

About the DV Gateway function

Even if you cannot access a D-STAR repeater, you can make Gateway calls with the DV Gateway function. There are two modes, the Terminal mode and the Access Point mode.

- ① Other stations can also directly communicate using the DV Gateway function, only if they use call sign routing.
- ① When using the DV Gateway function, you cannot make a Local area call.

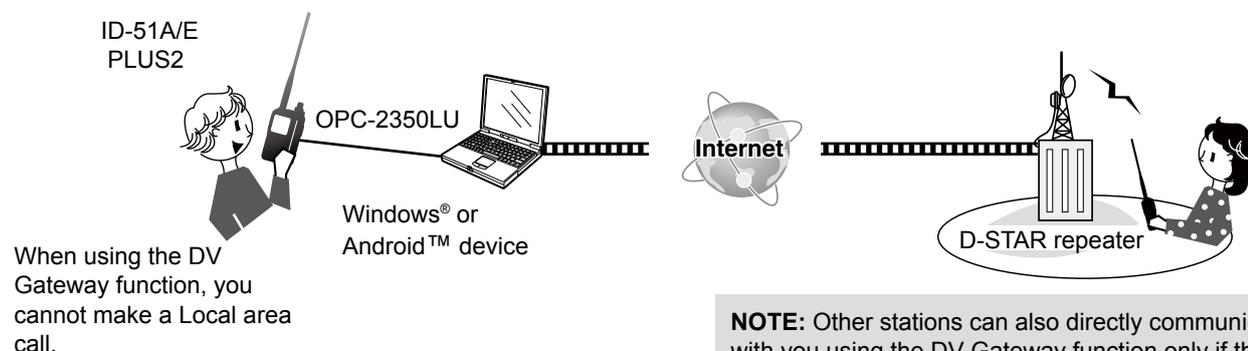
IMPORTANT:

- Before operating in the Terminal mode or the Access Point mode, **BE SURE** to check your local regulations or laws.
- You must have your call sign registered to the gateway server that has the RS-RP3C installed. Ask the gateway repeater administrator for details.

Terminal mode

The Terminal mode enables you to make Gateway calls through the Internet by using a Windows® or Android™ device that is running the RS-MS3W or RS-MS3A application.

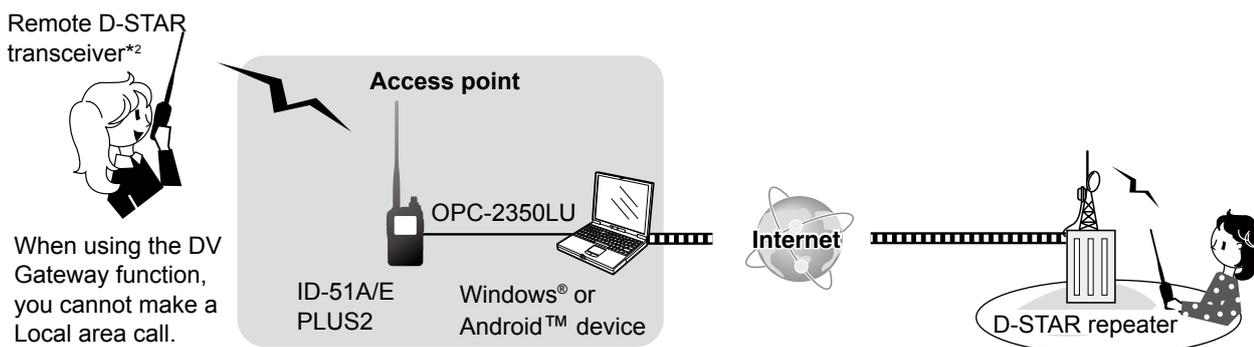
In the Terminal mode, the transceiver does not transmit or receive RF signals through the antenna. The communication is routed through only the Internet.



NOTE: Other stations can also directly communicate with you using the DV Gateway function only if they use call sign routing.

Access Point mode

The Access Point mode enables you to use another D-STAR transceiver and remotely*1 make Gateway calls through an ID-51A/ID-51EPLUS2 when connected to a Windows® or Android™ device that is running the RS-MS3W or RS-MS3A application.



NOTE: Other stations can also directly communicate with you using the DV Gateway function only if they use call sign routing.

*1 Within the transmit and receive range of the ID-51A/ID-51EPLUS2 transceiver. The range will vary, depending on the operating environment.

*2 Any model as long as the transceiver is D-STAR capable. Only one D-STAR transceiver can access the Access Point at the same time.

NOTE: When using the DV Gateway function

- When operating in the Access Point mode, you need two call signs. One for the Access Point transceiver and one for the Remote D-STAR transceiver. (p. 4)
- You need an Internet connection with an IPv4 Global IP address. If you use a cellular system, you need an IPv4 Global IP address assigned to your Windows® or Android device.
- In addition to this document, read the RS-MS3W or RS-MS3A instruction manual. They can be downloaded from the Icom website. (pp. 9, 10)

1. Preparation

■ Entering your call sign in the RS-MS3W or RS-MS3A.....	3
◇ When operating in the Terminal mode:.....	3
◇ When operating in the Access Point mode:.....	4
■ Setting up a network.....	5
◇ When connecting your device to the Internet using a router.....	6
◇ When connecting your device to the Internet using a cellular system.....	7
◇ When connecting your device to the Internet using a mobile router.....	8

2. When using the RS-MS3W/RS-MS3A

■ Setting up the RS-MS3W.....	9
◇ System requirements.....	9
◇ Installing the RS-MS3W.....	9
◇ Connecting the OPC-2350LU.....	9
◇ COM port settings.....	9
◇ Setting the RS-MS3W.....	9
■ Setting up the RS-MS3A.....	10
◇ System requirements.....	10
◇ Installing the RS-MS3A.....	10
◇ Connecting the OPC-2350LU.....	10
◇ Setting the RS-MS3A.....	10

3. Terminal mode operation

■ Setting the Terminal mode.....	11
■ Operating in the Terminal mode.....	12
◇ Setting "TO" (Destination) to make a call.....	13
■ Troubleshooting.....	16

4. Access Point mode operation

■ Setting the Access Point mode.....	17
■ Operating in the Access Point mode.....	18
◇ About the Quick Tuning function.....	19
■ Making a Gateway call through the Access point transceiver.....	20
◇ When using the DR function.....	20
◇ When not using the DR function.....	22
■ Troubleshooting.....	23

Icom, Icom Inc. and the Icom logo are registered trademarks of Icom Incorporated (Japan) in Japan, the United States, the United Kingdom, Germany, France, Spain, Russia, Australia, New Zealand, and/ or other countries.

Microsoft, Windows and Windows Vista are registered trademarks of Microsoft Corporation in the United States and/or other countries.

Google, the Google Logo, Google Play, the Google Play logo, Android and the Android logo are registered trademarks or trademarks of Google Inc.

All other products or brands are registered trademarks or trademarks of their respective holders.

1 Preparation

■ Entering your call sign in the RS-MS3W or RS-MS3A

◇ When operating in the Terminal mode:

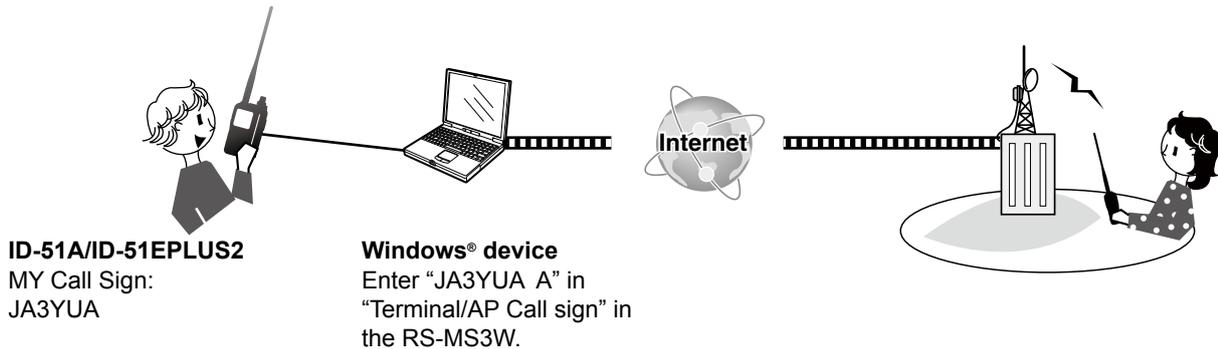
NOTE: You must have your call sign registered to the gateway server that has the RS-RP3C installed. Ask the gateway repeater administrator for details.

Enter My Call Sign of the connected transceiver in "Terminal/AP Call sign" in the RS-MS3W or RS-MS3A.

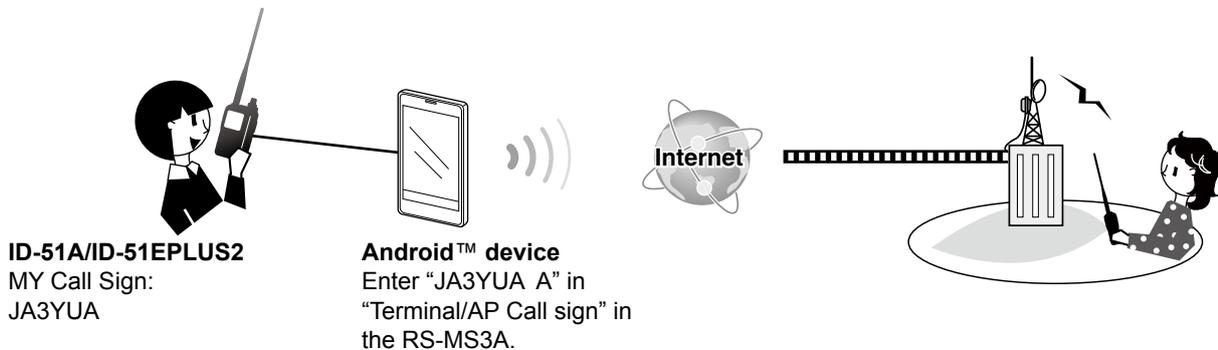
① The Terminal Call sign should be 8 characters. Enter spaces between MY call sign and the 8th character.

① Enter a unique ID suffix between A and F at the end of MY Call Sign for the 8th character.

When using a Windows® device:



When using an Android™ device:



① Call signs here are just examples.

1 Preparation

■ Entering your call sign in the RS-MS3W or RS-MS3A (Continued)

◇ When operating in the Access Point mode:

NOTE: You must have your call signs that you will use in your Remote D-STAR transceiver and the Access Point transceiver registered to the gateway server that has the RS-RP3C installed. Ask the gateway repeater administrator for details.

Enter My Call Sign of the connected transceiver in "Terminal/AP Call sign" in the RS-MS3W or RS-MS3A.

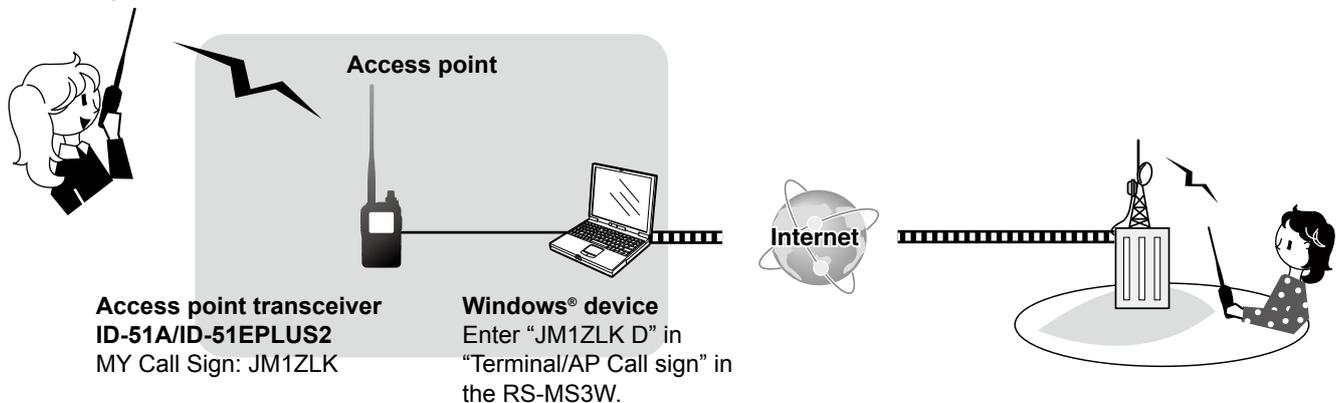
① The AP Call sign should be 8 characters. Enter spaces between MY call sign and the 8th character.

① Enter a unique ID suffix between A and F at the end of the Access Point transceiver's MY Call Sign for the 8th character.

When using a Windows® device:

Remote D-STAR transceiver*

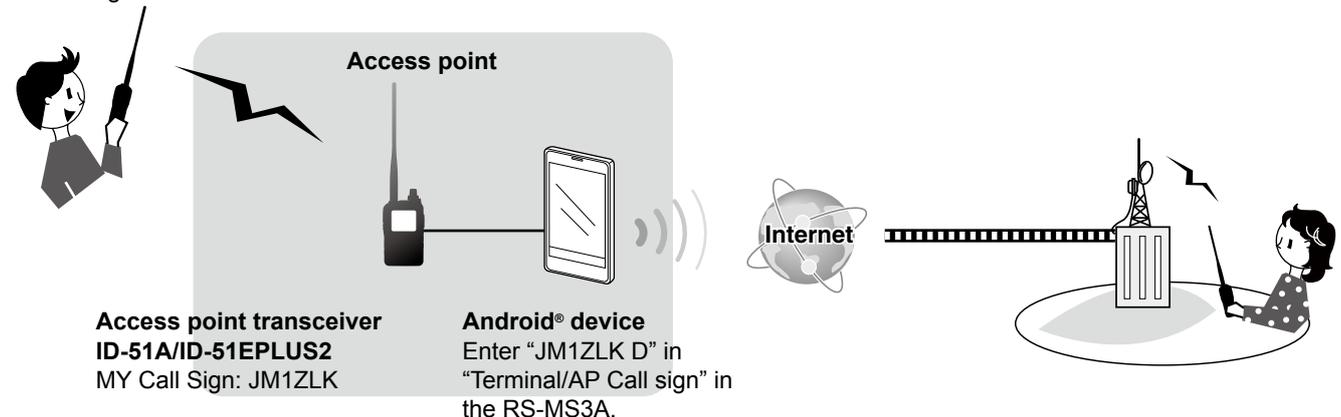
MY Call Sign: JA3YUA



When using an Android™ device:

Remote D-STAR transceiver*

MY Call Sign: JA3YUA



* Any model as long as the transceiver is D-STAR capable.

Only one D-STAR transceiver can access the Access Point at the same time.

① Call signs here are just examples.

1 Preparation

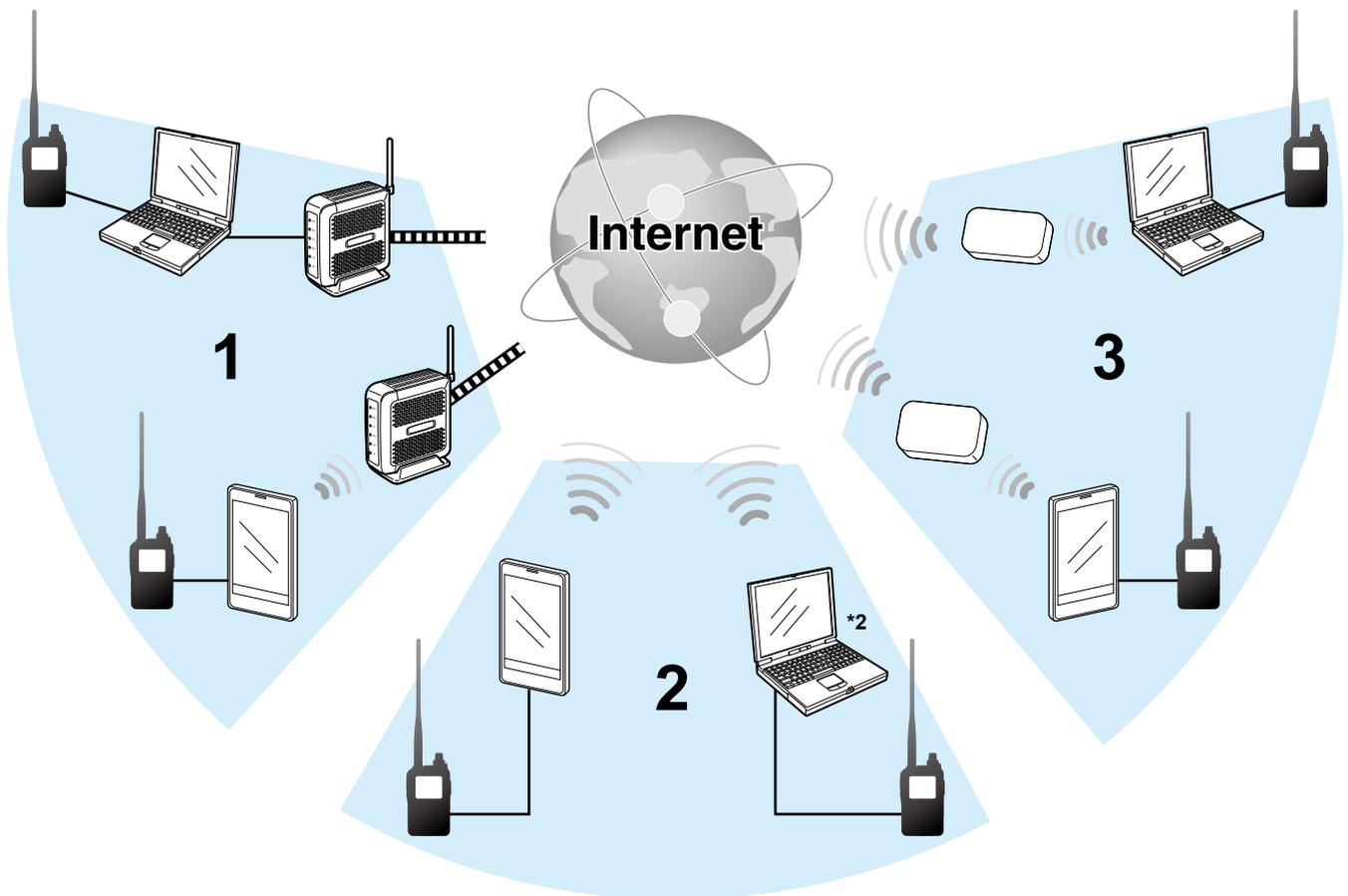
■ Setting up a network

Before using the DV Gateway function, you have to set up a network.

1. When connecting your device*¹ to the Internet using a router (p. 6)
2. When connecting your device*¹ to the Internet using a cellular system (p. 7)
3. When connecting your device*¹ to the Internet using a mobile router (p. 8)

*¹ Windows® or Android™ device

NOTE: Depending on your contract, you may be charged a large or additional communication fee. Ask your Internet service provider about the content of your contract.



*² You can use a cellular system compatible computer.

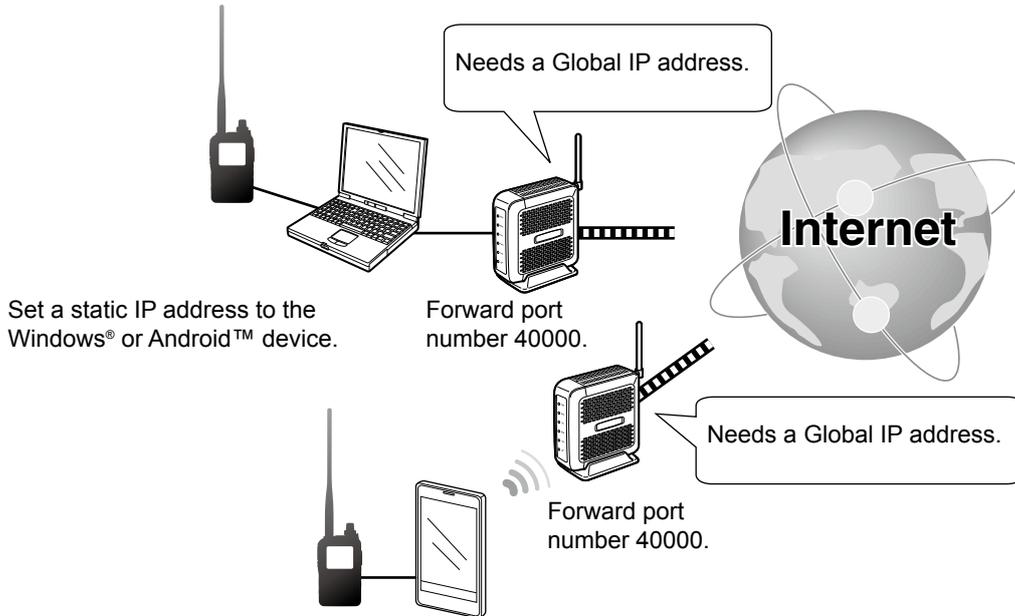
1 Preparation

■ Setting up a network (Continued)

◇ When connecting your device to the Internet using a router

The following are required to use the DV Gateway function.

- An Internet connection with an IPv4 Global IP address.
- A static local IP address set to your Windows® or Android™ device
- Port forwarding of port 40000



1. A Global IP address

A static or dynamic IPv4 Global IP address assigned to the router is needed.

- ① If your router does not have a Global IP address, you can transmit, but cannot receive from the other station.
- ① Your router may not have a Global IP address, depending on your Internet service provider.
Ask your Internet service provider about the Global IP address setting.

2. Setting a static local IP address to your device

When using a router, you need to set a static local IP address to the Windows® or Android™ device.

- ① Usable IP addresses differ, depending on your router. Ask the router's manufacturer for details.
- ① Do not set the same IP address to two or more devices that are connected to the same router.
- ① Ask your Windows® or Android™ device's manufacturer about the setting details.

3. Port forwarding

When using a router, allow communication with the Internet, as described below.

- Forward the port number 40000 that is used in the RS-MS3W or RS-MS3A.
- "UDP" should be used as the protocol of the port.
- Set a static local IP address in Procedure 2 (2. Setting a static local IP address to your device) as a destination port.
- ① Ask the router's manufacturer about how to forward the port.
- ① Only one Windows® or Android™ device connected to the router can use the DV Gateway function at the same time.

→ When using a Windows® device, go to "When using the RS-MS3W." (p. 9)

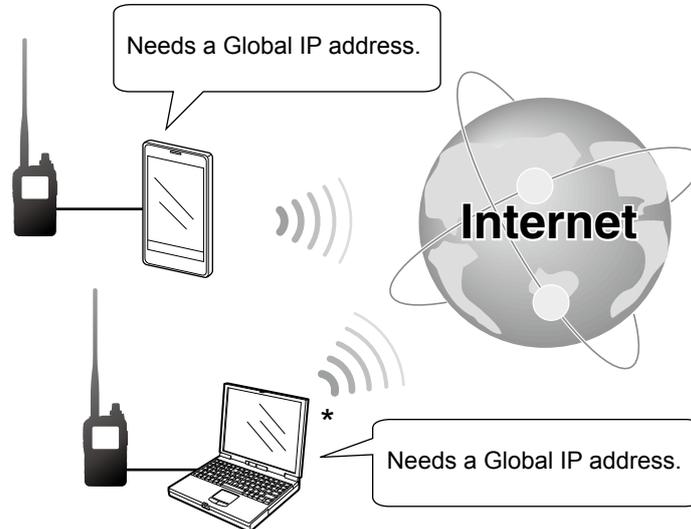
→ When using an Android™ device, go to "When using the RS-MS3A." (p. 10)

1 Preparation

■ Setting up a network (Continued)

◇ When connecting your device to the Internet using a cellular system

A Global IP address is required to use the DV Gateway function.



* You can use a cellular system compatible computer.

A Global IP address

A static or dynamic IPv4 Global IP address assigned to your Windows® or Android™ device is needed. Ask your Internet service provider to provide a Global IP address to your device.

① If your router does not have a Global IP address, you can transmit, but cannot receive from the other station.

NOTE:

- Turn OFF your Wi-Fi setting when you operate using a cellular system.
- Communication errors may occur when using a cellular system.
- Depending on your contract, you may be charged a large or additional communication fee. Ask your cellular system company about the content of your contract.

→ When using a Windows® device, go to “When using the RS-MS3W.” (p. 9)

→ When using an Android™ device, go to “When using the RS-MS3A.” (p. 10)

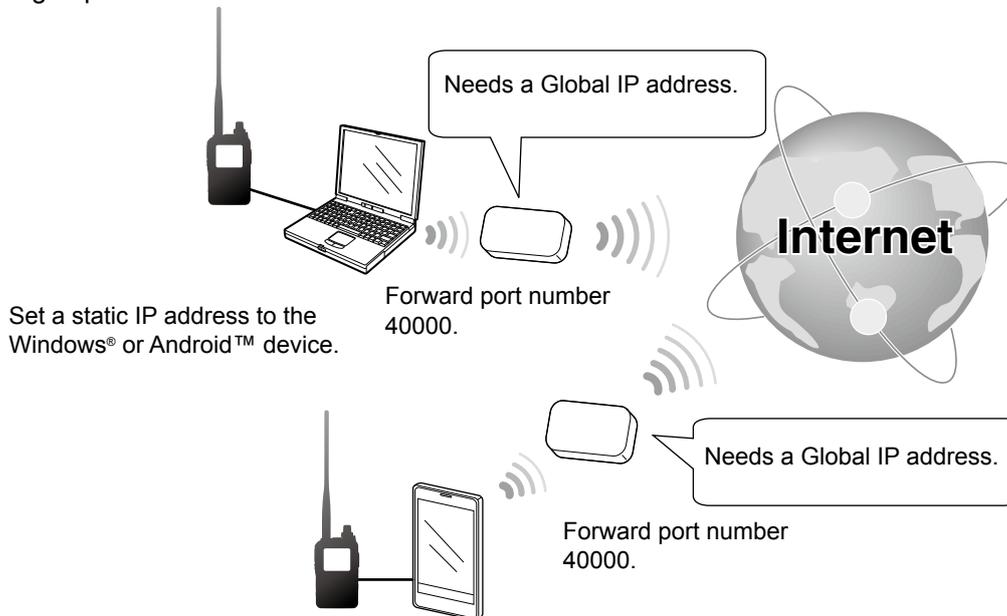
1 Preparation

■ Setting up a network (Continued)

◇ When connecting your device to the Internet using a mobile router

The following items are required to use the DV Gateway function.

- An Internet connection with an IPv4 Global IP address
- A static local IP address set to your Windows® or Android™ device.
- Port forwarding of port 40000



1. A Global IP address

A static or dynamic IPv4 Global IP address assigned to the router is needed.

- ① If your router does not have a Global IP address, you can transmit, but cannot receive from the other station.
- ① Your router may not have a Global IP address, depending on your Internet service provider.
Ask your Internet service provider about the Global IP address setting.

2. Setting a static local IP addresss to your device

When using a mobile router, you need to set a static local IP address to the Windows® or Android™ device.

- ① Usable IP address differs depending on your router. Ask the router's manufacturer for details.
- ① Do not set the same IP address to two or more devices that are connected to the same router.
- ① Ask your Windows® or Android™ device's manufacturer about the setting details.

3. Port forwarding

When using a mobile router, allow communication with the Internet, as described below.

- Forward the port number 40000 to your cellular device.
- "UDP" should be used as the protocol of the port.
- Set a static local IP address in Procedure 2 (2. Setting a static local IP address to your device) as a destination port.
- ① Ask the mobile router's manufacturer about how to forward the port.
- ① Only one Windows® or Android™ device connected to the monbile router can use the DV Gateway function at the same time.

→ When using a Windows® device, go to "When using the RS-MS3W." (p. 9)

→ When using an Android™ device, go to "When using the RS-MS3A." (p. 10)

2 When using the RS-MS3W/RS-MS3A

■ Setting up the RS-MS3W

The RS-MS3W is a Windows® application to use the ID-51A/ID-51EPLUS2 DV Gateway function. You can download it from the Icom website.

◇ System requirements

The following are required to use the RS-MS3W.
(As of October 2016)

• Operating System (OS)

- Microsoft® Windows® Vista® (32/64 bit)
- Microsoft® Windows® 7 (32/64bit)
- Microsoft® Windows® 8.1 (32/64bit)*
- Microsoft® Windows® 10 (32/64bit)

* Except for Microsoft® Windows® RT.
① You cannot use Windows Mobile.

• USB port

USB 1.1 or 2.0 port

• Data cable

OPC-2350LU DATA CABLE (purchase separately)

NOTE: Before using the data cable, you have to install its USB driver. The latest USB driver and Installation Guide for the OPC-2350LU can be downloaded from “Options” section towards the bottom of the firmware page on the Icom website. Carefully read the guide, before installing the driver.

<http://www.icom.co.jp/world/support/download/firm/>

◇ Installing the RS-MS3W

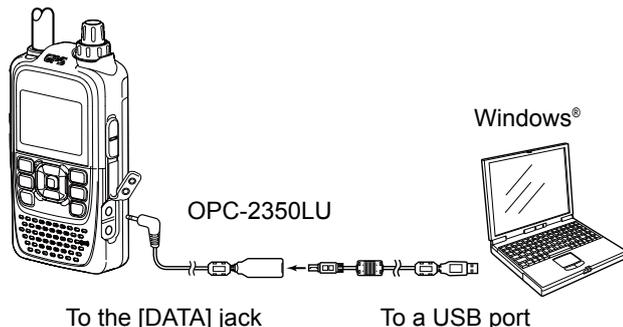
Download the latest RS-MS3W and its instruction manual from the Icom website. Read the RS-MS3W instruction manual on how to install the software.

① Search by “RS-MS3W.”

<http://www.icom.co.jp/world/support/download/firm/>

◇ Connecting the OPC-2350LU

Connect the transceiver to the Windows® using the OPC-2350LU.



NOTE: Turn OFF the transceiver before connecting or disconnecting the cable.

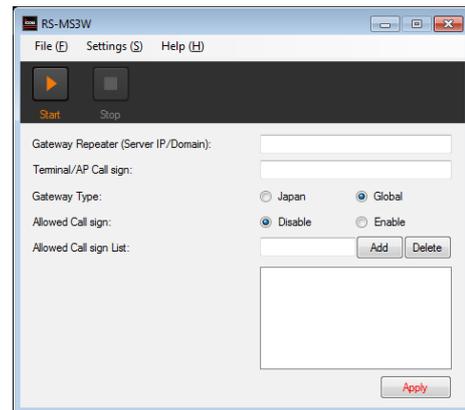
◇ COM port settings

Connect the transceiver to the Windows device through the data cable and then set the data port.

1. After connecting, turn ON the transceiver.
2. Click “Com Port (P)” in the “Settings (S).”
 - Com Port Setting window is displayed.
3. Select the COM port number that the data cable is connected to.
 - ① Click “▼” to display the COM ports on a drop-down list.
 - ① See the data cable’s Installation Guide you can download on the Icom website, for details on checking the COM port number.
4. Click <OK>.

◇ Setting the RS-MS3W

Set the RS-MS3W to start using the DV Gateway function.



① The screen may be different, depending on the application version.

Read the RS-MS3W instruction manual about each setting item.

NOTE: About the Firewall setting

When you use a firewall security software, a communication error may occur by the firewall blocking the necessary ports or data. Before using the DV Gateway function, confirm that the RS-MS3W’s communication is not blocked.

① Ask your firewall security software’s manufacturer about the setting details.

2 When using the RS-MS3W/RS-MS3A

■ Setting up the RS-MS3A

The RS-MS3A is an application for Android™ device to use the ID-51A/ID-51EPLUS2 DV Gateway function. Download the application from Google Play.

◇ System requirements

The following are required to use the RS-MS3A.

(As of October 2016)

• Android™ device

Android™ 4.0 or later with the USB host function

TIP: The USB host function is needed to use a USB device with an Android™ device. To check whether or not your Android™ device has the USB host system, ask the Android™ device's manufacturer.

• Data cable

OPC-2350LU DATA CABLE (purchase separately)

NOTE:

Some functions may not be usable:

- depending on other applications installed in the Android™ device
- depending on the memory capacity

For operations or settings of the Android™ device, read the Android™ device's instruction manual.

① Display indications may differ depending on the OS version or settings.

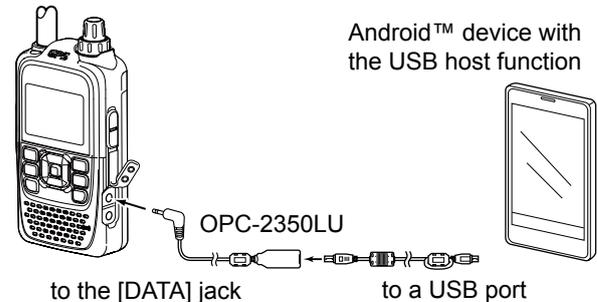
◇ Installing the RS-MS3A

1. Start the Android™ device.
2. Touch "Play store."
3. Enter "RS-MS3A."
 - ① Do not abbreviate the application name to certainly find it.
4. Touch "🔍 (search)"
5. Touch "RS-MS3A."
 - The RS-MS3A application information is displayed.
 - ① If your Android™ device is not compatible with the RS-MS3A, the application is not displayed.
6. Touch "Install."
7. Touch "Agree to download."
 - Starts installing the application.
 - After the installation is completed, the icon is displayed on your home screen.



← RS-MS3A icon

◇ Connecting the OPC-2350LU

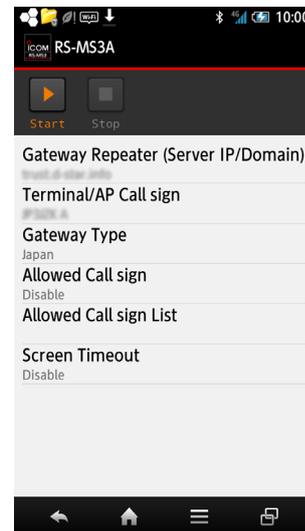


NOTE:

- Turn OFF the transceiver before connecting or removing the cable.
- Remove the OPC-2350LU when you do not use the cable. Otherwise, the battery will be quickly exhausted.
- If the application selection window is displayed, select "RS-MS3A" to start the application.

◇ Setting the RS-MS3A

Set the RS-MS3A to start using the DV Gateway function.



① The screen may be different, depending on the application version.

Read the RS-MS3A instruction manual about each setting item.

① Search by "RS-MS3A."

<http://www.icom.co.jp/world/support/download/firm/>

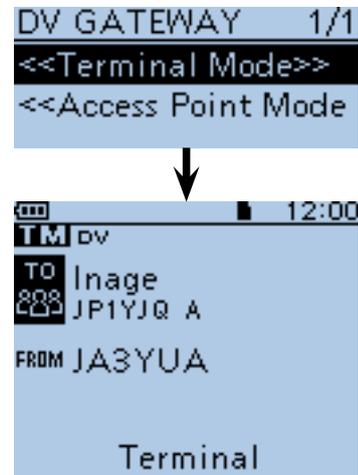
NOTE: When the Android™ device does not work properly, try putting the Access Point transceiver in a distant place from the Android™ device.

3 Terminal mode operation

■ Setting the Terminal mode

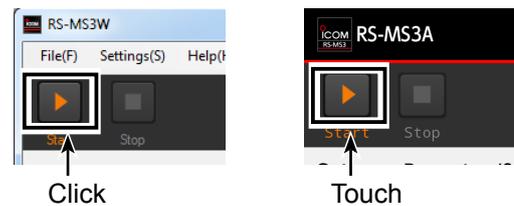
[Transceiver operation]

1. Push [MENU] .
2. Push D-pad (↓) to select the root item “DV Gateway,” and then push D-pad (Ent).
① If the item is not displayed, push D-pad (↓) one or more times to select the page.
3. Push D-pad (↓) to select “<<Terminal Mode>>,” and then push D-pad (Ent).



[Windows® or Android™ operation]

Click (touch) <Start>  in the RS-MS3W or RS-MS3A.



TIP: Canceling the Terminal mode

[Windows® or Android™ operation]

1. Click (touch) <Stop>  in the RS-MS3W or RS-MS3A.

[Transceiver operation]

2. Push [QUICK] .
 - The Quick Menu screen is displayed.
3. Select “<<Normal Mode>>.”
 - Returns to the normal mode.

NOTE: In the Terminal mode

- The Power Save function and the Time Out Timer function are not activated.
- The Following items are automatically set.
 - Receive mode: DV mode
 - DR function: ON (MAIN band)*
 - Dualwatch function: OFF*
 - FROM: MY Call Sign
- * These settings do not return to the previous settings even if you cancel the Terminal mode.
- The Terminal mode is not automatically canceled even if you turn OFF the transceiver, then ON it again.

3 Terminal mode operation

■ Operating in the Terminal mode

You can operate the transceiver as described below in the Terminal mode.

- To display the [TO SELECT] screen, push D-pad (Ent).
(p. 13 in this document, ID-51A/ID-51E Advanced manual p. 8-8)
 - ① You can select the "Local CQ," but cannot make a call.
- To transmit or receive, hold down [PTT] or release it.
 - ① While transmitting, the TX/RX indicator lights orange.
 - ① While receiving, the TX/RX indicator lights green.
 - ① While receiving a signal through the Internet, you cannot transmit.
- To display the RX HISTORY screen, hold down [CD] for 1 second.
(ID-51A/ID-51E Basic manual p. 52)
- To enter or exit the MENU screen, push [MENU] .
- To turn the Key Lock function ON or OFF, hold down [LOCK]  for 1 second.
(ID-51A/ID-51E Basic manual p. 38)
- To enter or exit the Quick Menu* screen, push [QUICK] .
- To audibly announce the displayed Call Sign, hold down [SPCH]  for 1 second.
(ID-51A/ID-51E Advanced manual p. 9-16)
- To enter the Operating Call Sign Select mode, hold down [CS] for 1 second.
- To display the RX History list, hold down [RX>CS] for 1 second.
(ID-51A/ID-51E Basic manual p. 55)

- To adjust the audio volume level, rotate [VOL].
(ID-51A/ID-51E Basic manual p. 12)
- To set "TO" (Destination), rotate [DIAL].
(ID-51A/ID-51E Advanced manual p. 5-10)
- To turn the transceiver ON or OFF, hold down [D] for 1 second.
 - ① The Terminal mode is not automatically canceled even if you turn OFF the transceiver, then **ON** it again.
(ID-51A/ID-51E Basic manual p. 12)

* You can select the following items (Quick Menu screen) in the Terminal mode.

<<Normal Mode>>
Group Select
Repeater Detail
DTMF TX
Voice TX
GPS Information
GPS Position
Display Type
DSQL
Voltage
<<REC Start>>
<<GPS Logger Only>>

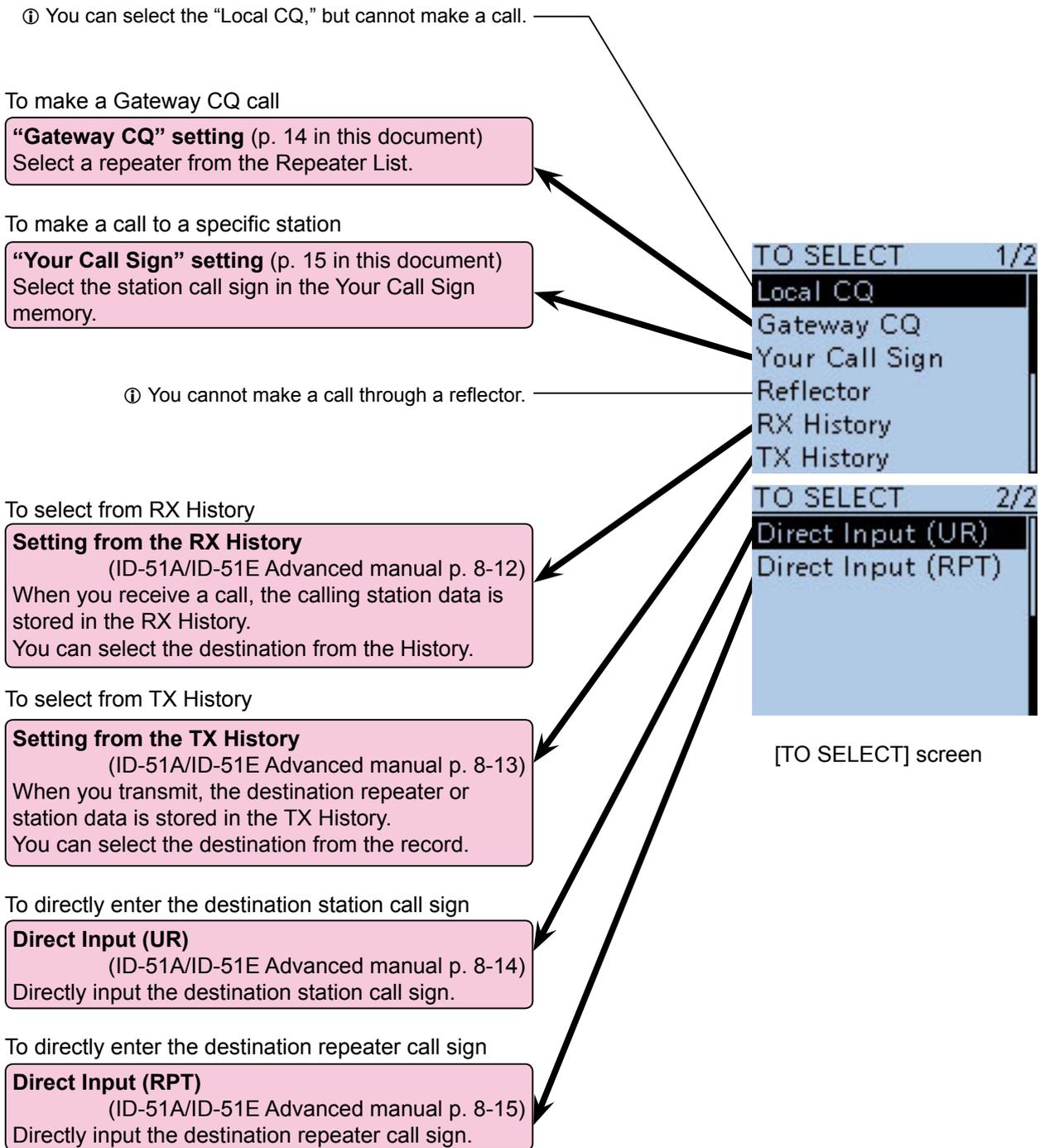
3 Terminal mode operation

■ Operating in the Terminal mode (Continued)

◇ Setting “TO” (Destination) to make a call

The destination repeater or station must be set in “TO” when you make a call in the DV mode. You have 6 ways to set the destination.

NOTE: In the Terminal mode, you can make a Gateway CQ call or a call to a specific station using call sign routing.



3 Terminal mode operation

■ Operating in the Terminal mode (Continued)

◇ Setting “TO” (Destination) to make a call (Continued)

Example: Making a Gateway CQ call

1. Push D-pad (Ent) to display the [TO SELECT] screen.
2. Push D-pad (↓) to select “Gateway CQ,” and then push D-pad (Ent).
3. Push D-pad (↓) to select the repeater group where your destination repeater is listed, and then push D-pad (Ent).
(Example: “11: Japan”)
4. Push D-pad (↓) to select your destination repeater, and then push D-pad (Ent).
(Example: “Hamacho”)
5. Hold down [PTT] to transmit.
 - ① While transmitting, the TX/RX indicator lights orange.
 - ① Your communication is successful when you receive a call or “UR?” is displayed in 3 seconds.
 - ① While receiving a signal through the Internet, you cannot transmit.



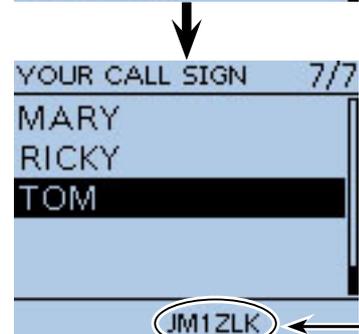
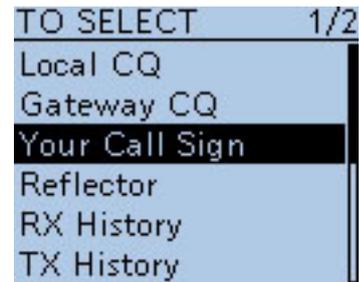
3 Terminal mode operation

■ Operating in the Terminal mode (Continued)

◇ Setting "TO" (Destination) to make a call (Continued)

Example: Making a call to a specific station

1. Push D-pad (Ent) to display the [TO SELECT] screen.
2. Push D-pad (↑) to select "Your Call Sign," and then push D-pad (Ent).
3. Push D-pad(↑) to select the destination, and then push D-pad(Ent). (Example: "TOM")
 - "TOM" is displayed in "TO."
4. Hold down [PTT] to transmit.
 - ① While transmitting, the TX/RX indicator lights orange.
 - ① Your communication is successful when you receive a call or "UR?" is displayed in 3 seconds.
 - ① While receiving a signal through the Internet, you cannot transmit.



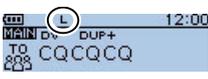
The call sign of the selected station is displayed.



3 Terminal mode operation

■ Troubleshooting

The following chart is designed to help you correct problems which are not equipment malfunctions. If you are unable to locate the cause of a problem or solve it through the use of this chart, contact your Icom Dealer or Service Center.

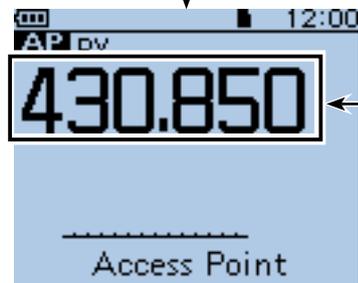
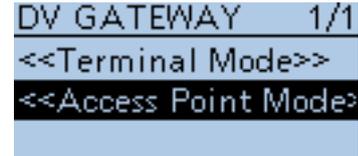
PROBLEM	POSSIBLE CAUSE	SOLUTION	REF.
After your call, the repeater does not return a status reply.	<ul style="list-style-type: none"> • Transceiver connection is wrong. • You did not click (touch) <Start>  in the RS-MS3W or RS-MS3A. • “Allowed Callsign” is set to “Enable” in the RS-MS3W or RS-MS3A. 	<ul style="list-style-type: none"> • Check the connection between the transceiver and the Windows® device, or the transceiver and the Android™ device. • Click (touch) <Start>  in the RS-MS3W or RS-MS3A. • Set “Disable” to “Allowed Callsign” in the RS-MS3W or RS-MS3A. 	– RS-MS3W, RS-MS3A's instruction manual
After your call, the repeater replies “UR?,” Your own call sign (MY) and ID suffix “G.”	<ul style="list-style-type: none"> • The call was successfully sent, but no station immediately replied. 	<ul style="list-style-type: none"> • Wait for a while, and try again. 	–
After your call, the repeater replies “RX” or “RPT?” and Your own call sign (MY) and ID suffix “G.”	<ul style="list-style-type: none"> • Your own call sign (MY) has not been registered to the gateway server that has the RS-RP3C installed, or the registered contents do not match your transceiver's setting. • Destination station's call sign (UR) has not been registered to the gateway server, or the registered contents do not match your transceiver's setting. 	<ul style="list-style-type: none"> • Register your own call sign (MY) to the gateway server that has the RS-RP3C installed, or confirm the registration of the call sign. • Check the destination station's register information. 	ID-51A/ ID-51E Basic manual (Section 2)
After your call, the repeater replies 'RPT?' and call sign of the destination repeater.	<ul style="list-style-type: none"> • The repeater cannot connect to the destination repeater. • The repeater is busy. 	<ul style="list-style-type: none"> • Wait for a while, and try again. 	–
“L” appears on the LCD. 	<ul style="list-style-type: none"> • While receiving through the Internet, some packets may be lost due to network error (poor data throughput performance). 	<ul style="list-style-type: none"> • Wait for a while, and try again. ① When the transceiver receives corrupted data, and misidentifies it as Packet Loss, “L” is displayed. 	–
You can transmit, but cannot receive from the destination repeater.	<ul style="list-style-type: none"> • A Global IP address is not used. • The router or mobile router's port is not correctly forwarded. • The firewall is blocking the necessary port. 	<ul style="list-style-type: none"> • Check the Internet connection and use a Global IP address. • Forward the router or mobile router's correct port. • Check your firewall settings. 	pp. 5 ~ 8 pp. 5 ~ 8 p. 9

4 Access Point mode operation

■ Setting the Access Point mode

[Access Point transceiver operation]

1. Push [MENU] .
2. Push D-pad (↓) to select the root item “DV Gateway,” and then push D-pad (Ent).
 - ① If the item is not displayed, push D-pad (↓) one or more times to select the page.
3. Push D-pad (↓) to select “<<Access Point Mode>>,” and then push D-pad (Ent).
4. Rotate [DIAL] to set the operating frequency.
 - ① The frequency is used to communicate with the Remote D-STAR transceiver.
 - ① In the Access Point mode, you can change the operating frequency.



← Set the operating frequency

NOTE: BE SURE to check your local regulations or laws to select the appropriate operating frequency.

[Windows® or Android™ operation]

Click (touch) <Start>  in the RS-MS3W or RS-MS3A.



Click



Touch

TIP: Canceling the Access Point mode

[Windows® or Android™ operation]

1. Click (touch) <Stop>  in the RS-MS3W or RS-MS3A.

[Access Point transceiver operation]

2. Push [QUICK] .
 - Quick Menu screen is displayed.
3. Select “<<Normal Mode>>.”
 - Returns to the normal mode.

NOTE: In the Access Point mode

- The Power Save function is not activated.
- Following items are automatically set.
 - Operating mode: VFO mode*
 - Frequency band: VHF* (automatically changed if the AIR band is set.)
 - Receive mode: DV mode*
 - Dualwatch function: OFF*
 - Duplex mode: OFF*
- * These settings do not return to the previous settings even if you cancel the Access Point mode.
- The Access Point mode is not automatically canceled even if you turn OFF the transceiver, then ON it again.

4 Access Point mode operation

■ Operating in the Access Point mode

You can operate the Access Point transceiver as described below in the Access Point mode.

- To display the RX HISTORY screen, hold down  for 1 second.
(ID-51A/ID-51E Basic manual p. 52)
- To turn the Monitor function ON or OFF, push [SQL].
(ID-51A/ID-51E Basic manual p. 36)
 - ① Rotate [DIAL] while pushing [SQL] to adjust the squelch level.
A weaker signal than the set squelch level is not transmitted through the Internet.
- To enter or exit the MENU screen, push [MENU] .
(ID-51A/ID-51E Basic manual p. 20)
- To turn the Key Lock function ON or OFF, hold down [LOCK]  for 1 second.
(ID-51A/ID-51E Basic manual p. 38)
- To enter or exit the Quick Menu* screen, push [QUICK] .
- To audibly announce the selected frequency and the operating mode, hold down [SPCH]  for 1 second.
(ID-51A/ID-51E Advanced manual p. 9-16)
- To select 1 MHz or 10 MHz tuning steps, push [V/MHz] .
(p. 17 in this document)
- To select the transmit output power between S-Low, Low1, Low2, Mid and High, hold down [LOW]  for 1 second to suit your operating requirements.
(ID-51A/ID-51E Basic manual p. 40)
 - ① No icon appears when high power is selected.
 - ① "SLO," "LO1," "LO2" or "MID" appears when S-low, Low 1, Low 2 or Mid power is selected.

- To adjust the audio volume level, rotate [VOL].
(ID-51A/ID-51E Basic manual p. 12)
- To set the operating frequency, rotate [DIAL].
(p. 19 in this document)
- To turn the transceiver ON or OFF, hold down  for 1 second.
 - ① The Access Point mode is not automatically canceled even if you turn OFF the transceiver, then ON it again.
(ID-51A/ID-51E Basic manual p. 12)

* You can select the following items (Quick Menu screen) in the Access Point mode.

<<Normal Mode>>
Band Select
TS
GPS Information
GPS Position
Home CH Set
Voltage
<<REC Start>>
<<GPS Logger Only>>

4 Access Point mode operation

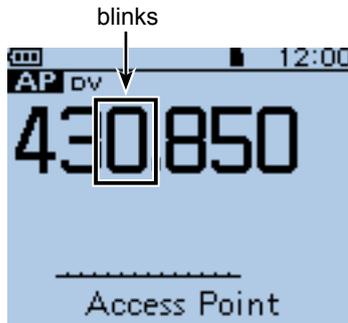
■ Operating in the Access Point mode (Continued)

◇ About the Quick Tuning function

1. While in the VFO mode, push [V/MHz]  to select the 1 MHz or 10 MHz tuning step.

① When the 1 MHz step is selected, the 1 MHz digit blinks.

① When the 10 MHz step is selected, the 10 MHz digit blinks.



When the 1 MHz step is selected



When the 10 MHz step is selected

2. While the selected digit is blinking, rotate [DIAL] to set an operating frequency in 1 MHz or 10 MHz steps.

① When the 10 MHz step is selected, push [V/MHz]  to cancel the Quick Tuning function.

NOTE:

- To prevent interfering, hold down [SQL] to listen on the channel before transmitting.
- **BE SURE** to check your local regulations or laws to select the appropriate operating frequency.

4 Access Point mode operation

■ Making a Gateway call through the Access point transceiver

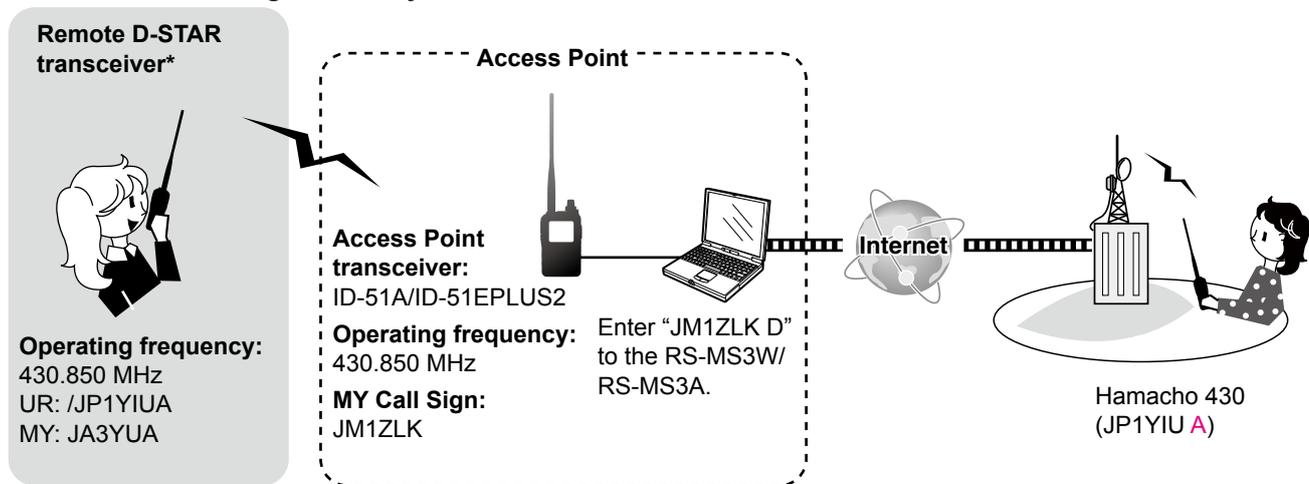
In this section, set a Remote D-STAR transceiver you are going to operate.

- ① Read the Remote D-STAR transceiver's instruction manual for setting details.
- ① In this document, the ID-51A/ID-51EPLUS is used as an example.

NOTE: While in the Access Point mode, you can make a Gateway CQ call or a call to an individual station using call sign routing.

- ① You can select the "Local CQ," but cannot make a call.

Example: When setting the operating frequency to 430.850 MHz, and making a Gateway CQ call.



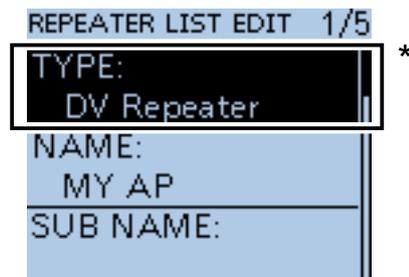
* Any model as long as the transceiver is D-STAR capable.
Only one D-STAR transceiver can use the Access Point at a same time.

◇ When using the DR function

NOTE: If you have imported the Repeater List, you have to register the Access Point information again because the Repeater List is overwritten.

1. Register the Access Point information to the Repeater List

- ① When using the ID-51A/ID-51EPLUS, register the Access Point information in the MENU screen.
(MENU > DV Memory > **Repeater List**)
1. Select a group you want to add your Access Point information.
 2. After selecting a group, open the Repeater List Edit screen. (QUICK MENU > **Add**)
 3. Set "DV Repeater" to "TYPE." *
① "DV Repeater" is used for Repeater operation in the DV mode.
 4. Enter your favorite name into "NAME" and "SUB NAME." (Example: MY AP)



* For only the ID-51A/EPLUS or ID-51A/EPLUS2

4 Access Point mode operation

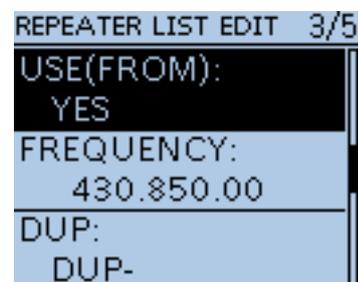
■ Making a Gateway call through the Access point transceiver (Continued)

1. Register the Access Point information to the Repeater List (Continued)

5. Set the Access Point transceiver's call sign to "CALL SIGN."
(Example: JM1ZLK)
① After setting "CALL SIGN," "GW CALL SIGN" is automatically set.



6. Set "YES" to "USE (FROM)."
7. Set the Access Point transceiver's operating frequency to "FREQUENCY."
(Example: 430.850)
8. Set "DUP" to "DUP-."

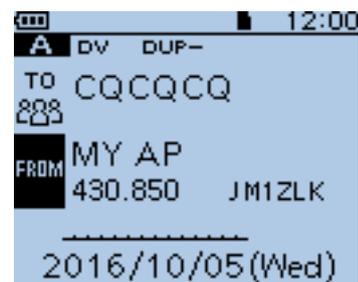


9. Set "0.000.00" to "OFFSET FREQ."
10. Select "<<Add Write>>" and write the Access Point information.



2. Set the Access Point using the DR function

Set the Access Point registered in Procedure 1 (1. Register the Access Point information to the Repeater List) to "FROM."



3. Set "TO" and transmit

1. Set "TO" destination.
(Example: Hamacho 430)
① You can select the "Local CQ," but cannot make a call.
2. Hold down [PTT] to transmit.
① Your communication is successful when you receive a call or "UR?" is displayed in 3 seconds.

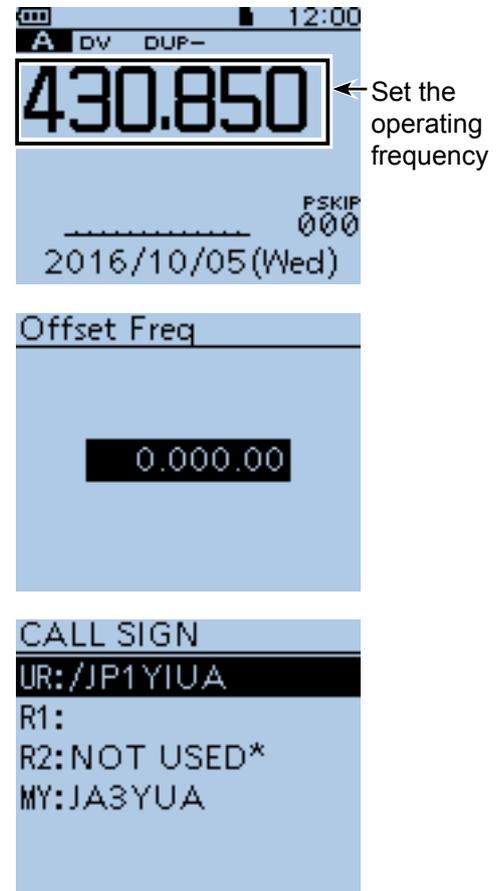


4 Access Point mode operation

■ Making a Gateway call through the Access point transceiver (Continued)

◇ When not using the DR function

1. Set the operating mode to the DV mode.
2. Set the Access Point transceiver's operating frequency.
3. Set the duplex direction to "DUP-."
(QUICK MENU > **DUP**)
4. Set "0.000.00" to "OFFSET FREQ."
(MENU > DUP/TONE... > **Offset Freq**)
5. Set the destination station call sign to "UR."
(Example: /JP1YIUA)
① Hold down [CS] for 1 second to enter the Operating Call Sign Select mode.
6. Hold down [PTT] to transmit.
① Your communication is successful when you receive a call or "UR?" is displayed in 3 seconds.



4 Access Point mode operation

■ Troubleshooting

The following chart is designed to help you correct problems which are not equipment malfunctions. If you are unable to locate the cause of a problem or solve it through the use of this chart, contact your Icom Dealer or Service Center.

PROBLEM	POSSIBLE CAUSE	SOLUTION	REF.
After your call, the repeater does not return a status reply. (No S-meter indication)	<ul style="list-style-type: none"> • The wrong Access Point is selected in the Remote D-STAR transceiver. • The manually entered frequency or duplex setting is wrong in the Remote D-STAR transceiver. • The transmission from the Remote D-STAR transceiver did not reach the Access Point. • You did not click (touch) <Start>  in the RS-MS3W or RS-MS3A. • The Remote D-STAR transceiver's call sign has not been added to "Allowed Call Sign List" in the RS-MS3W or RS-MS3A, when "Allowed Call sign" is set to "Enable." 	<ul style="list-style-type: none"> • Set the correct Access Point to "FROM." • Set the correct frequency or duplex setting. • Move to the place where the Remote D-STAR transceiver can reach the Access Point. • Click (touch) <Start>  in the RS-MS3W or RS-MS3A. • Add the Remote D-STAR transceiver's call sign to "Allowed Call Sign List" in the RS-MS3W or RS-MS3A. 	<p>—</p> <p>—</p> <p>RS-MS3W, RS-MS3A's instruction manual</p>
After your call, the repeater replies "UR?," the Access Point call sign and ID suffix "G."	<ul style="list-style-type: none"> • The call was successfully sent to the Access Point, but no station immediately replied. 	<ul style="list-style-type: none"> • Wait for a while, and try again. 	<p>—</p>
After your call, the repeater replies "RX" or "RPT?" and the Access Point call sign and ID suffix "G."	<ul style="list-style-type: none"> • The Remote D-STAR transceiver's call sign has not been set to the transceiver. • The Remote D-STAR transceiver's call sign registered to the gateway server that has the RS-RP3C installed, or the registered contents do not match your transceiver's setting. • Destination repeater's call sign (UR) has not been registered to the gateway server, or the registered contents do not match your transceiver's setting. • A wrong destination repeater's call sign is set to "TO." • The RS-MS3W or the RS-MS3A's settings are wrong. 	<ul style="list-style-type: none"> • Set the Remote transceiver's call sign has not been set to the transceiver. • Register your own call sign (MY) to the gateway server that has the RS-RP3C installed, or confirm the registration of the call sign. • Check the destination repeater's register information. • Set the correct destination repeater's call sign to "TO." • Correctly set the RS-MS3W or the RS-MS3A. 	<p>The Remote D-STAR transceiver's instruction manual</p> <p>RS-MS3W, RS-MS3A's instruction manual</p>

4 Access Point mode operation

■ Troubleshooting (Continued)

PROBLEM	POSSIBLE CAUSE	SOLUTION	REF.
<p>“L” appears on the LCD.</p> 	<ul style="list-style-type: none"> While receiving through the Internet, some packets may be lost due to network error (poor data throughput performance). 	<ul style="list-style-type: none"> Wait for a while, and try again. ① When the transceiver receives corrupted data, and misidentifies it as Packet Loss, “L” is displayed. 	—
<p>“DV” and “FM” icons alternately blink.</p>	<ul style="list-style-type: none"> While in the DV mode, an FM signal is received. 	<ul style="list-style-type: none"> Use a different operating frequency until there are no FM signals on the original frequency. 	ID-51A/ ID-51E Advanced manual (Section 9)
<p>You can transmit, but cannot receive from the destination repeater.</p>	<ul style="list-style-type: none"> Global IP address is not used. The router or mobile router’s port is not correctly forwarded. The communication is interfered with the firewall setting. 	<ul style="list-style-type: none"> Check the Internet connection and use a Global IP address. Forward the router or mobile router’s correct port. Check your firewall settings. 	pp. 5 ~ 8 pp. 5 ~ 8 p. 9