

## ■ One-touch PTT function

The PTT switch can be operated as a one-touch PTT switch (each push toggles between transmit/receive). Using this function you can transmit without pushing and holding the PTT switch.

To prevent accidental, continuous transmissions with this function, the transceiver has a time-out timer. See p. 101 for details.



- 1 Push [FUNC] then [PRIO 3(PTT-M)] to turn the one-touch PTT function ON.
  - The activity indicator lights green.
- 2 Push [PTT] to transmit and push again to receive.
  - A beep sounds when transmission is started and a long beep sounds when returning to receive.
- 3 Push [FUNC] then [PRIO 3(PTT-M)] to turn the one-touch PTT function OFF.
  - The activity indicator goes out.

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## ■ General

Repeaters allow you to extend the operational range of your radio because a repeater has much higher output power than the typical transceiver.

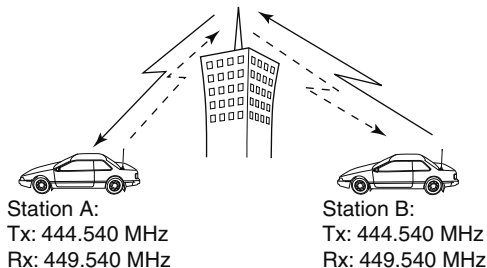
Normally, a repeater has independent frequencies for each receiver and transmitter.

A subaudible tone may also be required to access a repeater.

Reference amateur radio handbooks and local ham magazines for details of local repeaters such as repeater input/output frequencies and locations.

### Repeater example;

Receives the 444.540 MHz signal and the detected audio signals are transmitted on 449.540 MHz simultaneously.



### • Repeater operation flow chart

#### Step 1:

Set the desired band to operate the repeater.

#### Step 2:

Set the desired receive frequency (repeater output frequency).

#### Step 3:

Set the duplex (shift) direction (– duplex or +duplex).  
- Set the offset frequency (amount of shift), if required.

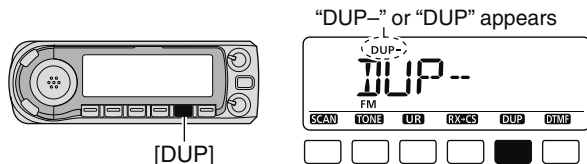
#### Step 4:

Set the subaudible tone (repeater tone) encoder function ON.  
- Set the subaudible tone frequency, if required.

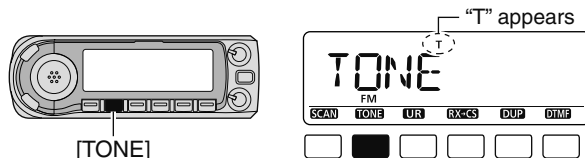
- The ID-880H USA version has the auto repeater function. Thus the steps 3 and 4 may not be necessary, depending on the setting.
- Repeater settings can be stored into a memory channel.

## ■ Accessing a repeater

- ① Set the receive frequency (repeater output frequency). (pgs. 15–17)
- ② Push and hold **[DUP]**(LOW) for 1 sec. to enter the duplex setting condition.
- ③ Rotate **[DIAL]** to select minus duplex or plus duplex.
  - “DUP–” or “DUP” appears to indicate the transmit frequency for minus shift or plus shift, respectively.
  - When the auto repeater function is turned ON (available for the USA version only), steps ② to ⑤ are not necessary. (p. 35)



- ④ Push and hold **[TONE]**(M/CALL) for 1 sec. to enter the tone setting condition.
- ⑤ Rotate **[DIAL]** to turn ON the subaudible tone encoder, according to repeater requirements, then push **[TONE]**(M/CALL).
  - “T” appears
  - 88.5 Hz is set as the default; refer to p. 32 for tone frequency settings.
  - When the repeater requires a different tone system, see p. 33.



- ⑥ Push and hold **[PTT]** to transmit.
  - The displayed frequency automatically changes to the transmit frequency (repeater input frequency).
  - If “OFF” appears, confirm that the offset frequency (p. 34) is set correctly.
- ⑦ Release **[PTT]** to receive.



While receiving



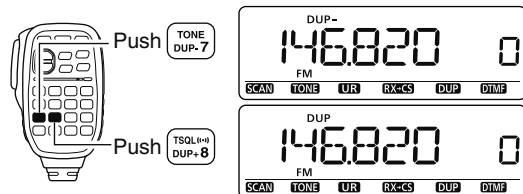
While transmitting

- ⑧ Push **[MONI]** to check whether the other station's transmit signal can be received directly.
- ⑨ To return to simplex operation, push and hold **[DUP]**(LOW) then rotate **[DIAL]**, to clear the “DUP–” or “DUP” indicator.
  - Push **[DUP]**(LOW) again to return to frequency indication.
- ⑩ To turn OFF the subaudible tone encoder, push and hold **[TONE]**(M/CALL) then rotate **[DIAL]** until no tone indicator (OFF) appears.
  - Push **[TONE]**(M/CALL) again to return to frequency indication.

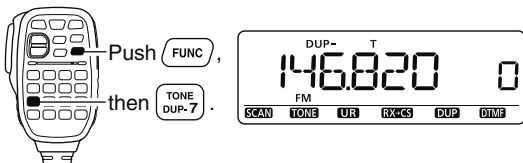
### 3 REPEATER OPERATION



- 1 Set the receive frequency (repeater output frequency). (pgs. 16, 17)
- 2 Push [DUP- 7(TONE)] to select minus duplex; push [DUP+ 8(TSQL ((·))) ] to select plus duplex.
  - “DUP-” or “DUP” appears.



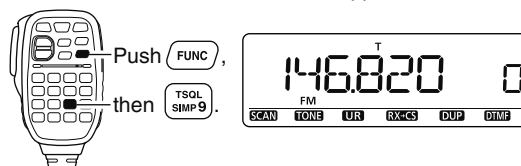
- 3 Push [FUNC] then [DUP- 7(TONE)] to turn ON the subaudible tone encoder according to repeater requirements.
  - Refer to p. 32 for the tone frequency setting.
  - When the repeater requires a different tone system, see p. 33.



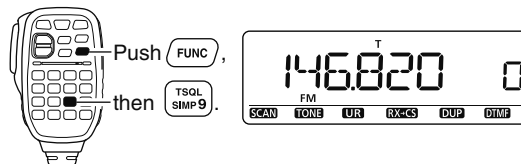
- 4 Push and hold [PTT] to transmit.
- 5 Release [PTT] to receive.
- 6 Push [MONI 1(BANK)] to check whether the other station's transmit signal can be received directly.



- 7 Push [SIMP 9(TSQL)] to return to simplex operation.
  - “DUP+” or “DUP-” indicator disappears.



- 8 To turn OFF the subaudible tone encoder, push [FUNC] then [ENT C(T-OFF)].

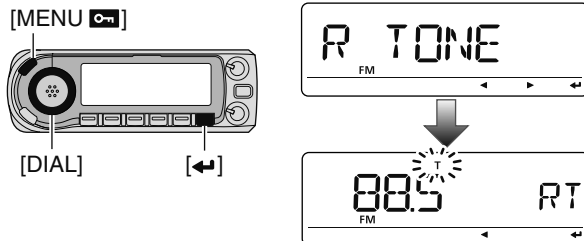


## ■ Subaudible tones (Encoder function)

### ◇ Subaudible tones

- ① Select mode/channel which you wish to set the subaudible tones to, such as VFO mode or memory/call channel.
  - The subaudible tone frequency is independently programmed into each mode, band or channel.
- ② Enter "R TONE" in DUP.T menu.

MENU ⇄ DUP.T ⇄ **R TONE** (p. 63)  
 (Push [MENU], (Rotate [DIAL], then push [←](MONI).)



- ③ Rotate [DIAL] to select and set the desired subaudible frequency, then push [MENU].
- ④ Push [MENU] again to exit DUP.T menu.

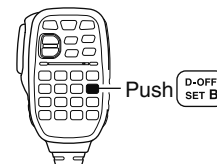
**NOTE:** The subaudible tone encoder frequency can be set in a memory/call channel temporarily. However, the set frequency is cleared once another memory channel or VFO mode is selected. To store the tone frequency permanently, overwrite the channel information.



- ① Set mode/channel which you wish to set the subaudible tones for, such as VFO mode or memory/call channel.
  - The subaudible tone frequency is independently programmed into each mode, band or channel.
- ② Enter "R TONE" in DUP.T menu.

MENU ⇄ DUP.T ⇄ **R TONE** (p. 63)  
 (Push [SET B(D-OFF)] to enter MENU screen,  
 (Push [▲] or [▼], then push [SET B(D-OFF)].)

- ③ Push [▲] or [▼] to select the desired subaudible tone frequency then push [SET B(D-OFF)].



- ⑥ Push [CLR A(MW)] to return VFO mode.

### • Subaudible tone frequency list (unit: Hz)


67.0	79.7	94.8	110.9	131.8	156.7	171.3	186.2	203.5	229.1
69.3	82.5	97.4	114.8	136.5	159.8	173.8	189.9	206.5	233.6
71.9	85.4	100.0	118.8	141.3	162.2	177.3	192.8	210.7	241.8
74.4	88.5	103.5	123.0	146.2	165.5	179.9	196.6	218.1	250.3
77.0	91.5	107.2	127.3	151.4	167.9	183.5	199.5	225.7	254.1

### 3 REPEATER OPERATION


#### ◇ DTMF tones



➔ Push [DTMF-S], then push the keys of the desired DTMF digits.

- The function indicator lights green.
- 0–9, A–D, \*(E) and #(F) are available.
- When “” is displayed in place of the 100 MHz digit, cancel the DTMF memory encoder in advance. (p. 83)
- Push [DTMF-S] again to return the keypad to normal function control.



Push ,  
then push desired keys.

#### ✓-For your convenience!

The transceiver has 16 DTMF memory channels for auto-patch operation. See p. 82 for details.




#### ◇ 1750 Hz tone

The microphone has 1750 Hz tone capability, used for ring tone when calling, etc.



- 1 Push [FUNC].
  - The function indicator lights orange.
- 2 Push [\*(TONE-1)] to transmit a 1750 Hz tone call signal for 0.5 sec.; push and hold [0(TONE-2)] to transmit a 1750 Hz tone call signal for an arbitrary period.
  - The function indicator goes out automatically.



Push ,  
then  or .

## Offset frequency

When communicating through a repeater, the transmit frequency is shifted from the receive frequency by an amount determined by the offset frequency.

Independent offset frequencies can be set for each operating frequency band.

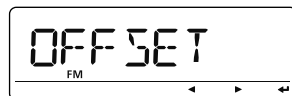
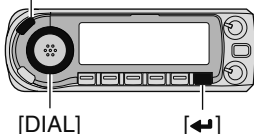
- ① Select the desired mode/channel which you wish to set the offset frequency for, such as VFO mode or memory/call channel.
  - The offset frequency is independently programmed into each mode, band or channel.


- ② Enter "OFFSET" in DUP.T menu.

MENU ⇄ DUP.T ⇄ **OFFSET** (p. 63)

(Push [MENU ]), (Rotate [DIAL], then push [←](MONI).)

[MENU ]



- ③ Rotate [DIAL] to set the desired offset frequency, then push [MENU ].

- Push [VFO/MHz] to turn 10 MHz or 1 MHz tuning ON and OFF

- ④ Push [MENU ] again to exit DUP.T menu.



- ① Push [BAND] to select the desired band.
  - Enter the desired frequency via the keypad if necessary.
- ② Select the desired mode/channel which you wish to set the offset frequency for, such as VFO mode or memory/call channel.
  - The offset frequency can be independently programmed into each mode, band or channel.
- ③ Enter "OFFSET" in DUP.T menu.

MENU ⇄ DUP.T ⇄ **OFFSET** (p. 63)  
(Push [SET B(D-OFF)] to enter MENU screen),  
(Push [▲] or [▼], then push [SET B(D-OFF)].)
- ④ Push [▲] or [▼] to set the desired offset.
  - Direct frequency entry from the keypad is not possible.
- ⑤ Push [CLR A(MW)] to exit set mode.

**NOTE:** The offset frequency can be set in a memory/call channel temporarily. However, the set frequency is cleared once another memory channel or VFO mode is selected. To store the offset frequency permanently, overwrite the channel information.

### 3 REPEATER OPERATION

#### ■ Auto repeater

The USA and Korean versions automatically use standard repeater settings (duplex ON/OFF, duplex direction, tone encoder ON/OFF) when the operating frequency falls within or outside of the general repeater output frequency range. The offset and repeater tone frequencies are not changed by the auto repeater function. Reset these frequencies, if necessary.

#### ◇ Frequency range and offset direction

##### • USA version


FREQUENCY RANGE	SHIFT DIRECTION
145.200–145.495 MHz 146.610–146.995 MHz	“DUP–” appears
147.000–147.395 MHz	“DUP+” appears
442.000–444.995 MHz	“DUP+” appears
447.000–449.995 MHz	“DUP–” appears


##### • Korean version

FREQUENCY RANGE	SHIFT DIRECTION
439.000–440.000 MHz	“DUP–” appears

#### USA/KOREAN versions only

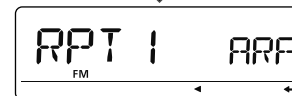
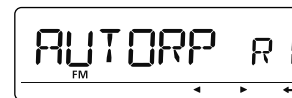
- ① Enter “AUTORP” in FUNC set mode (SET).

MENU ⇄ SET ⇄ FUNC ⇄ **AUTORP** (p. 63)  
(Push [MENU 

[MENU 

[DIAL]

[←]



- ② Rotate [DIAL] to select the auto repeater setting.

##### [USA version]:

- “RPT1” : Activates duplex only. (default)
- “RPT2” : Activates duplex and tone.
- “OFF” : Auto repeater function is turned OFF.

##### [Korean version]:

- “ON” : Activates duplex and tone. (default)
- “OFF” : Auto repeater function is turned OFF.

- ③ Push [MENU 

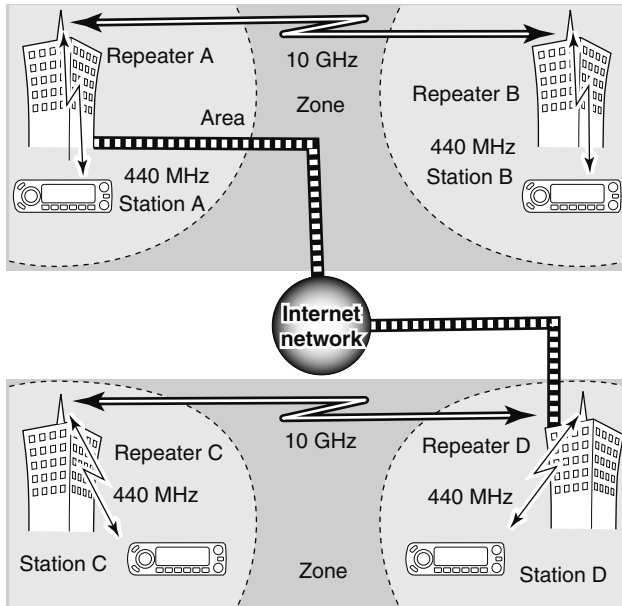
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## ■ About the D-STAR system

In the D-STAR (Digital Smart Technologies for Amateur Radio) system, repeater linking via a 10 GHz backbone and/or internet gateway provides you with much wider coverage range during digital voice mode operation.

### • D-STAR system outline



In traditional repeater operation, stations that are communicating must both be in the repeater's operating area. However, D-STAR repeaters can be linked via a 10 GHz backbone, as shown in the illustration at left. Using D-STAR, stations A and B can communicate even though they are in widely separated repeater operating areas.

Furthermore, D-STAR repeaters can be linked through an internet gateway, which can extend the communication range dramatically. For example, when station B uses the internet gateway connection, it can communicate with station C even though they are thousands of miles apart! By using the gateway connection, long distance communication is possible using 144 or 440 MHz digital voice!

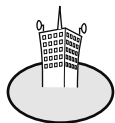
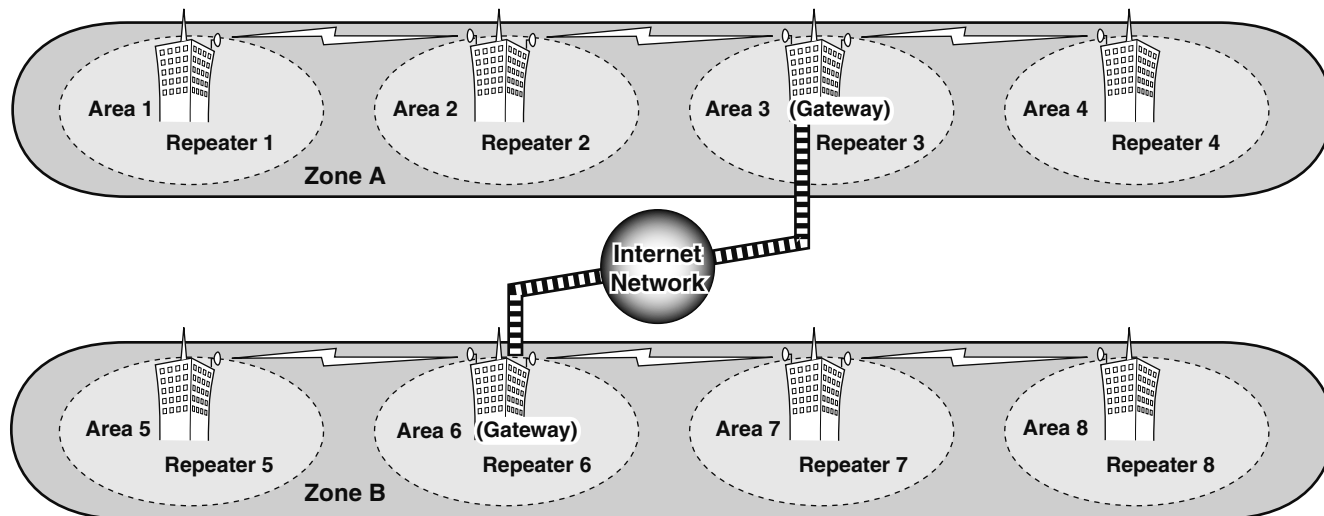
In the D-STAR system, an independent repeater's operating area is called an Area and a group that of linked repeaters via a 10 GHz backbone is called a Zone.

### **About time-out timer function**

The IC-880H has a time-out timer function for digital repeater operation. The timer limits a continuous transmission to approx. 10 min. Warning beeps will sound approx. 30 sec. before time-out and then again immediately before time-out.

## 4 DV MODE PROGRAMMING

### ◇ System description



#### **Area:**

The Area is the communication range that is covered by a single repeater. The repeater is called an area repeater in the D-STAR system.



#### **Link repeater:**

The microwave (10 GHz) link repeater provides to linking with another repeater site (Area) for zone construction.



#### **Zone:**

The Zone is composed of several areas, that are linked by a 10 GHz microwave link.

The areas 1 to 4 and 5 to 8 make up a zone at the example above.

#### **Gateway repeater:**

Gateway repeaters provide communications between different zones via the internet.

The repeater 3 and 6 are gateway repeaters at the example above.

## ■ Call sign programming

Four types of current call sign memory are available; "MY" (my call sign=your own call sign) "UR" (your call sign=other station call sign) "RPT1" (access repeater call sign) and "RPT2" (link repeater call sign). Each call sign can be programmed with up to 8 characters.

In addition, "MY" can store up to 6 call signs, and "UR" can store up to 60 call signs in the call sign memory. Up to 300 repeater call signs can be stored in the repeater list.

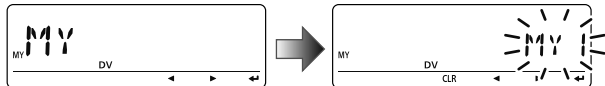
### ◇ Your own call sign programming

Your own call sign must be programmed for both digital voice and low-speed data communications (including GPS transmission).

- ① Enter "MY" in call sign screen.

MENU ⇄ CALL-S ⇄ MY  
(Push [MENU] (M), (rotate [DIAL], then push [←] (MONI).)

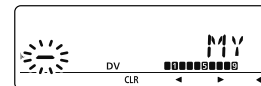
- MY call sign screen is displayed.



- ② Rotate [DIAL] to select the desired call sign memory, "MY1" to "MY6."

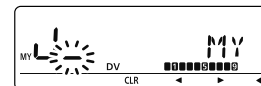
- ③ Push [▶] (LOW) to enter call sign programming mode.

- The 1st digit blinks.



- ④ Rotate [DIAL] to select the desired character or code.

- Push [▶] (LOW) to move the cursor right; push [◀] (CS) to move the cursor left.



- ⑤ Repeat the step ④ to enter your own call sign.

- Up to an 8 digit of call sign can be set.
- If an unwanted character is entered, push [▶] (LOW) or [◀] (CS) to select the character, then push [CLR] (DR) to erase the selected character, or push and hold [CLR] (DR) for 1 sec. to erase all characters following the cursor.
- To program a note (up to 4 characters, for operating radio type, area, etc.), go to step ⑥, otherwise go to step ⑧.

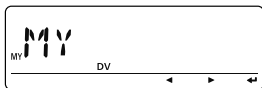
- ⑥ Push [▶] (LOW) several times to set the cursor beside "/" indication.

## 4 DV MODE PROGRAMMING

- ⑦ Repeat step ④ (at previous page) to program the desired 4 character note.



- ⑧ Push [←](MONI) to store the programmed call sign with note and return to call sign screen.



- ⑨ Push [MENU] to return to frequency indication.

### ◇ Station call sign programming

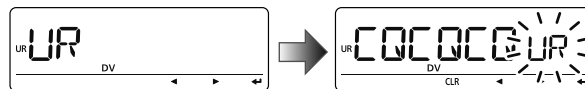
Station call sign must be programmed to call a specific station as well as for repeater operation in both digital voice and low-speed data communications.

- ① Enter "UR" in call sign screen.

MENU → CALL-S → **UR**

(Push [MENU], (rotate [DIAL]), then push [←](MONI).)

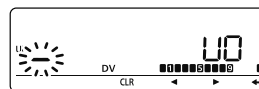
- UR (Your) call sign screen is displayed.



- ② Rotate [DIAL] to select the desired call sign memory, "U01" to "U60."

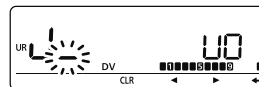
- ③ Push [▶](LOW) to enter call sign programming mode.

- The 1st digit blinks.



- ④ Rotate [DIAL] to select the desired character or code.

- Push [▶](LOW) or [←](CS) to move the cursor right or left, respectively.



- ⑤ Repeat the step ④ to enter the desired station call sign.
  - Up to an 8 digit call sign can be set.
  - If an unwanted character is entered, push **[▶]**(LOW) or **[◀]**(CS) to select the character, then push **[CLR]**(DR) to erase the selected character, or push and hold **[CLR]**(DR) for 1 sec. to erase all characters following the cursor.
- ⑥ Push **[↔]**(MONI) to store the programmed call sign and return to UR (Your) call sign screen.



- ⑦ Push **[MENU]** to return to frequency indication.

### ✓ For your information

The ID-880H has a call sign edit record function. When editing a call sign stored in a call sign memory (or regular memory/call channel), the default setting is to store the edited call sign into blank channel automatically ("FULL" is displayed when all call sign memory is programmed). The edited call sign can be over-written when the setting of the EDIT R (Edit record) is set to OFF or SEL. (p. 132) However, you must manually over-write a reprogrammed call sign in regular memory/call channels (temporary operation without over-writing is possible).

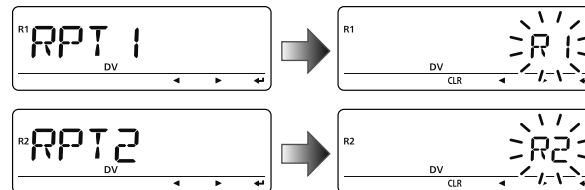
### ◇ Current repeater call sign programming

"RPT1" or "RPT2" can store current call only, and repeater call signs must be stored in the repeater list (p. 39).

- ① Enter "RPT1" or "RPT2" in call sign screen.

MENU → CALL-S → **RPT1 or RPT2**  
(Push **[MENU]**, (rotate **[DIAL]**, then push **[↔]**(MONI).)

- RPT1/RPT2 call sign screen is displayed.



- ② Push **[▶]**(LOW) to enter call sign programming mode.
  - The 1st digit blinks.
- ③ Rotate **[DIAL]** to select the desired character or code.
  - Push **[▶]**(LOW) or **[◀]**(CS) to move the cursor right or left, respectively.
- ④ Repeat the step ③ to enter the desired repeater call sign.
  - Up to an 8 digit call sign can be set.
  - If an unwanted character is entered, push **[▶]**(LOW) or **[◀]**(CS) to select the character, then push **[CLR]**(DR) to erase the selected character, or push and hold **[CLR]**(DR) for 1 sec. to erase all characters following the cursor.
- ⑤ Push **[↔]**(MONI) to store the programmed call sign and returns to call sign screen.
- ⑥ Push **[MENU]** to return to frequency indication.

## 4 DV MODE PROGRAMMING

### ■ Repeater list

The ID-880H can store up to 300 repeater call signs. The repeater list also stores the repeater name and access repeater setting, etc.

The outline of repeater list is follows:

- ① Selection for new repeater program or changing a list
- ② Selection for a programmed repeater lists
- ③ Repeater programming (Repeater name, Call sign, Gateway repeater call sign, Repeater group, etc.)
- ④ Access repeater programming (Down link frequency, Duplex direction, Offset frequency)

#### ◇ Repeater list contents

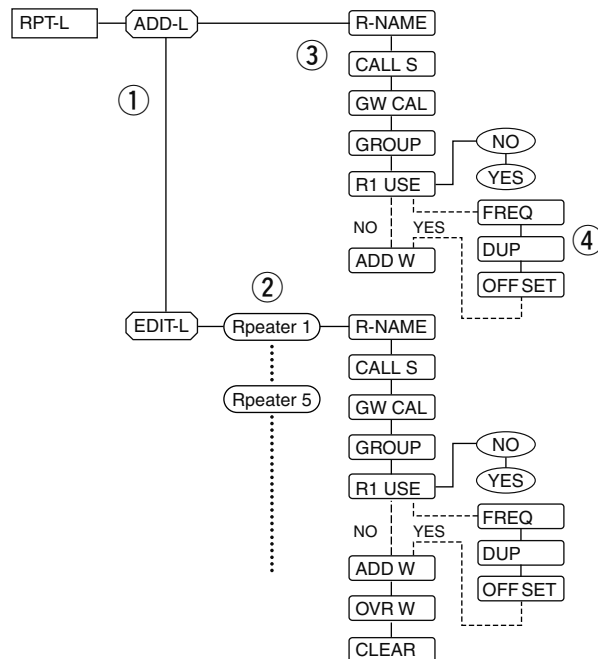
The following information can be programmed into repeater lists:

- R-NAME (Repeater name) (pgs. 40, 44)
- CALL-S (Repeater call sign) (pgs. 40, 44)
- GW CAL (Gateway repeater's call sign) (pgs. 41, 45)
- GROUP (Repeater group) (p. 41)
- R1 USE (RPT1 use) (p. 42)

When R1 USE is selected YES, following contents appear.

- FREQ (Repeater output frequency) (p. 42)
- DUP (Duplex direction) (p. 43)
- OFF SET (Offset frequency) (p. 43)

**NOTE:** Repeater lists can be erased by static electricity, electric transients, etc. In addition, they can be erased by malfunction and during repairs. Therefore, we recommend that memory data be written down or be saved to a PC using the CS-80/880 CLONING SOFTWARE (free download).



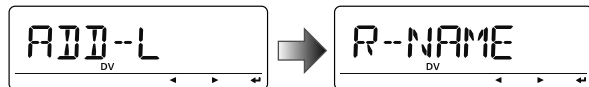
## ■ Repeater list programming

### ◇ New repeater list programming

- ① Enter “ADD-L” in RPT-L menu.

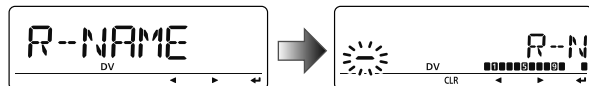
MENU ⇨ RPT-L ⇨ **ADD-L**  
(Push [MENU] ( ), (Rotate [DIAL], then push [←] (MONI).)

- “R-NAME” appears.



### **Repeater name programming (R-NAME)**

- ② Push [←] (MONI) to enter the repeater name programming state. See p. 44 for repeater name programming details.
- Repeater name programming screen is displayed.

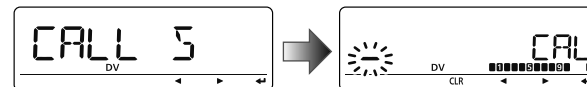


- ③ Program the repeater name, then push [←] (MONI) to exit the state.
- Rotate [DIAL] to select the desired character, number, symbol or space.
  - Push [▶] (LOW)/[◀] (CS) to move the cursor right or left, respectively.
- ④ Rotate [DIAL] to select the next content (repeater call sign programming).

### **Repeater call sign programming (CALL S)**

- ⑤ Push [←] (MONI) to enter the repeater call sign programming state. See p. 44 for repeater call sign programming details.

- Repeater call sign programming screen is displayed.

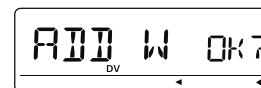


- ⑥ Program the repeater call sign, then push [←] (MONI) to exit the state.
- Rotate [DIAL] to select the desired character, number, symbol ('/' only) or space.
  - Push [▶] (LOW)/[◀] (CS) to move the cursor right or left, respectively.
- ⑦ Rotate [DIAL] to select the next content (gateway repeater call sign programming).

### ✓ **CONVENIENT!**

After you program the repeater call sign, you can skip the other programming and store the list.

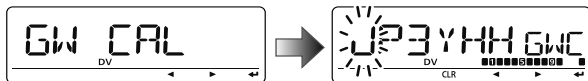
- ➡ Push and hold [S.MW] (M/CALL) for 1 sec. to enter memory write state, then push [←] (MONI) to store the list.



## 4 DV MODE PROGRAMMING

### Gateway repeater call sign programming (GW CAL)

- ⑧ Push [←](MONI) to enter the gateway repeater call sign programming state. See p. 45 for gateway repeater call sign programming details.
- Gateway repeater call sign programming screen is displayed.
  - Programmed repeater call sign is displayed and the 8th digit is automatically added or replaced to "G."



- ⑨ When the programmed repeater has gateway capability, push [←](MONI) to exit gateway repeater setting and skip to ⑫. Or when the programmed repeater has a different repeater for gateway communication, follow the next step ⑩.

- When the repeater does not have a gateway repeater, follow the next step ⑩, too.

- ⑩ Program the other gateway repeater call sign, then push [←](MONI) to exit the state.

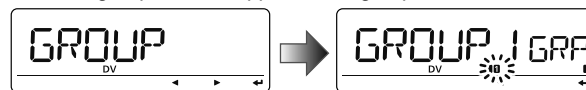
- Rotate [DIAL] to select the desired character, number, symbol ('/' only) or space.
- Push [▶](LOW)/[◀](CS) to move the cursor right or left, respectively.
- Up to an 8 digit call sign can be set, but 8th digit must be set to "G."
- When the repeater does not have a gateway repeater, push and hold [CLR](DR) for 1 sec. to erase all characters.

- ⑪ Rotate [DIAL] to select the next content (repeater group programming).

### Repeater group programming (GROUP)

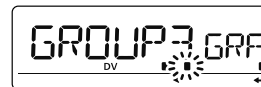
- ⑫ Push [←](MONI) to enter the repeater group programming state.

- Repeater group programming screen is displayed.
- Selected group number appears and group indicator blinks.



- ⑬ Rotate [DIAL] to select the desired repeater group.

- Selected group number appears and group indicator blinks.



- ⑭ Push [←](MONI) to set the repeater group and exit the state.

- ⑮ Rotate [DIAL] to select the next content (access repeater setting).

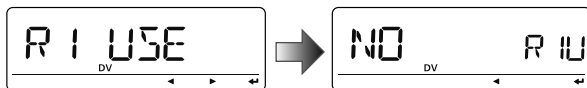


**Access repeater setting (RPT 1 U)**

The programmed repeater lists are assigned to use for the access repeater (RPT1) or no in DR mode. To use for RPT1, repeater frequency, duplex direction and offset frequency must be programmed.

- ⑮ Push [**↔**](MONI) to enter the access repeater programming state.

- Access repeater programming screen is displayed.

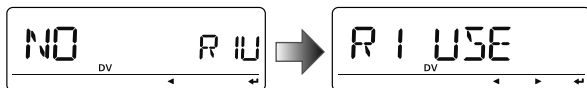


- ⑰ Rotate [**DIAL**] to select “YES” or “NO.”

- When “NO” is selected, the repeater can be selected as the link repeater (RPT2) only in DR mode.
- When “YES” is selected, the repeater can be selected as the access repeater (RPT1) and link repeater (RPT2) in DR mode.

- ⑱ Push [**↔**](MONI) to exit the state.

- ➡ When “NO” is selected at step ⑰, skip to step ⑳.



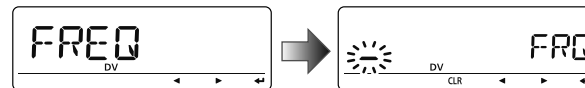
- ➡ When “YES” is selected at step ⑰, push [**▲**](2) or [**▼**](8) to select the access repeater (RPT1) programming. Follow the next step ⑲ to program the repeater.

**Frequency programming (FREQ)**

This content appears when R1 USE is selected YES.

- ⑲ Push [**↔**](MONI) to enter the frequency programming state.

- Frequency programming screen is displayed.



- ㉑ Rotate [**DIAL**] to select the frequency band.

- The selected number blinks at 1st digit.
- Push [**▶**](LOW) to move the cursor right; push [**◀**](CS) to move the cursor left.
- Push and hold [**CLR**](DR) for 1 sec. to clear the displayed frequency.



- ㉒ Repeat step ㉑ until the repeater frequency is set.



- ㉓ Push [**↔**](MONI) to set the frequency and exit the state.

- ㉔ Rotate [**DIAL**] to select the next content (duplex direction programming).

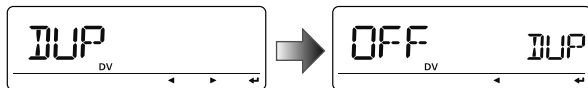
## 4 DV MODE PROGRAMMING

### **Duplex direction setting (DUP)**

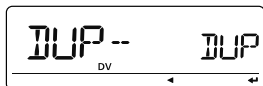
This content appears when R1 USE is selected YES.

- ②④ Push [**←**](MONI) to enter the duplex direction setting state.

- Duplex direction setting screen is displayed.



- ②⑤ Rotate [**DIAL**] to select the duplex direction.

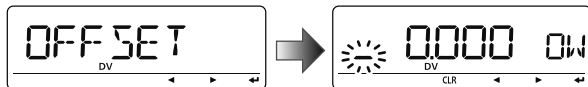


- ②⑥ Push [**←**](MONI) to set the duplex direction and exit the state.
- ②⑦ Rotate [**DIAL**] to select the next content (offset frequency programming).

### **Offset frequency programming (OFF SET)**

This content appears when RPT1 U is selected YES.

- ②⑧ Push [**←**](MONI) to enter the offset frequency programming state.
- Offset frequency programming screen is displayed.



- ②⑨ Rotate [**DIAL**] to select the offset frequency.

- The selected number blinks.
- Push [**▶**](LOW) to move the cursor right; push [**◀**](CS) to move the cursor left.
- Push and hold [**CLR**](DR) for 1 sec. to clear the displayed frequency.



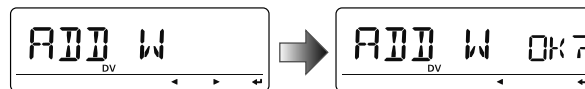
- ③⑩ Push [**←**](MONI) to set the offset frequency and exit the state.

### **Storing the repeater list (ADD W)**

- ③① Rotate [**DIAL**] to select the store operation.

- ③② Push [**←**](MONI) to enter storing state.

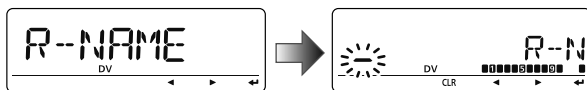
- “ADD W OK?” appears.



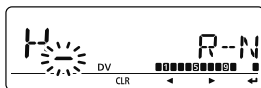
- ③③ Push [**←**](MONI) again to store the list.

### ◆ Repeater name programming (R-NAME)

- 1 Push [**←**](MONI) to enter the repeater name programming state.
  - Repeater name programming screen is displayed.
  - The 1st digit blinks.



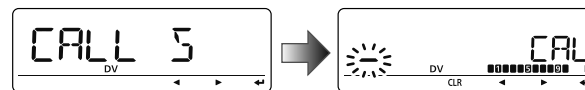
- 2 Rotate [**DIAL**] to select the desired character, number, symbol or space.
  - The selected character blinks.
  - Push [**▶**](LOW) to move the cursor right; push [**◀**](CS) to move the cursor left.
  - Push [**CLR**](DR) to erase the selected character, or push and hold [**CLR**](DR) for 1 sec. to erase all characters following the cursor.



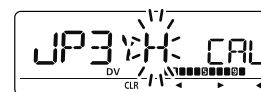
- 3 Repeat step 2 until the desired repeater name is programmed.
  - Up to an 8 digit name can be set.
- 4 Push [**←**](MONI) to program the repeater name and exit the state.

### ◆ Repeater call sign programming (CALL S)

- 1 Push [**←**](MONI) to enter the repeater call sign programming state.
  - Repeater call sign programming screen is displayed.
  - The 1st digit blinks.



- 2 Rotate [**DIAL**] to select the desired character, number or symbol ('/' only).
  - The selected character blinks.
  - Push [**▶**](LOW) to move the cursor right; push [**◀**](CS) to move the cursor left.
  - Push [**CLR**](DR) to erase the selected character, or push and hold [**CLR**](DR) for 1 sec. to erase all characters following the cursor.

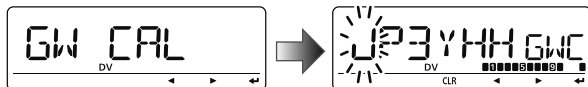


- 3 Repeat step 2 until the desired repeater call sign is programmed.
  - Up to an 8 digit call sign can be set.
- 4 Push [**←**](MONI) to program the repeater call sign and exit the state.

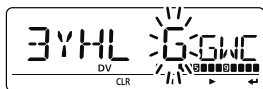
## 4 DV MODE PROGRAMMING

### ◆ Gateway repeater call sign programming (GW CALL)

- 1 Push [**←**](MONI) to enter the gateway repeater call sign programming.
  - Gateway repeater call sign programming screen is displayed.
  - Programmed repeater call sign is displayed, then the 1st character blinks.
  - The 8th digit is automatically added or replaced to “G.”



- 2 Rotate [**DIAL**] to select the desired character, number, symbol (‘/’ only) or space.
  - The selected character blinks.
  - Push [**▶**](LOW) to move the cursor right; push [**◀**](CS) to move the cursor left.
  - Push [**CLR**](DR) to erase the selected character, or push and hold [**CLR**](DR) for 1 sec. to erase all characters following the cursor.
- 3 Repeat step 2 until the desired repeater call sign is programmed.
  - Up to an 8 digit call sign can be set, but 8th digit must be set to “G.”



- 4 Push [**←**](MONI) to program the gateway repeater call sign and exit the state.

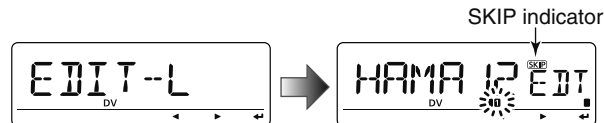
## ■ Changing a repeater list

This function re-programs a repeater list's contents. This is useful when already programmed contents are mistaken or some contents are added to the list.

- 1 Enter “EDIT-L” in RPT-L menu.

MENU ⇄ RPT-L ⇄ **EDIT-L**  
(Push [**MENU** (C-1)]), (Rotate [**DIAL**], then push [**←**](MONI).)

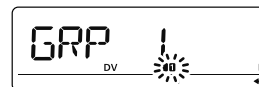
- Programmed repeater name appears.



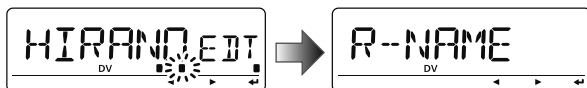
SKIP indicator shows the selected repeater can not be used for access repeater (RPT1) in DR mode as follow reasons.

- “R1 USE” is set to “NO”
- Either “FREQ” (frequency) or “DUP” (duplex direction) has not been programmed

- 2 Push and hold [**BAND**] for 1 sec. to enter group selection, rotate [**DIAL**] to select the desired group (0–9), then push [**BAND**].



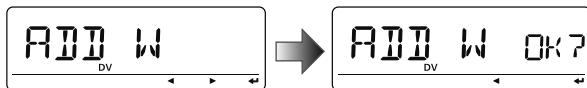
- ③ Rotate **[DIAL]** to select the desired repeater list to be changed.
- ④ Push **[↔](MONI)** to enter the list.



- ⑤ Rotate **[DIAL]** to select the content to be changed, then push **[↔](MONI)** to enter the content and reprogram the content (see pages 40–43 for new repeater list programming details).
- ⑥ After programming is finished, rotate **[DIAL]** to select “ADD W” or “OVR W,” then push **[↔](MONI)**.

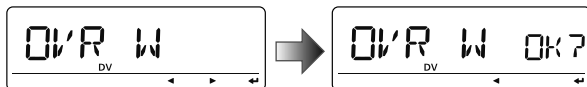
**When “ADD W” is selected;**

- “ADD W OK?” appears.



**When “OVR W” is selected;**

- “OVR W OK?” appears.



- ⑦ Push **[↔](MONI)** again to store the list.

## ■ Clearing a repeater list

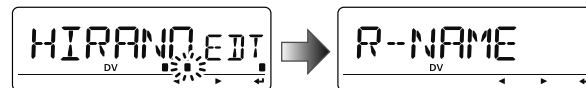
Contents of programmed list can be cleared (erased).

- ① Enter “EDIT-L” in RPT-L menu.

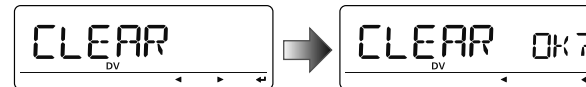
MENU ⇨ RPT-L ⇨ **EDIT-L**

(Push **[MENU]**), (Rotate **[DIAL]**, then push **[↔](MONI)**.)

- Programmed repeater name appears.
- ② Rotate **[DIAL]** to select the desired repeater list to be erased.
    - Push and hold **[BAND]** for 1 sec. to enter group selection, rotate **[DIAL]** to select the desired group (0–9) then push **[BAND]**.
  - ③ Push **[↔](MONI)** to enter the list.



- ④ Rotate **[DIAL]** to select “CLEAR,” then push **[↔](MONI)**.
  - “CLEAR OK?” appears.



- ⑤ Push **[↔](MONI)** again to clear the list.

## ■ Digital mode operation

The ID-880H can be operated in digital voice mode and low-speed data operation for both transmit and receive. It can also be connected to a GPS receiver (compatible with an RS-232 output/NMEA format/4800 bps/9600 bps) to transmit/receive position data.

## ■ Current call sign setting

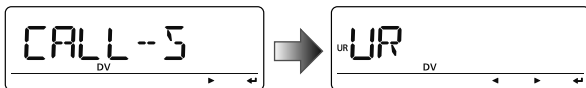
Set the current call sign for DV operation as follows.

- ① Enter "CALL-S" in MENU screen.

MENU → **CALL-S**

(Push [MENU 

- Call sign screen is displayed.



- ② Rotate [DIAL] to select the desired call sign group, "UR," RPT1," RPT2" or "MY," then push [←](MONI).

- Current call sign is displayed.



### Quick entry

Push [CS] to enter the current call sign mode. See next page for details.

### • Call sign group

**UR** : Station call signs (U01–U60), "CQCQCQ" (U--) or repeater CQ\* (R-L) can be selected.

\* '/' plus repeater call sign (R-L), '/' stands for "CQCQCQ"

**RPT1** : "NOTUSE"\* (R--) or repeater call signs (R-L) can be selected.

\* Direct communication (NOT USE repeater)

**RPT2** : "NOTUSE"\* (R--) or repeater call signs (R-L) can be selected.

\* Direct communication or using area repeater only (NOT USE link repeater)

**MY** : My call signs (MY1–MY6) can be selected.

- ③ Rotate [DIAL] to select the desired call sign.


Or push [▶](LOW) to enter the current call sign programming state (pgs. 36–38).

- When "UR," "RPT1" or "RPT2" is selected at step ②, push [BAND] several times to select the repeater call sign groups.

- When "RPT1" or "RPT2" is selected at step ②, push [M/CALL] to toggle the call sign and repeater name indications.

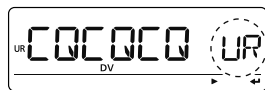
- ④ Push [←](MONI) to set the selected call sign to the current call sign and exit the state.

- ⑤ Repeat steps ② to ④ to set the other current call sign.

- ⑥ Push [MENU 42

### ◇ Confirming current call sign

- ① Push **[CS]** to enter the current call sign mode.
  - Current UR (your) call sign is displayed.



Appears momentarily

- ② Rotate **[DIAL]** to select and confirm the other current call sign.
  - ("UR"), "R1," "R2" and "MY" appears in sequence.
  - When "R1" or "R2" is selected, push and hold **[M/CALL]** for 1 sec. to toggle the call sign and repeater name indications.

#### When changing the call sign

- ① Push **[←](5)** to enter the call sign selection mode.

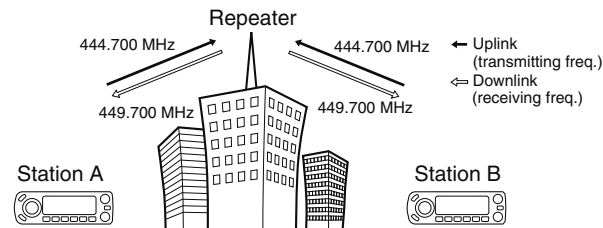


- ② Rotate **[DIAL]** to select the desired call sign, then push **[←](5)**.
  - When "UR," "R1" or "R2" is selected, push **[BAND]** several times to select the repeater call sign groups.

- ③ Push **[CS]** again to return to frequency indication.

## ■ Receiving a D-STAR repeater

When the ID-880H receives a signal from a D-STAR repeater, it receives four call sign: caller's call sign, called call sign, repeater call sign 1 (the repeater that caller accessed), and repeater call sign 2 (the liked repeater). You can copy the received call signs to current call signs, and you can also reply to a call.



### • Presetting

- ① Set the desired repeater frequency. (p. 23)
  - Select output power, if desired. (p. 27)
- ② Set the shift direction of the transmit frequency. (DUP– or DUP; see p. 31 for details.)
  - When the auto repeater function is in use (U.S.A. and Korean versions only), this selection is not necessary. (p. 32)
- ③ Select DV mode. (p. 25)
- ④ When signal is received, display indicates received call sign.
 

See next page for information about received call signs.

## 5 DV MODE OPERATION

### ■ Received call sign

When a call is received in DV mode, the calling station and the repeater call signs being used can be stored into the received call record. The stored call signs are viewable in the following manner. Up to 20 calls can be recorded.

#### ◇ Desired call record indication

- ① Enter RX call sign set mode.

MENU → **RX-CAL**

(Push [MENU], (Rotate [DIAL], then push [←](MONI).)

- RX call sign screen is displayed.

- ② Rotate [DIAL] to select the desired record channel.
- ③ To confirm the received call, push [←](MONI) several times to select the desired call sign from CALLER, / (CALLER's note), CALLED, RXRPT1 and RXRPT2.

**CALLER** : The station call sign that made a call.

**/** : 4 character note with call sign that made a call.

**CALLED** : The station call sign called by the caller.

**RXRPT1** : The repeater call sign used by the caller station.

**RXRPT2** : The repeater call sign linked from RXRPT1.

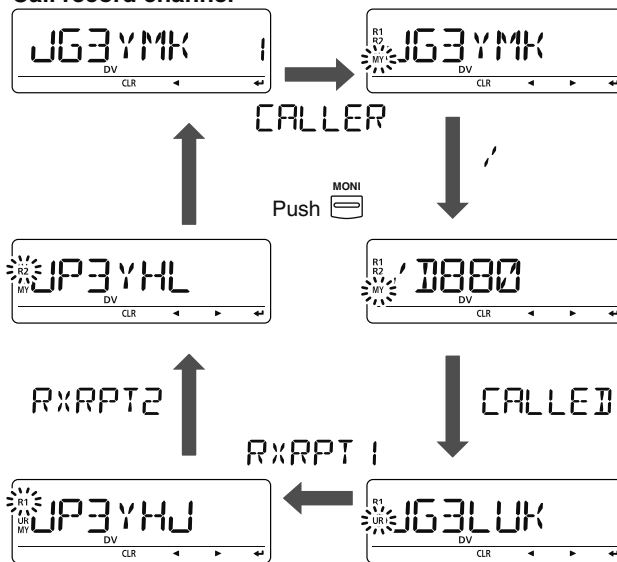
- ④ Push [MENU] to return to frequency indication.

#### ✓ For your information

When receiving a call, the received station call sign is automatically displayed and scrolled in sequence at the frequency display.

This can be turned OFF in DISP set mode. (p.132)

#### Call record channel



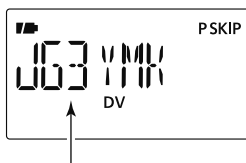
**NOTE:** When a call is received in DV mode when the power save function is activated, the call sign may not be received correctly. This is normal, not a malfunction, because the call sign information cannot be detected during power save. Turn the power save function OFF (p. 123) if you want to receive a call sign correctly even in stand-by operation.





### ◇ One-touch reply using the call record

The stored call signs in the call record can be used to call the other station.

- ① After receiving a call, push and hold [RX→CS](CS) for 1 sec.



The received call sign is displayed while pushing and holding  with rotating .

- Set your own call sign (MY) in advance. (pgs. 36, 47, 48)
  - The call sign in “CALLER” is stored as “UR,” “RXRPT1” is stored as “R2” and “RXRPT2” is stored as “R1.”
  - Error beeps sound when a call sign is received incorrectly, and no call sign is set in this case.
- ② Push [PTT] to transmit; release to receive.

#### **Important!**

Setting call signs with the “One-touch reply using the call record” operation as at left are for temporary operation only. Therefore, the set call signs will be over-written when another call record is used to set call signs.

- Never saved into a call sign memory.

If you want to save the set call signs, see “Copying the call record contents into call sign memory” (p. 51) for details.

#### **✓For your information**

When a call specifying your call sign is received, the call signs of the calling station and the repeater it is using can be automatically used for operation.

- When “CALL W (RX call sign auto write)” (p. 131) is set to “AUTO,” the station call sign in “CALLER” is set to “UR” automatically.
- When “RPT W (Repeater call sign auto write)” (p. 131) is set to “AUTO,” the repeater call sign in “RXRPT1” is stored as “R2” and “RXRPT2” is stored as “R1” automatically.

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## 5 DV MODE OPERATION

### ■ Copying the call sign

#### ◇ Copying the call sign memory contents

This function is convenient when or modifying a part of the current call sign.

- ① During DV mode operation, enter call sign menu.

MENU ⇄ **CALL-S**

(Push **[MENU]**), (Rotate **[DIAL]**, then push **[←]**(MONI).)

- ② Rotate **[DIAL]** to select “UR,” then push **[←]**(MONI).  
③ Rotate **[DIAL]** to select the desired call sign channel to be copied.  
• U01–U60 are available.

#### • When “**AUTO**” is set to “**EDIT R**” item

- ④ Push **[▶]**(LOW) to select the call sign programming mode.  
• The 1st digit of the selected call sign blinks.



Blank channel is selected automatically.

- ⑤ Modify the selected call sign as described in “Station call sign programming” (p. 37).  
⑥ Push **[←]**(MONI) to store the modified call sign into the selected blank channel.

#### NOTE:

Make sure that the “EDIT R (EDIT RECORD)” item in DV set mode is set to “AUTO” or “SEL” in advance. (p. 132)

NOTE: The message “FULL” is displayed when no blank channel is available in station call sign memory.  
In this case, select the desired call sign channel number as described in step ⑦ is set to “• When “SEL” is set to “EDIT R” item below.

#### • When “**SEL**” is set to “**EDIT R**” item

- ④ Push **[▶]**(LOW) to select the call sign programming mode.  
• The 1st digit of the selected call sign blinks.  
⑤ Modify the selected call sign as described in “Station call sign programming” (p. 37).  
⑥ Push **[←]**(MONI).  
• Call sign channel number blinks.



Call sign channel number blinks.

- ⑦ Rotate **[DIAL]** to select the desired call sign channel to store.  
⑧ Push **[←]**(MONI) to store the modified call sign into the selected channel.

## ◇ Copying the call record contents into call sign memory

This is a way to copy the call record contents (“CALLER,” “RXRPT1” and “RXRPT2”) into call sign memory (“UR,” “R1” and “R2”) at the same time or individually.

- ① Enter RX CAL (RX call sign) mode.

MENU ⇄ **RX CAL**

(Push [MENU 

- RX call sign screen is displayed.

- ② Rotate [DIAL] to select the desired record channel.  
 ③ Push [←](MONI) several times to select the desired call sign from CALLER, / (CALLER's note), CALLED, RXRPT1 and RXRPT2.

**CALLER** : The station call sign that made a call.

**/** : 4 character note with call sign that made a call.

**CALLED** : The station call sign called by the caller.

**RXRPT1** : The repeater call sign used by the caller station.

**RXRPT2** : The repeater call sign linked from RXRPT1.

- ④ Push [▶](LOW) to enter copy select mode.

- Copy select screen is displayed.



- ⑤ Rotate [DIAL] to select the desired call sign to be copied from “C ALL,” “C UR01”–“C UR60,” “C R-L” and “CLEAR.”  
 • “C ALL” selection won’t appear when either station call sign memory or repeater list has no blank channel.  
 ⑥ Push [←](LOW) to copy the selected record’s contents into the appropriate call sign memory or repeater lists.


**C ALL** : Copy the caller call sign in “CALLER” to “UR” (station call sign memory) and the repeater call sign in “RXRPT1” / “RXRPT2” to the repeater lists. This selection won’t appear when either station call sign memory or repeater list has no blank channel.

**C UR01–** :

**C UR60** : Copy the caller call sign in “CALLER” to “UR” (station call sign memory). This selection appears when entering the copy select mode (step ④) from “CALLER” only.

**C R-L** : Copy the repeater call sign in “RXRPT1” / “RXRPT2” to the repeater lists. This selection appears when entering the copy select mode (step ④) from “RXRPT1” or “RXRPT2” only.

**CLEAR** : Clear (erase) the selected call record contents.

- ⑦ Push [MENU 

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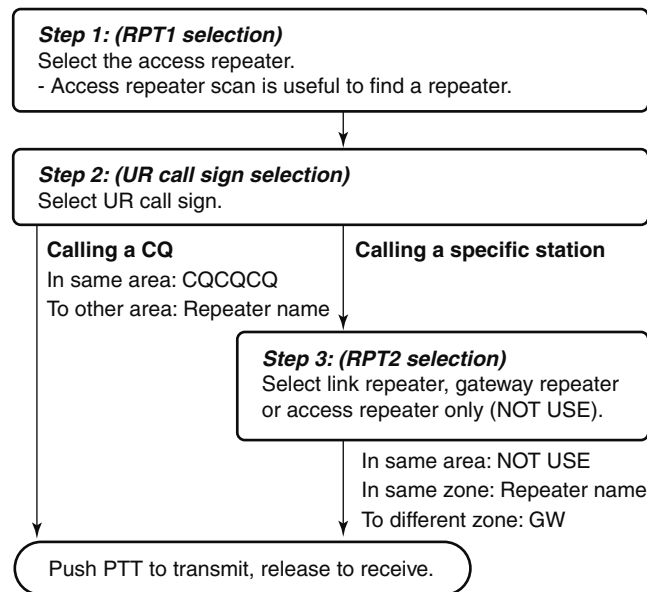
19

## 5 DV MODE OPERATION

### ■ DR (D-STAR Repeater) mode operation

DR (D-STAR Repeater) mode is used for D-STAR repeater operation. In this mode, you can select the pre-programmed repeaters and UR (your) call sign by using **[DIAL]**.

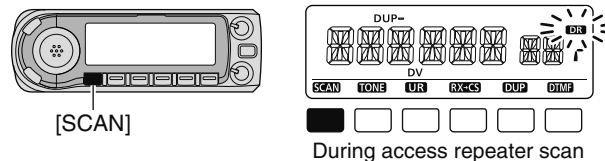
#### • DR mode operation flow chart



- Repeater settings can be stored into a memory channel.

#### ◇ Access repeater scan

- ① Push **[DR]** to select DR mode.
  - DV mode is selected automatically.
- ② Push and hold **[SCAN]**(VFO/MHz) for 1 sec. to start the scan.
  - Scan pauses when a signal is received.
  - Rotate **[DIAL]** to change the scanning direction, or resumes manually.
  - Push **[V/MHz]** to stop the scan.



### • Skip setting

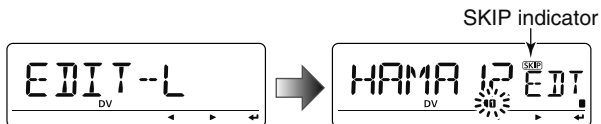
Unwanted access repeater can be skipped for rapid selection or scan.

- ① Enter “EDIT-L” in RPT-L menu.

MENU ⇄ RPT-L ⇄ **EDIT-L**

(Push **[MENU]**), (Rotate **[DIAL]**, then push **[←]**(MONI).)

- Programmed repeater name appears.
- ② Rotate **[DIAL]** to select the desired access repeater to be skipped.
- Push and hold **[BAND]** for 1 sec. to enter group selection, rotate **[DIAL]** to select the desired group (0–9) then push **[BAND]**.
- ③ Push **[DR]** to toggle the skip setting ON and OFF.
- “SKIP” appears when the channel is set as skip channel.



SKIP indicator shows the selected repeater can not be used for access repeater (RPT1) in DR mode as follow reasons.

- “R1 USE” is set to “NO”
- Either “FREQ” (frequency) or “DUP” (duplex direction) has not been programmed

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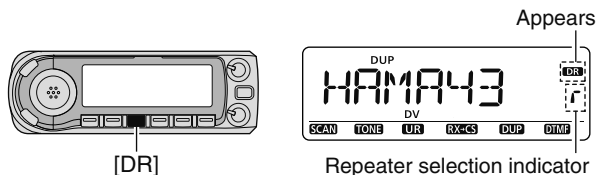
19

## 5 DV MODE OPERATION

### ■ Calling CQ

#### STEP 1 (RPT1 selection)

- ① Push [DR] to enter DR mode.

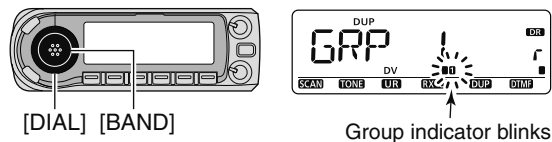


- ② Select the repeater group.

#### Selecting the repeater group

- ① Push and hold [BAND] for 1 sec., then rotate [DIAL] to select the desired repeater group.

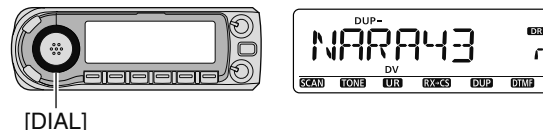
- Only assigned groups from GRP 1–GRP 9 and GRP 0 are selectable.



- ② Push [BAND] again to release the group selection.

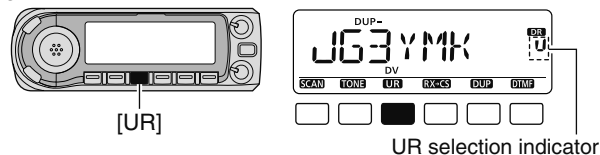
- ③ Rotate [DIAL] to select the access repeater.

- Only repeaters that have access repeater settings programmed are selectable.
- Group indicator appears momentarily when rotating [DIAL].
- Access repeater scan can be used for the selection. (p. 48)



#### STEP 2 (UR call sign selection)

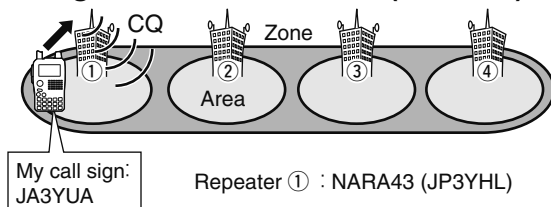
- ④ Push and hold [UR](DR) for 1 sec. to enter the your call sign selection.



- ⑤ Select the group as step ②.

- Only assigned GRP 1–GRP 9, GRP 0, GRP UR and GRP CQ are selectable.
- UR (your) call signs are selectable in GRP UR.
- “CQCQCQ” is selectable in GRP CQ.
- Push [BAND] several times to select “GRP UR,” “GRP CQ” and “GRP RP.”

### ◇ Calling CQ in the same area (Area CQ)

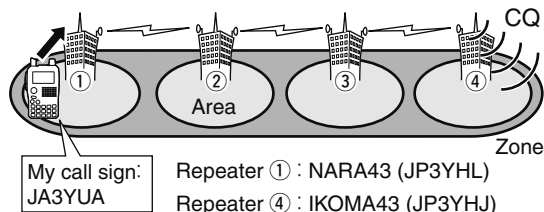


Continued instruction from step ⑤ on page 54.

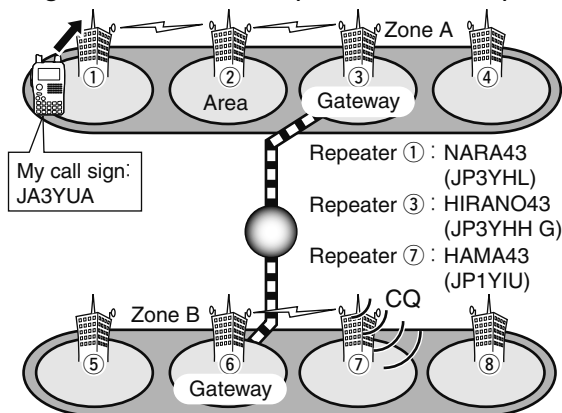
- ⑥ Push **[BAND]** several times to select “GRP CQ,” then “CQCQCQ” is selected as UR (your) call sign automatically.
- The link repeater (RPT2) setting is set to “NOT USE” automatically.
- ⑦ Push **[PTT]** to transmit; release to receive.

### ◇ Calling CQ in another area (Zone CQ/Different zone CQ)

#### • Calling CQ in the same zone (Zone CQ)



#### • Calling CQ in another zone (Different zone CQ)



Continued instruction from step ⑤ on page 54.

- ⑥ Rotate **[DIAL]** to select a desired repeater name.
- Push **[BAND]** several times to select “GRP RP” or push **[0]–[9]** to select the repeater group in advance.

#### **Calling CQ in the same zone (Zone CQ)**

The link repeater (RPT2) is set to the selected repeater automatically.

#### **Calling CQ in another zone (Different zone CQ)**

The link repeater (RPT2) is set to the preset gateway repeater automatically.

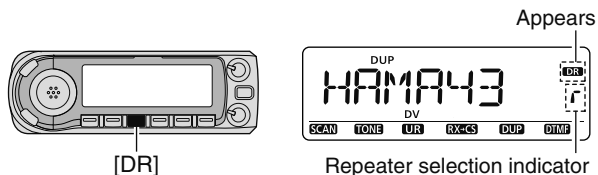
- ⑦ Push **[PTT]** to transmit; release to receive.

## 5 DV MODE OPERATION

### ■ Calling a specific station

#### STEP 1 (RPT1 selection)

- ① Push [DR] to enter DR mode.

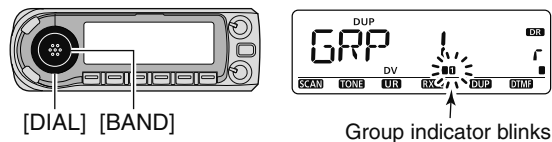


- ② Select the repeater group.

#### Selecting the repeater group

- ① Push and hold [BAND] for 1 sec., then rotate [DIAL] to select the desired repeater group.

- Only assigned groups from GRP 1–GRP 9 and GRP 0 are selectable.

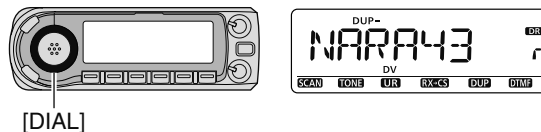


- ② Push [BAND] again to release the group selection.

- Push [0]–[9] to select the repeater group directly.

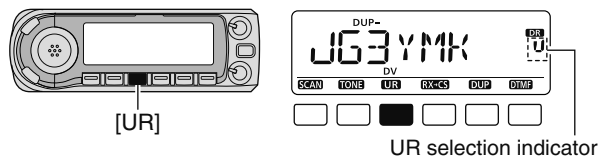
- ③ Rotate [DIAL] to select the access repeater.

- Only repeaters that have access repeater settings programmed are selectable.
- Group indicator appears momentarily when rotating [DIAL].
- Access repeater scan can be used for the selection. (p. 48)



#### STEP 2 (UR call sign selection)

- ④ Push and hold [UR](DR) for 1 sec. to enter the your call sign selection.

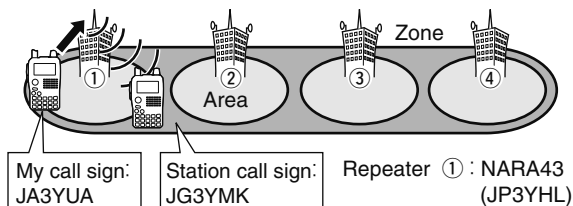


- ⑤ Rotate [DIAL] to select a specific station call sign.

- Push [BAND] several times to select "GRP UR" in advance.



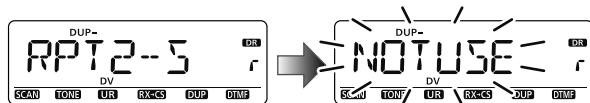
### ◇ Calling a specific station in the same area (Area call)



Continued instruction from step ⑤ on page 52.

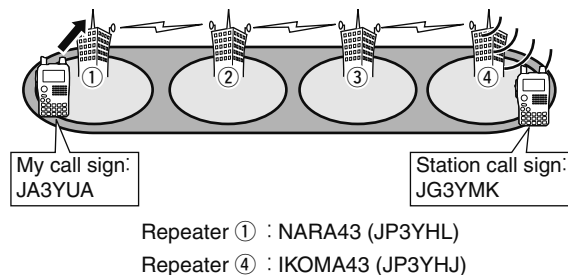
#### STEP 3 (RPT2 selection)

- ⑥ Push and hold **[UR]**(DR) for 1 sec. to enter the link repeater (RPT2) selection.



- ⑦ Rotate **[DIAL]** to select “NOT USE.”  
 ⑧ Push **[UR]**(DR) to exit the link repeater selection.  
 ⑨ Push **[PTT]** to transmit; release to receive.

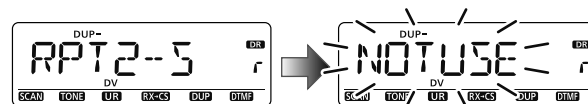
### ◇ Calling a specific station in the same zone (Zone call)



Continued instruction from step ⑤ on page 52.

#### STEP 3 (RPT2 selection)

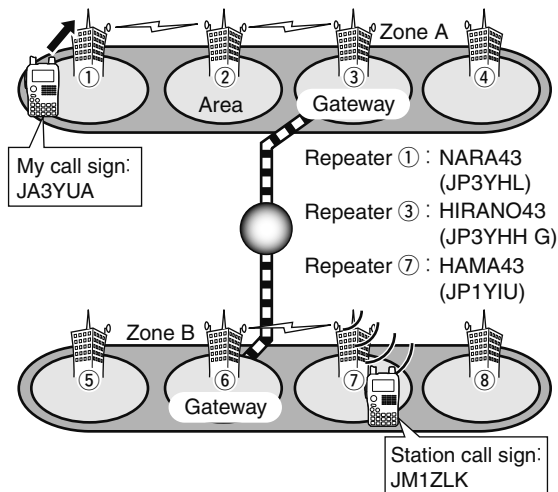
- ⑥ Push and hold **[UR]**(DR) for 1 sec. to enter the link repeater (RPT2) selection.



- ⑧ Rotate **[DIAL]** to select the link repeater in the same zone.  
 • Only repeaters that have programmed same gateway repeater appear.  
 ⑨ Push **[UR]**(DR) to exit the link repeater selection.  
 ⑨ Push **[PTT]** to transmit; release to receive.

## 5 DV MODE OPERATION

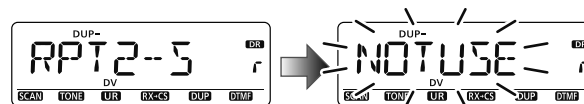
### ◇ Calling a specific station in another zone (Different zone call)



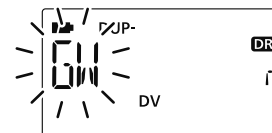
Continued instruction from step ⑤ on page 52.

#### STEP 3 (RPT2 selection)

⑥ Push and hold **[UR]**(DR) for 1 sec. to enter the link repeater (RPT2) selection.



⑦ Rotate **[DIAL]** to select the preset gateway repeater "GW."  
• Only repeaters that have programmed same gateway repeater appear.

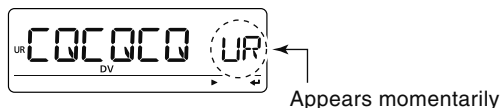


⑧ Push **[UR]**(DR) to exit the link repeater selection.

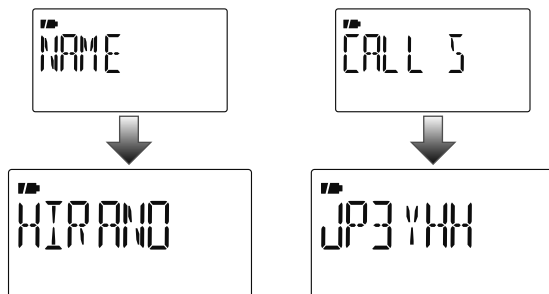
⑨ Push **[PTT]** to transmit; release to receive.

### ◇ Confirming the setting

- ① Push **[CS]** to enter the setting confirmation screen.
  - Either UR (your), "R1" or "R2" call sign is displayed.



- ② Rotate **[DIAL]** to select and confirm the other current call sign.
  - "UR," "R1," "R2," "MY" and "FRQ" appears in sequence.
- ③ Push **[M/CALL]** to toggle the name indication and call sign indication.
  - Name indication is available only for repeater call signs that have programmed repeater names.



- ④ Push **[CS]** again to exit the setting confirmation screen.

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