ICOM

VHF/UHF DIGITAL TRANSCEIVER

ID-51E PLUS2

D-STAR* Digital Radio, The "Pluses" Keep Getting Better!

"Plus Two" New Modes:
Access Point Mode & Terminal Mode

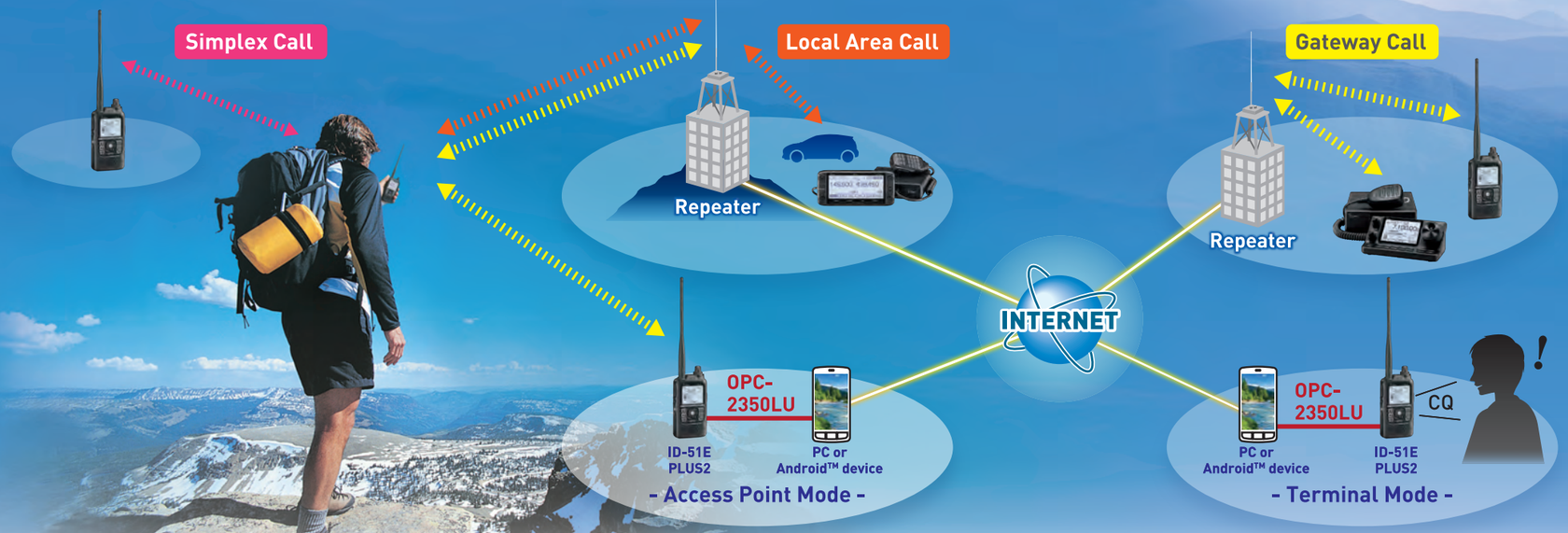
Special Colour Edition

Special supplied accessory, OPC-2350LU data cable

* D-STAR (Digital Smart Technology for Amateur Radio) is a digital radio protocol developed by JARL (Japan Amateur Radio League).

DIGITAL

Worldwide Digital Communication Whenever You Like



D-STAR Communication with Digital Clear Voice and Data

The ID-51E is a VHF/UHF dual bander and has digital/FM dual mode functions. The ID-51E makes not only conventional FM local calls, but also D-STAR calls through a repeater network connected worldwide, or calls over an Internet gateway. With the ID-51E, you can call a friend in another city, or even internationally through a D-STAR repeater, with digital clear audio. In addition, the ID-51E can send digital voice with data; text messages, GPS position information and pictures.

DR (D-STAR Repeater) Function

The DR (D-STAR Repeater) function makes D-STAR communication simple. By only selecting a destination call sign in "To", and a nearby repeater in "From", you can talk with other D-STAR users. The call is automatically routed to the repeater destination the called user last accessed. Call sign routing enables you to call a selected person wherever they are. In addition, using the reflector function, you can talk through several repeaters at once.

DR function example

VHF/UHF DIGITAL TRANSCEIVER
ID-51E PLUS2 5W

Access Point Mode and Terminal Mode Expand D-STAR Coverage

New modes in the ID-51E PLUS2 enable you to make Gateway calls through a PC (Windows®) or an Android™ device, even from areas where no D-STAR repeater is accessible.

Access Point Mode

Use the ID-51E radio connected to the Internet through a PC (Windows®) or Android™ device*, as an Access point. You can use another D-STAR radio to send your voice and/or data through the Access point radio.

Access point mode example

Terminal Mode

Connect the ID-51E to the Internet through a PC (Windows®) or Android™ device*, and send your voice and/or data through the Internet gateway to a destination repeater.

Terminal mode example

* An optional free download software, RS-MS3W is required to be installed in the PC. An optional free download application, RS-MS3A is required to be installed in the Android™ device.

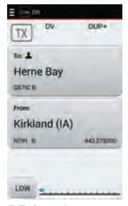
Enhanced Digital Data Communication with Android™ Device

RS-MS1A, Remote Control Application for Android™

The RS-MS1A enables you to control the ID-51E* with your Android™ device. You can see the location of repeater sites on a map application and set them to the ID-51E. In addition, text messages and pictures can be sent and received with your Android™ device.

* The OPC-2350LU data cable is required to connect to an Android™ device. Note: Please check the system requirements on the Google Play™ RS-MS1A page before installing the application.


Repeater map example
©2014 Google - Map data ©2014 Google



DR function setting example

Text messaging example

DV Fast Data Mode*

By using data in place of voice frames, the ID-51E transfers data 3.5 times faster (3480 bps) than in the conventional DV mode (with voice). Pictures taken by an Android™ device can be quickly transmitted in the DV Fast Data mode.

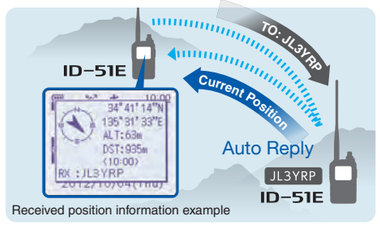
* The DV Fast Data mode is not compatible with the DV mode low-speed data communication.

Integrated GPS, Dualwatch, AM/FM Receiver, IPX7 Waterproof and More

Integrated GPS Receiver

Shows your current position and altitude on the display, and offers a position reporting function, in the DV mode. When receiving a call addressed to your call sign, the ID-51E can automatically send your current position information*1. Between ID-51E's communication, replied position information can pop up on the caller's display. Using the integrated GPS*2 and repeater memories, the ID-51E searches for nearby DV or analog FM repeaters.

*1 Function not available on all D-STAR networks.
*2 To use the Repeater Search function, the position data of the repeater is required. The ID-51E will be shipped with D-STAR repeater memories preprogrammed, but the position data of some D-STAR repeaters may not be entered or exact.



Received position information example

V/V, U/U, V/U Dualwatch

The dualwatch function can monitor VHF/VHF, UHF/UHF or VHF/UHF bands simultaneously.* The audio and squelch levels can be set separately for the main and sub-bands.

U/U Dualwatch example

* DV/DV, AM/AM, FM-N/FM-N and DV/FM-N mode Dualwatch not available.

Independent AM/FM Receiver

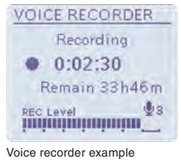
FM and AM broadcast stations can be listened to while using the dualwatch function. When an amateur radio band signal is received, the broadcast station is automatically muted.

Broadcast radio example

Voice Memory Function*

The QSO recorder function records incoming and outgoing calls. The voice recorder function can record an off-line conversation. The recorded voice message can be repeatedly transmitted. (Up to 60 seconds × 1 channel)

* microSD card required.



Voice recorder example

microSD Card Slot

When used with a microSD card (Up to 32 GB), you can store various content including voice memory, DV auto reply message, TX voice message, QSO log, RX history log and GPS log data. Memory channels, D-STAR repeater memories and other personal settings can be saved to the microSD card, and can be loaded into the ID-51E radio.

Other Functions

- Compact and lightweight
- 5 W output power
- 4.5 hour long lasting battery life with the BP-271*1
- Free download CS-51PLUS2 programming software for editing various memory settings with a PC
- A total of 1304 memory channels, including 750 D-STAR repeater memories
- CTCSS/DTCS code squelch with split tone function
- 1750 Hz tone signal to access an FM repeater that requires it
- 16 DTMF memory channels (24 digits)
- Optional CT-17, CI-V level converter for remote radio control
- Squelch release function to monitor a weak signal
- External DC power jack
- Earphone cord antenna for FM broadcast receiving
- LCD and keypad backlighting
- VHF air band and other utility communication can be listened to*2
- Priority watch
- High speed cloning
- Auto power save
- Auto power off
- Clock function
- Key lock function

*1 Typical operation with 1:1:8 duty cycle in DV mode. (Power save ON.)
*2 See specifications page for receiver range details.


IPX7 waterproof construction (1 m depth of water for 30 minutes)

SPECIFICATIONS

GENERAL

• Frequency coverage (Unit: MHz)

Version	Transmit	Receiver	Broadcast
EUR	144–146, 430–440	(A) 144–146, 430–440 (B) 144–146, 430–440	0.52–1.71 76.0–108.0
UK	144–146, 430–440	(A) 137–174, 380–479*1 (B) 108–174, 380–479*1	0.52–1.71 76.0–108.0
ITR	144–146, 430–434, 435–438	(A) 144–146, 430–434, 435–438 (B) 108–136.995, 144–146, 430–434, 435–438*2	0.52–1.71 76.0–108.0

(A) means A band, (B) means B band.

Guaranteed range: *1 144–146, 430–440 MHz. *2 144–146, 430–434, 435–438 MHz.

• Type of emission	F2D, F3E, F7W
• Mode	DV, FM, FM-N, AM(RX only)
• Number of memory channels	1304 channels (including 500 regular channels, 750 D-STAR repeater, 50 program scan edges and 4 call)
• Frequency resolution	1*, 5, 6.25, 8.33*, 9*, 10, 12.5, 15, 20, 25, 30, 50, 100, 125 and 200 kHz * Selectable depending on the operating band.
• Operating temperature range	–20˚C to +60˚C; –4˚F to +140˚F
• Frequency stability	±2.5 ppm (–20˚C to +60˚C on the basis of 25˚C)
• Power supply requirement Alkaline cells External DC power	7.4 V DC (with BP-271, BP-272) 5.5 V DC (with BP-273) 10–16V DC
• Current drain (at 7.4 V DC) Tx High Rx Internal SP (16 Ω) External SP (8 Ω)	 Less than 2.5 A Less than 450 mA/350 mA (DV/FM, FM-N) Less than 300 mA/200 mA (DV/FM, FM-N)
• Antenna impedance	50 Ω (SMA)
• Dimensions (W×H×D, projections not included)	58×105.4×26.4 mm; 2.3×4.1×1.0 in
• Weight (approx.)	170 g; 6 oz (without battery), 255 g; 9 oz (with BP-271 & antenna)

TRANSMITTER

• Modulation system DV, FM, FM-N	GMSK reactance modulation, FM reactance modulation
• Output power (at 7.4 V DC)	5 W, 2.5 W, 1.0 W, 0.5 W, 0.1 W (High, Mid, Low2, Low1, S-low)
• Spurious emissions	Less than –60 dBc (High, Mid), Less than –13 dBm (Low2, Low1, S-low)
• Max. frequency deviation	±5.0/2.5 kHz (FM/FM-N)
• Ext. Mic impedance	2.2 kΩ

RECEIVER

• Sensitivity DV, FM, FM-N	Less than 0.28 μV (at 1% BER) Less than 0.18 μV (at 12 dB SINAD)
• Selectivity DV FM FM-N	More than 50 dB More than 55 dB More than 50 dB
• Spurious rejection	More than 60 dB
• Audio output power Internal SP (16 Ω load) External SP (8 Ω load)	(at 7.4 V DC, 10% distortion) More than 400 mW More than 200 mW

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

Supplied accessories (* Depending on version)

- Battery pack, BP-271
- Wall charger, BC-167SA/SD/SV*
- Antenna, FA-S270C
- Belt clip, MB-127
- Programming software, CS-51PLUS2
- Hand strap

OPTIONS

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

BATTERY PACKS AND CASE

BP-271 BP-272 BP-273

Battery packs	Type	Capacity	Operating time* (Approx.)
BP-271	Li-ion, 7.4 V	1150 mAh (min.), 1200 mAh (typ.)	4.5 hours (DV/FM)
BP-272	Li-ion, 7.4 V	1880 mAh (min.), 2000 mAh (typ.)	7.5 hours (DV/FM)
BP-273	LR6 (AA) batteries × 3		–

* Tx: Rx: standby = 1:1:8. Power save function ON. GPS OFF.

RAPID CHARGER

BC-202
Charges BP-271/ BP-272 in 2/3.5 hours.

BC-123S *1

WALL CHARGER

BC-167S *2

SPEAKER-MICROPHONES

HM-75LS
For remote control

HM-183LS
Waterproof

HM-186LS

EARPHONE-MICROPHONES

HM-153LS **HM-166LS**

*1 BC-123SA for USA plug, SE for Europe plug. *2 BC-167SA for USA plug, SD for Europe plug, SV for Australia plug.

HEADSETS and PLUG ADAPTER CABLE

HS-94
Earhook type

HS-95
Behind-the-head type

HS-97
Throat type

OPC-2006LS
Required when using any of these headsets

CARRYING CASE

LC-179

SILICONE JACKET CASE

SJ-1
For use with BP-271.

USB DATA CABLE

OPC-2350LU
PC/Android™ data cable.

CIGARETTE LIGHTER CABLES

CP-12L
Built-in noise filter

CP-19R
Built-in DC-DC converter

DC POWER CABLE

OPC-254L/LR

PLUG ADAPTER CABLE

OPC-2144
Required when using any of HM-75A, HM-153 or HM-166

SOFTWARES FOR Android/PC*

RS-MS1A: Remote control application for Android™
RS-MS3A: Terminal/Access point mode application for Android™
RS-MS3W: Terminal/Access point mode software for Windows® PC
CS-51PLUS2: Programming software for Windows® PC. Same as supplied.

* Applications for Android can be freely download from Google Play.
Software for Windows PC can be freely download from the Icom website.

OTHER OPTIONS

AD-92SMA: SMA-BNC antenna adapter
CT-17: CI-V level converter
FA-S270C: VHF/UHF antenna. Same as supplied
MB-127: Belt clip. Same as supplied

Function Comparison Chart

	RS-MS1A	Repeater search function	DV fast data mode	Terminal mode	Access point mode
ID-51E PLUS2	Yes	Yes (DV/FM repeater)	Yes	Yes	Yes
ID-51E PLUS	Yes	Yes (DV/FM repeater)	Yes	–	–*
ID-51E	Yes (Limited functions)	Yes (DV repeater)	–	–	–*

* ID-51E and ID-51E PLUS can transmit voice and /or data through the Access point, but can not be used as an Access point.

Note for the Terminal mode and Access point mode:

- An Internet IP connection is necessary for a PC (Windows®) or Android™ device. (Either a dynamic or a static IP address can be used.)
- Before you set up the Access point, check any regulations or laws in your country.
- Only one D-STAR transceiver can transmit through an Access point at a time.
- For Access point or Terminal mode operation, you must register your MY and Access point call signs with a Gateway repeater/server that has the RS-RP3C installed.

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