ICOM

DIGITAL

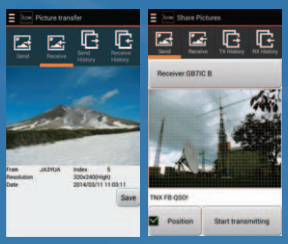
DIGITAL SYSTEM INTRODUCTION

(Digital Smart Technology for Amateur Radio)

RS-MS1A Android™ Application Enhances Great Digital Features

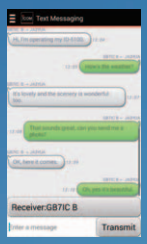
Share Pictures

Take pictures – including your shack, operating place in the field, rigs or friends – with your Android™ device and share them over digital transceivers. Add to your ragchew with images and make QSO even more fun.



Text Messaging

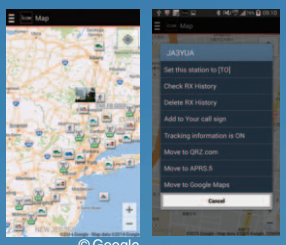
Text messaging allows you to chat with other D-STAR users. Use texts when voice communications may not be appropriate. By using the Android™ devices, you can exchange a message by your preferred language.



Digital Stations and Repeater Sites Mapping

(* ID-51E PLUS and ID-5100E only)

See the location of other stations or repeater sites on a map using received position data. Automatically set the transceiver's "FROM" and "TO" fields by tapping a repeater site or a station on the map.

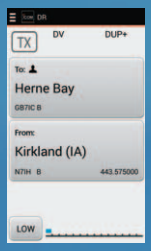


© Google

DR Functions and Remote Settings

(* ID-51E PLUS and ID-5100E only)

You can set the transceiver's "FROM" and "TO" fields and change some of the transceiver's function settings from your Android™ device. When used with the optional Bluetooth® headset, VS-3, you can wirelessly control the ID-5100E from a remote location.



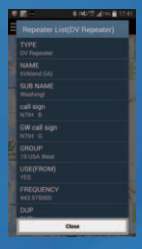
DV Fast Data Mode

By using data in place of voice frames, the ID-5100E and ID-51E PLUS transfers data 3.5 times faster (3480 bps) than in the conventional DV mode (with voice). Pictures taken by an Android™ device can also be quickly transmitted in the DV Fast Data mode.

DV Fast Data Mode

Repeater List Viewer

You can see detailed repeater information including frequencies, call sign and offset frequency in the Repeater list. The Repeater list is continually updated. You can use it as reference information for manually setting the digital transceiver.



Other Functions

- Offline map* uses your own maps without needing Internet connection
- Received history* allows you to read and edit the received station's information
- Call sign list allows you to read and edit the Call signs and names used in the DR function
- Object, item and weather reports using D-PRS can be shown on the map
- Import a Repeater list and a Call Sign list
- Export the Repeater list, the Call Sign list, and the Receive History
  (* ID-51E PLUS and ID-5100E only. Cannot use with IC-7100, ID-31 and ID-51E original model.)

RS-MS1A Remote Control Software Requirements

(Free Download Android™ Application from Google Play™)

Compatible Transceivers

- ID-5100E
- ID-51E PLUS
- ID-51E 50th Anniversary model
- ID-51E original model*
- ID-31E*
- IC-7100*

* Not all functions are usable.
* Either optional UT-133 Bluetooth® unit (for ID-5100E) or OPC-2350LU data cable is required.

Android™ Device Requirements

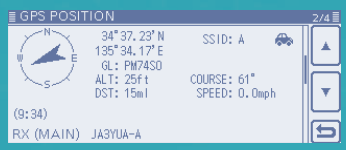
- Android 4.0 or later
- Touch screen
- Bluetooth® function and/or USB host function

Note: Some functions may not work properly, depending on the Android™ devices used.

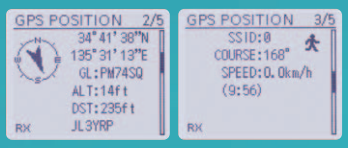
GPS Position Reporting Functions

Displays Own and Received Position Information

The ID-51E PLUS and ID-5100E have integrated GPS receivers which show own position, course, speed and altitude on the display. The GPS position information can be transmitted with voice. Received position information is also shown with distance and direction from your position.



Own (MY) position example (ID-5100E)



Received position example (ID-51E PLUS)

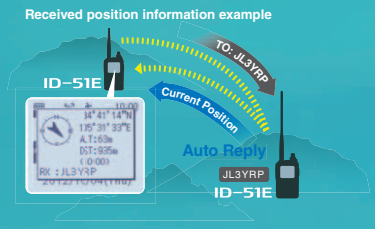
The IC-7100 and IC-9100 allow you to manually input the current latitude, longitude and altitude or connect an external GPS receiver.

Display example of IC-9100

GPS Button (IC-9100)

Automatic Position Reply Function

When receiving a call addressed to your call sign, this function automatically replies your current position information. Replied position information will pop up on the caller's display.



GPS Log Function*

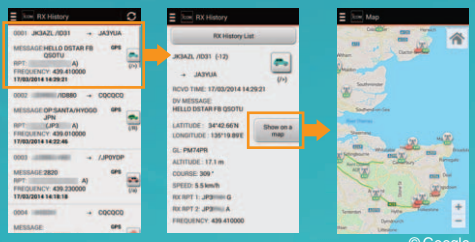
The GPS log function logs your position information at regular intervals (1 second-60 seconds, depending on the setting) and memorizes this in the SD card or microSD card to export to your PC. You can import the log data into Google Earth™ or other map applications.

* SD card or microSD card required.

Export to the Android™ Application

(* ID-51E PLUS and ID-5100E only)

When connected with an Android™ device, received position information can be plotted on a Map Application.



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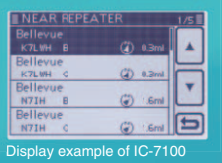
Repeater Search Function

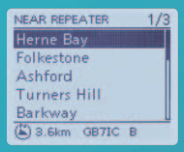
(* ID-51E PLUS, ID-5100E and IC-7100 only)

The repeater search function assists you in accessing nearby repeaters, even in areas you are visiting for the first time. The function searches for a nearby repeater using the repeater memories with the GPS position information.

* To use the automatic repeater search function, the position data of the repeater is required. The repeater list can be updated with programming software. The ID-51E PLUS and ID-5100E can also search for digital repeaters as well as analog FM repeaters.



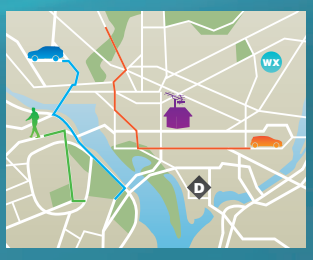
Display example of IC-7100 (Shows near repeater list with distance)

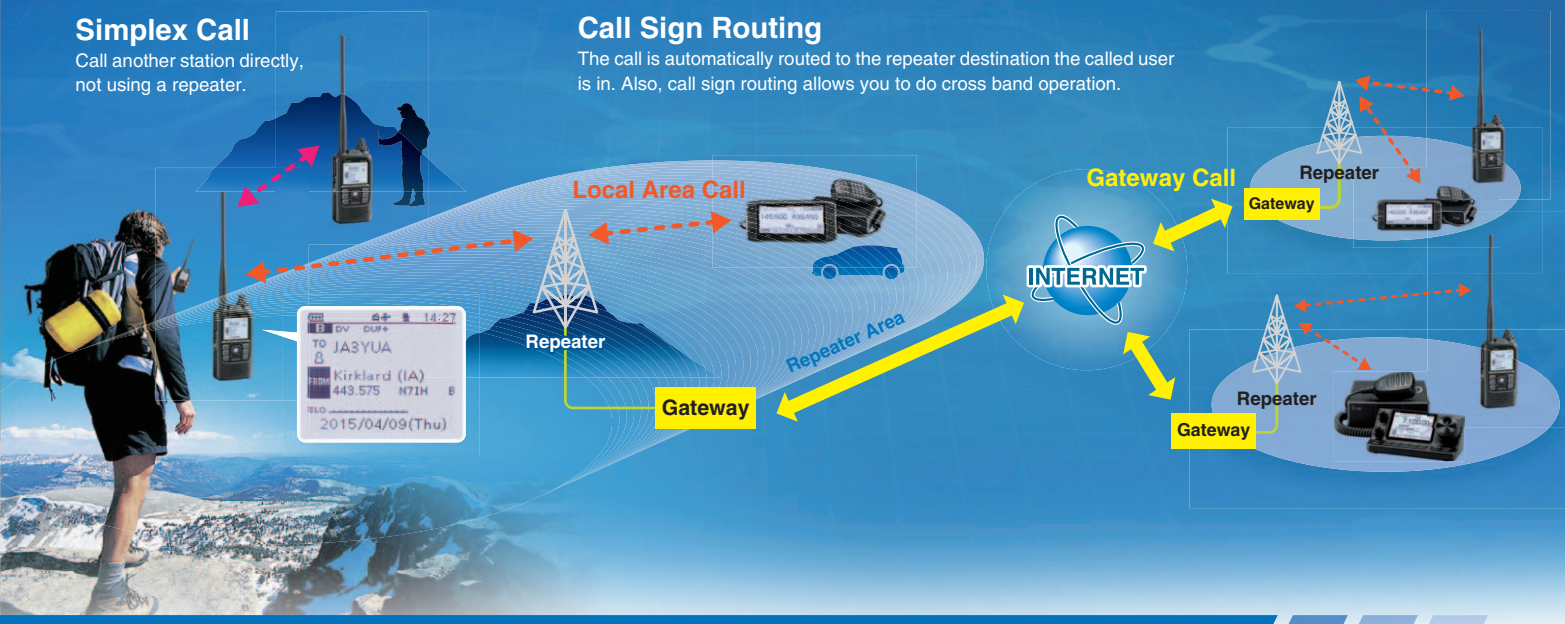


Display example of ID-51E PLUS

D-PRS (Digital Packet Reporting System)

D-PRS converts the D-STAR GPS information to APRS™ compatible strings and presents it to the APRS-IS (APRS Internet Server) and other APRS™ clients. The APRS maps show real-time APRS information and tracks D-STAR stations on the Internet.





Global Communications Virtually Anywhere

The biggest appeal of D-STAR is global communication over the Internet gateway through repeaters. Even with a handheld transceiver, you can communicate with a friend in another city or country with a clear audio. You can uplink to your local repeater and downlink from a remote repeater, even from the opposite side of the earth.

What is D-STAR?

The term D-STAR is Digital Smart Technology for Amateur Radio. It is an open protocol for digital communications established by JARL (Japan Amateur Radio League).

Digital modulation equals Clear Audio

As the digital voice incorporates error correction and DSP technology, the result is clear and crisp audio. The concept is similar to conventional FM, but D-STAR DV mode provides clear intelligible audio without the noises associated with being on the fringes of the communication range. In addition to the clear audio, Icom transceivers automatically sense a FM signal while operating in DV mode, and temporary changes the operating mode to the FM mode.

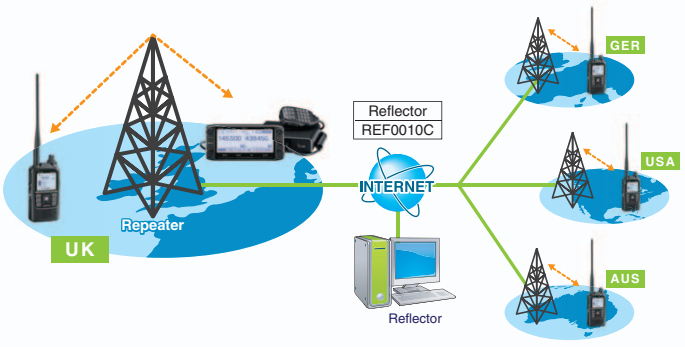
DD Mode Operation

DD mode is a 128kbps data mode in a 10 W mobile package on the 23cm band.* This is perfect when you need network connectivity, at ranges your standard wireless network cannot reach. The ID-1 becomes your wireless modem via your computer's Ethernet port.

* The ID-1 is required for DD mode operation.

Routing and Linking

One of the great features of D-STAR is the user's ability to talk anywhere they want via call sign commands. With the basic call sign routing, you can route your communications to a specific user or repeater. You are not required to know what repeater the person you want to communicate with is located. For those repeaters running the dplus software, you have the capability of linking to another repeater or a group of repeaters via a reflector. The reflectors are a great way to meet new people and have communications with a group of users from all over the world at the same time.



Internet Resources and Digital Amateur Radio Community

There are already many D-STAR user communities on the Internet and below are some major Internet resources.

http://www.dstarinfo.com/

This site is dedicated to helping D-STAR users world wide. From basic information on what D-STAR is to detailed technical information.

- Repeater List
- Reflector List
- Application List

http://www.dstarusers.org/

Your source for D-STAR information.

- Last Heard List
- Repeater List
- D-STAR Growth Report

http://www.d-rats.com/

A multi-platform integrated tool for communication using digital radios.

http://www.d-staruk.co.uk/

D-STAR dedicated microsite developed by Icom UK.

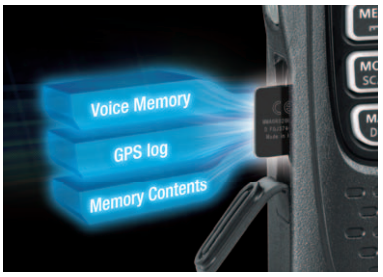
D-STAR QSO PARTY

The biggest D-STAR QSO party in the World is held every September.

Handheld — Enhanced Functions and Great Digital Features


IPX7 Waterproof Construction


Integrated GPS Receiver



microSD Card Slot

- **VHF/VHF, UHF/UHF, VHF/UHF dualwatch**
- **Integrated GPS receiver**
- **Independent AM/FM broadcast receiver**
- **Compact and lightweight**
- **PC programmable with CS-51PLUS free download software**

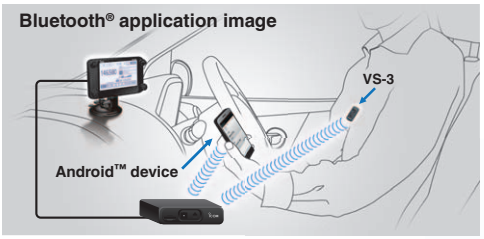
VHF/UHF DUAL BAND DIGITAL TRANSCEIVER

ID-51E PLUS

5W

Mobile — Innovation and Mobility Taken to the Next Level


Touch Screen Operation



VS-3 Bluetooth® Headset


SD Card Slot for
Voice and Data Storage

- **VHF/VHF, UHF/UHF, VHF/UHF dualwatch**
- **Integrated GPS receiver**
- **Optional wireless remote control Bluetooth® headset VS-3**
  (Optional UT-133 Bluetooth® Unit must be installed in the ID-5100E.)
- **PC programmable with CS-5100 free download software**

VHF/UHF DUAL BAND DIGITAL TRANSCEIVER

ID-5100E

50W

Base Stations — Intuitive Touch Screen, Quick Response, Multi-band Radio

- **HF, 50/70/144/430MHz multi-band**
- **Intuitive touch screen interface**
- **Controls at your fingertips with an angled display**

100W (HF/50MHz) 50W (70/144MHz) 35W (430MHz)

HF/VHF/UHF TRANSCEIVER

IC-7100

Base Stations — The All-around Transceiver, IC-9100

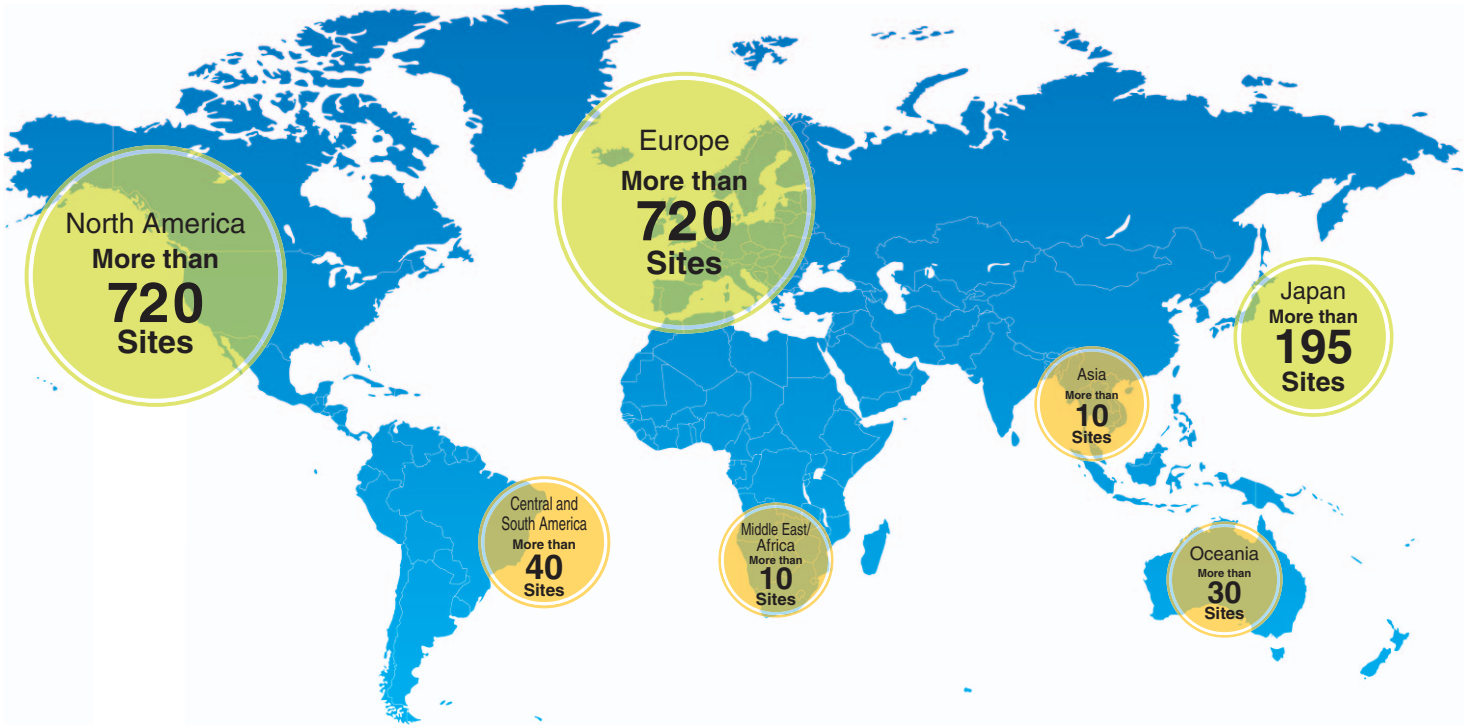
- **28/50/144/430MHz band DV mode** (UT-121 required)
- **1200MHz band DV mode** (UT-121 and UX-9100 required)
- **Three independent receivers, one each for HF/50MHz, 144MHz and 430MHz bands**

HF/VHF/UHF TRANSCEIVER

IC-9100

100W (HF/VHF) 75W (430MHz) 10W (1200MHz with UX-9100)

Worldwide Digital Repeater Network



* Some repeaters may not be connected to an IP network.

Digital Repeaters

ID-RP2C
Repeater controller

One unit is required for each repeater station and connects up to 4 RF modules. Transfers the received signal to the specified RF module or the Internet gateway server.

Photo shows ID-RP2V.

ID-RP2V
1200MHz DV mode RF module

ID-RP2000V
144MHz DV mode RF module

ID-RP4000V
430MHz DV mode RF module

These are DV mode RF modules for the respective bands. With a combination of these RF modules, cross band operation with 144/430/1200MHz bands is available.

ID-RP2D
1200MHz DD mode RF module

The ID-RP2D is the DD mode RF module for 1.2GHz. It provides 128kbps high speed data communication.

RS-RP2C
Internet gateway software

The Internet gateway connects the digital repeater station to the Internet and links multiple repeater stations via the Internet.

Repeater Compatibility Chart with Icom Digital Transceiver

	ID-51E PLUS	ID-5100E	IC-7100	IC-9100+UT-121	ID-1
ID-RP2000V (144MHz DV mode)	✔	✔	✔	✔	—
ID-RP4000V (430MHz DV mode)	✔	✔	✔	✔	—
ID-RP2V (1200MHz DV mode)	—	—	—	✔*1	✔
ID-RP2D (1200MHz DD mode)	—	—	—	—	✔

*1 Optional UX-9100 and UT-121 are required.
* Repeater access using radio frequency. Cross band operation between ID-RP2000V/RP4000V/RP2V is possible.

Icom Inc. 1-1-32, Kami-minami, Hirano-Ku, Osaka 547-0003, Japan Phone: +81 (06) 6793 5302 Fax: +81 (06) 6793 0013 **www.icom.co.jp/world**

Count on us!

Icom America Inc.
12421 Willows Road NE,
Kirkland, WA 98034, U.S.A.
Phone: +1 (425) 454-8155
Fax: +1 (425) 454-1509
E-mail: sales@icomamerica.com
URL: http://www.icomamerica.com

Icom Canada
Glenwood Centre #150-6165
Highway 17A, Delta, B.C.,
V4K 5B8, Canada
Phone: +1 (604) 952-4266
Fax: +1 (604) 952-0090
E-mail: info@icomcanada.com
URL: http://www.icomcanada.com

Icom Brazil
Rua Itororó, 444 Padre Eustáquio
Belo Horizonte MG,
CEP: 30720-450, Brazil
Phone: +55 (31) 3582 8847
Fax: +55 (31) 3582 8987
E-mail: sales@icombrazil.com

Icom (Europe) GmbH
Communication Equipment
Auf der Krautweide 24
65812 Bad Soden am Taunus, Germany
Phone: +49 (6196) 76685-0
Fax: +49 (6196) 76685-50
E-mail: info@icomeurope.com
URL: http://www.icomeurope.com

Icom Spain S.L.
Ctra. Rubi, No. 88 "Edificio Can Castanyer"
Bajos A 08174, Sant Cugat del Valles,
Barcelona, Spain
Phone: +34 (93) 590 26 70
Fax: +34 (93) 589 04 46
E-mail: icom@icomspain.com
URL: http://www.icomspain.com

Icom (UK) Ltd.
Blacksole House, Altira Park,
Herne Bay, Kent, CT6 6GZ, U.K.
Phone: +44 (0) 1227 741741
Fax: +44 (0) 1227 741742
E-mail: info@icomuk.co.uk
URL: http://www.icomuk.co.uk

Icom France s.a.s.
Zac de la Plaine,
1 Rue Brindejonc des Moulinais, BP 45804,
31505 Toulouse Cedex 5, France
Phone: +33 (5) 61 36 03 03
Fax: +33 (5) 61 36 03 00
E-mail: icom@icom-france.com
URL: http://www.icom-france.com

Icom (Australia) Pty. Ltd.
Unit 1 / 103 Garden Road,
Clayton, VIC 3168 Australia
Phone: +61 (03) 9549 7500
Fax: +61 (03) 9549 7505
E-mail: sales@icom.net.au
URL: http://www.icom.net.au

Icom New Zealand
39C Rennie Drive, Airport Oaks,
Auckland, New Zealand
Phone: +64 (09) 274 4062
Fax: +64 (09) 274 4708
E-mail: inquiries@icom.co.nz
URL: http://www.icom.co.nz

Asia Icom Inc.
6F No. 68, Sec. 1 Cheng-Teh Road,
Taipei, Taiwan, R.O.C.
Phone: +886 (02) 2559 1899
Fax: +886 (02) 2559 1874
E-mail: sales@asia-icom.com
URL: http://www.asia-icom.com

Shanghai Icom Ltd.
No.101, Building 9, Caifuxingyuan Park,
No.188 Maoting Road, Chedun Town,
Songjiang District, Shanghai, 201611, China
Phone: +86 (021) 6153 2768
Fax: +86 (021) 5765 9987
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