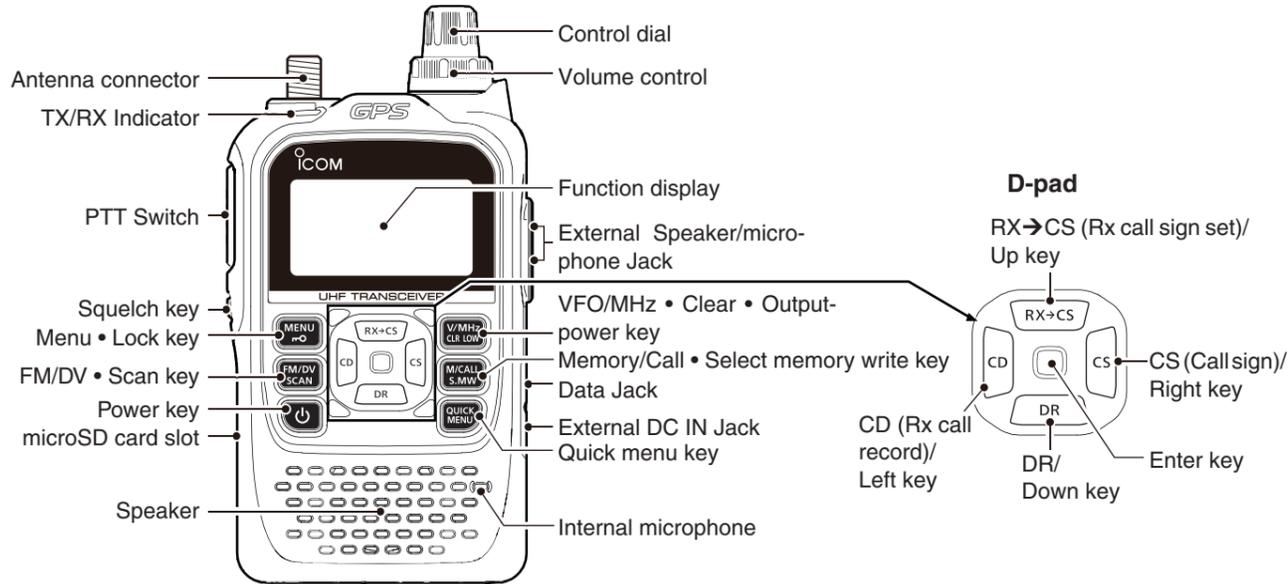


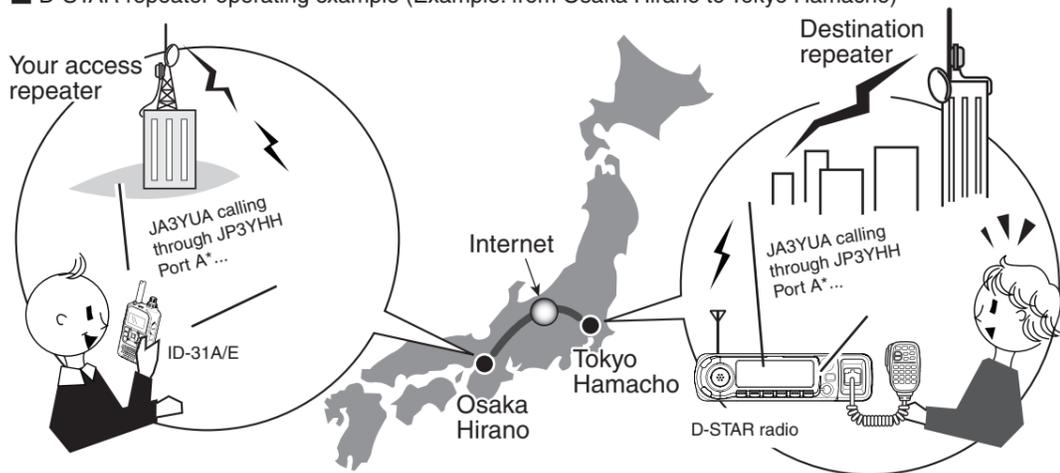
The DR (D-STAR® Repeater) mode is one mode you can use for D-STAR® repeater operation. In this mode, you can select the preprogrammed repeater or frequency in "FROM" (the access repeater or simplex), and UR call sign in "TO" (destination), as shown on page 3. The DR mode uses the programmed Repeater List as its data source.

■ Front, top and side panels



This quick guide assumes that your own call sign has already been registered at a gateway repeater, and uses the preset repeater list for the descriptions.
*If needed, ask the gateway repeater administrator for call sign registration instructions.

■ D-STAR repeater operating example (Example: from Osaka Hirano to Tokyo Hamacho)



* Set the repeater node to 'B' for the 430 MHz band, outside Japan. See page 3-1 in Advanced Instructions, for details.

D-STAR Terms

D-STAR: Digital Smart Technologies for Amateur Radio, an open protocol.

Area: Communication range that covers a D-STAR repeater.

Gateway repeater: A D-STAR repeater, connected to the Internet.

Local CQ: To call a station through your local area (access) repeater.

Gateway CQ: To call through your local area (access) repeater, repeater gateway, and the Internet to your destination repeater.

Register and set your own Call sign

You can store up to 6 "MY" call signs, [MY1]–[MY6]. If necessary, enter a note of up to 4 characters, such as the model of the transceiver, name, area indication, and so on, after your call sign.

1. Select "My Call Sign" channel, then enter to programming mode

- Push [MENU] to enter the menu mode.
- Push D-pad(↑) to select the root item ("My Station"), and then push D-pad(Ent).
- Push D-pad(1) to select "My Call Sign," and then push D-pad(Ent).
- Push D-pad(1) to select the call sign memory channel "1" ([MY1]).
- Push [QUICK MENU], and then push D-pad(1) to select "Edit."
- Push D-pad(Ent) to enter the call sign programming mode.
 - A cursor appears and blinks.

Example: Program "JA3YUA/ID31" into the call sign memory channel [MY1].

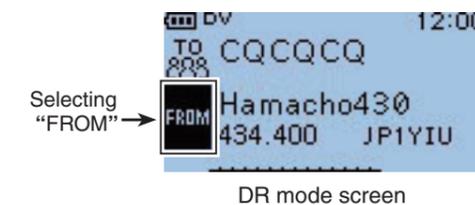
2. Program your own call sign (programming mode)

- Rotate [DIAL] to select the first digit. (Example: J)
 - A to Z, 0 to 9, / and (Space) can be selected.
 - If you make a mistake, push [CLR] to delete the selected character, number or symbol.
 - Push D-pad(→) to enter a space or rotate [DIAL] to insert a space to a desired.
- Push D-pad(→) to move the cursor to the second digit.
- Repeat steps ⑦ and ⑧ to enter your own call sign of up to 8 characters, including spaces. (Example: First, J, then A, then 3, then Y, then U, then A)
- To program a note (up to 4 characters, for operating radio type, area, and so on.), go to step ⑩, otherwise go to step ⑫.
- Push D-pad(→) several times to move the cursor to the right of " /".
- Repeat steps ⑦ and ⑧ to program the desired 4 character note. (Example: ID31)
- Push D-pad(Ent) to set the programmed call sign and note.
- Push D-pad(Ent) again to return to the MY CALL SIGN screen.
 - Two beeps sound.
- Push [MENU] to exit to the MENU screen.

To reply a received call from your access repeater

Select your access repeater

- <Example> Select "Hamacho430" to "FROM"
- Hold down [DR] for 1 second.
 - The DR mode is selected.
 - Push D-pad(↑) to select "FROM," and then push D-pad(Ent).
 - Push D-pad(↑) to select "Repeater List," and then push D-pad(Ent).
 - The REPEATER GROUP screen is displayed.
 - Push D-pad(↑) to select the repeater group where your destination repeater is listed, and then push D-pad(Ent). (Example: 11: Japan)
 - Push D-pad(↑) to select "Hamacho430," and then push D-pad(Ent).
 - "Hamacho430" is displayed on "FROM."



*By selecting a repeater name, repeater call sign, frequency, duplex and offset settings are automatically set.
*The repeater list that is used in the description, may differ with your transceiver's preset contents.

Reply to a received call (One-touch Reply)

The calling station's call sign can be captured to quickly and easily reply.

1. Set the received station's call sign

- Means you received a call from "JM1ZLK."
- While holding down [RX→CS], rotate [DIAL] to select a call sign to send a reply. If you want to reply to the last calling station, hold down [RX→CS] for 1 second. (It is not necessary to rotate [DIAL].)
- After selecting, release [RX→CS], and then the selected station call sign is announced (RX>CS Speech function*)
 - When a call sign has not been received correctly, error beeps sound, and no call sign is set.
 - After selecting a call sign, the arrow icon blinks on "TO."

2. Push [PTT] to transmit

- Release [PTT] to receive. Means you have replied to "JM1ZLK."

3. Releasing the one touch reply mode

- Push [CLR] to return to the previous screen.
- The arrow icon on "TO" disappears.

1. Set your access repeater (FROM)

Example: Set the "Hirano430" repeater name in "FROM"

- Hold down [DR] for 1 second to enter the DR mode.
- Push D-pad(↓) to select "FROM," and then push D-pad(Ent).
- Push D-pad(↓) to select "Repeater List," and then push D-pad(Ent).
 - The REPEATER GROUP is displayed.
- Push D-pad(↓) to select the repeater group where your destination repeater is listed, and then push D-pad(Ent). (Example: 11: Japan)
- Push D-pad(↓) to select "Hirano430," and then push D-pad(Ent).
 - "Hirano430" is displayed on "FROM."

"Hirano430" setting is completed.

- When you select just the repeater name, the repeater call sign, its frequency, duplex setting and frequency offset are automatically set.
- The repeater list, described in this manual, may differ from your transceiver's preset contents.
- You have four other ways to set your access repeater, other than selecting it from repeater list. You can select by rotating [DIAL], Search for the nearest repeater, Setting from the TX History or Search for a repeater using the DR mode scan. See the Advanced Instruction for more details.

Simplex operation in the DR mode

When setting a Simplex frequency in the Simplex group to "From," simplex contacts can be made in the DR mode.

Operation

- Select the "Repeater List" screen, as described in steps ① to ③ above.
- Select "20: Simplex" described in step ④ above.
- Push D-pad(E) to select a desired frequency, and then push D-pad(Ent) TX display in the DR mode
- Hold down [PTT] to transmit.

2. "TO" (Destination) setting

- Push D-pad(↓) to select "TO," and then push D-pad(Ent).
 - Local area call**
FROM: Hirano430 repeater (JP3YHH A*) TO: Local CQ (CQCQCQ)
Diagram: MY JA3YUA → Area
 - Gateway call**
FROM: Hirano430 repeater (JP3YHH A*) TO: Hamacho430 (JP1YIU A*)
Diagram: MY JA3YUA → Internet → Area
 - "Your Call Sign" setting**
FROM: Hirano430 repeater (JP3YHH A*) TO: TOM (JM1ZLK)
Diagram: MY JA3YUA → Internet → Area

- * Set the repeater node to 'B' for the 430 MHz band, outside Japan. See page 3-1 in Advanced Instructions, for details.
- When you call an individual station call sign through a gateway, the signal is automatically sent to the last repeater that the station accessed. So, even if you don't know where the station is, you can make a call using call sign routing.
- See 'Your (destination) call sign programming' described in Advanced Instructions, section 4, for details.

② Push D-pad(↓) to select "Local CQ," and then push D-pad(Ent).

Settings are complete

② Push D-pad(↓) to select the item, and then push D-pad(Ent). "Gateway CQ" → "11:Japan" → "Hamacho430"

Settings are complete

② Push D-pad(↓) to select the item, and then push D-pad(Ent). "Your Call Sign" → "TOM"

"TOM" setting is completed.

- The following destination station/repeater setting methods are also possible. See the 'TO' (Destination) setting' described in Advanced Instructions, section 3, for details.
- Using [DIAL]
 - Setting from the RX History
 - Setting from the TX History
 - Direct Input (UR)
 - Direct Input (RPT)

3 Hold down [PTT] to transmit

Following screen appears after making the call

- Local area call**
Diagram: TO: CQCQCQ, FROM: Hirano430, UR: CQCQCQ. CQCQCQ scrolls.
- Gateway call**
Diagram: TO: Hamacho430, FROM: Hirano430, UR: /JP1YIU. Hamacho430 call sign with "/" automatically added, scrolls.
Callout: JA3YUA calling through JP3YHH...
- "Your Call Sign" setting**
Diagram: TO: TOM, FROM: Hirano430, UR: JM1ZLK. TOM's call sign scrolls.

- To maximize the readability of your signal, hold the microphone 5 to 10 cm (2 to 4 inches) from your mouth, then speak at a normal voice level.
- In the DR mode, the previously used setting remain programmed. Therefore, we select "CQCQCQ" in "TO" after you finish last call, to prevent an accidental transmission to an undesired destination.
- Hold down [DR] for 1 second to exit the DR mode and return to the main screen..

You can save the temporary settings to memory channel

After you finish the setting:

- Hold down [S.MW] for 1 second to enter the memory select write mode.
 - Diagram: TO: Hamacho430, FROM: Hirano430, 439.390 JP3YHH
 - Diagram: DV DUF+ 434.400 MR VFD
- Rotate [DIAL] to select the Memory channel 001.
 - Diagram: BANK :---, MNAME: Hirano4 Hamach 439.390
- Hold down [S.MW] for 1 second to store the setting, and the transceiver returns to the DR mode.
 - The memory contents are displayed for a moment.
 - If the selected channel is blank, the name from the "FROM"/"TO" setting is automatically saved into the Memory channel.

NOTE: If the selected channel in step ② has memory contents already programmed, the Repeater Name will not be programmed.

About "UR?" and "RPT?" indications

"UR?" appears

The call was successfully sent, but no station's signal was immediately received. The listening station may missed your call, so after waiting for a while, try calling again.

Diagram: TO: CQCQCQ, FROM: Hirano430, UR?: JP3YHH A

The local area call is successfully sent, but no station's signal is immediately received.

Diagram: TO: Hamacho430, FROM: Hirano430, RPT?: JP3YHH A

The destination repeater is busy, when making a gateway communication from Hirano430 to Hamacho430.

"RPT?" or "RX" appears

The destination repeater was not found, there is a programming error, or the destination repeater was busy. When "RPT?" is displayed, wait for a while, then try calling again, because in the gateway call, a signal is sent even if the destination repeater is busy.

- NOTE:** "RPT?" is displayed when;
- the repeater call sign programming is error.
 - your own call sign is not registered on a gateway repeater, or the registration contents is not matched.
 - the destination call sign is not registered on a gateway repeater, or the registration contents is not matched.
 - the destination repeater cannot be accessed.
- "RX" is displayed when a blank MY call sign memory has been selected.