YAESU
The radio

C4FM/FM 144/430MHz
DUAL BAND DIGITAL TRANSCEIVER

FT3DR
FT3DE

Instruction Manual (APRS Edition)
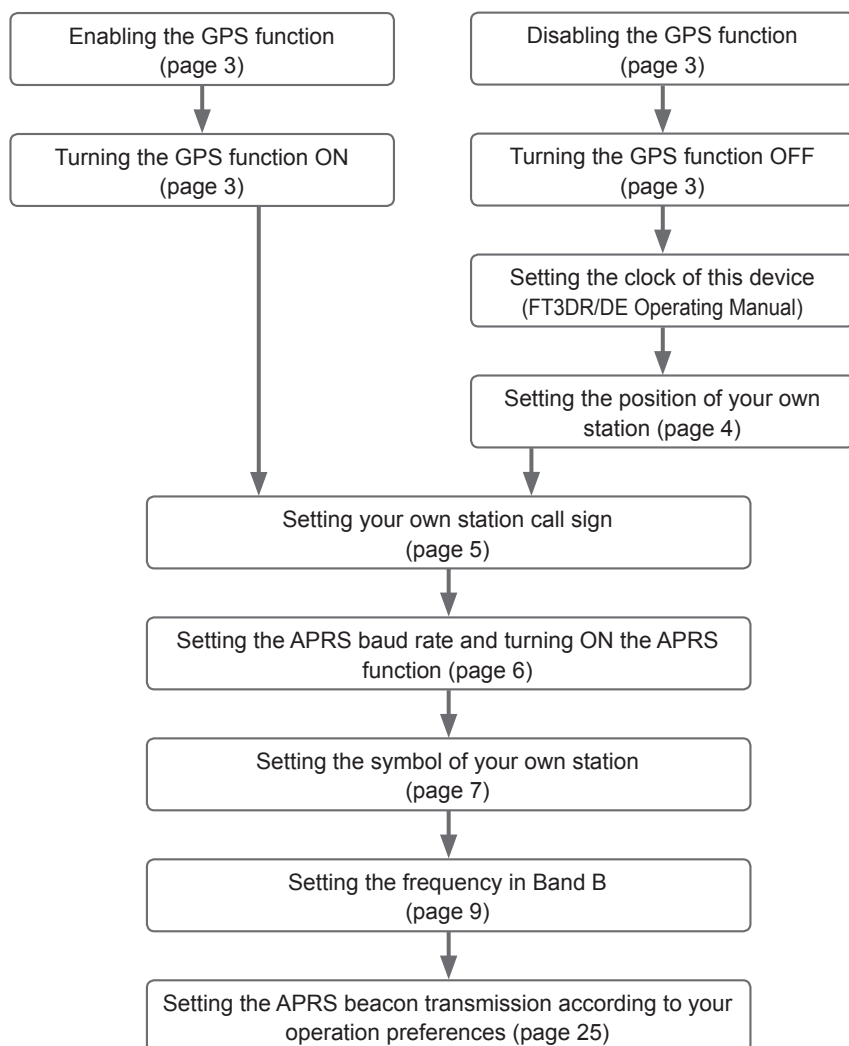
Bluetooth®

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APRS® initial settings

APRS (Automatic Packet Reporting System) is a communication system to exchange GPS location data and packet messages; it was developed and is supported by Bob Bruninga (WB4APR). Position data may be entered manually in advance or automatically from the built-in GPS satellite receiver.

When an APRS signal is received from a partner station, the direction, distance, speed etc. of the partner station as seen from your own station will be shown on the display of your transceiver.

Initial setting process for APRS operations

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```

When operating APRS using the GPS function

When the GPS function is activated, the internal clock setting and location coordinates of your own station will be acquired from the GPS satellite signals automatically. We recommend that the GPS function be used in mobile operations.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[20 GPS POWER]**.

2 Turn the DIAL to select "GPS ON".

GPS ON: GPS function is usable.

GPS OFF: GPS function is not usable.

Reference Factory shipping value: GPS ON

3 Press the PTT.

To exit the set mode and return to the operating screen.

In order to use the GPS satellite data for your own position information, press and hold the **[DISP]** key → Touch **[APRS]** → **[24 MY POSITION]** to "GPS". If **[24 MY POSITION]**, is set to "Manual", the coordinates registered in set menu "P1-P10" will be used by your transceiver for APRS operations, and the acquired GPS data will become invalid.

Tips
- The position GPS coordinates for your own station can be registered in 10 memories (P1 - P10). The registered coordinates can be set as the position information of your own station (page 58).
- When using the GPS function in APRS operations, be sure to set **[APRS]** → **[24 MY POSITION]** to "GPS".
- When using the GPS function, the current consumed will increase by about 18 mA. As a result, the battery standby time is shorter compared to when the GPS function is set to OFF.

When operating APRS without using the GPS function

When operating APRS without using the GPS function, follow the procedure below to manually set the clock and position information.

● **Setting the clock**

If the internal clock of this device is set, the time will be reflected in the time display of the APRS screen. Please refer to "Setting Clock Time" (FT3DR/DE Operating Manual) on how to set the time.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[21 GPS TIME SET]**.

2 Turn the DIAL to select "MANUAL".

3 Press the PTT.

The GPS clock will be set to MANUAL and the set mode will be cancelled.

• Setting the position information

Enter the position information of your own station manually.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[24 MY POSITION]**.

2 Turn the DIAL to select **[Manual]** and press the **[DISP]** key.

A screen to enter the position information of your own station will be displayed.

Reference Factory shipping value: GPS

3 Press the **[DISP]** key.

The cursor will move to the item for setting the latitude.

4 Turn the DIAL to select "N (North Latitude)" or "S (South Latitude)" press the **[DISP]** key.

The cursor will move to the item for setting the "degree".

5 Turn the DIAL to select [Degree] and press the **[DISP]** key.

The cursor will move to the item for setting the "Minute".

6 Turn the DIAL to select [Minute] and press the **[DISP]** key.

The cursor will move to the item for setting the "1/100th Minute".

7 Turn the DIAL to select [1/100th Minute] and press the **[DISP]** key.

The seconds will be displayed within parentheses.

8 Turn the DIAL to select "LON" and press the **[DISP]** key.

The cursor will move to the item for setting the longitude.

9 Turn the DIAL to select "E (East Longitude)" or "W (West Longitude)" and press the **[DISP]** key.

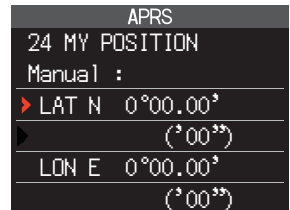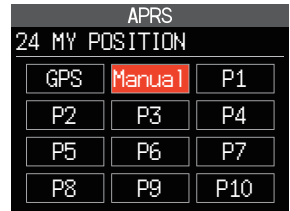The cursor will move to the item for setting the "Degree".

10 Enter the "degree", "minute" and "1/100th minute" in the same way as Step 5-7.

11 Press the **[DISP]** key.

The position information will be set.

12 Press the PTT.

To exit the set mode and return to the operating screen.

4

Setting your own station call sign

Register your own station call sign in order to send and receive messages and to transmit beacons in APRS. Enter the call sign like "JA1ZRL-7". The "-7" in the call sign indicates the SSID (Secondary Station Identifier) of which there are 16 types, including one with no SSID. Generally, the SSIDs shown in the table below are used in APRS.

SSID	Description	SSID	Description
NIL	Fixed stations that can exchange messages	-8	Marine mobile stations, land mobile stations
-1	1200 bps narrow-to-middle band digipeater	-9	Using the FTM-400XD etc. for mobile applications
-2	9600 bps digipeater	-10	I-Gate station, Internet connection station
-3	1200 bps broadband digipeater	-11	Balloons, aircraft, spacecraft, etc.
-4	Digipeater, mobile station, meteorological station, etc.	-12	1-way tracker station (messages cannot be exchanged)
-5	Operation station using mobile devices (smartphones etc.)	-13	Meteorological station (weather station)
-6	Operation station for satellite communications, events, etc.	-14	Tracking mobile stations
-7	Use of FT3D etc. in handy terminals	-15	Digipeater, mobile station, meteorological station, etc.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[23 CALLSIGN (APRS)]**.

The text input screen will be displayed.

2 Input the call sign in the alphabet and numeric input screens

Refer to "Text input screen" (FT3DR/DE Operating Manual) for instruction to enter the call sign.

Up to 6 digits can be entered for the call sign.

[If no SSID is set]
Proceed to Step 4 to set the SSID.

3 Press the PTT.

The call sign will be registered and the display returned to the operating screen.

[If a SSID is set]

4 Touch **[➡]**

5 Touch the SSID you want to set

We recommend that the SSID be set to "−7" in this device.

6 Press the PTT.

The SSID will be registered and the display returned to the operating screen.

Setting the APRS baud rate

This sets the APRS baud rate. If the baud rate is set to 1200 bps or 9600 bps, the APRS function will be turned ON. If the baud rate is set to "OFF", the APRS function will be turned OFF.

If the baud rate is set to 1200 bps, APRS operations using AFSK 1200 bps packets will be enabled.

If the baud rate is set to 9600 bps, APRS operations using GMSK 9600 bps packets will be enabled.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[4 APRS MODEM]**.

2 Turn the DIAL to set the APRS baud rate

The APRS baud rate can be selected from the following three options.

"OFF", "1200 bps", "9600 bps"

　Remark　 Factory shipping value: OFF

3 Press the PTT.

The baud rate sign will be set and the display returned to the operating screen.

Caution

If the APRS is not going to be used, follow Step 2 above to set it to "OFF".

Tips

• If the APRS baud rate is set to 1200 bps or 9600 bps, the receive and save function will stop automatically.

• If press and hold the **[DISP] key** → touch **[APRS]** → **[8 APRS MUTE]** is set to "ON" in the set mode, the receive volume (beacon and voice etc.) in Band [B] will be muted and indicator "A12" or "A96" will flash.

Setting the symbol of your own station

This sets the transmit symbol of your own station. The symbol can be selected from among 48 types.
The default setting when shipped from the factory is "🚶", "🚲", "🚗", "📻".
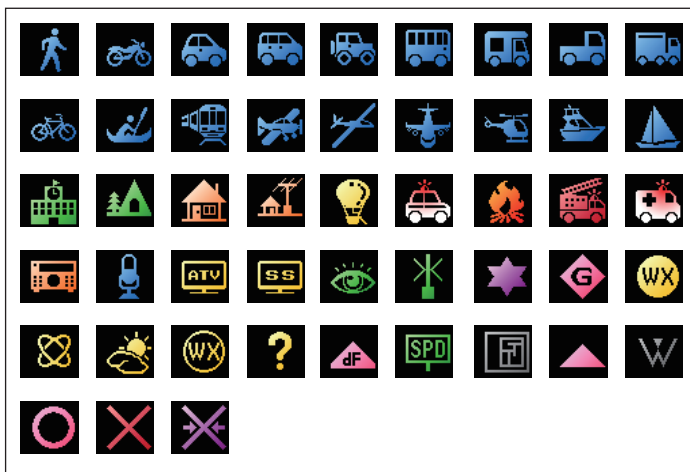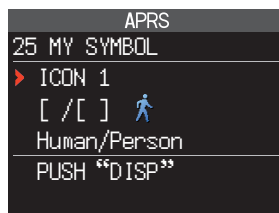

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[25 MY SYMBOL]**.

2 Turn the DIAL to select the symbol

The following four symbol types can be selected as your own symbol: "ICON 1", "ICON 2", "ICON 3" and "ICON 4".

If "ICON 4" is selected, symbol characters can be input directly when "25 MY SYMBOL (User)" appears. * See the following page on how to enter the characters.

3 Press the **[DISP]** key

The cursor will move to the "Code" area of the table below. You can turn the DIAL to select a frequently used symbol from the symbols shown in the table below).

Remark The default value of each symbol is as follows.

MY SYMBOL	Code	Symbol	
1	[/[ ]	🚶	Human
2	[/b]	🚲	Bicycle
3	[/>]	🚗	Car
4	[YY]	📻	Yaesu Radio

4 Press the **[DISP]** key.

The symbol of your own station will be set.

5 Press the PTT.

To exit the set mode and return to the operating screen.

● **Entering a symbol character directly**

You can enter a symbol character directly if the symbol that you want is not available.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[25 MY SYMBOL]**.

2 Turn the DIAL to select "ICON 4".

3 Press the **[DISP]** key

The cursor will move to the "Code" area.

Reference If "25 MY SYMBOL (User)" does not appear after pressing the **[DISP]** key, turn the DIAL
to select "25 MY SYMBOL (User).

4 Press the **[DISP]** key again

The cursor will move to the Symbol Table ID (character on the left side of the code).

5 Turn the DIAL to select the Symbol Table ID

6 Press the **[DISP]** key

The cursor will move to the Symbol Code (character on the right side of "Code").

7 Turn the DIAL to select the Symbol Code

8 Press the **[DISP]** key

The symbol will be set.

9 Press the PTT.

To exit the set mode and return to the operating screen.

Reference Please refer to "http://aprs.org/symbols/symbolsX.txt" and "http://aprs.org/symbols.html"
for the latest symbol table.

Receiving APRS® beacons

This sets the operating frequency of the APRS before receiving a beacon.

Setting the APRS operating frequency

The customary APRS operating frequency differs depending on the region and country. In the USA, the usual operating frequency is 144.39 MHz. Therefore, to begin APRS operations set the Band B frequency to 144.39 MHz.

1 Press the **[A/B]** key

Switch the operating band to Band B.

The APRS will operate only in Band B. Check that A12 (1200bps) or A96 (9600bps) is displayed on the right-hand side of the frequency (page 6).

2 Setting the operating frequency

Reference If the baud rate setting in **[APRS]** → **[4 APRS MODEM]** is set to 1200 bps or 9600 bps in the set mode, the receive and save functions will stop automatically.

Receiving beacons

● **Displaying beacons in the APRS pop-up screen**

A "ping pong" audio alarm will sound when a beacon is received on the Band B frequency, and the APRS pop-up screen will be displayed.

The contents displayed in the "APRS POP-UP SCREEN" and the "APRS STATION LIST DETAIL SCREEN" to be explained next are basically the same.

● **Displaying beacons in the APRS STATION LIST detail screen**

1 Touch **[F MW]** → **[S.LIST]**.

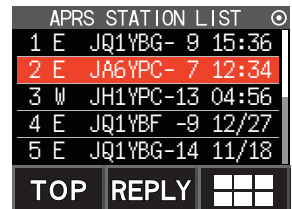The APRS STATION LIST screen will be displayed.

2 Rotate the DIAL knob, to select the beacon whose details you want to review.

3 Press the **[DISP]** key to display the details screen.
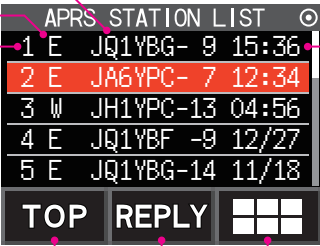
Turn the DIAL to scroll the screen.

4 Press the **[BACK]** key.

Returns the screen to the APRS STATION LIST screen.

Description of the APRS STATION LIST screen and operations

● **Description of the APRS STATION LIST screen and operations**

① **Number:** Received beacons (up to a maximum of 60) will be displayed, starting with the most recent one received.

② **Character:** The station list characters will be displayed. Refer to the following page for details.

③ **Station name:** The call sign or object name / item name of the received beacon will be displayed.

④ **[TOP]:** Touch this icon to move to the top of the list.

⑤ **[REPLY]:** Touch this icon to display the "reply message" text input screen.

⑥ 🔲 **:** Touch this icon to display the function expansion key screen. Touch this when replying to a message or moving to the APRS MESSAGE LIST screen and so on.

⑦ **Beacon auto / manual transmission icon:**
Do not display (MANUAL), Display "◉" (AUTO) (page 25), Display "○" (SMART) (page 25)

⑧ **Time or date:** Time (HH:MM) or date (MM/DD) will be displayed. The time display will change the date display on the following day.

- **Scroll the screen**…Turn the DIAL.
- **Move to the APRS MESSAGE LIST screen (page 31)**…Touch 🔲 followed by **[M.LIST]**.
- **Replying messages (page 38)**…Touch **[REPLY]**.
- **Move the cursor to the top of the APRS STATION LIST**…Touch **[TOP]**.
- **Delete a selected beacon station from the display (page 24)**…Touch 🔲 followed by **[DEL]**.
- **Move to the "APRS STATION LIST" detail screen (page 12 - page 20)**…Turn the DIAL to select the beacon whose details you want to see and press the **[DISP]** key.
- **Set mode (page 42)**… Press the **[DISP]** key for one second or longer.
- **Manual transmission of a beacon (page 25)**…Touch 🔲 followed by **[BEACON TX]**.

Tips

- When **[APRS] → [3 APRS FILTER]** is set to on, a received beacon matching the filter setting will be captured and shown on the display. If "OFF" is selected, a "beep" will sound and the beacon will not be captured or shown.
- The receive audio (beacon or voice etc.) of Band [B] when APRS is operating may be muted by setting **[APRS] → [8 APRS MUTE]** in the set mode.
- The reception of an APRS beacon is notified by a ringing sound set in **[APRS] → [10 APRS RINGER]** in the set mode. If "OFF" is selected, no audio alarm will sound upon receiving a beacon.

• Description of Station List Designators

Examples of 14 types of station list designators are described here. Refer to the description page listed on the table for the detail screen.
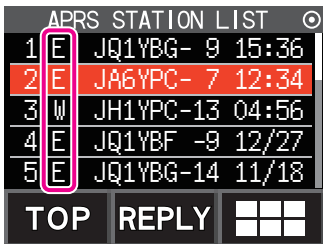
Display	Description	Page
E	Mic-E: Displayed when a beacon of a microphone encoder station is received	12
P	Position: Displayed when the beacon from a fixed station (FIXED) or a mobile station (MOVING) is received	13-15
p	Position: Displayed when the beacon of a fixed station (FIXED) or a mobile station (MOVING) is received (compression type)	16
W	Weather report: Displayed when the beacon of a meteorological station is received	17
w	Weather report: Displayed when the beacon of a meteorological station is received (compression type)	17
O	Object: Displayed when the beacon of an object station is received	18
o	Object: Displayed when the beacon of an object station is received (compression type)	18
I	Item: Displayed when the beacon of an item station is received	18
i	Item: Displayed when the beacon of an item station is received (compression type)	18
K	Killed Object/Item: Displayed when a deleted object station or item station is received	18
k	Killed Object/Item: Displayed when a deleted object station or item station is received (compression type)	18
S	Status: Displayed when the beacon of a status station is received	19
?	Other: Displayed when a beacon that cannot be interpreted is received	20
Emg	Displayed when an emergency signal from a Mic-E station is received	12

Tips

• When the transceiver is turned ON, if the detail screen is displayed before the GPS satellites are acquired, the position arrow and distance will not be displayed.

• If GPS satellite information is no longer available due to obstructions such as buildings, tunnels, etc., the most recently acquired coordinates (position arrow, latitude / longitude, distance) will be displayed. The accurate position information will be displayed again when you move to a position that can be located.

- **Explanation of the detail screen display in an Enc (Mic-E) APRS STATION LIST and description of operations**

Turn the DIAL in the APRS STATION LIST screen to select the "**E**" station and press the **[DISP]** key to display the Enc (Mic-E) detailed screen.

Turn the DIAL to scroll the screen.
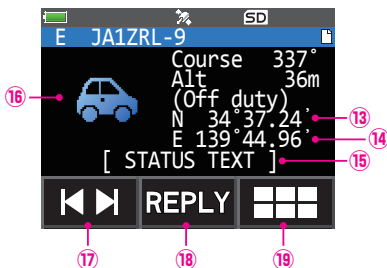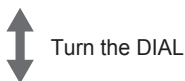
Turn the DIAL

① **Character:** The station list characters will be displayed.
② **Compass (position):**
The direction of the partner station as seen from your own station will be displayed.
③ **Call sign:** The received station call sign will be displayed.
④ **Type code:** The type code used by the partner station will be displayed (Mic-E, McE-Trk, McE-Msg and model name of the radio, etc.)
⑤ **Distance:** Distance to the received station will be displayed.
⑥ **Message display:**
When a beacon containing STATUS TEXT is received, the "📄" mark is displayed.
⑦ **Date:** The date the beacon was received (MM/DD) will be displayed.
⑧ **Time:** The time the beacon was received (HH:MM) will be displayed.
⑨ **Speed:** The moving speed of the partner station will be displayed.
⑩ **Direction:** The direction of movement of the partner station will be displayed.
⑪ **Altitude:** The altitude of the partner station will be displayed.
⑫ **Position comment:**
The position comments of the partner station will be displayed.
When an emergency message is received, the message (Emergency!) is displayed and a "pu... x12)" sound will be repeated 12 times.
⑬ **Latitude:** The N (north latitude) or S (south latitude) of the current position will be displayed (DDMM.MM or DDMMSS).

⑭ **Longitude:** The E (east longitude) or W (west longitude) of the current position will be displayed (DDMM.MM or DDMMSS).
⑮ **STATUS TEXT:**
The comments information will be displayed.
⑯ **Symbol:** The symbol of the radio station will be displayed.
⑰ **[|◄ ►|]:** Each time the icon is touched, the function of the DIAL changes.
⑱ **[REPLY]:** Touch this icon to display the reply message text input screen.
⑲ **⊞ :** Touch this icon to display the function expansion key screen. Touch this when replying to a message or when displaying RAW data etc.

- **Scroll the screen**…Turn the DIAL.
- **Switching beacon stations**…Touch **[|◄ ►|]** and turn the DIAL.
- **Move to the APRS MESSAGE LIST screen (page 31)**…Touch ⊞ followed by **[M.LIST]**.
- **Replying messages (page 38)**…Touch **[REPLY]**.
- **Move to the APRS STATION LIST screen (page 10)**…Press the **[BACK]** key.
- **Set mode (page 42)**…Press the **[DISP]** key for a second or longer.
- **Move to the RAW data display screen (page 23)**…Touch ⊞ followed by **[RAW]**.
- **Manual transmission of a beacon (page 25)**…Touch ⊞ followed by **[BEACON TX]**.

- **Explanation of the detail screen display in a P (Position: Fixed station) APRS STATION LIST and description of operations**

Turn the DIAL in the APRS STATION LIST screen to select the "**P**" station and press the **[DISP]** key to display the P (Position) detailed screen.
Turn the DIAL to scroll the screen.

① **Character:** The station list characters will be displayed.

② **Compass (position) :**
  The direction of the partner station as seen from your own station will be displayed.

③ **Call sign:** The reception call sign will be displayed.

④ **Partner station information:**
  The fixed station information (FIXED) will be displayed.

⑤ **Distance:** Distance with the partner station will be displayed.

⑥ **Message display:**
  When a beacon containing STATUS TEXT is received, the "☐" mark is displayed.

⑦ **Date:** The date the beacon was received (MM/DD) will be displayed.

⑧ **Time:** The time the beacon was received (HH:MM) will be displayed.

⑨ **Latitude:** The N (north latitude) or S (south latitude) of the current position will be displayed (DDMM.MM or DDMMSS).

⑩ **Longitude:** The E (east longitude) or W (west longitude) of the current position will be displayed (DDMM.MM or DDMMSS).

⑪ **COMMENT TEXT:**
  The comment's information will be displayed.

⑫ **Symbol:** The symbol of the radio station will be displayed.

⑬ **[|◄ ►|]:** Each time the icon is touched, the function of the DIAL changes.

⑭ **[REPLY]:** Touch this icon to display the reply message text input screen.

⑮ ☰ **:** Touch this icon to display the function expansion key screen. Touch this when replying to a message or when displaying RAW data etc.

Turn the DIAL

- **Scroll the screen**…Turn the DIAL.
- **Switching beacon stations**…Touch **[|◄ ►|]** and turn the DIAL.
- **Move to the APRS MESSAGE LIST screen (page 31)**…Touch ☰ followed by **[M.LIST]**.
- **Replying messages (page 38)**…Touch **[REPLY]**.
- **Move to the APRS STATION LIST screen (page 10)**…Press the **[BACK]** key.
- **Set mode (page 42)**…Press the **[DISP]** key for a second or longer.
- **Move to the RAW data display screen (page 23)**…Touch ☰ followed by **[RAW]**.
- **Manual transmission of a beacon (page 25)**…Touch ☰ followed by **[BEACON TX]**.

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- **Explanation of the detail screen display in a P (Position: Fixed station) APRS STATION LIST and description of operations**

Turn the DIAL in the APRS STATION LIST screen to select the "**P**" station and press the **[DISP]** key to display the P (Position) detailed screen. Detailed information known as the PHG code may be included in the position information.
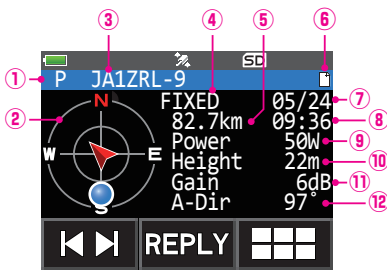
Turn the DIAL to scroll the screen.

Turn the DIAL

① **Character:** The station list characters will be displayed.
② **Compass (position):**
The direction of the partner station as seen from your own station will be displayed.
③ **Call sign:** The reception call sign will be displayed.
④ **Partner station information:**
The fixed station information (FIXED) will be displayed.
⑤ **Distance:** Distance with the partner station will be displayed.
⑥ **Message display:**
When a beacon containing STATUS TEXT is received, the "🗋" mark is displayed.
⑦ **Date:** The date the beacon was received (MM/DD) will be displayed.
⑧ **Time:** The time the beacon was received (HH:MM) will be displayed.
⑨ **Transmission power:**
The transmission power of the partner station will be displayed.
⑩ **Antenna ground height:**
The antenna ground height of the other station will be displayed.
⑪ **Antenna gain:** The antenna gain of the partner station will be displayed.
⑫ **Antenna direction:** The antenna direction of the partner station will be displayed.
⑬ **Transmission count:** The transmission count of the partner station will be displayed.

⑭ **Latitude:** The N (north latitude) or S (south latitude) of the current position will be displayed (DDMM.MM or DDMMSS).
⑮ **Longitude:** The E (east longitude) or W (west longitude) of the current position will be displayed (DDMM.MM or DDMMSS).
⑯ **COMMENT TEXT:** The comments information will be displayed.
⑰ **Symbol:** The symbol of the radio station will be displayed.
⑱ **[|◄ ►|]:** Each time the icon is touched, the function of the DIAL changes.
⑲ **[REPLY]:** Touch this icon to display the reply message text input screen.
⑳ **⚏ :** Touch this icon to display the function expansion key screen. Touch this when replying to a message or when displaying RAW data etc.

- **Scroll the screen**…Turn the DIAL.
- **Switching beacon stations**…Touch **[|◄ ►|]** and turn the DIAL.
- **Move to the APRS MESSAGE LIST screen (page 31)**…Touch ⚏ followed by **[M.LIST]**.
- **Replying messages (page 38)**…Touch **[REPLY]**.
- **Move to the APRS STATION LIST screen (page 10)**…Press the **[BACK]** key.
- **Set mode (page 42)**…Press the **[DISP]** key for a second or longer.
- **Move to the RAW data display screen (page 23)**…Touch ⚏ followed by **[RAW]**.
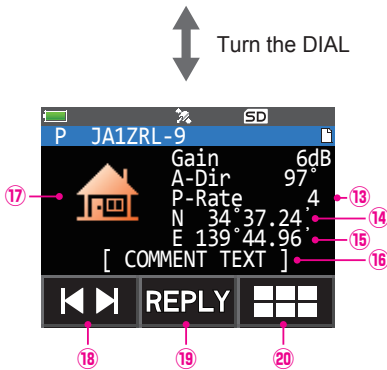- **Manual transmission of a beacon (page 25)**…Touch ⚏ followed by **[BEACON TX]**.

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- **Explanation of the detail screen display in a P (Position: Fixed station) APRS STATION LIST and description of operations**

Turn the DIAL in the APRS STATION LIST screen to select the "**P**" station and press the **[DISP]** key to display the P (Position) detailed screen. Movement-related information (Speed, Course), if any, will be displayed as follows.

Turn the DIAL to scroll the screen.

Turn the DIAL

① **Character:** The station list characters will be displayed.
② **Compass (position) :**
The direction of the partner station as seen from your own station will be displayed.
③ **Call sign:** The received call sign will be displayed.
④ **Partner station information:**
The fixed station information (MOVING) will be displayed.
⑤ **Distance:** Distance to the partner station will be displayed.
⑥ **Message display:**
When a beacon containing STATUS TEXT is received, the "📄" mark is displayed.
⑦ **Date:** The date the beacon was received (MM/DD) will be displayed.
⑧ **Time:** The time the beacon was received (HH:MM) will be displayed.
⑨ **Speed:** The moving speed of the partner station will be displayed.
⑩ **Direction:** The direction of movement of the partner station will be displayed.
⑪ **Latitude:** The N (north latitude) or S (south latitude) of the current position will be displayed (DDMM.MM or DDMMSS).
⑫ **Longitude:** The E (east longitude) or W (west longitude) of the current position will be displayed (DDMM.MM or DDMMSS).
⑬ **COMMENT TEXT:**
The comment's information will be displayed.
⑭ **Symbol:** The symbol of the radio station will be displayed.
⑮ **[◄ ►I]:** Each time the icon is touched, the function of the DIAL changes.
⑯ **[REPLY]:** Touch this icon to display the reply message text input screen.
⑰ **▦ :** Touch this icon to display the function expansion key screen. Touch this when replying to a message or when displaying RAW data etc.

- **Scroll the screen**…Turn the DIAL.
- **Switching beacon stations**…Touch **[◄ ►I]** and turn the DIAL.
- **Move to the APRS MESSAGE LIST screen (page 31)**…Touch ▦ followed by **[M.LIST]**.
- **Replying messages (page 38)**…Touch **[REPLY]**.
- **Move to the APRS STATION LIST screen (page 10)**…Press the **[BACK]** key.
- **Set mode (page 42)**…Press the **[DISP]** key for a second or longer.
- **Move to the RAW data display screen (page 23)**…Touch ▦ followed by **[RAW]**.
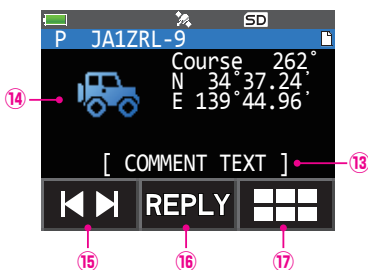- **Manual transmission of a beacon (page 25)**…Touch ▦ followed by **[BEACON TX]**.

• **Explanation of the detail screen display in a p (compressed type: fixed/mobile station) APRS STATION LIST and description of operations**

Turn the DIAL in the APRS STATION LIST screen to select the "**p**" (Position Compressed type) station and press the **[DISP]** key to display the P (Position) detailed screen.
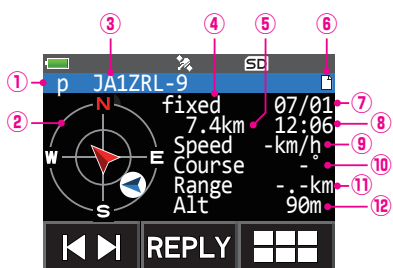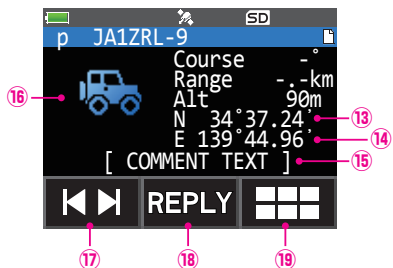
Turn the DIAL to scroll the screen.

① **Character:** The station list characters will be displayed.
② **Compass (position) :**
　　The direction of the partner station as seen from your own station will be displayed.
③ **Call sign:** The received call sign will be displayed.
④ **Partner station information:**
　　The fixed station information (fixed) and mobile station information (moving) will be displayed. Compressed type information will be displayed in lower case letters.
⑤ **Distance:** Distance to the partner station will be displayed.
⑥ **Message display:**
　　When a beacon containing STATUS TEXT is received, the "📄" mark is displayed.
⑦ **Date:** The date (MM/DD) will be displayed.
⑧ **Time:** The time the beacon was received (HH:MM) will be displayed.
⑨ **Speed:** The moving speed of the partner station will be displayed.
⑩ **Direction:** The direction of movement of the partner station will be displayed.
⑪ **Coverage area:** Information on the coverage area of the partner station will be displayed.
⑫ **Altitude:** The altitude of the partner station will be displayed.
⑬ **Latitude:** The N (north latitude) or S (south latitude) of the current position will be displayed (DDMM.MM or DDMMSS).
⑭ **Longitude:** The E (east longitude) or W (west longitude) of the current position will be displayed (DDMM.MM or DDMMSS).
⑮ **COMMENT TEXT:** The comments information will be displayed.

⑯ **Symbol:** The symbol of the radio station will be displayed.
⑰ **[|◀ ▶|]:** Each time the icon is touched, the function of the DIAL changes.
⑱ **[REPLY]:** Touch this icon to display the reply message text input screen.
⑲ ▦ **:** Touch this icon to display the function expansion key screen. Touch this when replying to a message or when displaying RAW data etc.

- **Scroll the screen**…Turn the DIAL.
- **Switching beacon stations**…Touch **[|◀ ▶|]** and turn the DIAL.
- **Move to the APRS MESSAGE LIST screen (page 31)**…Touch ▦ followed by **[M.LIST]**.
- **Replying messages (page 38)**…Touch **[REPLY]**.
- **Move to the APRS STATION LIST screen (page 10)**…Press the **[BACK]** key.
- **Set mode (page 42)**…Press the **[DISP]** key for a second or longer.
- **Move to the RAW data display screen (page 23)**…Touch ▦ followed by **[RAW]**.
- **Manual transmission of a beacon (page 25)**…Touch ▦ followed by **[BEACON TX]**.

- **Explanation of the detail screen display in a W or w (weather report: meteorological station) APRS STATION LIST and description of operations**

Turn the DIAL in the APRS STATION LIST screen to select the "**W**" (Weather report) or "**w**" (Weather report Compressed type) station and press the **[DISP]** key to display the W or w (Weather report) detailed screen. Turn the DIAL to scroll the screen.
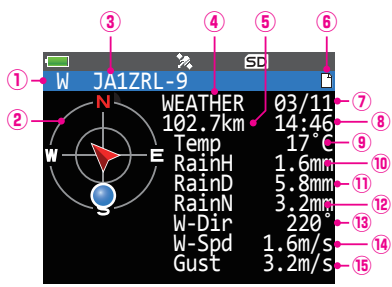

① **Character:** The station list characters will be displayed.
② **Compass (position):** The direction of the partner station as seen from your own station will be displayed.
③ **Call sign:** The received call sign will be displayed.
④ **Partner station information:**
The meteorological station (weather) information will be displayed. Compressed type information will be displayed in lower case letters.
⑤ **Distance:** Distance with the partner station will be displayed.
⑥ **Message display:** When a beacon containing STATUS TEXT is received, the "🔔" mark is displayed.
⑦ **Date:** The date (MM/DD) will be displayed.
⑧ **Time:** The time the beacon was received (HH:MM) will be displayed.
⑨ **Temperature:** The temperature information will be displayed.
⑩ **Rainfall:** Information on the rainfall per hour will be displayed.
⑪ **Rainfall:** Information on the rainfall per day will be displayed.
⑫ **Rainfall:** Information on the rainfall from midnight onwards will be displayed.
⑬ **Wind direction:** Information on the maximum direction will be displayed.
⑭ **Wind speed:** Wind speed information will be displayed.
⑮ **Maximum wind speed:** Information on maximum wind speed will be displayed.
⑯ **Atmospheric pressure:** Information on the atmospheric pressure will be displayed
⑰ **Humidity:** Information on the humidity will be displayed.
⑱ **Latitude:** The N (north latitude) or S (south latitude) of the current position will be displayed (DDMM.MM or DDMMSS).

Turn the DIAL

⑲ **Longitude:** The E (east longitude) or W (west longitude) of the current position will be displayed (DDMM.MM or DDMMSS).
⑳ **COMMENT TEXT:** The comments information will be displayed.
㉑ **Symbol:** The (WX) symbol will be displayed.
㉒ **[I◄ ►I]:** Each time the icon is touched, the function of the DIAL changes.
㉓ **[REPLY]:** Touch this icon to display the reply message text input screen.
㉔ **▦ :** Touch this icon to display the function expansion key screen. Touch this when replying to a message or when displaying RAW data etc.

- **Scroll the screen**…Turn the DIAL.
- **Switching beacon stations**…Touch **[I◄ ►I]** and turn the DIAL.
- **Move to the APRS MESSAGE LIST screen (page 31)**…Touch ▦ followed by **[M.LIST]**.
- **Replying messages (page 38)**…Touch **[REPLY]**.
- **Move to the APRS STATION LIST screen (page 10)**…Press the **[BACK]** key.
- **Set mode (page 42)**…Press the **[DISP]** key for a second or longer.
- **Move to the RAW data display screen (page 23)**…Touch ▦ followed by **[RAW]**.
- **Manual transmission of a beacon (page 25)**…Touch ▦ followed by **[BEACON TX]**.

• **Explanation of the detail screen display in a O (Object) or I (Item) APRS STATION LIST and description of operations**

Turn the DIAL in the APRS STATION LIST screen to select the "**O**" (Object) or "**I**" (Item) station and press the **[DISP]** key to display the O (Object) or I (Item) detailed screen. Turn the DIAL to scroll the screen.

Turn the DIAL

①**Character:** The station list characters will be displayed.
②**Compass (position):**
The direction of the partner station as seen from your own station will be displayed.
③**Name:** The name of the object or item will be displayed.
④**Call sign:** The received call sign will be displayed.
⑤**Partner station information:**
The fixed station information (OBJECT) will be displayed.
⑥**Distance:** Distance with the partner station will be displayed.
⑦**Message display:**
When a beacon containing STATUS TEXT is received, the " " mark is displayed.
⑧**Date:** The date the beacon was received (MM/DD) will be displayed.
⑨**Time:** The time the beacon was received (HH:MM) will be displayed.
⑩**Latitude:** The N (north latitude) or S (south latitude) of the current position will be displayed (DDMM.MM or DDMMSS).
⑪**Longitude:** The E (east longitude) or W (west longitude) of the current position will be displayed (DDMM.MM or DDMMSS).
⑫**COMMENT TEXT:**
The comments information will be displayed.
⑬**Symbol:** The symbol of the radio station will be displayed.
⑭**[|◀ ▶|]:** Each time the icon is touched, the function of the DIAL changes.
⑮**[REPLY]:** Touch this icon to display the reply message text input screen.
⑯ : Touch this icon to display the function expansion key screen. Touch this when replying to a message or when displaying RAW data etc.

• **Scroll the screen**…Turn the DIAL.
• **Switching beacon stations**…Touch **[|◀ ▶|]** and turn the DIAL.
• **Move to the APRS MESSAGE LIST screen (page 31)**…Touch followed by **[M.LIST]**.
• **Replying messages (page 38)**…Touch **[REPLY]**.
• **Move to the APRS STATION LIST screen (page 10)**…Press the **[BACK]** key.
• **Set mode (page 42)**…Press the **[DISP]** key for one second or longer.
• **Move to the RAW data display screen (page 23)**…Touch followed by **[RAW]**.
• **Manual transmission of a beacon (page 25)**…Touch followed by **[BEACON TX]**.

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- **Explanation of the detail screen display in a S (Status) APRS STATION LIST and description of operations**

Turn the DIAL in the APRS STATION LIST screen to select the "**S**" (Status) station and press the **[DISP]** key to display the S (Status) detailed screen.
Turn the DIAL to scroll the screen.
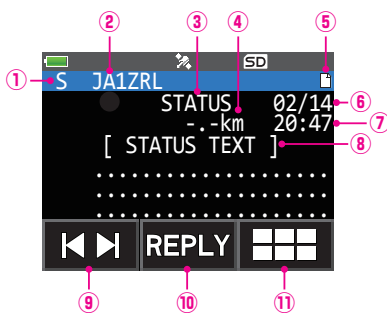
①**Character:** The station list characters will be displayed.
②**Call sign:** The reception call sign will be displayed.
③**Partner station information:**
  Status information will be displayed.
④**Distance:** Distance with the partner station will not be displayed.
⑤**Message display:**
  When a beacon containing STATUS TEXT is received, the "" mark is displayed.
⑥**Date:** The date the beacon was received (MM/DD) will be displayed.
⑦**Time:** The time the beacon was received (HH:MM) will be displayed.
⑧**STATUS TEXT:**
  The comments information will be displayed.
⑨**[|◄ ►|]:** Each time the icon is touched, the function of the DIAL changes.
⑩**[REPLY]:** Touch this icon to display the reply message text input screen.
⑪ **:** Touch this icon to display the function expansion key screen. Touch this when replying to a message or when displaying RAW data etc.

- **Scroll the screen**…Turn the DIAL.
- **Switching beacon stations**…Touch **[|◄ ►|]** and turn the DIAL.
- **Move to the APRS MESSAGE LIST screen (page 31)**…Touch followed by **[M.LIST]**.
- **Replying messages (page 38)**…Touch **[REPLY]**.
- **Move to the APRS STATION LIST screen (page 10)**…Press the **[BACK]** key.
- **Set mode (page 42)**…Press the **[DISP]** key for one second or longer.
- **Move to the RAW data display screen (page 23)**…Touch followed by **[RAW]**.
- **Manual transmission of a beacon (page 25)**…Touch followed by **[BEACON TX]**.

- **Explanation of the detail screen display in a ? (Other) APRS STATION LIST and description of operations**

Turn the DIAL in the APRS STATION LIST screen to select the "**?**" (Other) station and press the **[DISP]** key to display the ? (Other) detailed screen.

This is displayed when a packet that cannot be interpreted as an APRS beacon is received. Turn the DIAL to scroll the screen.
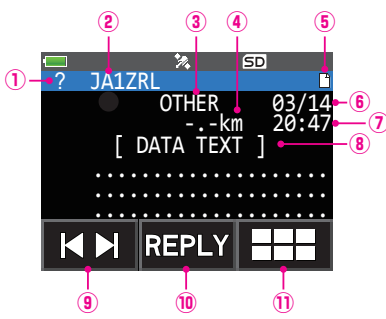
①**Character:** The station list characters will be displayed.
②**Call sign:** The reception call sign will be displayed.
③**Partner station information:**
Status information will be displayed.
④**Distance:** Distance with the partner station will not be displayed.
⑤**Message display:**
When a beacon containing STATUS TEXT is received, the "⬛" mark is displayed.
⑥**Date:** The date the beacon was received (MM/DD) will be displayed.
⑦**Time:** The time the beacon was received (HH:MM) will be displayed.
⑧**DATA TEXT:**
The comments information will be displayed.
⑨**[◄ ►]:** Each time the icon is touched, the function of the DIAL changes.
⑩**[REPLY]:** Touch this icon to display the reply message text input screen.
⑪ ▦ : Touch this icon to display the function expansion key screen. Touch this when replying to a message or when displaying RAW data etc.

- **Scroll the screen**…Turn the DIAL.
- **Switching beacon stations**…Touch **[◄ ►]** and turn the DIAL.
- **Move to the APRS MESSAGE LIST screen (page 31)**…Touch ▦ followed by **[M.LIST]**.
- **Replying messages (page 38)**…Touch **[REPLY]**.
- **Move to the APRS STATION LIST screen (page 10)**…Press the **[BACK]** key.
- **Set mode (page 42)**…Press the **[DISP]** key for one second or longer.
- **Move to the RAW data display screen (page 23)**…Touch ▦ followed by **[RAW]**.
- **Manual transmission of a beacon (page 25)**…Touch ▦ followed by **[BEACON TX]**.

Notification of beacon or message arrival in a pop-up screen APRS POPUP function

A notification can be set to appear in a pop-up display when an APRS beacon or message is received from a partner station.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[9 APRS POPUP]**.

2 Turn the DIAL to select the item to be set

Refer to the list of set mode actions (page 48) for details of each item.

Mic-E / POSITION / WEATHER / OBJECT / ITEM / STATUS / OTHER / MY PACKET / MSG / GRP / BLN / MY MSG / DUP.BCN / DUP.MSG / ACK.REJ / OTHER MSG

3 Press the **[DISP]** key.

The cursor will move to the set value.

4 Turn the DIAL to select the set value.

OFF: Popup screen is not displayed.

ALL 2 s - ALL 60 s: Sets the display time of a popup for 2 to 60 seconds.

ALL CNT: Popup continues to be displayed until a key is operated.

BND 2 s - BND 60 s: Content is displayed in 2 alphabetic characters on the band display section on the screen for 2 to 60 seconds. (See page 22).

BND CNT: Content is displayed in 2 alphabetic characters on the band display section on the screen until a key is operated (See page 22).

"ALL" cannot be selected in MY MSG / DUP.BCN / DUP.MSG / ACK.REJ / OTHER MSG.

5 Press the **[BACK]** key.

6 Repeat Step 2 to 5 to set the remaining items.

7 Press the PTT.

To exit the set mode and return to the operating screen.

▌Screen when BND 2 s - BND 60 s is selected

If a beacon or message from a partner station arrives when "BND 2 s - BND 60 s" is selected in the APRS POPUP function, the following screen will be displayed.

A 2-digit letter is displayed →
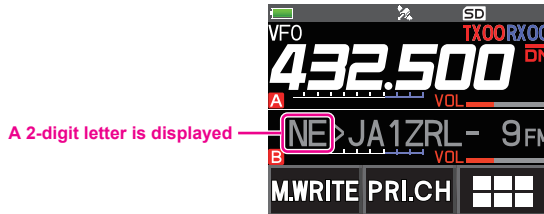
The first two alphabetical characters displayed in front of the call sign of the partner station contain the following meaning.

First digit

- **N** = New: New signal
- **D** = Duplicate: Received signal
- **A** = ACK: Message ACK signal (page 40)
- **R** = Reject: Message REJ signal (page 34)

Second digit

- **E** = Mic-E: Beacon of a mike encoder station
- **P** = Position: Beacon of a fixed station (FIXED) / mobile station (MOVING)
- **P** = Position: Beacon of a fixed station (fixed) / mobile station (moving) (compression type)
- **W** = Weather report: Beacon of a meteorological station
- **w** = Weather report: Beacon of a meteorological station (compression type)
- **O** = Object: Beacon of an object station
- **o** = Object: Beacon of an object station (compression type)
- **I** = Item: Beacon of an item station
- **i** = Item: Beacon of an item station (compression type)
- **K** = Killed Object/Item: Deleted object station / item station
- **k** = Killed Object/Item: Deleted object station / item station (compression type)
- **S** = Status: Beacon of a status station
- **?** = Other: Beacon that could not be interpreted

Audio notification of a beacon or message received APRS RINGER function

An audio notification can be set to sound when an APRS beacon arrives from a partner station.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[10 APRS RINGER]**.

2 Turn the DIAL to select the item to be set.

Please refer to the list of set mode actions (page 50) for the details of each item.

Mic-E / POSITION / WEATHER / OBJECT / ITEM / STATUS / OTHER / MY PACKET / MSG / GRP / BLN / MY MSG / DUP.BCN / DUP.MSG / ACK.REJ / OTHER MSG / TX BCN / TX MSG

3 Press the **[DISP]** key.

4 Turn the DIAL to select "ON" or "OFF".

5 Press the **[BACK]** key.

6 Repeat Step 2 to 5 to set the remaining items.

7 Press the PTT.

To exit the set mode and return to the operating screen.

Displaying RAW packet data

Display the packet data (raw data) of the partner station from the APRS STATION LIST detail screen.

1 Touch **[F MW]** followed by **[S.LIST]**.

The APRS STATION LIST screen will be displayed.

2 Turn the DIAL to select the beacon.

Select the beacon station to confirm the RAW packet data.

3 Press the **[DISP]** key.

A detail screen of the APRS STATION LIST will appear in the display.

4 Touch ▦ followed by **[RAW]**.

The RAW packet data will appear in the display.

Turn the DIAL to scroll the screen display.

5 Touch ▦ followed by **[NORMAL]** to return to the detail screen.

6 Press the **[BACK]** key twice.

To exit the APRS STATION LIST screen and return to the operating screen.
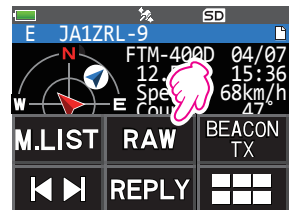
Details of RAW packet data display screen
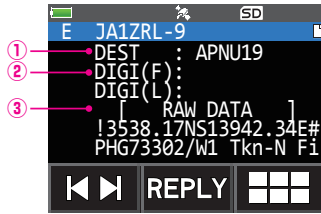
① **Destination information:** View the destination address information of AX.25
② **Digipeater information:** View the relay station (digipeater) information
③ **RAW TEXT:** View the text of raw data

Tips

- For transmit messages, information on DIGI (First) and DIG (Last) will not be displayed ("-" will be displayed) as the digipeater information is not saved.
- When a 3rd Party Header Beacon (beacon from I-Gate and others) is received, the route information included in the text of the 3rd Party Header Beacon will be displayed instead of the information obtained from the AX.25 packet signal.

Deleting a beacon station from the list

A beacon station which is no longer required can be deleted from the list by selecting it on the APRS STATION LIST screen.

1 Touch **[F MW]** followed by **[S.LIST]**.

The APRS STATION LIST screen will be displayed.

2 Turn the DIAL to select the call sign.

Turn the DIAL to select the call sign to delete.

3 Touch ▦ followed by **[DEL]**.

A confirmation message "DELETE?" will appear in the display.

Reference Touch "**CANCEL**" to cancel the deletion.

4 Touch **[OK]** twice.

The call sign will be deleted from the list.

Transmitting APRS® beacons

Transmitting a beacon manually

1 Touch **[F MW]** followed by **[BCN-TX]** (to display the frequency screen).

Touch ▦ followed by **[BEACON TX]** in the APRS STATION LIST screen and APRS STATION LIST detail screen.

When transmitting a beacon automatically, set the following "Beacon manual / auto transmission switch" to "AUTO" or "SMART".

Tips
- If the [DUP BCN] setting under **[APRS]** → **[10 APRS RINGER]** is set to ON in the set mode, a "Pee po po..." alarm will sound when your own station beacon relayed to a digipeater is received.
- When using the GPS function in APRS operations, be sure to check that **[APRS]** → **[24 MY POSITION]** is set to "GPS". A beacon cannot be transmitted if GPS data cannot be captured.

Switching between automatic and manual beacon transmission

This sets the APRS beacon to auto / manual transmission.

1 Touch **[F MW]** followed by **[S.LIST]**.

The APRS STATION LIST screen will be displayed.

2 Touch ▦ followed by **[BEACON]**

Each time the **[BEACON]** is touched, the setting will switch between "MANUAL", "AUTO" and "SMART".
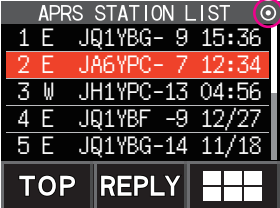
This is a short-cut to **[APRS]** → **[16 BEACON TX]** in the set mode.

No display (MANUAL):	Only when ▦ and **[BEACON TX]** are touched will the APRS beacon of your own station be transmitted (with the default settings). Touch **[F MW]** followed by **[BCN-TX]** in the frequency screen.
◉ appears (AUTO):	Automatically transmit the APRS beacon of your own station at a 5-minute interval.*1
○ appears (SMART):	Transmit automatically with the SmartBeaconing™ function.*2

APRS STATION LIST ◉
1 E JQ1YBG- 9 15:36
2 E JA6YPC- 7 12:34
3 W JH1YPC-13 04:56
4 E JQ1YBF -9 12/27
5 E JQ1YBG-14 11/18
TOP REPLY ▦

*1: The beacon transmit interval can be changed in the APRS set mode with the **[APRS]** → **[14 BEACON INTERVAL]** setting.

*2: Refer to page 26 on the details of the SmartBeaconing™ function.

This setting can be selected only when the status setting of **[APRS]** → **[27 SmartBeaconing]** in the set mode is set to TYPE 1 - TYPE 3, and **[APRS]** → **[24 MY POSITION]** is set to GPS.

Tip

The data transmission delay time can be changed using the **[APRS]** → **[12 APRS TX DELAY]** setting in the set mode.

Setting the automatic beacon transmit interval

This sets the time interval for automatically sending out an APRS beacon.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[14 BEACON INTERVAL]**.

2 Turn the DIAL to select the automatic transmission interval time.

Select one of the following automatic transmission interval times.

30 sec / 1 min / 2 min / 3 min / 5 min / 10 min / 15 min / 20 min / 30 min / 60 min

Reference Factory shipping value: 5 min

3 Press the PTT.

The automatic transmit interval time will be set and the set mode will be cancelled.

Tips

• When the APRS beacon transmit is changed to [AUTO], the timer for the automatic beacon transmit interval is reset, and the count for the automatic beacon interval begins. When the set time is reached the initial beacon will be transmitted.

• Even in [AUTO] beacon transmit, transmission of a beacon may be forced by pressing **[F MW]** followed by **[BCN-TX]** if you are operating in the frequency screen. (if you are in the APRS STATION LIST screen or APRS STATION LIST detail screen, touch 🖽 followed by **[BEACON TX]** instead). The automatic transmit timer is reset if the beacon transmit is forced.

• If the squelch is open when the specified time has passed to transmit a beacon, the beacon transmission is delayed. The beacon will be sent when the squelch is closed.

Setting the SmartBeaconing™

SmartBeaconing™ is a function that efficiently transmits an APRS beacon including your own station position, speed and direction of travel. The information is based on data from a GPS satellite receiver unit.

This device supports automatic beacon transmission using SmartBeaconing™.

Three different SmartBeaconing™ settings (TYPE1, TYPE2 and TYPE3) are available. The default values are preset in advance assuming the following operations:

TYPE1: High speed movement in a car etc.

TYPE2: Medium to low speed movement in a car etc.

TYPE3: Walking at a low speed etc.

TYPE2 and TYPE3 settings (especially TYPE3), multiple beacons are transmitted in a short time, even if the movement speed is relatively slow. As a result, if these settings are used directly while traveling at high speed in a vehicle, multiple beacons will be transmitted, resulting in signal congestion.

When moving at a high speed, be sure to return the setting to TYPE1.

If different timing settings are needed, the TYPE1 - TYPE3 parameters can also be changed. In order to ensure that beacons can be transmitted in an appropriate manner, adjust the parameters and DIGI PATH settings of the SmartBeaconing™ function for efficient operation and reduced signal congestion.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[27 SmartBeaconing]**.

2 Press the **[DISP]** key and turn the DIAL to select TYPE.

Select one of the following TYPEs.

OFF: Turn the SmartBeaconing function OFF

TYPE1: Recommended setting when moving at a high speed in a car etc.

TYPE2: Recommended setting when moving at a low speed such as a bicycle.

TYPE3: Recommended setting when walking at a low speed etc.

APRS	
27 SmartBeaconing	
STATUS :	▸TYPE1
LOW SPD :	5km/h
HIGH SPD :	70km/h
SLOW RATE :	30min
FAST RATE :	120sec

3 Press the PTT.

The selected TYPE is set, and the set mode is cancelled.

4 Touch **[F MW]** followed by **[S.LIST]**.

The APRS STATION LIST screen will be displayed.

5 Touch ▦ followed by **[BEACON]**.

○ will be displayed at the top right of the display.

This is a short-cut to **[APRS]** → **[16 BEACON TX]** in the set mode.

SmartBeaconing is set when ○ appears at the top right-hand corner of the display.

Tips

• If the **[APRS]** → **[16 BEACON TX]** setting is set to SMART in the set mode, the setting of the BEACON INTERVAL will be ignored.

• This function can be selected only when the status of **[APRS]** → **[27 SmartBeaconing]** in the set mode is set to TYPE 1 - TYPE 3, and **[APRS]** → **[24 MY POSITION]** is set to GPS.

---

*SmartBeaconing™ is a function provided by HamHUD Nichetronix.

Registering status text

A maximum of up to 60 characters can be registered for 5 types of status comment.
The following characters can be entered.
• Alphabet letter (half-byte upper case, half-byte lower case)
• Number (half-byte)
• Symbol

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[15 BEACON STATUS TXT]**.

2 Turn the DIAL to select "S.TXT" and press the **[DISP]** key.

3 Turn the DIAL to select "ON" or "OFF"

4 Press the **[BACK]** key.

5 Turn the DIAL to select "TX RATE" and press the **[DISP]**
key.
The frequency for transmitting status text when sending an APRS beacon can be set
in TX RATE.

6 Turn the DIAL to select the TX RATE.
Select the rate from 1/1 (every time) to 1/8 (once in 8 times).

7 Press the **[BACK]** key.

8 Turn the DIAL to select "TEXT" and press the **[DISP]** key.

9 Turn the DIAL to select the number of the status text to register.

10 Press the **[DISP]** key.
The screen for editing text will be displayed.
The text contents will be displayed if text was already entered.
Press the **[BACK]** key to return to the previous screen.

11 Touch **[EDIT TEXT]**.

12 Enter the text.
Refer to "Text input screen" (FT3DR/DE Operating Manual) on how to enter text.

13 Press the PTT.
To exit the set mode and return to the operating screen.

> When entering status text, a colon symbol (:) will appear in the 21st, 29th and 43rd
> characters. When entering a long text that exceeds the position of this colon, the text
> may not be displayed in certain models. Enter a text that is shorter than the colon
> position as much as possible.

Selecting a position comment

This selects the position comment (standard message) to be incorporated into your own station beacon.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[26 POSITION COMMENT]**.

2 Turn the DIAL to select the position comment.

Select the position comment from the following list.

Off Duty / En Route / In Service / Returning / Committed / Special / Priority / Custom 0 - Custom 6 / EMERGENCY!

Remark Factory shipping value: Off Duty

Reference Turn the DIAL to select another comment if you want to cancel the selected position comment.

3 Press the PTT.

The position comment will be registered and returned to the operating screen.

Reference A confirmation message "OK?" will appear and a "poo poo poo" alarm will sound only when "EMERGENCY!" is selected and the PTT is pressed.

Caution

Never select "Emergency!" unless emergency aid is required e.g. accidents and disasters etc.

Setting the digipeater route

A digipeater is a station that relays packets such as beacons. When using a digipeater, register the call sign or alias of the digipeater in the radio.

This transceiver is preset to "WIDE1-1" (relay setting of one location) and "WIDE1-1, WIDE2-1" (relay settings of two locations). When "WIDE 1-1, WIDE 2-1" are selected, the beacon is initially relayed to the digipeater station at the first location as specified in WIDE 1-1, and then it is relayed to the digipeater station at the second location as specified in WIDE 2-1. Under this setting, the beacon is relayed by the digipeater stations at 2 locations.

In the USA, digipeater stations using APRS customarily operate in the New-Paradigm format*. Therefore the default settings of this transceiver are configured on the assumption of a digipeater station operating in the New-Paradigm method.

Select P4 - P8 and enter the call sign and alias if you are using another relay method (follow the following steps to enter the call sign and alias).

* Refer to the following website for details on the New-N Paradigm method. http://aprs.org/fix14439.html (as of July 2019).

Caution

When too many relay steps are set, the beacons transmitted from the same station are repeatedly relayed, resulting in signal congestion on the APRS channel. Use the default settings as far as possible.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[18 DIGI PATH]**.

2 Turn the DIAL to select the DIGI PATH.

Select the DIGI PATH from P1 - P8.

P1 (OFF) P2 (WIDE1-1), P3 (1:WIDE1-1/2:WIDE2-1) are fixed values.

The relay method etc. can be entered for P4 - P8.

Proceed to Step 10 if you select P1 - P3, and Step 3 if you select P4- P8.
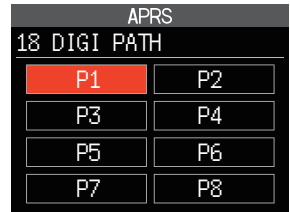
3 Press the **[DISP]** key

Switch to the address selection screen.

Press the **[BACK]** key to return to the previous screen.

4 Turn the DIAL to select the address.

Select the address (1, 2).

8 addresses can be set for P8 only.

5 Press the **[DISP]** key.
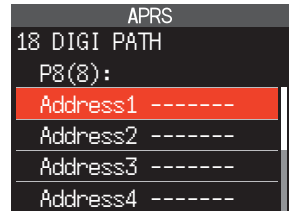
6 Enter the call sign using the text input screens.

Refer to "Text input screen" (FT3DR/DE Operating Manual) on how to enter text.

7 Touch **[➡].**

8 Touch the SSID you want to set.

9 Press the **[BACK]** key.

The digipeater route will be set.

10 Press the PTT.

To exit the set mode and return to the operating screen.

Description of the APRS MESSAGE LIST screen and operations

Touch **[F MW]** in the frequency display screen followed by **[M.LIST]** to display the APRS MESSAGE LIST screen.

A maximum of 60 received or transmitted messages that have been saved can be displayed in a list in the APRS MESSAGE LIST screen. The latest message will be displayed at the top.

Reference Touch ▦ followed by **[S.LIST]** to move to the APRS STATION LIST screen.
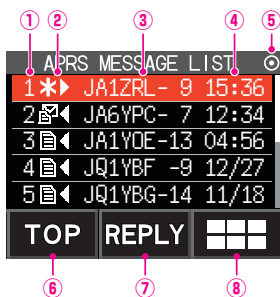
①**Number:** The number of the message received or transmitted will be displayed.

②**Receive/Transmit:**

One of the following icons is displayed during message reception and transmission.

📩◀ Messages received (unread)

📄◀ Messages received (read)

〽▶ Messages transmitted (ACK received)

. ▶ Messages transmitted (ACK not received)

4 - 0▶ Transmission message (transmission not complete)

* The figure is the remaining transmission count

③**Call sign:** The received or transmitted call sign will be displayed.

④**Time or date:**

The message receive or transmit time (HH:MM) or date (MM/DD) will be displayed.

⑤**Beacon auto / manual transmission icon:**

If the icon does not appear, beacons are transmitted manually. If the ⦿ icon is displayed, beacons are transmitted automatically. If the ○ icon is displayed, transmissions are transmitted automatically using the SmartBeaconing™ function.

⑥**[TOP]:** Touch this to move to the top of the list.

⑦**[REPLY]:** Touch this to display the screen for writing the reply message.

⑧ ▦ **:** Touch this to display the function expansion key screen. Touch this when editing a message or moving to the APRS STATION LIST screen and so on.

- **Scroll the screen**…Turn the DIAL.
- **Move to the APRS STATION LIST screen (page 10)**…Touch ▦ followed by **[S.LIST]**.
- **Cancel the transmission settings**…Touch ▦ followed by **[TX CLR]**.
- **Replying messages (page 38)**…Touch **[REPLY]**.
- **Move the cursor to the top of the APRS MESSAGE LIST**…Touch **[TOP]**.
- **Delete the selected message from the APRS MESSAGE LIST (page 36)**…Touch ▦ followed by **[DEL]**.
- **Move to the "APRS MESSAGE LIST" detail screen (page 32)**…Turn the DIAL to select the message whose details you want to see and press the **[DISP]** key.
- **Move to the message edit screen (page 33)**…Touch ▦ followed by **[MSG EDIT]**.
- **Move to the frequency display screen**…Press the **[BACK]** key
- **Set mode (page 42)**…Press the **[DISP]** key for a second or longer.

Description of the APRS MESSAGE LIST detail screen and operations

From the APRS MESSAGE LIST screen, turn the DIAL to select the message whose details you want to see and press the **[DISP]** key to display the APRS MESSAGE LIST detailed screen. The APRS MESSAGE LIST detail screen shows the details of the messages received and transmitted in the APRS MESSAGE LIST screen.
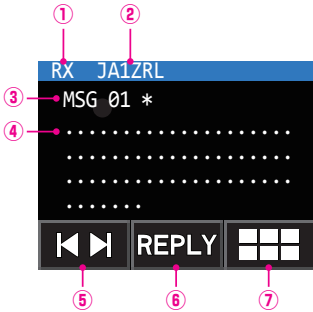
① **RX/TX:** Receive details will be displayed if "RX" is selected and transmit details will be displayed if "TX" is selected.

② **Call sign:** The received/transmitted call sign will be displayed.

③ **Message number:**
The message number assigned by the partner station will be displayed during reception while the message number assigned by your own station will be displayed during editing and transmission. The "GRP: (Group)" and "BLN: (Number/Bulletin Name)" will be displayed for bulletin and group messages.

④ **Message:** The contents of the message received will be displayed.

⑤ **[◄ ►]:** The DIAL function changes each time it is touched.

⑥ **[REPLY]:** Touch this to display the text input screen for writing the reply message.

⑦ ▦ : Touch this to display the function expansion key screen. Touch this when editing a message or moving to the APRS STATION LIST screen and so on.

• **Switching messages**…Touch **[◄ ►]** and turn the DIAL.
• **Move to the APRS STATION LIST screen (page 10)**…Touch ▦ followed by **[S.LIST]**.
• **Cancel the transmission settings**…Touch ▦ followed by **[TX CLR]**.
• **Manually send a message**…Touch ▦ followed by **[M-TX]**.
• **Move to the message edit screen (page 33)**…Touch ▦ followed by **[MSG EDIT]**.
• **Move to the RAW data display screen**…Touch ▦ followed by **[RAW]**.
• **Replying messages (page 38)**…Touch **[REPLY]**.
• **Move to the APRS MESSAGE LIST screen (page 31)**…Press the **[BACK]** key.
• **Set mode (page 42)**…Press the **[DISP]** key for a second or longer.

Message edit screen and description of operations

Touch ▦ followed by **[MSG EDIT]** in the APRS MESSAGE LIST detail screen to display the message edit screen.

You can edit and transmit a received or transmitted message in the message edit screen.
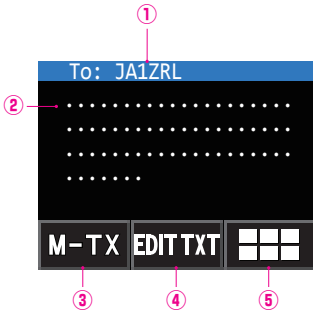
① **Call sign:**   The call sign of the destination will be displayed.

② **Message:**   A maximum of up to 67 characters can be entered in a transmission message.

③ **[M-TX]:**   Touch this to manually send the message.

④ **[EDIT TXT]:**

            Touch this to display the screen for entering the message text.

⑤ ▦ **:**   Touch this to display the function expansion key screen. Touch this to delete all messages or to edit the call sign of the partner station to send to.

- **Select a standard message**…Touch **[EDIT TXT]** followed by **[STANDARD MSG]**.
- **Enter the call sign of your partner station**…Touch ▦ followed by **[EDIT CS]**.
- **Deleting all messages**…Touch ▦ followed by **[CLR ALL]**.
- **Move to the frequency display screen**…Press the **[BACK]** key twice.
- **Set mode (page 42)**…Press the **[DISP]** key for a second or longer.

Tip

The contents in the edit screen are saved in the editing buffer until the power supply is switched off or when ALL CLEAR is executed.

Receiving messages

When a message is received, a pop-up screen appears, together with a "pee po pee po..." audio alarm and a flashing strobe (white LED), followed by the screen below.
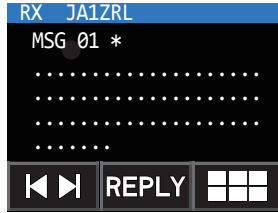
```
 RX   JA1ZRL
 MSG 01 *
   ...................
   ...................
   ...................
   .......
 |◄ ►|  REPLY  ▦
```

Touch **[F MW]** in the frequency display screen followed by **[M.LIST]** to display the APRS MESSAGE LIST screen.

> **Reference** Touch ▦ followed by **[S.LIST]** to move to the APRS STATION LIST screen.

1 Turn the DIAL to select a received message.

Turn the DIAL to scroll the screen up and down and select a received message.

2 Press the **[DISP]** key.

The APRS MESSAGE LIST detail screen will appear for you to check the message.

> **Reference** Touch ▦ followed by **[MSG EDIT]** to display the message edit screen.

3 Press the **[BACK]** key.

Return to the APRS MESSAGE LIST screen.

Tips

- A "pee po pee po pee po..." alarm will sound when a group/bulletin message is received and the call sign will be displayed as shown in the right screen.
- A "pee..." alarm will sound when a message ACK is received and the "AM>(call sign)" will be displayed on the screen.
- A "pee...." alarm will sound when a message REJ (reject) is received and the "RM>(call sign)" will be displayed on the screen.
- The operation of the flashing (white LED) display can be changed by selecting **[APRS]** → **[5 APRS MSG FLASH]** in the set mode.
- The ACK/REJ display can be changed by the **[APRS]** → **[9 APRS POPUP]** setting in the set mode.

Filter setting for messages received

The group filter for receiving messages and bulletin messages from specific groups (ALL, CQ, QST, YAESU etc.) can be set.

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[6 APRS MSG GROUP]**.

2 Turn the DIAL and touch the group filter.

"G1 ALL", "G2 CQ", "G3 QST", "G4 YAESU" and "G5 (any)" can be selected for the group code.

For bulletin, "B1" to "B3" can be selected.

3 Enter the text.

Refer to "Text input screen" (FT3DR/DE Operating Manual) on how to enter text.

A maximum of up to 9 characters can be entered.

4 Press the PTT.

To exit the set mode and return to the operating screen.

When a group or bulletin message is received, screens like the following are displayed:

Show the group name such as ALL, CQ, QST, YAESU etc.

Bulletin number   View bulletin name

RX JA1ZRL	RX JA1ZRL	RX JA1ZRL
MSG 01 *	GRP TOURING	BLN 1 XXXXX
Hello...............	Hello...............	Hello...............

Self-addressed message screen

Group message reception screen

Bulletin reception screen

Tips

- If the **[APRS]** → **[1 APRS AF DUAL]** setting is set to ON in the set mode, the receive audio will continue to be heard without being interrupted by a received signal in the AF DUAL mode, even if an APRS beacon or message is received on Band B. Switch to the APRS screen to check APRS messages and information on received beacons.
- If the **[APRS]** → **[5 APRS MSG FLASH]** setting is set to ON in the set mode, a strobe (white LED) will flash when a message (MSG), group (GRP), or bulletin (BLN) is received.
- The receive audio (beacon or voice etc.) of Band B when the APRS is operating, in can be muted by setting **[APRS]** → **[8 APRS MUTE]** to on in the set mode.
- The display method and time when an APRS beacon is received can be set by the **[APRS]** → **[9 APRS POPUP]** setting in the set mode.
- If the MSG in **[APRS]** → **[10 APRS RINGER]** is set to ON in the set mode, an audio notification will be given when a message / group message / bulletin message etc. addressed to your own APRS station is received. If MSG is set to OFF, the message will appear in the display without any audio alarm.
- Messages that differ only in the SSID that are addressed to your own station call sign can also be received. However, a reply to the acknowledgment receipt will only be sent if all the characters including the SSID are the same.

Deleting a message from the list

Unwanted messages on the APRS MESSAGE screen can also be deleted.

1 Touch **[F MW]** followed by **[M.LIST]** in the frequency display screen.

The APRS MESSAGE LIST screen will be displayed.

2 Turn the DIAL to select the message.

Turn the DIAL to select the message to delete.

3 Touch ▦ followed by **[DEL]**

The word "DELETE?" will appear in the display.

Reference   Touch **[CANCEL]** to cancel the deletion.

4 Select **[OK]** first before touching it

The message will be deleted.
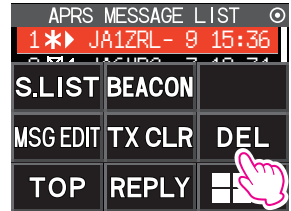
Transmitting APRS® messages

Creating and sending messages

There are two ways to write a message.

(1) Input the individual characters to write a message

(2) Use fixed texts to create a message

The following characters can be used to enter a message.
- Alphabet letter (half-byte upper case, half-byte lower case)
- Number (half-byte)
- Symbol

● **Input individual characters to write a message**

1 Touch **[F MW]** followed by **[M.LIST]** in the frequency display screen.
The display will change to the APRS MESSAGE LIST screen.

2 Touch ▦ followed by **[MSG EDIT]**.
The display will change to the APRS MESSAGE EDIT screen.
If a previous message was created/edited, the created/edited message will appear.
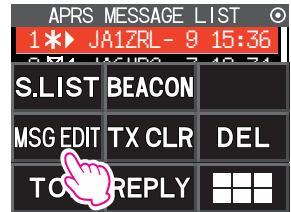
3 Touch ▦ followed by **[EDIT CS]**
The display will change to the call sign input screen.

4 Input the call sign in the alphabet input screen and numeric input screen.
Refer to "Text input screen" (FT3DR/DE Operating Manual) on how to enter the call sign of the destination station.
A maximum of 6 digits can be entered for the call sign.
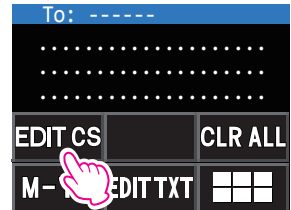
5 Touch **[➡]**.

6 Touch the SSID you want to set.
No setting is required if SSID is not necessary.

7 Press the **[BACK]** key.
Return to the APRS MESSAGE EDIT screen.

8 Touch **[EDIT TEXT]**.
The screen for editing text will be displayed.

9 Enter the text.
Refer to "Text input screen" (FT3DR/DE Operating Manual) on how to enter text.
A maximum of up to 67 characters can be entered.

10 Press the **[BACK]** key.
Return to the APRS MESSAGE EDIT screen.
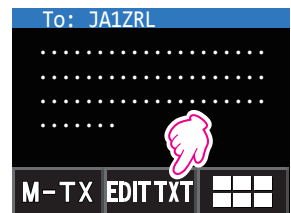
37

11 Touch **[M-TX]**.

The message will be sent and the display will return to the frequency screen.
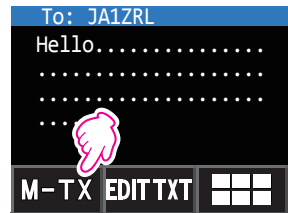
```
To: JA1ZRL
Hello..............
...................
...................
...
M-TX  EDIT TXT  ▦
```

● **Use fixed text to write a message**

A character string registered in advance can be appended to a message text.

Refer to "Registering a standard message" (page 39) for the registration method.

1 Follow Steps 1-8 in "Input individual characters to write a message" (page 37).

2 Touch **[MTXT]**.

A list of fixed text messages will be displayed.

3 Turn the DIAL to select a standard message.

Select a standard message from the list of messages (1-8) registered beforehand.

4 Touch **[PASTE]**.

The selected fixed text will be entered.

You can repeat these steps to continue selecting standard messages.

Reference   Characters can also be added to or deleted from a selected standard message. Characters can also be added before or after a standard message.

5 Press the **[BACK]** key.

Return to the APRS MESSAGE EDIT screen.

6 Touch **[M-TX]**.

The message will be sent and the display will return to the frequency screen.

Using the reply function

You can also reply to a station that has sent an APRS message.

1 Turn the DIAL to select the partner station

Select the partner station to reply to in the APRS MESSAGE LIST screen.

2 Touch **[REPLY]**

The display will change to the APRS MESSAGE EDIT screen.

3 Touch **[EDIT TEXT]**

The screen for editing text will be displayed.

4 Enter the characters

Enter the message according to the procedure in "Input individual characters to write a message" (page 37) and "Use fixed text to write a message" (page 38).

5 Touch **[M-TX]**

A reply to the message will be sent to the partner station.

● **Registering a standard message**

8 standard messages containing a maximum of 16 characters each can be registered in this device.

The following characters can be entered in a standard message.
• Alphabet letter (half-byte upper case, half-byte lower case)
• Number (half-byte)
• Symbol

1 Press and hold the **[DISP]** key → Touch **[APRS]** → **[7 APRS MSG TXT]**.

2 Turn the DIAL to select the message number to register
and press the **[DISP]** key.

A screen for editing the fixed text message will be displayed.

3 Entering a fixed text message.

Refer to "Text input screen" (FT3DR/DE Operating Manual) on how to enter a fixed text message.

A maximum of up to 16 characters can be entered.

4 Press the **[BACK]** key.

The fixed text message will be registered.

5 Press the PTT.

To exit the set mode and return to the operating screen.

• Message receipt acknowledgment (ACK)

When a message is sent to a specific partner station, an ACK packet (receipt acknowledgment) will be returned to acknowledge receipt of the message by the partner station. The transmission process ends with an audio alarm to acknowledge receipt when an ACK packet is returned by the partner station. When an ACK packet is not returned by the partner station for one minute, the same message will be resent. The status will change to TX OUT if an ACK packet is not returned by the partner station even after resending the message 5 times. The remaining transmission count of the acknowledgment receipt will appear in the APRS MESSAGE LIST screen as shown below. The remaining transmission count can also be checked by pressing the **[DISP]** key to change to the transmit detail screen.

Remaining count display example

Show "✳" when ACK is received

APRS MESSAGE LIST screen
(display when an acknowledgment is received)

Show the number of remaining transmissions
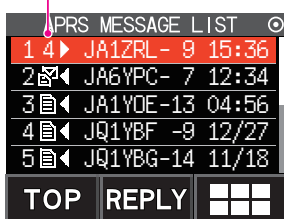
APRS MESSAGE LIST screen
(when the number of transmissions remaining is four)

Show "·" during TX OUT
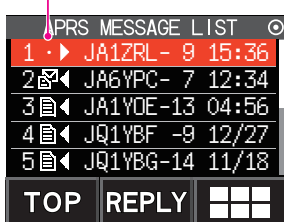
APRS MESSAGE LIST screen
(display during TX OUT)

40

Set mode item No./Item	Description of function	Selectable Items (Bold letters: Default)	Reference page
1 APRS AF DUAL	ON/OFF setting of the audio when AF Dual Receive is enabled while APRS function is active.	ON / **OFF**	45
2 APRS DESTINATION	Display of Model Code.	APY03D (cannot be edited)	45
3 APRS FILTER	Selecting filter function.	Mic-E: **ON** / OFF POSITION: **ON** / OFF WEATHER: **ON** / OFF OBJECT: **ON** / OFF ITEM: **ON** / OFF STATUS: **ON** / OFF OTHER: ON / **OFF** ALTNET: ON / **OFF**	45
4 APRS MODEM	Setting the APRS baud rate.	**OFF** / 1200bps / 9600bps	46
5 APRS MSG FLASH	Setting for the strobe flash when there is an incoming message.	MSG: **4 sec** OFF / 2 sec - 60 sec / CONTINUOUS / EVERY 2 s - 10 m GRP: **4 sec** OFF / 2 sec - 60 sec / CONTINUOUS BLN: **4 sec** OFF / 2 sec - 60 sec / CONTINUOUS	46
6 APRS MSG GROUP	Group filter message receive settings.	**G1: ALL✳✳✳✳✳** G2: CQ✳✳✳✳✳✳✳ G3: QST✳✳✳✳✳✳ G4: YAESU✳✳✳✳ G5: --------- B1: BLN✳✳✳✳✳✳ B2: BLN✳ B3: BLN✳	47
7 APRS MSG TXT	Input of standard message text.	1 to 8 ch	47
8 APRS MUTE	Turn on/off the B-band AF muting function when APRS is set.	ON / **OFF**	47
9 APRS POPUP	Setting the type and time of messages to display popup.	The Mic-E, POSITION, WEATHER, OBJECT, ITEM, STATUS, OTHER, MY PACKET, MSG, GRP and BLN settings are as follows. OFF / ALL 2s to ALL 60s / ALL CNT / BND 2s to BND 60s / BNDCNT **ALL10s** The MY MSG, DUP.BCN, DUP.MSG, ACK.REJ, and OTHER MSG settings are as follows. OFF / BND 2s to BND 60s / **BND 10s**	48

Set mode item No./Item	Description of function	Selectable Items (Bold letters: Default)	Reference page
10 APRS RINGER	Setting the bell sound when beacon or message is received.	Mic-E: **ON** / OFF POSITION: **ON** / OFF WEATHER: **ON** / OFF OBJECT: **ON** / OFF ITEM: **ON** / OFF STATUS: **ON** / OFF OTHER: **ON** / OFF MY PACKET: **ON** / OFF MSG: **ON** / OFF GRP: **ON** / OFF BLN: **ON** / OFF MY MSG: **ON** / OFF DUP.BCN: **ON** / OFF DUP.MSG: **ON** / OFF ACK.REJ: **ON** / OFF OTHER MSG: **ON** / OFF TX BCN: **ON** / OFF TX MSG: **ON** / OFF	50
11 APRS UNIT	Setting units of the APRS display.	POSITION: **MM.MM'** / MM'SS" DISTANCE: km / mile SPEED: km/h / knot / mph ALTITUDE: m / ft TEMP: °C / °F RAIN: mm / inch WIND: m/s / mph	51
12 APRS TX DELAY	Setting the data sending delay time.	100ms / 150ms / 200ms / 250ms **300ms** / 400ms / 500ms / 750ms 1000ms	52
13 BEACON INFO	Setting the transmit beacon information.	AMBIGUITY: **OFF** / 1 digit / 2 digit / 3 digit 4 digit SPD / CSE: **ON** / OFF ALTITUDE: **ON** / OFF	52
14 BEACON INTERVAL	Setting the beacon automatic transmit interval.	30 sec / 1 min / 2 min / 3 min / **5 min** / 10 min / 15 min / 20 min / 30 min / 60 min	53
15 BEACON STATUS TEXT	Input setting the status text.	S.TXT: ON / **OFF** TX RATE: **1/1** ~ 1/8 TEXT: **TEXT1** to TEXT5	53
16 BEACON TX	Setting the automatic or manual beacon transmit.	AUTO / **MANUAL** / SMART	54
17 COM PORT SETTING	Setting the COM port.	STATUS: ON / **OFF** SPEED: 4800 / **9600** / 19200 / 38400 INPUT: **OFF** / GPS OUTPUT: **OFF** / GPS / WAY.P WAYPOINT: **NMEA9** / NMEA6 / NMEA7 / NMEA8 Mic-E: **ON** / OFF POSITION: **ON** / OFF WEATHER: **ON** / OFF OBJECT: **ON** / OFF ITEM: **ON** / OFF	54

Set mode item No./Item	Description of function	Selectable Items (Bold letters: Default)	Reference page
18 DIGI PATH	Setting the digipeater route.	P1 (FIXED) OFF P2 (FIXED) 1 WIDE1-1 **P3 (FIXED)** **1 WIDE1-1 / 2 WIDE2-1** P4 (2) 1 ⋯⋯—⋯ / 2⋯⋯—⋯ P5 (2) 1 ⋯⋯—⋯ / 2⋯⋯—⋯ P6 (2) 1 ⋯⋯—⋯ / 2⋯⋯—⋯ P7 (2) 1 ⋯⋯—⋯ / 2⋯⋯—⋯ P8 (8) 1 ⋯⋯—⋯ to 8⋯⋯—⋯	56
19 GPS SETUP	Setting the GPS Function datum.	DATUM:**WGS-84** / Tokyo (Mean) PINNING: **ON** / OFF DGPS: **ON** / OFF	57
20 GPS POWER	Setting the GPS function on/off.	**GPS ON** / GPS OFF	57
21 GPS TIME SET	Setting the GPS time and date automatic acquisition on/off function.	**AUTO** / MANUAL	57
22 GPS UNIT	Setting units of the GPS display.	POSITION: **.MMM'** / 'SS" SPEED: km/h / knot / mph ALTITUDE: m / ft	58
23 CALLSIGN (APRS)	Setting the callsign of your station.	- - - - - - - -	58
24 MY POSITION	Setting the position for your station.	**GPS** / Manual / P1 to P10	58
25 MY SYMBOL	Setting the symbol for your station.	Total of 48 icons including **1(/[Human parson])** / 2(/b Bicycle) / 3(/> Car) / 4(YY Yaesu Radios)	59
26 POSITION COMMENT	Setting the position comment function.	**Off Duty** / En Route In Service / Returning / Committed Special / Priority / Custom 0 to 6 EMERGENCY!	59
27 SmartBeaconing	Setting the smart beaconing function.	STATUS: **OFF** / TYPE1 / TYPE2 / TYPE3 LOW SPD:2 ~ **5** ~ 30 HIGH SPD:6 ~ **70** ~ 90 SLOW RATE: 1 ~ **30** ~ 100 FAST RATE: 10 ~ **120** ~ 180sec TURN ANGL: 5° ~ **28°** ~ 90° TURN SLOP: 1 ~ **26** ~ 255 TURN TIME: 5 ~ **30** ~ 180	59
28 TIME ZONE	Setting the time zone.	UTC −13:00 ~ **UTC 0:00** ~ UTC +13:00	61

APRS Set mode function list

● **1 APRS AF DUAL**
Receive audio for AF Dual Function
Setting Item: ON / OFF
Default: OFF
Explanation: ON/OFF setting to enable the AF Dual function while APRS function is active.

● **2 APRS DESTINATION**
Model Code Display
Setting Item: [APY03D]
Default: [APY03D]
Explanation: Displays the model code. This setting cannot be changed.

● **3 APRS FILTER**
Filter function setting
Setting Item: Mic-E / POSITION / WEATHER / OBJECT / ITEM / STATUS / OTHER / ALTNET
Default: Mic-E: ON
POSITION: ON
WEATHER: ON
OBJECT: ON
ITEM: ON
STATUS: ON
OTHER: OFF
ALTNET: OFF
Explanation: For setting FILTER for obtaining various beacon types.
ON: Obtains beacons
OFF: Does not obtain beacons

Mic-E: Displays the obtained MIC-Encoder beacons
POSITION: Displays the obtained Position of beacons
WEATHER: Displays the obtained Weather beacons
OBJECT: Displays the obtained Object of beacons
ITEM: Displays the obtained item of beacons
STATUS: Displays the obtained Status of beacons
OTHER: Displays the obtained packets other than those used in APRS.
ALTNET: Displays the obtained packets specified by Destination Address in Alternate Nets.

• 4 APRS MODEM

APRS baud rate settings

Setting Item: OFF / 1200bps / 9600bps

Default: OFF

Explanation:

OFF: Turn APRS function [OFF].

1200bps: Sets APRS baud rate to 1200bps.

9600bps: Sets APRS baud rate to 9600bps.

• 5 APRS MSG FLASH

Setting for strobe flash when there is an incoming message.

Setting Item: MSG: OFF / 2 sec - 60 sec / CONTINUOUS / EVERY 2 s - 10 m

GRP: OFF / 2 sec - 60 sec / CONTINUOUS

BLN: OFF / 2 sec - 60 sec / CONTINUOUS

Default: MSG: 4sec. / GRP: 4sec. / BLN: 4sec.

Explanation:

The strobe (white LED) flashes depending on settings in each of the following: [MSG] when a message is received, [GRP] when a group message is received, [BLN] when a bulletin message is received.

Strobe (white LED) flashes continuously when COUNTINUOUS is selected.

If the interval is set as Every 2 sec - Every 10 sec in "MSG", the indicator will blink as follows.:

Every 2 sec - Every 5 sec	1 flash for the set time interval
Every 6 sec - Every 9 sec	2 flashes for the set time interval
Every 10 sec - Every 50 sec	3 flashes for the set time interval
Every 1 min - Every 5 min	4 flashes for the set time interval
Every 6 min - Every 10 min	5 flashes for the set time interval

The strobe (white LED) will not flash if [OFF] is selected.

When Every 2 sec - Every 10 min is selected in "MSG", and a GRP (Group) or BLN (Bulletin) message is received while the light is blinking after receiving a message, the light of the group or bulletin will blink for a while and then the message light will return to blinking at the end of the reception.

• 6 APRS MSG GROUP

Group filter setting for APRS MSG GROUP received messages

Setting Items: A filter can be set for receiving messages with a specified group code (ALL or CQ).

G1: ALL＊＊＊＊＊＊
G2: CQ＊＊＊＊＊＊＊
G3: QST＊＊＊＊＊＊
G4: YAESU＊＊＊＊
G5: ---------
B1: BLN＊＊＊＊＊＊
B2: BLN＊
B3: BLN＊

Default: G1: ALL＊＊＊＊＊＊
G2: CQ＊＊＊＊＊＊＊
G3: QST＊＊＊＊＊＊
G4: YAESU＊＊＊＊
G5: ---------
B1: BLN＊＊＊＊＊＊
B2: BLN＊
B3: BLN＊

Explanation: A filter can be set to receive messages with a specified group code (ALL or CQ)

(ALL, CQ, QST, and YAESU are selected in default settings).

"＊": Acts as a wild card matching any character received.

• 7 APRS MSG TXT

Entering fixed text characters.

Explanation: 8 types of up to 16 character fixed text can be created, and copied to messages on the message edit screen.

• 8 APRS MUTE

Band B AF mute ON/OFF setting when configuring the APRS.

Setting Item: ON / OFF

Default: OFF

Explanation: If Set mode option **[APRS]** → **[4 APRS MODEM]** is set to 1200bps or 9600bps, received sounds can be muted on the B-band when it is set for APRS.

If this is set to [OFF], received audio can be heard in accordance to the volume settings of the APRS band (B-band).

- **9 APRS POPUP**

Setting the popup function for APRS reception

Setting item: Mic-E: OFF / ALL 2 s - ALL 60 s / ALL CNT / BND 2 s to BND 60 s / BND CNT

POSITION: OFF / ALL 2 s - ALL 60 s / ALL CNT / BND 2 s to BND 60 s / BND CNT

WEATHER: OFF / ALL 2 s - ALL 60 s / ALL CNT / BND 2 s to BND 60 s / BND CNT

OBJECT: OFF / ALL 2 s - ALL 60 s / ALL CNT / BND 2 s to BND 60 s / BND CNT

ITEM: OFF / ALL 2 s - ALL 60 s / ALL CNT / BND 2 s to BND 60 s / BND CNT

STATUS: OFF / ALL 2 s - ALL 60 s / ALL CNT / BND 2 s to BND 60 s / BND CNT

OTHER: OFF / ALL 2 s - ALL 60 s / ALL CNT / BND 2 s to BND 60 s / BND CNT

MY PACKET: OFF / ALL 2 s - ALL 60 s / ALL CNT / BND 2 s to BND 60 s / BND CNT

MSG: OFF / ALL 2 s - ALL 60 s / ALL CNT / BND 2 s to BND 60 s / BND CNT

GRP: OFF / ALL 2 s - ALL 60 s / ALL CNT / BND 2 s to BND 60 s / BND CNT

BLN: OFF / ALL 2 s - ALL 60 s / ALL CNT / BND 2 s to BND 60 s / BND CNT

MY MSG: OFF / BND 2 s - BND 60 s

DUP.BCN: OFF / BND 2 s - BND 60 s

DUP.MSG: OFF / BND 2 s - BND 60 s

ACK.REJ: OFF / BND 2 s - BND 60 s

OTHER MSG: OFF / BND 2 s - BND 60 s

[Explanation on Parameters]

ALL 2 s - ALL 60 s: Sets the display time of a popup for 2 to 60 seconds.

ALL CNT: Popup continues to be displayed until a key is operated.

BND 2 s - BND 60 s: Content is displayed in 2 alphabetic characters on the band display section on the screen for 2 to 60 seconds. (page 22).

BND CNT: Content is displayed in 2 alphabetic characters on the band display section on the screen until a key is operated (page 22).

Default: Mic-E: ALL 10 s

POSITION: ALL 10 s

WEATHER: ALL 10 s

OBJECT: ALL 10 s

STATUS: ALL 10 s

OTHER: ALL 10 s

MY PACKET: ALL 10 s

MSG: ALL 10 s

GRP: ALL 10 s

BLN: ALL 10 s

MY MSG: BND 10 s

DUP.BCN: BND 10 s

DUP.MSG: BND 10 s

ACK.REJ: BND 10 s

OTHER MSG: BND 10 s

Explanation:

When an APRS BEACON is received, the content is shown in a POPUP.

This setting is for the method and time the POPUP is displayed.

Mic-E:	Setting for the time a POPUP is displayed when a Mic-Encoder beacon is received.
POSITION:	Setting for the time a POPUP is displayed when a position beacon is received.
WEATHER:	Setting for the time a POPUP is displayed when a weather beacon is received.
OBJECT:	Setting for the time a POPUP is displayed when a object beacon is received.
ITEM:	Setting for the time a POPUP is displayed when a item beacon is received.
STATUS:	Setting for the time a POPUP is displayed when a status beacon is received.
OTHER:	Setting for the time a POPUP is displayed when a beacon other than what is used by APRS is received.
MY PACKET:	Setting for the time a POPUP is displayed when a self transmitted beacon (relay wave) is received.
MSG:	Setting for the time a POPUP is displayed when a new message is received.
GRP:	Setting for the time a POPUP is displayed when a group message is received.
BLN:	Setting for the time a POPUP is displayed when a bulletin message is received.
MY MSG:	Setting for the time a POPUP is displayed when a self transmitted message (relay wave) is received.
DUP BCN:	Setting for the time a POPUP is displayed when a overlapping beacon is received.
DUP MSG:	Setting for the time a POPUP is displayed when a message that has already been received, has been received.
ACK REJ:	Setting for the time a POPUP is displayed when response data of a message sent by your station is received.
OTHER MSG:	Setting for the time a POPUP is displayed when a message addressed to a different destination is received.

- **10 APRS RINGER**

Setting the bell sound when a message or beacon is transmitted/received.

Setting item: Mic-E: ON / OFF
POSITION: ON / OFF
WEATHER: ON / OFF
OBJECT: ON / OFF
ITEM: ON / OFF
STATUS: ON / OFF
OTHER: ON / OFF
MY PACKET: ON / OFF
MSG: ON / OFF
GRP: ON / OFF
BLN: ON / OFF
MY MSG: ON / OFF
DUP.BCN: ON / OFF
DUP.MSG: ON / OFF
ACK.REJ: ON / OFF
OTHER MSG: ON / OFF
TX BCN: ON / OFF
TX MSG: ON / OFF

Default: Mic-E: ON
POSITION: ON
WEATHER: ON
OBJECT: ON
ITEM: ON
STATUS: ON
OTHER: ON
MY PACKET: ON
MSG: ON
GRP: ON
BLN: ON
MY MSG: ON
DUP.BCN: ON
DUP.MSG: ON
ACK.REJ: ON
OTHER MSG: ON
TX BCN: ON
TX MSG: ON

Explanation:

Set the bell sound for transmit/receive of APRS beacons and messages and the conditions for when it rings.

Mic-E: Setting the sound of the bell that rings when a Mic-Encoder beacon is received.

POSITION: Setting for the sound of the bell that rings when a position beacon is received.

WEATHER:	Setting for the sound of the bell that rings when a weather beacon is received.
OBJECT:	Setting for the sound of the bell that rings when a object beacon is received.
ITEM:	Setting for the sound of the bell that rings when an item beacon is received.
STATUS:	Setting for the sound of the bell that rings when a status beacon is received.
OTHER:	Setting for the sound of the bell that rings when a beacon other than what is used by APRS is received.
MY PACKET:	Setting for the sound of the bell that rings when a when a self transmitted beacon (relay wave) is received.
MSG:	Setting for the sound of the bell that rings when a new message is received.
GRP:	Setting for the sound of the bell that rings when a group message is received.
BLN:	Setting for the sound of the bell that rings when a bulletin message is received.
MY MSG:	Setting for the sound of the bell that rings when a self transmitted message (relay wave) is received.
DUP BCN:	Setting for the sound of the bell that rings when a overlapping beacon is received.
DUP MSG:	Setting for the sound of the bell that rings when a message that has already has been received is received again.
ACK REJ:	Setting for the sound of the bell that rings when response data (ACK, REJ) of a message sent by your station is received.
OTHER MSG:	Setting for the sound of the bell that rings when a message addressed to another destination is received.
TX BCN:	Setting for the sound of the bell that rings when a beacon is being sent from your station.
TX MSG:	Setting for the sound of the bell that rings when a message is being sent from your station.

● **11 APRS UNIT**
Unit setting for APRS display.
Setting item: Position: MM.MM' / MM'SS"

                 Distance: km / mile

                 Speed: km/h / knot / mph

                 Altitude: m / ft

                 Temp: °C / °F

                 Rain: mm / inch

                 Wind: m/s / mph

Default: Depends on the transceiver version.
Explanation:
Set the measurement unit for Latitude/Longitude (Position), Distance, Speed, Altitude, Temperature (Temp), Precipitation (Rain), and Wind Speed (Wind).
Position: Unit display of minute of Longitude/Latitude (DD° MM.MM') can be changed. MM' is displayed in 1/100 minute and SS" in seconds.
Distance: Unit can be set to [km] or [mile].

Speed: Unit can be set to [km] or [mile].
Altitude: Unit can be set to [m] or [feet].
Temp: Units can be set to [°C] or [°F].
Rain: Unit can be set to [mm] or [inch].
Wind: Unit can be set to [m/s] or [mph].

● **12 APRS TXDELAY**
Set the data sending delay time.
Setting item: 100ms / 150ms / 200ms / 250ms / 300ms / 400ms / 500ms / 750ms / 1000ms
Default: 300ms
Explanation: The preamble (data transmission delay time), shown right, for when transmitting APRS data can be set.

APRS beacon transmission content
Start Transmission   End Transmission

Preamble   APRS Data
(data transmission delay time)
(Default: 300ms)

Hours
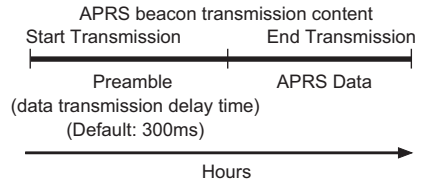
● **13 BEACON INFO**
Setting the transmit beacon information
Setting item: AMBIGUITY: OFF / 1digi / 2digi / 3digi / 4digi
SPD/CSE: ON / OFF
ALTITUDE: ON / OFF
Default: AMBIGUITY: OFF
SPD/CSE: ON
ALTITUDE: ON
Explanation:
AMBIGUITY: This function is for masking lower denominations of your position (longitude, latitude) to disambiguate the position of your station.
Setting this function to [OFF] disables disambiguation and transmits the precise position information of your station.

OFF	1digi	2digi	3digi	4digi
35°38.17'	35°38.1☐	35°38.☐☐	35°3☐.☐☐	35°☐☐.☐☐
139°42.33'	139°42.3☐	139°42.☐☐	139°4☐.☐☐	139°☐☐.☐☐

SPD/CSE: If function is set to [ON], speed and directional information is
(SPEED/COURSE) transmitted. If this function is set to [OFF], speed and directional
                information is not be transmitted.
ALTITUDE: If this function is set to [ON], altitude information is transmitted.
                If this function is set to [OFF], altitude information is not transmitted.

• 14 BEACON INTERVAL

Automatic transmit interval settings for beacon

Setting item: 30 sec / 1 min / 2 min / 3 min / 5 min / 10 min / 15 min / 20 min / 30 min / 60 min

Default: 5 minutes

Explanation:

Set the automatic transmit interval for transmission of APRS beacons.

• Set the Set mode option **[APRS] → [16 BEACON TX]** to [AUTO]. The timer for transmission is reset when the automatic transmit interval is set.

From this point, the count for interval time begins, and the initial beacon is automatically transmitted when the specified time is reached.

• If squelch is active when the interval for automatic beacon transmission is reached, the transmission is stopped.

The beacon is transmitted when squelch is deactivated.

• If SMART is selected in **[APRS] → [16 BEACON TX]**, the setting for BEACON INTERVAL is ignored.

• 15 BEACON STATUS TXT

Entering status text

Setting Item: S.TXT: ON / OFF

                    TX RATE: 1/1 1/2 1/3 1/4 1/5 1/6 1/7 1/8
                    TEXT1:   (Not entered)
                    TEXT2:   (Not entered)
                    TEXT3:   (Not entered)
                    TEXT4:   (Not entered)
                    TEXT5:   (Not entered)
                    * Up to 60 characters can be entered for status text into TEXT1 to TEXT5.

Default: S.TXT: OFF

                TX RATE: 1/1
                TEXT1:   Text not entered.

Explanation:

S.TXT: Select the status text to send when transmitting a beacon.

                Selecting OFF transmits the beacon without a status text.

TX RATE: Set how frequent a status text is sent with a APRS beacon. Select from 1/1: every time, 1/2: 2 once every 2 transmissions, to up to 1/8: once every 8 transmissions, a status text is sent with a beacon.

• 16 BEACON TX

Set the automatic beacon transmit interval.
Setting Item: MANUAL / AUTO ◉ / SMART ○
Default: MANUAL
Explanation:
Set the method the APRS BEACON is automatically transmitted.
You can also change the transmission method by touching ⊞ in the APRS MESSAGE LIST or APRS STATION LIST screen and then touching the appropriate **[BEACON]**.

MANUAL: Touch **[F MW]** followed by **[BCN-TX]** to transmit the APRS BEACON.
Touch ⊞ in the APRS STATION LIST screen followed by the **[BEACON TX]** to transmit.

◉AUTO: An APRS BEACON of your station is transmitted automatically according to BEACON INTERVAL settings.

○SMART: A BEACON is automatically transmitted using the SmartBeaconing™ function. This setting can only be selected if: STATUS setting in **[APRS]** → **[27 SmartBeaconing]** is set between Type 1 and Type 3, and **[APRS]** → **[24 MY POSITION]** is set to GPS.

• 17 COM PORT SETTING

COM Port setting
Setting Item: STATUS: ON / OFF
SPEED: 4800 / 9600 / 19200 / 38400
INPUT: OFF / GPS
OUTPUT: OFF / GPS / WAY.P
WAYPOINT: NMEA9 / NMEA6 / NMEA7 / NMEA8
Mic-E: ON / OFF
POSIT: ON / OFF
WEATHER: ON / OFF
OBJECT: ON / OFF
ITEM: ON / OFF
Default: STATUS: OFF
SPEED: 9600
INPUT: OFF
OUTPUT: OFF
WAYPOINT: NMEA9
Mic-E: ON
POSIT: ON
WEATHER: ON
OBJECT: ON
ITEM: ON
Explanation:
STATUS: OFF: Set to OFF when data terminal is not in use.
ON: Set to ON when using data terminal.
Various setting items are added when ON is selected.
SPEED: Set the communication speed for the data terminal.

INPUT: OFF: Deactivate the input function of the data terminal (negate function).

GPS: GPS data is obtained by connecting a commercially sold external GPS device instead of the internal GPS function in this transceiver.

In this setting, information obtained from the internal GPS function is negated.

> **Tip** • If an external GPS device is connected to the data terminal, the time display on the GPS screen appears as shown below.
> aa (hour): bb (minute)
> • The GPS function in this transceiver uses data in $GPRMC in NMEA-0183 format and $GPGGA data.
> In order to use an external GPS device, the device must be able to output data of this type.
> • When using an external GPS device, setting the Set mode option **[APRS]** → **[20 GPS POWER]** to OFF will deactivate the internal GPS function and reduce battery consumption.

OUTPUT: OFF: Deactivate the input function of the data terminal (negate function).

GPS: Output GPS data ($GPRMC in NMEA-0183 format or $GPGGA data) obtained by this transceiver.

WAY.P: Output position information from APRS PACKET received from a BEACON received from another station as WAYPOINT data ($GPWPL in NMEA-0183 format).

WAYPOINT: Set the number of digits for CALLSIGN information of APRS BEACON stations, attached to various data, when WAYPOINT is selected for OUTPUT.

NMEA6: CALLSIGN is restricted to 6 digits to the right (example: if JQ1YBG-14 is received, CALLSIGN information appears as [YBG-14]).

NMEA7: CALLSIGN is restricted to 7 digits to the right (example: if JQ1YBG-14 is received, CALLSIGN information appears as [1YBG-14]).

NMEA8: CALLSIGN is restricted to 8 digits to the right (example: if JQ1YBG-14 is received, CALLSIGN information appears as [Q1YBG-14]).

NMEA9: CALLSIGN is restricted to 9 digits to the right (example: if JQ1YBG-14 is received, CALLSIGN information appears as [JQ1YBG-14]).

Mic-E: ON: Mic-E BEACON information (BEACON displayed as [**E**] on LIST) is output with WAPOINT data.

OFF: Mic-E BEACON information is not output when set to OFF.

POSIT: ON: POSITION BEACON information (BEACON displayed as [**P**] or [**p**] on LIST) is output with WAPOINT data.

OFF: POSITION BEACON information is not output when set to OFF.

WEATHER: ON: WEATHER BEACON information (BEACON displayed as [**W**] or [**w**] on LIST) is output with WAPOINT data.

OFF: WEATHER BEACON information is not output when set to OFF.

> **Tip** Because a Positionless type WEATHER BEACON does not have position information, it does not output WAYPOINT DATA.

OBJECT: ON: OBJECT BEACON information (BEACON displayed as [**O**] or [**o**] on LIST) is output with WAPOINT data.

OFF: POSITION BEACON information is not output when set to OFF.

ITEM: ON: ITEM BEACON information (BEACON displayed as [**I**] or [**i**] on LIST)
                    is output with WAPOINT data.
             OFF: ITEM BEACON information is not output when set to OFF.

Tip
If you are to connect the transceiver with a PC using CT-169, the following settings must be applied
on the PC.
DATA SPEED: 9600bps (the SPEED setting of this transceiver and a PC must correspond).
DATA LENGTH: 8bit
Parity Bit: None
Stop Bit: 1bit

- **18 DIGI PATH**

Setting the digipeater route.

Setting item: P1   OFF
              P2:   WIDE1-1 (fixed value)
              P3:   WIDE1-1, WIDE2-1 (fixed value)
              P4 to P7: Up to 2 addresses can be entered arbitrarily.
              P8:   Up to 8 addresses can be entered arbitrarily.

Default: P3: FWIDE1-1 AWIDE2-1 (fixed value)

Explanation:

A station that relays packets, such as beacons, is called a digipeater.

Select a CALLSIGN or ALIAS of the digipeater you would like to use.

In this transceiver, [WIDE1-1] (setting for 1 relay station) and [WIDE1-1/WIDE2-1] (setting
for 2 relay stations) is the default.

In [WIDE1-1, WIDE2-1], a transmission is relayed to the first digipeater station specified
as WIDE1-1, then to the second digipeater station specified as WIDE2-1.

In the USA, digipeater stations used by APRS are customarily operated using *New-
Paradigm.

The initial values set to this transceiver are premised for digipeater stations operating with
New- Paradigm, because most digipeater stations support this method.

In order to use other relay methods, select one of P4 to P8 and enter the CALLSIGN or
ALIAS.

* For information on the New-Paradigm method, refer to the following website for details.

  http://aprs.org/fix14439.html

- **19 GPS SETUP**
Setting the GPS Function datum.
Setting Item: DATUM: WGS-84 / Tokyo (Mean)
                         PINNING: ON / OFF
                         DGPS: ON / OFF
Default: DATUM: WGS-84
               PINNING: ON
               DGPS: ON
Explanation:
Select the positioning item of the GPS function.
DATUM: WGS-84:   Use WGS-84 as the positioning system. WGS-84 is a global
                                    positioning system constructed and maintained by the US.
               TOKYO (Mean): A Japanese positioning system is used as the positioning
                                    system.
               * Because APRS uses the DATUM of WGS-88, this setting is not changed
                 under normal circumstances.
PINNING: ON: The latitude and longitude data is fixed when the movement speed of this
                       device is 0.
               OFF: The latitude and longitude are constantly calculated when the movement
                       speed of this device is 0.
DGPS: ON: Correction data is used from a geostationary satellite to improve the
                       accuracy.
               OFF: Correction data from geostationary satellites is not used.

- **20 GPS POWER**
ON/OFF setting for the GPS function.
Setting Item: GPS ON / GPS OFF
Default: GPS ON
Explanation: Turn the GPS function ON or OFF.

- **21 GPS TIME SET**
ON/OFF of the GPS time and date automatic acquisition function.
Setting Item: AUTO / MANUAL
Default: AUTO
Explanation:
AUTO: Time data for the internal clock is automatically obtained from the GPS
               function.
MANUAL: GPS time data is not used, and time set manually to the internal clock of this
               transceiver is prioritized.

• 22 GPS UNIT
Unit setting for the GPS display.
Setting item:
Position: .MMM' / 'SS"
Speed: km/h / knot / mph
Altitude: m / ft
Default: Depends on the transceiver version.
Explanation:
Set the measurement unit for Altitude, Speed, Longitude and Latitude (Position).
Position: Unit for Longitude/Latitude can be changed.
MMM is 1/000 minute format. If MMM is SS, unit appear as minute-second format.
Speed: Unit can be set to [km/h], [mph], or [knot].
Altitude: Unit can be set to [m] or [feet].

• 23 CALLSIGN (APRS)
Specify the CALLSIGN of your station.
Explanation:
Register the CALLSIGN of your station which is needed for APRS communication.
APRS data cannot be transmitted if a CALLSIGN for your station is not registered.
Be sure to register a CALLSIGN.
When a CALLSIGN is registered to your station, it is displayed on the LCD when the power of this transceiver is turned on.
Register a CALLSIGN as shown below.
✶✶✶✶✶✶ – NN
✶: CALLSIGN (Up to 6 characters)
NN: Number (a number between 1 to 15, or no SSID.)
Entering [–7] after the CALLSIGN is recommended in standard mobile use.

• 24 MY POSITION
Setting the station position.
Setting Item: GPS / Manual / P1 to P10
Default: GPS
Explanation:
Set whether position information for your station is obtained via GPS, or manually entered.
GPS: Acquire the position of your station automatically via GPS.
Manual: Manually set the position of your station.
P1 to P10: Position information of radio stations, acquired via GPS, can be saved in 10 memories (P1 to P10).
Registered position information can be transmitted as data for the current position of your station with the APRS BEACON.

1 Obtain the position information via GPS.
2 Press the **[DISP]** key for one second or longer.
The Set Mode Menu will appear.

3 Touch **[APRS]**.

4 Turn the DIAL to select **[24 MY POSITION]** and touch it on the display.

5 Turn the DIAL to select the memory to register.

Select a memory channel from P1 to P10, to register the position information.

6 Press the **[DISP]** key.

7 Touch **[P.WRITE].** The position information is registered to the selected memory channel.

⚠ **In standard operation of APRS, the position of your station is automatically acquired via GPS.**
Other than when a GPS antenna unit is connected to your station, be sure to have the setting as "GPS".

● **25 MY SYMBOL**

Symbol setting for your station

Setting Item: Symbol

Default: 1: Human/Person (🚶)

2: Bicycle (🚲)

3: Car (🚗)

4: Yaesu Radios (📻)

Explanation: Set the symbol for your station to transmit.

Select your symbol from 48 types.

● **26 POSITION COMMENT**

Set up the position comment function.

Setting Item: Off Duty / En Route / In Service / Returning / Committed / Special / Priority/ Custom 0 / Custom 1 / Custom 2 / Custom 3 / Custom 4 / Custom 5 / Custom 6 / Emergency!

Default: Off Duty

Explanation: Select the position comment (standard message) incorporated into beacons of your station.

⚠ **Unless there is a serious emergency, such as an accident or natural disaster, do not select [EMERGENCY!].**

● **27 SmartBeaconing**

Settings for SmartBeaconing

Setting Item: STATUS: OFF / TYPE1 / TYPE2 / TYPE3

LOW SPD: 2 to 30

HIGH SPD: 6 to 90

SLOW RATE: 1min to 100min

FAST RATE: 10sec to 180sec

TURN ANGL: 5° to 90°

TURN SLOP: 1 to 255

TURN TIME: 5sec to 180sec

Default: STATUS: OFF

STATUS	TYPE1	TYPE2	TYPE3
LOW SPD	5	3	2
HIGH SPD	70	30	12
SLOW RATE	30min	30min	30min
FAST RATE	120sec	120sec	120sec
TURN ANGL	28°	28°	28°
TURN SLOP	26	11	7
TURN TIME	30sec	30sec	30sec

Explanation:

SmartBeaconing™ is a function that efficiently transmits an APRS beacon including your own station position, speed and direction of travel. The information is based on data from a GPS satellite receiver unit.

Set STATUS to TYPE1, TYPE2 or TYPE3; set **[APRS]** → **[24 MY POSITION]** to GPS; and set **[APRS]** → **[16 BEACON TX]** to [SMART ○] to activate the SmartBeaconing™ function. (Operation is also possible by touching 📧 in the APRS MESSAGE LIST or APRS STATION LIST screen and then touching the **[BEACON]**).

If "○" appears on the top-right corner of the APRS STATION LIST screen, SmartBeaconing™ is in operation.

STATUS: SmartBeaconing™ only operates when STATUS is set to TYPE1, TYPE2, or TYPE3.

Set STATUS to OFF to deactivate SmartBeacon™.

The SmartBeaconing function on this transceiver has 3 different settings (TYPE 1 to TYPE 3) and has preset initial values postulated to be used in the following operation.

TYPE1: High speed movement, such as by vehicle.
TYPE2: Medium speed movement, such as by bicycle.
TYPE3: Low speed movement, such as by walking.

TYPE 2 and TYPE 3 settings (particularly TYPE 3) transmits many beacons in a short period of time even if in comparatively slow movement.

Because of this, using these setting during high speed movement, such as by vehicle, causes many beacons being transmitted and may cause a frequency jam.

Be sure to have settings on TYPE1 when in high speed movement.

LOW SPD: If speed is lower than which is set, BEACONs are transmitted in time intervals set in [SLOW RATE].

The units for speed can be set in Set mode option **[APRS]** → **[11 APRS UNIT]**.

HIGH SPD: If speed is higher than which is set, BEACONs are transmitted in time intervals set in [FAST RATE].

The units for speed can be set in Set mode option **[APRS]** → **[11 APRS UNIT]**.

SLOW RATE: BEACON transmission time interval when speed decreases below the [LOW SPD] setting.

60

FAST RATE: BEACON transmission time interval when speed increases above the [HIGH SPD] setting.

TURN ANGL: Set the minimal value of changes in angle when the direction of movement changes.

TURN SLOP: Set the coefficient for automatically altering the angle that judges changes in the direction of movement according to speed.

The higher the coefficient value setting, the greater the judgment angle is when moving at slow speeds.

1 to 255 (X10)°/SPEED

(If the real number for units of rotating tilt is set to 1/10, this is the same as the unit setting used in HamHUD Nichetronix, LLC series transceivers.)

TURN TIME: Set the time limit until the next BEACON can be transmitted, after a BEACON is transmitted upon detection of a change in time (Variable Rate Beaconing) or direction (Corner Pegging).

Caution

If SmartBeaconing™ is to be operated at different timings, the parameters of settings TYPE1 to TYPE3 can be changed.

When changing parameters, be sure to adjust parameters of SmartBeaconing and DIGI PATH settings for appropriate beacon transmission intervals to avoid communications channel congestion.

● **28 TIME ZONE**

Set the time zone.

Setting Item: ± 13.0 hours

Default: UTC 0:00 hours

Explanation:

The time zone can be set in units of 30 minutes.

Time data from the GPS function is transmitted in Coordinated Universal Time (UTC).

The time difference from UTC varies depending on the country or region. When using the transceiver in other countries or regions such as when traveling, modify the settings.

YAESU
The radio

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