ICOM

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.
ⓘ Other stations can also directly communicate using the DV Gateway function, only if they use call sign routing.
ⓘ 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.
• Register your call sign (MY) at a gateway server.*
• Register the Terminal/AP call sign that is set in the RS-RP3A or RS-RP3W to the RS-RP3C as the access point.*
* 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.
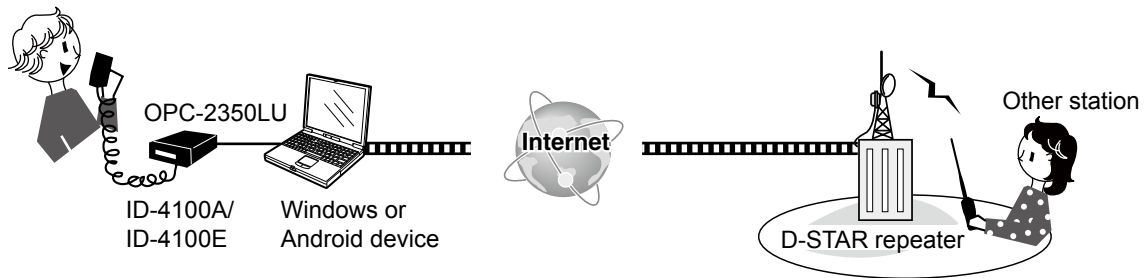
Access Point mode
The Access Point mode enables you to use another D-STAR transceiver and remotely*[1] make Gateway calls
through an ID-4100A/ID-4100E when connected to a Windows or Android device that is running the
RS-MS3W or RS-MS3A application.
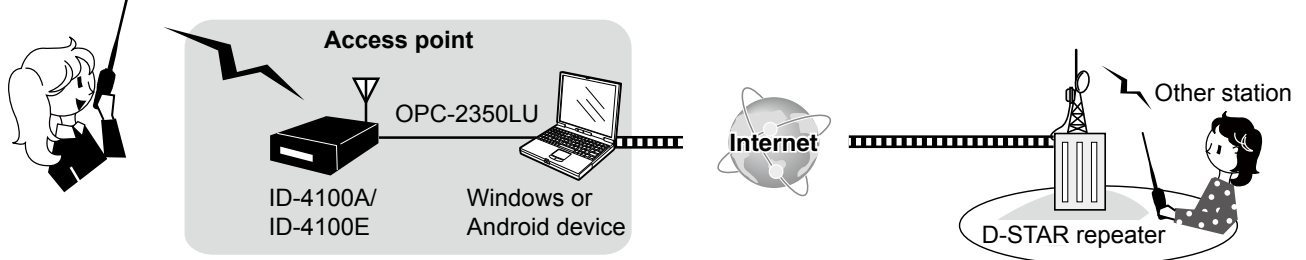
*[1] Within the transmit and receive range of the
   ID-4100A/ID-4100E transceiver. The range will vary,
   depending on the operating environment.

*[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)

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1. Preparation

2. Setting up the RS-MS3W/RS-MS3A

3. Terminal mode operation

4. Access Point mode operation

5. Troubleshooting

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1 Preparation

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

◇ When operating in the Terminal mode:

IMPORTANT:
• Register your call sign (MY) at a gateway server.*
• Register the Terminal/AP call sign that is set in the RS-RP3A or RS-RP3W to the RS-RP3C as the access point.*
* Ask the gateway repeater administrator for details.

1. Open the RS-MS3W or RS-MS3A on your Windows or Android device.
2. Enter the connected transceiver's My call sign in "Terminal/AP Call sign".

ⓘ**Information**
• The Terminal Call sign should be 8 characters. Enter spaces between MY call sign and the 8th character.
• Enter a unique ID suffix between A and F at the end of MY Call Sign for the 8th character.
• Call signs shown below are just examples.

When using a Windows device:

ID-4100A/
ID-4100E
MY Call Sign:
JA3YUA

Windows device
Enter "JA3YUA A" in
"Terminal/AP Call sign"
in the RS-MS3W.

Other station

When using an Android device:

ID-4100A/
ID-4100E
MY Call Sign:
JA3YUA

Android device
Enter "JA3YUA A" in
"Terminal/AP Call sign"
in the RS-MS3A.

Other station

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1 Preparation

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

◇ **When operating in the Access Point mode:**
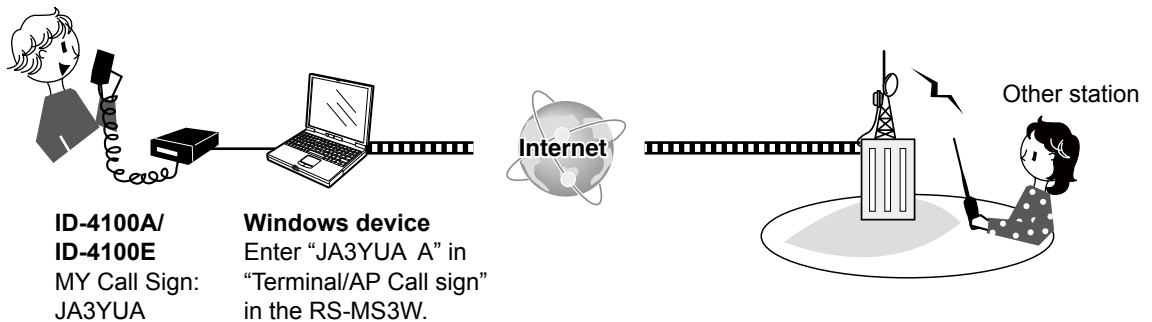
> **IMPORTANT:**
> • Register your call sign (MY) at a gateway server.*
> • Register the Terminal/AP call sign that is set in the RS-RP3A or RS-RP3W to the RS-RP3C as the access point.*
> * Ask the gateway repeater administrator for details.

1. Open the RS-MS3W or RS-MS3A on your Windows or Android device.
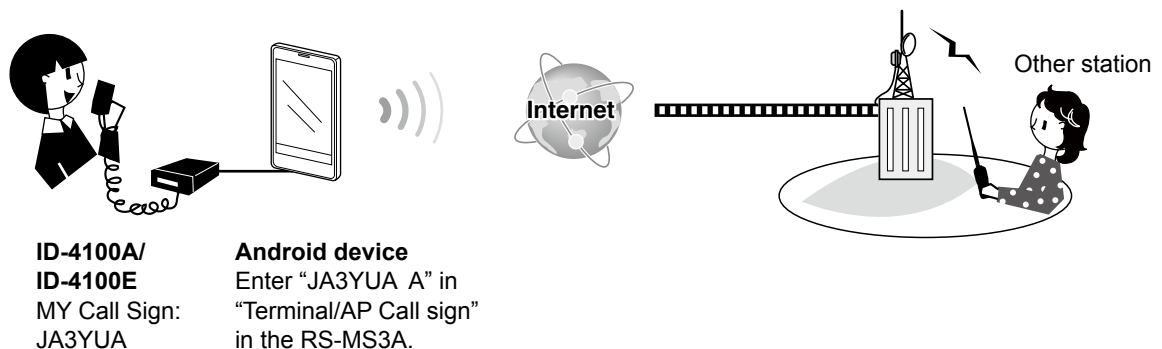2. Enter your Access Point (AP) transceiver's My call sign in "Terminal/AP Call sign".

ⓘ**Information**
• The AP Call sign should be 8 characters. Enter spaces between MY call sign and the 8th character.
• 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.
• Call signs shown below are just examples.

When using a Windows device:

Remote D-STAR transceiver*
MY Call Sign: JA3YUA

Access point

Access point transceiver ID-4100A/ID-4100E
MY Call Sign: JL3YRP

Windows device
Enter "JL3YRP D" in "Terminal/AP Call sign" in the RS-MS3W.

Internet

Other station
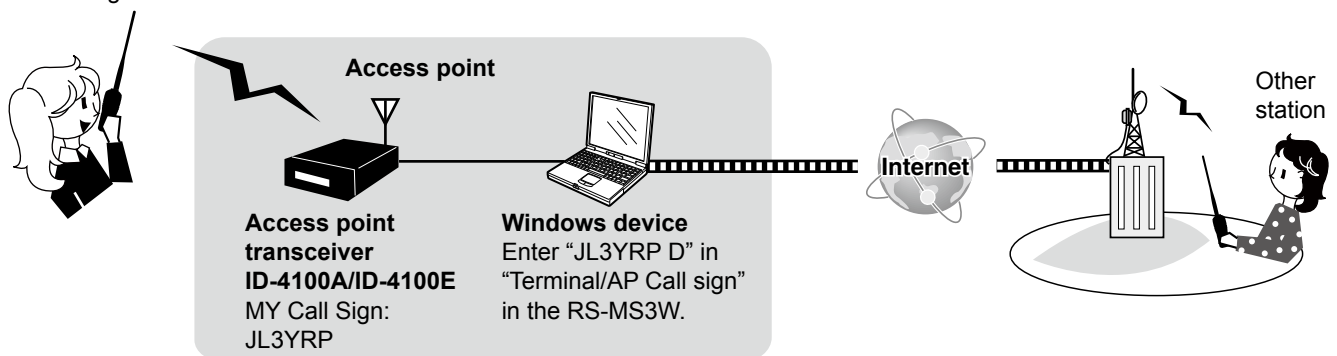
When using an Android device:

Remote D-STAR transceiver*
MY Call Sign: JA3YUA
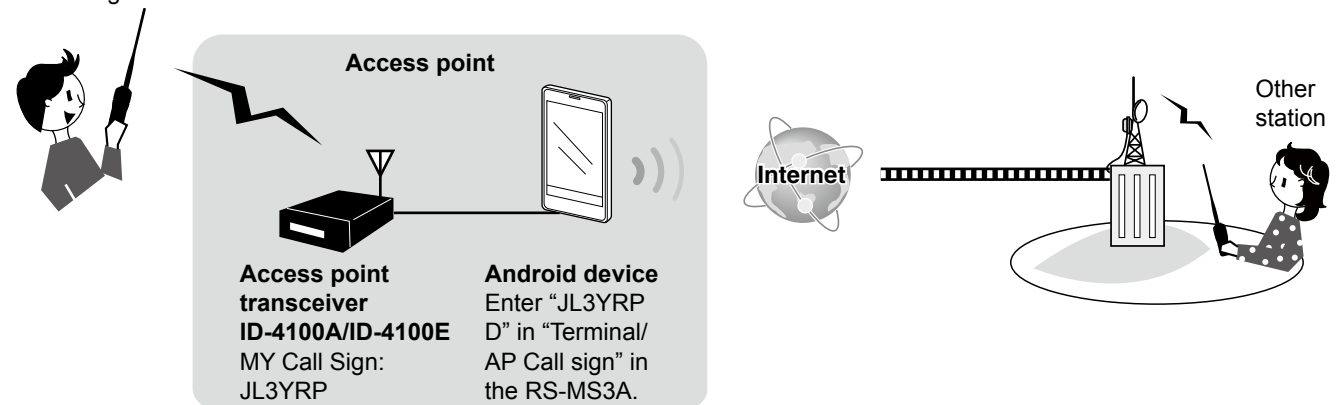
Access point

Access point transceiver ID-4100A/ID-4100E
MY Call Sign: JL3YRP

Android device
Enter "JL3YRP D" in "Terminal/AP Call sign" in the RS-MS3A.

Internet

Other station

* 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.

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1 Preparation

■ Setting up a network

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

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

*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.
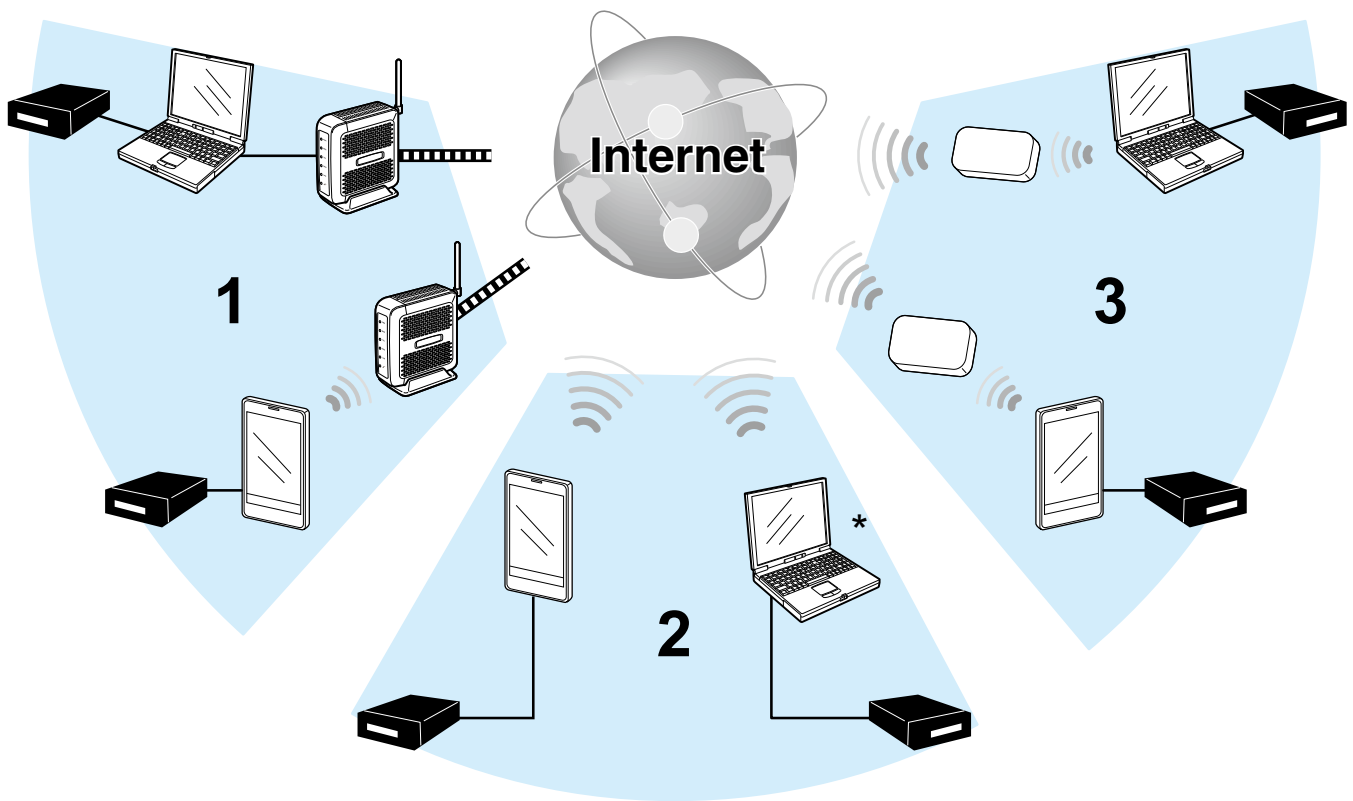
*You can use a cellular system compatible Windows device.

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1 Preparation
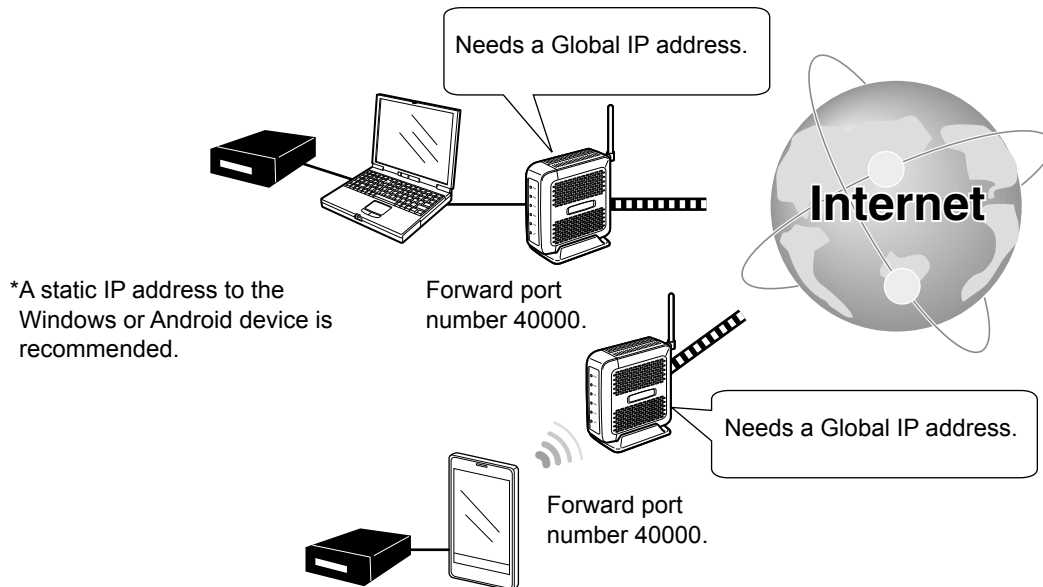
■ Setting up a network (Continued)

◇ 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

Needs a Global IP address.

Internet

*A static IP address to the Windows or Android device is recommended.

Forward port number 40000.

Needs a Global IP address.

Forward port number 40000.

1. A Global IP address

A static or dynamic IPv4 Global IP address assigned to the router is needed.
ⓘ 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.
ⓘ Usable IP addresses differ, depending on your router. Ask your Internet service provider for details.
ⓘ Do not set the same IP address to two or more devices that are connected to the same router.
ⓘ Ask your Windows or Android device's manufacturer about the setting details.

3. Port forwarding

When using a router, enable communication with the Internet, as described below.
● Forward port number 40000 that is used for the RS-MS3W or RS-MS3A.
● "UDP" should be used as the port protocol.
● Set a static local IP address in Procedure 2 (2. Setting a static local IP address to your device) as a destination port.
ⓘ Ask the router's manufacturer about how to forward the port.
ⓘ Only one Windows or Android device connected to the router can use the DV Gateway function at the same time.

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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.

Needs a Global IP address.

Internet

Needs a Global IP address.
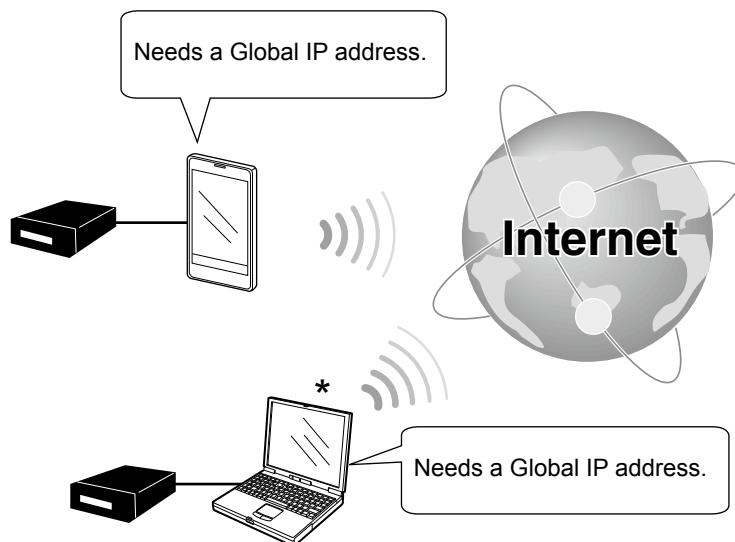
*You can use a cellular system compatible Windows device.

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.

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.
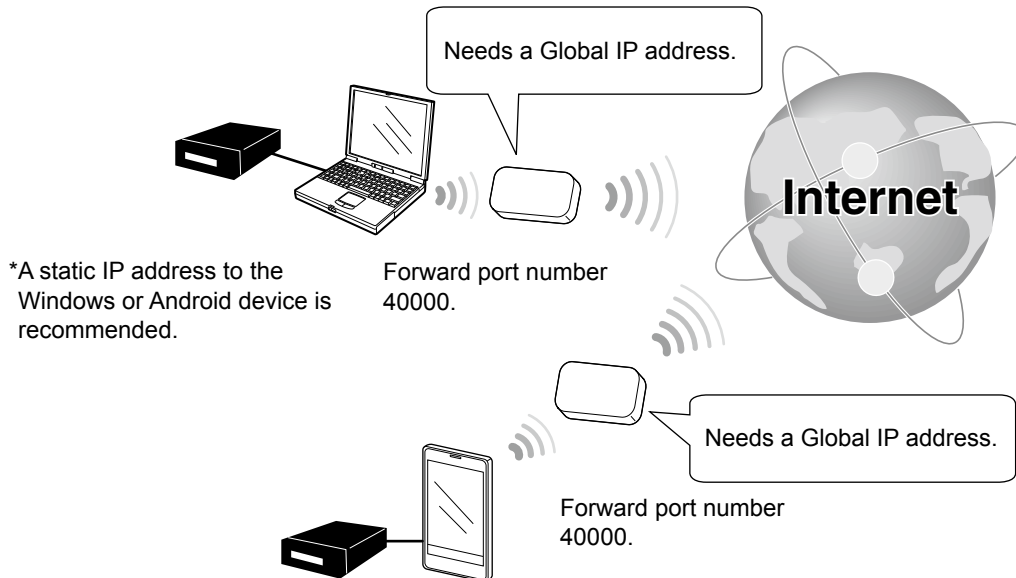
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1 Preparation

■ 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

Needs a Global IP address.

Internet

*A static IP address to the Windows or Android device is recommended.

Forward port number 40000.

Needs a Global IP address.

Forward port number 40000.

1. A Global IP address

A static or dynamic IPv4 Global IP address assigned to the router is needed.
ⓘ 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 mobile router, you need to set a static local IP address to the Windows or Android device.
ⓘ Usable IP address differs depending on your router. Ask your Internet service provider for details.
ⓘ Do not set the same IP address to two or more devices that are connected to the same router.
ⓘ Ask your Windows or Android device's dealer about the setting details.

3. Port forwarding

When using a mobile router, enable communication with the Internet, as described below.
● Forward port number 40000 to your cellular device.
● "UDP" should be used as the port protocol.
● Set a static local IP address in Procedure 2 (2. Setting a static local IP address to your device) as a destination port.
ⓘ Ask the mobile router's manufacturer about how to forward the port.
ⓘ Only one Windows or Android device connected to the mobile router can use the DV Gateway function at the same time.

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2 Setting up the RS-MS3W/RS-MS3A

■ Setting up the RS-MS3W

The RS-MS3W is a Windows application to use the ID-4100A/ID-4100E DV Gateway function.
You can download it from the Icom website.

◇ System requirements

The following are required to use the RS-MS3W.

(As of April 2017)

• **Operating System (OS)**
 Microsoft® Windows® 7 (32/64bit)
 Microsoft® Windows® 8.1 (32/64bit)
 (Except for Microsoft® Windows® RT.)
 Microsoft® Windows® 10 (32/64bit)

ⓘ 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.
ⓘ Search by "RS-MS3W."
http://www.icom.co.jp/world/support/download/firm/

◇ Connecting the OPC-2350LU

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

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

ID-4100A/
ID-4100E
To the [DATA] jack
Windows
OPC-2350LU
To a USB port
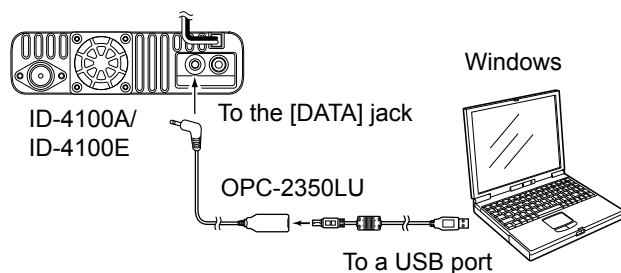
◇ COM port settings

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.
   ⓘ Click "▼" to display the COM ports on a drop-down list.
   ⓘ 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.
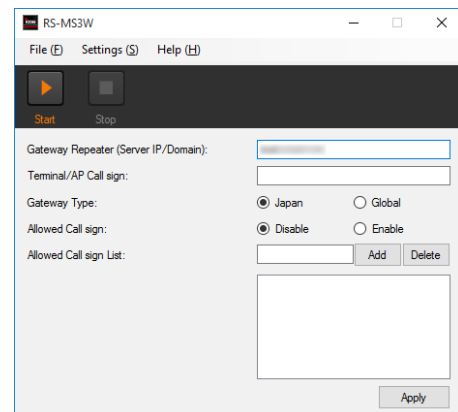
ⓘ The screen may be different, depending on the application version.

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.
ⓘ Ask your firewall security software's manufacturer about the setting details.

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2 Setting up the RS-MS3W/RS-MS3A

■ Setting up the RS-MS3A

The RS-MS3A is an application for Android device to use the ID-4100A/ID-4100E DV Gateway function. Download the application from Google Play.

◇ System requirements

The following are required to use the RS-MS3A.
(As of April 2017)

• **Android device**
 Android 4.0 or later with the USB host function
 ⓘ The RS-MS3A has been tested with Android 4.x.x, 5.x.x, and 6.x.x.

> **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.
ⓘ 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."
    ⓘ Do not abbreviate the application name to certainly find it.
4. Touch " 🔍 (search)."
5. Touch "RS-MS3A."
    • The RS-MS3A application information is displayed.
    ⓘ 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

ID-4100A/ID-4100E

to the [DATA] jack

Android device with the USB host function

OPC-2350LU

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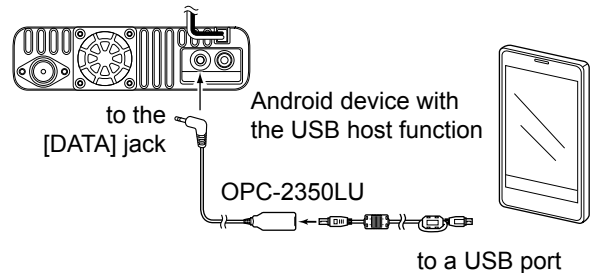
> **NOTE:**
> • Turn OFF the transceiver before connecting or removing the cable.
> • Remove the OPC-2350LU when you do not use the cable. Otherwise, the battery will be quickly exhausted.
> • If the application selection window is displayed, select "RS-MS3A" to start the application.

◇ Setting the RS-MS3A

Set the RS-MS3A to start using the DV Gateway function.
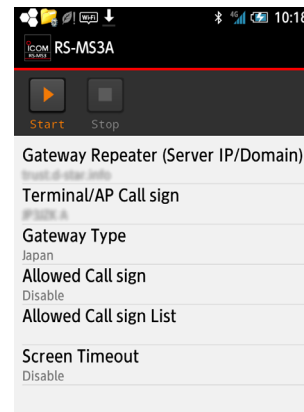
ⓘ The screen may be different, depending on the application version.

Read the RS-MS3A instruction manual about each setting item.
ⓘ Search by "RS-MS3A."
http://www.icom.co.jp/world/support/download/firm/

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3 Terminal mode operation

■ Setting the Terminal mode

[Transceiver operation]

DV Gateway > **<<Terminal Mode>>**

1. Push [MENU].
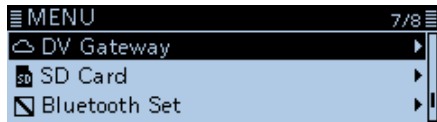2. Rotate [DIAL] to select "DV Gateway," and then push [↵].

```
≣MENU                7/8≣
△ DV Gateway            ▶
🆂🅾 SD Card             ▶
🅽 Bluetooth Set        ▶
```

3. Select "<<Terminal Mode>>," and then push [↵].

```
≣ DV GATEWAY         1/1≣
<<Terminal Mode>>
<<Access Point Mode>>
```

▼

```
DV✈              ▮⚓
TO🔋🔋 Auckland
        ZL1ZLD A
FROM JA3YUA      TM MODE
```
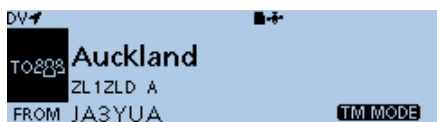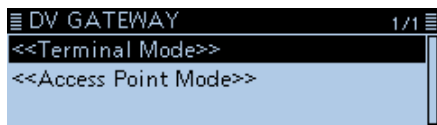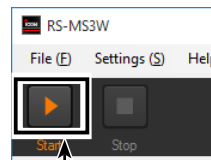
• **TM MODE** is displayed.

[Windows or Android operation]

Click (touch) <Start> ▶ in the RS-MS3W or RS-MS3A.
ⓘ If an error message is displayed, see page 20 to read the tips to solve the problem.

```
📟 RS-MS3W
File (F)  Settings (S)  Help
 ▶         ■
Start      Stop
```

```
📟 RS-MS3A
 ▶         ■
Start      Stop
```

Click   Touch

TIP: Canceling the Terminal mode

[Windows or Android operation]
1. Click (touch) <Stop> ■ in the RS-MS3W or RS-MS3A.

[Transceiver operation]
2. Select "<<Normal Mode>>" in the Quick Menu window or "DV Gateway" on the MENU screen.
    ⓘTo display the Quick Menu window, push [QUICK].

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*
  FROM: MY Call Sign
  * This setting does 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.

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3 Terminal mode operation

■ Operating in the Terminal mode

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

● Hold down [PTT] or release it to transmit or receive.
  ⓘ While transmitting, ⬛TX⬛ is displayed.
  ⓘ While receiving, BUSY is displayed.
  ⓘ While receiving a signal through the Internet, you cannot transmit.

● Push [↵] to display the TO SELECT screen.
          (ID-4100A/ID-4100E's Advanced manual Sec. 4)
  ⓘ You can select the "Local CQ," but cannot make a call.

● Rotate [DIAL] to set "TO" (Destination).
          (ID-4100A/ID-4100E's D-STAR guide)

● Push [MENU] to enter or exit the MENU screen.
          (ID-4100A/ID-4100E's Basic manual Sec. 4)

● Hold down [🔒] for 1 second to turn the Key Lock function ON or OFF.
          (ID-4100A/ID-4100E's Basic manual Sec. 3)

● Push [MODE] to set the "GPS TX Mode" item.

● Hold down [RX→CS] for 1 second to set the received station call sign as the destination (UR) call sign.   (ID-4100A/ID-4100E's D-STAR guide)

● Push [RX→CS] to display the RX>CS screen. Rotate [DIAL] to select another call sign in the RX history.   (ID-4100A/ID-4100E's D-STAR guide)

● Push [QUICK] to enter or exit the Quick Menu* window.
  ⓘ You can select the following items (Quick Menu window) in the Terminal mode.

<<Normal Mode>>
Group Select
Repeater Detail
DTMF TX
Voice TX
RX History
GPS Information
GPS Position
DSQL
Clock
Voltage
<<REC Start>>

● Hold down [MUTE] for 1 second to turn the Mute function ON or OFF.

● Rotate [VOL] to adjust the audio volume level.
          (ID-4100A/ID-4100E's Basic manual Sec. 3)

● Push [SPCH] to audibly announce the displayed call sign.
          (ID-4100A/ID-4100E's Advanced manual Sec. 3)

● Hold down [⏻] for 1 second to turn the transceiver ON or OFF.
  ⓘ The Terminal mode is not automatically canceled even if you turn OFF the transceiver, then ON it again.
          (ID-4100A/ID-4100E's Basic manual Sec. 3)

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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 7 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.

Setting by rotating [DIAL]
Rotate [DIAL] to select the repeater or Your Call Sign.
(This operation is disabled when "CQCQCQ" is set.)

TO SELECT screen

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

To make a Gateway CQ call

"Gateway CQ" setting (p. 14)
Select a repeater from the repeater list, if you want to make a Gateway call.

To make a call to a specific station

"Your Call Sign" setting (p. 14)
Select the station call sign in the Your Call Sign memory.

TIP: How to change the repeater group:
When "Gateway CQ" is selected, you can change the repeater group.
To change the repeater group, push [QUICK], then select "Group Select."

ⓘ You cannot make a call through a reflector.

To select from RX History

Setting from RX History (Advanced manual Sec. 4)
When you receive a call, the repeater or caller station data is saved in RX History.
You can select the destination from the record.
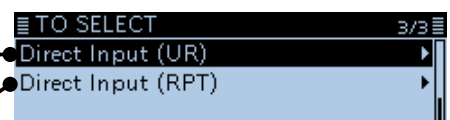
To select from TX History

Setting from TX History (Advanced manual Sec. 4)
When you make a call, the destination repeater or called station data is saved in TX History.
You can select the destination from the record.

To directly enter the destination station call sign

Direct Input (UR) (Advanced manual Sec. 4)
Directly enter the destination station's call sign.

To directly enter the destination repeater call sign

Direct Input (RPT) (Advanced manual Sec. 4)
Directly enter the destination repeater's call sign.

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3 Terminal mode operation
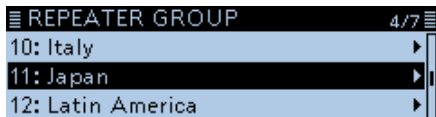
■ Operating in the Terminal mode (Continued)

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

Example: Making a Gateway CQ call

1. Push [↵].
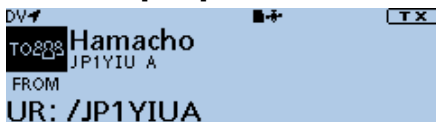2. Rotate [DIAL] to select "Gateway CQ," then push [↵].

```
≡ TO SELECT                    1/3≡
Local CQ
Gateway CQ                        ▶
Your Call Sign                    ▶
```

3. Select the repeater group where your destination repeater is listed, then push [↵].
   (Example: "11: Japan")

```
≡ REPEATER GROUP               4/7≡
10: Italy                         ▶
11: Japan                         ▶
12: Latin America                 ▶
```

4. Select your destination repeater, then push [↵].
   (Example: "Hamacho")

```
≡ REPEATER LIST GROUP 11       1/2≡
Hamacho          │Tokyo
HamFair          │JP1YIU A
Inage            │
```

5. Hold down [PTT] to transmit.

```
DV✈                    ■✦        TX
TO░░░Hamacho
     JP1YIU A
FROM
UR: /JP1YIUA
```

- Displays TX while transmitting.
- ① While receiving a signal through the Internet, you cannot transmit.
- ① If you cannot receive a reply, see page 21 to read the tips to solve the problem.
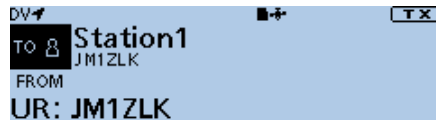
Example: Making a call to a specific station

1. Push [↵].
2. Rotate [DIAL] to select "Your Call Sign," then push [↵].

```
≡ TO SELECT                    1/3≡
Local CQ
Gateway CQ                        ▶
Your Call Sign                    ▶
```

3. Select the destination, then push [↵].
   (Example: "Station1")

```
≡ YOUR CALL SIGN               1/1≡
Station1          JM1ZLK
```

- "Station1" is displayed in "TO."

4. Hold down [PTT] to transmit.

```
DV✈                    ■✦        TX
TO 👤 Station1
     JM1ZLK
FROM
UR: JM1ZLK
```

- Displays TX while transmitting.
- ① While receiving a signal through the Internet, you cannot transmit.
- ① If you cannot receive a reply, see page 21 to read the tips to solve the problem.
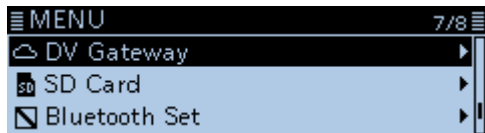
4 Access Point mode operation

■ Setting the Access Point mode

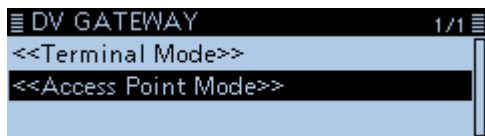In this section, set an **Access Point transceiver**.

[Access Point transceiver operation]

DV Gateway > **<<Access Point Mode>>**

1. Push [MENU].
2. Rotate [DIAL] to select "DV Gateway," and then push [↵].

```
≣MENU                        7/8≣
☁ DV Gateway                    ▶
🆂🅳 SD Card                      ▶
Ⓝ Bluetooth Set                ▶
```

3. Select "<<Access Point Mode>>," and then push [↵].

```
≣ DV GATEWAY                 1/1≣
<<Terminal Mode>>
<<Access Point Mode>>
```

• **AP MODE** is displayed.

4. Rotate [DIAL] to set the operating frequency.

```
DV                            ▪↔
430.850
                        AP MODE
```

ⓘ The frequency is used to communicate with the Remote D-STAR transceiver.

ⓘ In the Access Point mode, you can change 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.

ⓘ If an error message is displayed, see page 20 to read the tips to solve the problem.

```
🅘 RS-MS3W
File (F)   Settings (S)   Help
  ▶          ■
Start       Stop
```

```
🅘 RS-MS3A
  ▶          ■
Start       Stop
```

Click   Touch

TIP: Canceling the Access Point mode

[Windows or Android operation]
1. Click (touch) <Stop> ■ in the RS-MS3W or RS-MS3A.
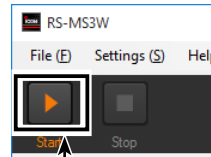
[Access Point transceiver operation]
2. Select "<<Normal Mode>>" in the Quick Menu window or "DV Gateway" on the MENU screen.
   ⓘ To display the Quick Menu window, push [QUICK].

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, 230 MHz, or 300 MHz band is set.)
  Receive mode: DV mode*
  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.

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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.

● Push [BAND] to enter the Band Select mode.

● Rotate [DIAL] to selects an operating frequency.

● Push [MENU] to enter or exit the MENU screen.
(ID-4100A/ID-4100E's Basic manual Sec. 4)

● Hold down [🔒] for 1 second to turn the Key Lock function ON or OFF.
(ID-4100A/ID-4100E's Basic manual Sec. 3)

● Push [MONI] to turn the Monitor function ON or OFF. (ID-4100A/ID-4100E's Basic manual Sec. 3)

● Push [QUICK] to enter or exit the Quick Menu* window. (ID-4100A/ID-4100E's Basic manual Sec. 3)
ⓘ You can select the following items (Quick Menu screen) in the Access Point mode.

<<Normal Mode>>
Band Select
TX Power
MHz
TS
RX History
GPS Information
GPS Position
Home CH Set
Clock
Voltage
<<REC Start>>

● Hold down [MUTE] for 1 second to turn the Mute function ON or OFF.

● Rotate [VOL] to adjust the audio volume level.
(ID-4100A/ID-4100E's Basic manual Sec. 3)

● Push [SPCH] to audibly announce the displayed frequency and operating mode.
(ID-4100A/ID-4100E's Basic manual Sec. 3)

● Hold down [⏻] for 1 second to turn the transceiver ON or OFF.
ⓘ The Access Point mode is not automatically canceled even if you turn OFF the transceiver, then ON it again.
(ID-4100A/ID-4100E's Basic manual Sec. 3)

● Rotate [SQL] to adjust the squelch level.
ⓘ A weaker signal than the set squelch level is not transmitted through the Internet.
(ID-4100A/ID-4100E's Basic manual Sec. 3)

4 Access Point mode operation

■ Making a Gateway call through the Access point transceiver
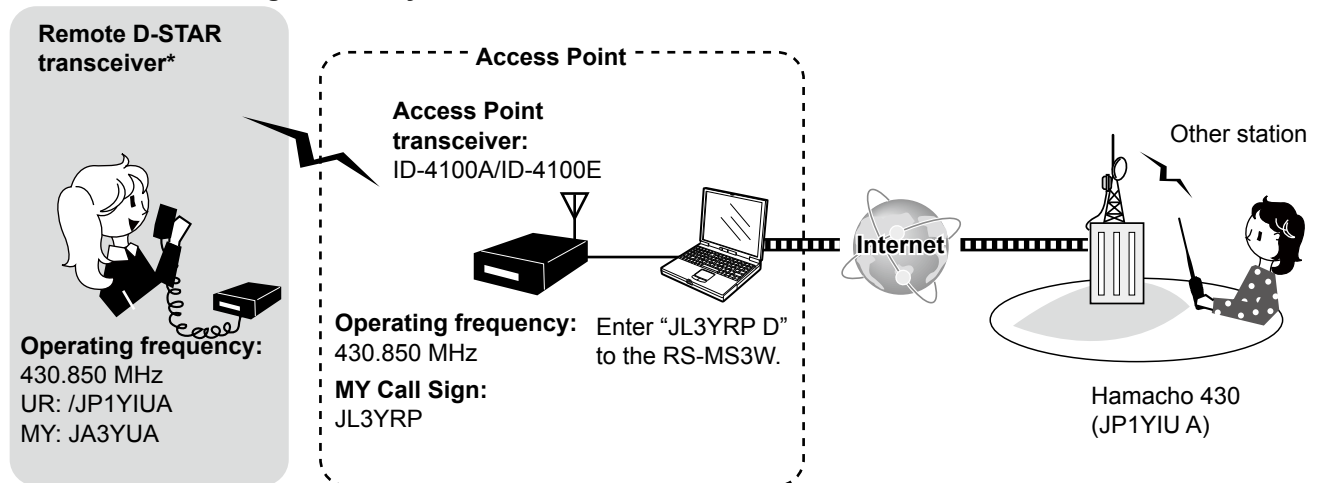
In this section, set a **Remote D-STAR transceiver** you are going to operate.
ⓘ Read the Remote D-STAR transceiver's instruction manual for setting details.

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.
ⓘ 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.

Remote D-STAR transceiver*

Access Point

Access Point transceiver:
ID-4100A/ID-4100E

Other station

Operating frequency:
430.850 MHz
UR: /JP1YIUA
MY: JA3YUA

Operating frequency:
430.850 MHz
MY Call Sign:
JL3YRP

Enter "JL3YRP D" to the RS-MS3W.

Internet

Hamacho 430
(JP1YIU A)

* 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.

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4 Access Point mode operation

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

◇ When using the DR function

In this document, the ID-4100A/ID-4100E is used as a Remote D-STAR transceiver as an example.

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.

DV Memory > **Repeater List**

1. Push [MENU].
2. Rotate [DIAL] to select "DV Memory," then push [↵].
3. Rotate [DIAL] to select "Repeater List," then push [↵].
4. Select a group you want to add your Access Point information, then push [↵].

```
≡ REPEATER GROUP        11/17≡
31: AP MODE                    ▶
32:                            ▶
33:                            ▶
```

5. Push [QUICK].
6. Select "Add," then push [↵].

```
≡ REPEA  Add              1/1≡
    -
```

7. Set "TYPE" to "DV Repeater."
   ⓘ "DV Repeater" is used for Repeater operation in the DV mode.
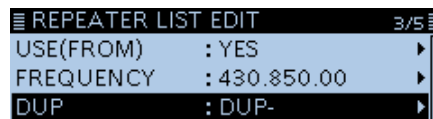8. Enter your favorite name into "NAME" and "SUB NAME." (Example: MY AP)

```
≡ REPEATER LIST EDIT     1/5≡
TYPE          : DV Repeater    ▶
NAME          : MY AP          ▶
SUB NAME      :                ▶
```

9. Set "CALL SIGN" to the Access Point transceiver's call sign. (Example: JL3YRP)
   ⓘ After setting "CALL SIGN," "GW CALL SIGN" is automatically set.

```
≡ REPEATER LIST EDIT     2/5≡
CALL SIGN     : JL3YRP         ▶
GW CALL SIGN  : JL3YRP G       ▶
GROUP         : 31 AP MODE     ▶
```

10. Set "USE (FROM)" to "YES."
11. Set "FREQUENCY" to the Access Point transceiver's operating frequency. (Example: 430.850)

12. Set "DUP" to "DUP–."

```
≡ REPEATER LIST EDIT     3/5≡
USE(FROM)     : YES            ▶
FREQUENCY     : 430.850.00     ▶
DUP           : DUP-           ▶
```

13. Set "OFFSET FREQ" to "0.000.00."

```
≡ REPEATER LIST EDIT     4/5≡
OFFSET FREQ   : 0.000.00       ▶
POSITION      : None           ▶
UTC OFFSET    : --:--          ▶
```

14. Select "<<Add Write>>," then push [↵] to add the Access Point information.

```
≡ REPEATER LIST EDIT     5/5≡
<<Add Write>>
```
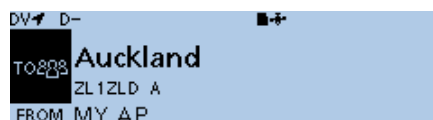
• The Access Point information is entered.

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."

```
DV✔ D-                    ▐▪÷
TO888 CQCQCQ
FROM  MY AP
      430.850      JL3YRP
```
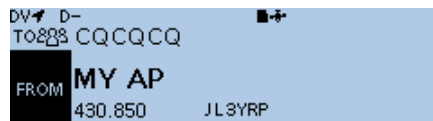
3. Set "TO" and transmit.

1. Set "TO" destination. (Example: Auckland)

```
DV✔ D-                    ▐▪÷
TO888 Auckland
      ZL1ZLD A
FROM MY AP
```

ⓘ You can select the "Local CQ," but cannot make a call.
2. Hold down [PTT] to transmit.
   ⓘ If you cannot receive a reply, see page 22 to read the tips to solve the problem.

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4 Access Point mode operation

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

◇ **When not using the DR function**

In this document, the ID-4100A/ID-4100E is used as a Remote D-STAR transceiver as an example.

1. Enter the VFO mode.

Push [V/M].

```
FM                    ■┼
375.895
                  PSKIP
                  000
```

2. Set the operating frequency.

Rotate [DIAL] to set the frequency that is set to the Access Point transceiver. (Example: 430.850)

```
FM                    ■┼
430.850
                  PSKIP
                  000
```

3. Set the Receive mode to "DV mode."

Push [MODE] several times until "DV" is displayed.
ⓘ When the "GPS TX Mode" is set, 📶 is displayed besides the mode icon.

```
DV📶                  ■┼
430.850
                  PSKIP
                  000
```

4. Set the duplex direction.

1. Push [QUICK].
2. Select "DUP."

```
DV📶  Band Select    ▶
4≡   TX Power        ▶
     DUP             ▶
     DSQL            ▶   PSKIP
                        000
```

3. Select "DUP–."

```
DV📶     OFF
4≡      DUP-
        DUP+
                        PSKIP
                        000
```

▼

```
DV📶 D-               ■┼
430.850
                  PSKIP
                  000
```
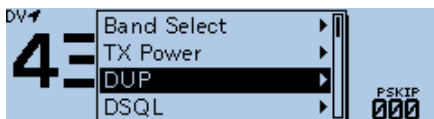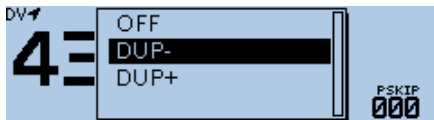
5. Set the frequency offset.

DUP/TONE... > **Offset Freq**

1. Push [MENU].
2. Select "DUP/TONE...."

```
≡MENU              1/8≡
📡 DUP/TONE...        ▶
📄 Manage Memory     ▶
🔭 Scan              ▶
```

3. Select "Offset Freq."
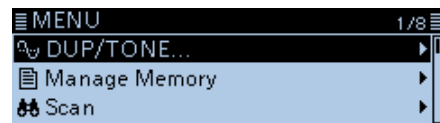
```
≡DUP/TONE...        1/3≡
Offset Freq          ▶
Repeater Tone        ▶
TSQL Freq            ▶
```

4. Set "0.000.00 MHz."
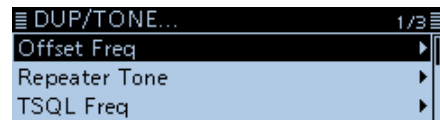
```
≡ Offset Freq

      0.000.00 MHz
```
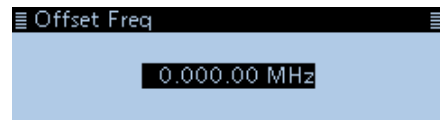
5. Push [MENU].
   • Returns to the standby screen.

6. Set the destination station call sign to "UR."

Call Sign > **UR**

1. Push [MENU].
2. Select "Call Sign."

```
≡MENU              3/8≡
📇cs Call Sign        ▶
📥 RX History        ▶
📠 DV Memory         ▶
```

3. Select "UR."
4. Set the destination repeater or destination station's call sign.
   ⓘ In the Access Point mode, you can select the "CQCQCQ" but cannot make a call.

```
≡ CALL SIGN        1/2≡
UR: /ZL1ZLDA    Auckland ▶
R1:
R2: NOT USED*        ▶
```
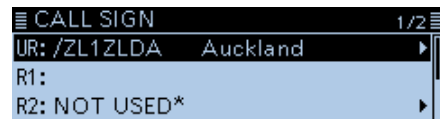
5. Push [MENU].
   • Returns to the standby screen.

7. Hold down [PTT] to transmit.

ⓘ If you cannot receive a reply, see page 22 to read the tips to solve the problem.

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5 Troubleshooting

■ Error messages of the RS-MS3W and the RS-MS3A

If an error message is displayed when Clicking (touching) <Start> ▶ in the RS-MS3W or RS-MS3A, read the following chart. 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.

MESSAGE	POSSIBLE CAUSE	SOLUTION	REFERENCE
Gateway Repeater (Server IP/Domain) cannot be found.	• The gateway repeater address is not correctly entered. • Your Windows or Android device does not connect to the Internet.	• Correctly enter the gateway repeater address. • Connect your Windows or Android device to the Internet, and check whether or not you can access to a web site on the www browser.	RS-MS3W, RS-MS3A's instruction manual –

Terminal/AP Call sign is incorrect.	• The Terminal/AP call sign is not correctly entered.	Correctly enter the call sign.
		ⓘ The call sign consists of 8 characters.
		  • Enter a space for the 7th character.
		  • Enter a desired ID suffix between A to F for the 8th character.
			RS-MS3W, RS-MS3A's instruction manual

The USB cable is not connected.(1∗∗)	• **<When using the RS-MS3W>** The transceiver and Windows are not correctly connected. • **<When using the RS-MS3A>** The transceiver and the Android device are not correctly connected.	• Check whether or not the transceiver and Windows are correctly connected. • Check whether or not the transceiver and the Android device are correctly connected.	p. 9 p. 10
The USB cable is not connected.(2∗∗)	• The transceiver is not turned ON. • The transceiver is in the Normal mode.	• Turn ON the transceiver. • Enter the Terminal mode or Access Point mode.	– pp. 11, 15
Failed to connect to the network.	• The application cannot create a socket for sending and receiving data.	• Check whether or not the port number (40000/40002) competes with other application. If so, stop the competing application. • Restart the RS-MS3W or RS-MS3A. If an error message does not disappear, restart Windows or Android device.	– –
A Network error occurred.	• System error occurs when receiving data from network.	• Restart the RS-MS3W or RS-MS3A. If an error message does not disappear, restart Windows or Android device.	–
Failed to start the service.	• The gateway repeater address or Terminal/AP call sign is not correctly entered. • System error occurs when the service started.	• Correctly enter the gateway repeater address or Terminal/AP call sign. • Restart the RS-MS3W or RS-MS3A. If an error message does not disappear, restart Windows or Android device.	RS-MS3W, RS-MS3A's instruction manual –

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5 Troubleshooting

■ Troubleshooting for the Terminal mode operation

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	REFERENCE
After your call, the repeater does not return a status reply.	• 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.	• 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."	• The call was successfully sent, but no station immediately replied.	• 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."	• Your call sign (MY) has not been registered at a gateway server. • The Terminal/AP call sign that is set in the RS-RP3A or RS-RP3W has not been registered to the RS-RP3C as the access point. • 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.	• Register your call sign (MY) at a gateway server.* • Register the Terminal/AP call sign that is set in the RS-RP3A or RS-RP3W to the RS-RP3C as the access point. • Check the destination station's register information.	ID-4100A/ ID-4100E's D-STAR guide
After your call, the repeater replies 'RPT?' and call sign of the destination repeater.	• The repeater cannot connect to the destination repeater. • The repeater is busy.	• Wait for a while, and try again.	–
"L" appears on the LCD. DV D– [L] ■ TO:Hamacho JP1YIU A	• While receiving through the Internet, some packets may be lost due to network error (poor data throughput performance).	• Wait for a while, and try again. ⓘ When the transceiver receives corrupted data, and misidentifies it is as Packet Loss, "L" is displayed.	–
You can transmit, but cannot receive from the destination repeater.	• 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.	• 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

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5 Troubleshooting

■ Troubleshooting for the Access Point mode operation

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	REFERENCE
After your call, the repeater does not return a status reply. (No S-meter indication)	• The wrong Access Point is selected in the Remote D-STAR transceiver.	• Set the correct Access Point to "FROM."	–
	• The manually entered frequency or duplex setting is wrong in the Remote D-STAR transceiver.	• Set the correct frequency or duplex setting.	–
	• The transmission from the Remote D-STAR transceiver did not reach the Access Point.	• Move to the place where the Remote D-STAR transceiver can reach the Access Point.	RS-MS3W, RS-MS3A's instruction manual
	• You did not click (touch) <Start> ▶ in the RS-MS3W or RS-MS3A.	• 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."	• Add the Remote D-STAR transceiver's call sign to "Allowed Call Sign List" in the RS-MS3W or RS-MS3A.	
After your call, the repeater replies "UR?," the Access Point call sign and ID suffix "G."	• The call was successfully sent to the Access Point, but no station immediately replied.	• Wait for a while, and try again.	–
After your call, the repeater replies "RX" or "RPT?" and the Access Point call sign and ID suffix "G."	• The Remote D-STAR transceiver's call sign has not been set to the transceiver.	• Set the Remote transceiver's call sign has not been set to the transceiver.	The Remote D-STAR transceiver's instruction manual
	• Your call sign (MY) has not been registered at a gateway server.	• Register your call sign (MY) at a gateway server.	
	• The Terminal/AP call sign that is set in the RS-RP3A or RS-RP3W has not been registered to the RS-RP3C as the access point.	• Register the Terminal/AP call sign that is set in the RS-RP3A or RS-RP3W to the RS-RP3C as the access point.	
	• 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.	• Check the destination station's register information.	–
	• A wrong destination repeater's call sign is set to "TO."	• Set the correct destination repeater's call sign to "TO."	RS-MS3W, RS-MS3A's instruction manual
	• The RS-MS3W or the RS-MS3A's settings are wrong.	• Correctly set the RS-MS3W or the RS-MS3A.	
	• Destination station that uses the Terminal mode or Access Point mode does not transmit periodically.	• Destination station makes a call.	–

5 Troubleshooting

■ Troubleshooting for the Access Point mode operation (Continued)

PROBLEM	POSSIBLE CAUSE	SOLUTION	REFERENCE
After your call, the repeater replies 'RPT?' and the access repeater's call sign.	• The destination repeater is in use.	• Wait for a while, and try again.	–
"L" appears on the LCD. DV D– TO🔒Hamacho JP1YIU A	• While receiving through the Internet, some packets may be lost due to network error (poor data throughput performance).	• Wait for a while, and try again. ⓘ When the transceiver receives corrupted data, and misidentifies it is as Packet Loss, "L" is displayed.	–
"DV" and "FM" icons alternately blink.	• While in the DV mode, an FM signal is received.	• Use a different operating frequency until there are no FM signals on the original frequency.	ID-4100A/ ID-4100E's Advanced manual (Section 4)
You can transmit, but cannot receive from the destination repeater.	• 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.	• 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

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