or 350–470MHz in FM/FM-N/AM/DV mode (VFO B)*.

* See specifications page for receive range coverage.

Large dot-matrix LCD

Using a large full dot-matrix LCD (37.8 × 20 mm), the IC-92AD/E92D clearly shows two line frequency settings, alphanumeric channel name, bandscope, received short data message and GPS coordination, etc. You can change the display setting to show frequency or memory name in the center of the display. In addition automatic LCD and keypad backlight provides bright illumination for night time operation.
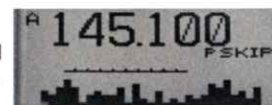

Total 1304 memory channels

The IC-92AD/E92D has a total 1304 memory channels with 26 memory banks. The VFO A has 800 regular channels, 50 scan edges and 2 call channels, while the VFO B has 400 regular, 50 scan edges and 2 call channels. All memory channels, memory banks and even scan edges can be named with 8-character channel comments.

RETAINED FEATURES (From IC-91AD/E91)

Simple bandscope

Spectrum activity is visually shown on the screen and AF output is emitted while sweeping the range. It is useful for finding new or interfering signals.

Keypad navigation

The 4-direction cursor 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, CP-12L 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 closed repeater or tone squelch operation. The pocket beep alerts you with a beep sound when the transceiver receives a preset tone.

Multiple scan functions

The IC-92AD/E92D supports various scan types for maximum reception and ease of use.

- Full scan
- Selected band scan
- Programmed scan
- Memory scan
- Memory mode scan
- All bank scan
- Selected bank scan
- Tone scan
- Bank link scan (DMS)
- Program scan link
- Skip scan
- Priority scan

Other features

- Squelch release function to monitor a weak signal.
- Auto power save, power off and power on
- 10 channel DTMF memory (16-digit)
- 10dB (approx) built-in attenuator
- Automatic repeater function*
- Weather channel with weather alert*
  (* USA and Canada version only)

DIGITAL FEATURES

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

The IC-92AD/E92D provides DV mode operation with an AMBE codec. 950 bps data can be sent simultaneously with the digital voice transmission. The IC-92AD/E92D is compatible with the JARL D-STAR format*. In addition, when you receive an FM mode (or other mode) signal while operating in DV mode, the automatic DV detection function automatically changes the operating mode to the detected mode.

* The Digital features of the IC-92AD/E92D are compatible with IC-91 series (With UT-121), IC-2820 series (with UT-123), ID-800H, IC-V82/U82(with UT-118) and IC-2200H (with UT-118).

GPS position reporting function

When connecting an optional HM-175GPS, own and other station's position information can be sent and received*. The IC-92AD/E92D sends the position data either by holding the PTT switch, or at a preset interval (5 seconds–30 minutes), depending on the setting.

* GPS data receive only is possible when no external GPS receiver or GPS speaker-microphone is attached.

Plotting position information on mapping software

When connected to a PC* via the optional RS-232C cable, OPC-1799, the position information can be plotted on mapping software* on a PC.

* Serial port and position mapping software (NMEA 0183 format) are required.

GPS alarm

The GPS alarm sounds when your own position is close to the specified point or area.

Mobile station
with HM-175GPS

The IC-92AD sends position data either by holding the PTT switch, or at a preset interval, depending on setting.

Base station
and connected to an external PC

Monitors position of the mobile station.

DIGITAL FEATURES

One touch reply button

The IC-92AD/E92D has a one-touch reply function. It uses the received callsign (including repeater callsign) and allows you to call back to the calling station without hassle. In addition, up to 20 received callsigns are stored as the received call record.

Built-in voice recorder and auto reply

The IC-92AD/E92D has a built-in voice recorder*. It records an incoming call in DV mode for up to 30 seconds (approx.), or can be partitioned into 3 tracks (10 seconds each). The 10-second 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 (Also available in analog mode)

When the IC-92AD/E92D is connected to a PC via a RS-232C cable, most functions of the IC-92AD/E92D can be controlled from the PC. In DV mode operation, you can send and receive short messages of 20 characters (Max.) on the PC.

DX communication over the D-STAR system

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

D-STAR! — Digital Smart Technology for Amateur Radio —

Digital voice (DV mode) — By using digital mode, voice is crisp and clear!

INTERNET

Internet connection — Connect the D-STAR repeater sites over the internet!

Crossband operaion (DV mode) — You can communicate with 1.2GHz transceiver, ID-1, in DV mode.

Short data message (DV mode) — Callsign identification and short data message are available.

HELLO

GPS tracking (DV mode) — With the optional GPS speaker-microphone, you can send your current position information to another station.

Internet applications (DD mode) * — You can browse web sites or check E-mail.

Internet •••• DV mode (4.8kbps) •••• DD mode (128kbps)   * DD mode is not available with IC-92AD/E92D.

D-STAR repeater

ID-RP2C	ID-RP2D	ID-RP2V	ID-RP2000V	ID-RP4000V	RS-RP2C
Repeater controller	1.2GHz DD mode module	1.2GHz DV mode module	144MHz DV mode module	430/440MHz DV mode module	Internet gateway software

SPECIFICATIONS

Specifications described below are target values. They may be subject to change.

■ GENERAL

• Frequency coverage   :   (Unit: MHz)

Version	Transmit	Receive (Working range)
Europe	144–146, 430–440	A: 0.495–999.990 B: 118–174, 350–470
U.S.A.	144–148, 420–450*1	A: 0.495–823.990, 849–868.990, 894–999.990 B: 118–174, 350–470
Canada	144–148, 420–450*1	A: 0.495–999.990 B: 118–174, 350–470
Export SEA	137–174, 400–470*2	A: 0.495–999.990 B: 118–174, 350–470

*1 Guaranteed range, 144–148, 440–450MHz.
*2 Guaranteed range, 144–148, 430–440MHz.

• Mode   : FM, FM-N, AM*, WFM*, DV
                         * Receive only
• No. of memory Ch. : 1304 channels (including 100 program scan edges and 4 call)
• Frequency resolution : 5*, 6.25*, 8.33*, 9*, 10, 12.5, 15, 20, 25, 30, 50, 100, 125 and 200kHz
          * Selectable depending on operating bands or modes.
• Operating temp. range : –20˚C to +60˚C; –4˚F to +140˚F
• Frequency stability   : ±2.5ppm (–20˚C to +60˚C on the basis of 25˚C)
• Power supply requirement: 7.4V DC (with BP-256)
   External DC power   10–16V DC
• Current drain (at 7.4V DC):
   Tx   High (VHF/UHF) 1.8/2.1A typ.
        Mid (VHF/UHF) 1.2/1.5A typ.
        Low (VHF/UHF) 0.6/0.7A typ.
        Slow (VHF/UHF) 0.4/0.4A typ.
   Rx   Power save/Rated output/Stand-by
        FM   38mA/150mA/65mA typ.
        FM/FM (dual)   43mA/180mA/90mA typ.
        FM/DV (dual)   50mA/220mA/130mA typ.
        DV   47mA/200mA/110mA typ.
   (Power save duty= 1:4)
• Antenna impedance : 50Ω (SMA)
• Dimensions (W×H×D) : 59×112×34.2 mm
   (projections not included) 2⁵⁄₁₆×4¹³⁄₃₂×1¹¹⁄₃₂ in
• Weight (approx.)   : 325g; 11.5oz (w/ant. and BP-256)

■ TRANSMITTER
• Modulation system   :
        FM   FM reactance modulation
        DV   GMSK reactance modulation
• Output power (at 7.4V DC):
        High   5W typ.
        Mid   2.5W typ.
        Low   0.5W typ.
        Slow   0.1W typ.
• Spurious emissions : Less than –60dBc (High, Mid)
• Max. freq. deviation : ±5.0/2.5kHz (Wide/narrow)
• Ext. MIC impedance : 2kΩ

■ RECEIVER
• Intermediate freq.   :
     1st   VFO A   61.65MHz (Except WFM)
                    59.25MHz (WFM)
           VFO B   46.35MHz
     2nd   450kHz (Except WFM)
                     13.35MHz (WFM)
     3rd   1.95MHz (WFM)
• Sensitivity (typical):
  FM (at 12dB SINAD/3.5kHz DEV)
     1.625 – 29.995MHz   0.4µV
     30.000 – 75.995MHz 0.25µV
     76.000 – 117.995MHz 0.25µV
     118.000 – 173.995MHz 0.14µV
     174.000 – 259.995MHz 0.32µV
     260.000 – 349.995MHz 0.32µV
     350.000 – 469.995MHz 0.16µV
     470.000 – 599.995MHz 0.32µV
     600.000 – 999.995MHz 0.56µV
  WFM (at 12dB SINAD)
     76.000 – 108.000MHz 1µV
     175.000 – 221.995MHz 1.8µV
     470.000 – 770.000MHz 2.5µV
  AM (at 10dB S/N)
     0.495 –   4.995MHz   1.3µV
     5.000 – 29.995MHz   0.56µV
     118.000 – 137.000MHz 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 (Except IF)
  IF point   More than 60dB
• Spurious radiation   : Less than –57dBm
• Audio output power   : 200mW typ. at 10% distortion
  (7.4V DC)   with an 8Ω load
• AF output impedance : 8Ω

OPTIONS

■ BATTERY PACKS AND CASE

BP-256 : 7.4V/1620mAh Li-Ion battery. Same as supplied. (New item)
BP-257 : AA (LR6) × 2 battery case (New item)

BP-256   BP-257

■ BATTERY CHARGERS

BC-167 : Wall charger (BC-167A/E version available) Provides 12V/500mA output. Charges the BP-256 in 6 hours (approx.). Same as supplied.

BC-177 : Rapid desktop charger. Charges the BP-256 in 2.5 hours (approx.). (New item) An AC adapter, BC-123, is supplied depending on version.

+ BC-123 : AC adaptor (BC-123A/E/V version available)

BC-177

■ REMOTE CONTROL SOFTWARE AND CABLES

RS-92 : Remote control software. Allows remote control from a PC. OPC-1799 is included. (Microsoft® Windows® 98SE, Me, 2000, XP, Windows Vista™). (New item)

OPC-1799 : PC/GPS connection cable (RS-232C type) (New item)

OPC-474 : Cloning cable. Allows transceiver to transceiver cloning. Two OPC-1797s are required.

OPC-1797 : Plug adapter cable (multi-pin connector to SP/Mic connectors) (New item) OPC-1797 is required to use 2-pin type microphones and/or earphones with the transceiver.

RS-92
OPC-1799

■ ANTENNAS

FA-S270C : VHF/UHF antenna. Same as supplied.

AD-92SMA : Antenna connector adaptor. Allows you to connect a BNC-type antenna.

OPC-1797

■ SPEAKER-MICROPHONES AND EARPHONE-MICROPHONES

HM-174 : Waterproof speaker microphone. Equivalent to IPX7. (New item)
HM-175GPS : Waterproof speaker microphone with GPS receiver. Equivalent to IPX7. (New item)

HM-75A : Remote control speaker microphone. Allows you to remotely select operating channel according to programming. OPC-1797 is required.

HM-131 : Compact type speaker microphone. OPC-1797 is required.
HM-153 : Durable type earphone microphone. OPC-1797 is required.
HM-166 : Light type earphone microphone. OPC-1797 is required.

HM-174   HM-175GPS

■ HEADSETS

HS-85 : Headset. Allows you hands-free operation. Includes VOX, PTT, "one-touch PTT" (TOT). OPC-1797 is required.

■ EARPHONE

SP-13 : Earphone. OPC-1797 is required.

MB-111

■ BELT CLIP

MB-111 : Belt clip. Same as supplied. (New item)

■ CARRYING CASE

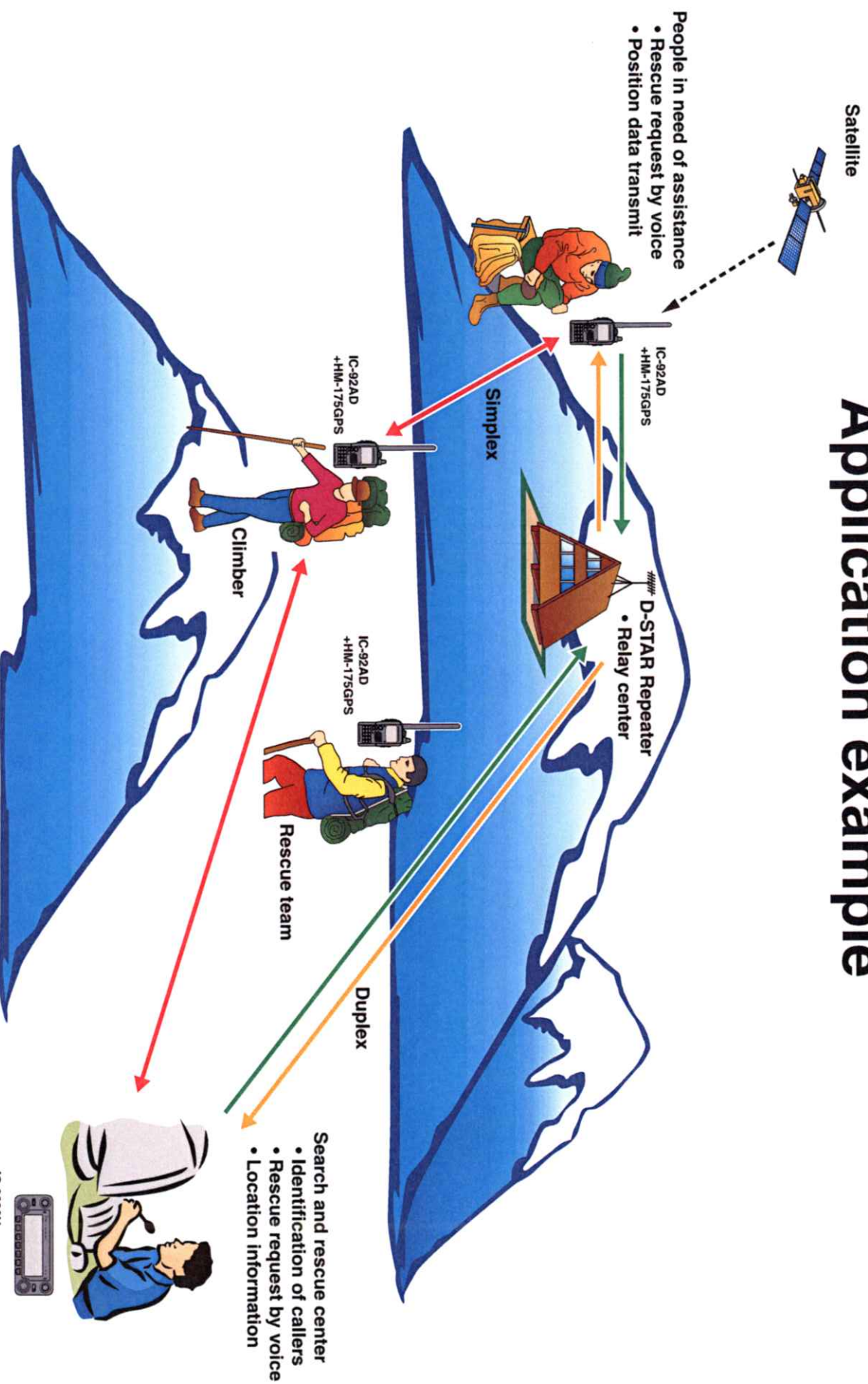LC-168 : Helps protect the transceiver from scratches, etc. (New item)

■ CIGARETTE LIGHTER CABLE AND DC POWER CABLE

CP-19/R : Cigarette lighter cable with DC-DC converter.
CP-12L : Cigarette lighter cable with noise filter.
OPC-254L : DC power cable. For use of the transceiver with an external power supply. (12V DC required)

LC-168

Application example

Satellite

People in need of assistance
- Rescue request by voice
- Position data transmit

IC-92AD
+HM-175GPS

Simplex

IC-92AD
+HM-175GPS

Climber

IC-92AD
+HM-175GPS

Rescue team

D-STAR Repeater
- Relay center

Duplex

Search and rescue center
- Identification of callers
- Rescue request by voice
- Location information

IC-2820H
+ UT-123

Please note : This figure shows an application example only. The IC-92AD and D-STAR radios are NOT designed for the rescue system.