ICOM

DUAL BAND FM TRANSCEIVER

IC-E2820

READY TO GO ON THE ROAD
with D-STAR and GPS*

**Optional UT-123 is required*

D-STAR

*Digital voice mode with GPS receiver**

***Optional UT-123 is required*

VHF/UHF Dual Band

50W output on both bands

Wideband Receiver

With diversity receive capability

Quality analog fundamentals, futuristic digital capability now!

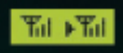
Wideband receiver with simultaneous receive capability

The IC-E2820 receives 118–549.995 and 810-999.990MHz* with dualwatch receiver capability that allows you to receive* two bands simultaneously (including within a single band). Almost all VHF & UHF communications are available to you!

* Depending on version. See specifications for details.

Diversity receive capability

If you have two antennas, diversity receive* capability is useful for mobile operation where the received signal strength changes continuously. Within a single band, the radio compares signal strength from each antenna and chooses the better signal to maintain good sound and receive quality.



* Available on 127, 136, 146, 375, 440, 500MHz bands in FM, FM-N, DV mode only.

50W output power on both VHF and UHF bands

A MOSFET power amplifier provides a powerful 50W on both the 2m and 70cm bands, making this compact rig's signal travel for miles! Output power is selectable in 3 steps.

User-friendly operation

The large 93x28 mm full dot-matrix display presents an easy-to-read graphical interface, viewable over a wide angle. Push the "Function" button to call up the assigned functions menu on the display. In addition, tuning knobs and buttons for each band are arranged side-by-side, providing intuitive operation.

Symmetric layout and easy-to-read graphical interface

Separate controller from main unit

The controller is separated from the main unit for flexible installation. The controller has magnets on the rear panel, allowing you to attach the controller to the main unit or other metal objects. This makes clean and neat installation easy! A 3.4m separation cable, OPC-1663, and a short cable (10cm), OPC-1712, are included.

522 memory channels

The IC-E2820 has a total of 522 memory channels, 500 regular channels, 2 call channels and 20 scan edge channels. Each memory channel stores tone frequency, skip information and so on. The Dynamic Memory Scan (DMS) system divides these memories into 26 groups, A to Z, and provides easy channel selection. Of course, bank scanning is also possible.

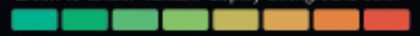
Band scope function

The band scope function lets you watch conditions near the receiving frequency and visually assists in finding other stations.

Band scope screen

Other features

- ±2.5ppm high frequency stability with TCXO unit
- Green to amber variable display background color



- 104x2 DTCS/50 CTCSS tone squelch operation
- Max. 45 channel/sec. high speed scan capability in programmed scanning mode
- 9600bps packet terminal, mini DIN (6-pin) connector
- Long or short squelch delay
- Automatic attenuator
- FM narrow capability
- Sub-band auto mute function
- 16 DTMF memory channels (24 digits)
- DTMF pager and code squelch function
- Auto power off
- Adjustable microphone sensitivity
- ALC (Automatic microphone Level Control) function
- 1750Hz tone signal for repeater access

D-STAR digital voice + GPS receiver (With optional UT-123) D-STAR

D-STAR DV mode + GPS receiver

The optional UT-123 provides D-STAR DV mode operation plus GPS receiver capability. Your location information can be sent simultaneously with the digital voice transmission.

Location information exchange

The IC-E2820 sends your location information either when the mic PTT switch is pushed, or at a preset interval (5 seconds–30 minutes). When available from a calling station, the IC-E2820 displays the distance and direction to the station.

GPS alarm

The GPS alarm alerts you by beeping when a preprogrammed point is within 500m or 1km range from your location or any one of preprogrammed points is within a preset square range.

GPS location tracking

When connected to a PC* via the optional RS-232C cable, OPC-1529R, your own or the received location information can be plotted by mapping software* on a PC.

* Serial port and map software (NMEA 0183) are required.

One touch reply function

The one-touch reply function makes it easy to respond to a calling station instantly. In addition, up to 20 received callsigns are automatically stored as received call records.

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 or other message, and also automatically answers when you receive a message.

(* Available in DV mode only)

Low-speed data communication

When connected to a PC* via the optional data cable, OPC-1529R, data communication is available simultaneously with a digital voice transmission.

(* Serial port and serial communication software are required.)

DX communication over the D-STAR system

D-STAR repeaters for 430 and 1200MHz will be available in Europe* gradually, allowing cross-band repeater operation and long distance communication via the Internet.

* Ask your dealer for repeater availability in your country.

DUAL BAND FM TRANSCEIVER

IC-E2820

SPECIFICATIONS

GENERAL

• Frequency coverage (Unit: MHz):

Version	Transmit	Receive
Europe-1	144–146, 430–440	(L): 118–549.995*1 (R): 118–173.995, 375–549.995, 810–999.990*1
Europe-2	144–146, 430–440	(L): 144–146, 430–440 (R): 144–146, 430–440

(L) means left side receiver, (R) means right side receiver.
*1 Tx/Rx guaranteed range, 144–146, 430–440MHz only.

• Mode : FM, AM (Receive only), DV (With UT-123)
• Number of channels : 522 (Including 2 call and 20 scan edges)
• Antenna connector : SO-239 (50Ω) × 2 (Tx/Rx and Diversity)
• Power supply : 13.8V DC ±15%
• Usable Temp. range : –10°C to +60°C
• Frequency stability : ±2.5ppm (–10°C to +60°C on the basis of 25°C)
• Tuning steps : 5, 6.25, 10, 12.5, 15, 20, 25, 30, 50kHz
• Current drain (at 13.8V DC, approx.) :
Tx At high (5W) 13A
Rx Standby 1.2A
Max. audio 1.8A
• Dimensions (projections not included; W×H×D) :
Main Unit 150×40×187.7mm
Controller 150×58×31.5mm
• Weight (approx.) :
Main Unit 1.5kg
Controller 210g (with OPC-1712)

TRANSMITTER

• Output power : 50W, 15W approx., 5W approx.
• Max. frequency deviation : ±5.0/2.5kHz (Wide/narrow)
• Spurious emissions : Less than –60dB
• Microphone impedance : 600Ω (8-pin modular jack)

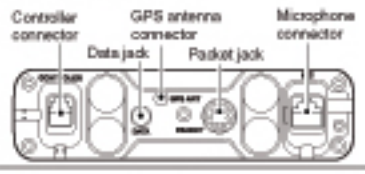
RECEIVER

• Intermediate frequency :
Left side receiver 38.85MHz/450kHz (1st/2nd)
Right side receiver 46.35MHz/450kHz (1st/2nd)
• Sensitivity (Ham bands only) :
FM Less than 0.18μV (at 12dB SINAD)
DV (with UT-123) Less than 0.35μV (at BER 1%)
• Squelch sensitivity : Less than 0.13μV (at threshold)
• Selectivity :
FM (Wide/narrow) More than 10/6kHz at 6dB
Less than 30/20kHz at 60dB
DV (With UT-123) More than 50dB
• Spurious and image rejection :
Left side receiver More than 60/55dB (VHF/UHF)
Right side receiver More than 60/60dB (VHF/UHF)
• Audio output (at 13.8V DC): More than 2.4W at 10% distortion with an 8Ω load
• Ext. speaker connector : 2-conductor 3.5 (ø) mm (⅛") 8Ω

• Receiver sensitivity (Less than; not guaranteed, for your reference only):

FM (12dB SINAD)			
118–159.995MHz*	0.32μV	160–179.995MHz	0.56μV
180–219.995MHz	5.6μV	220–224.995MHz	0.56μV
225–349.995MHz	5.6μV	350–359.995MHz	0.56μV
360–374.995MHz	5.6μV	375–399.995MHz	0.56μV
400–499.995MHz*	0.32μV	500–549.995MHz	0.56μV
810–879.990MHz	0.75μV	880–999.990MHz	1.8μV
(* Except ham bands)			
AM (10dB S/N)			
118–159.995MHz	1.0μV	220–224.995MHz	1.8μV
225–349.995MHz	1.8μV	350–359.995MHz	1.8μV
360–374.995MHz	1.8μV	375–399.995MHz	1.8μV

Main unit front panel view



Supplied accessories:

• Hand microphone, HM-133
• DC power cable, OPC-1132A
• Controller cable, OPC-1712 (10 cm)
• Separation cable, OPC-1663 (3.4 m)
• Mounting bracket kit
• Microphone connector plate
• Remote controller bracket
• Microphone hanger
• Spare fuse

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.

• **HM-133** REMOTE CONTROL MICROPHONE
Same as supplied.

• **HM-154** HAND MICROPHONE
Regular hand microphone.

• **OPC-440** MIC EXTENSION CABLE
5.0m

• **OPC-589** MIC ADAPTER CABLE
Allows you to connect an 8-pin microphone.

• **UT-123** DIGITAL/GPS UNIT
Provides D-STAR DV mode and GPS capabilities.

• **OPC-1529R** DATA COMMUNICATION CABLE
Allows you data communication in DV mode and PC cloning with CS-2820.

• **SP-10** EXTERNAL SPEAKER

• **OPC-441** SPEAKER EXTENSION CABLE
5.0m

• **OPC-1132A, OPC-347** DC POWER CABLES
OPC-1132A: 3.0m
OPC-347: 7.0m

• **MB-65** MOUNT BASE
Mounts the remote control head. Angle and direction is adjustable.

• **OPC-1663, OPC-1712** SEPARATION CABLES
OPC-1663: 3.4m
OPC-1712: 10cm
Same as supplied.

• **CS-2820** CLONING SOFTWARE
For quick and easy programming of memories, etc.
Either OPC-1529R or OPC-478 is required.
• **OPC-478** CLONING CABLE
OPC-478: RS-232C cable
• **OPC-474** CLONING CABLE
Data cloning cable between transceivers.

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