

## Copying the Radio Data to another Transceiver

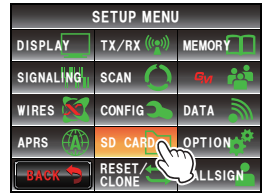
The memory channels and settings in the set-up menu can be copied to another FTM-400XDR/DE. This is convenient when matching the settings of fellow stations that you communicate with frequently.

### Using the micro-SD card

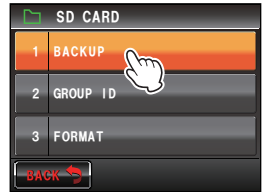
The data files saved in the FTM-400XDR/DE can be selected and copied to a micro-SD card.

#### Copying data to a micro-SD card

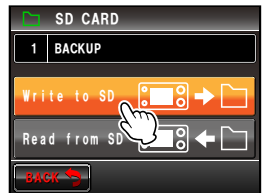
- 1 Insert the micro-SD card into the main body card slot
- 2 Press **[MSP CARD]** for one second or longer  
 The set-up menu will be displayed.
- 3 Touch **[SD CARD]**  
 The menu list will be displayed.



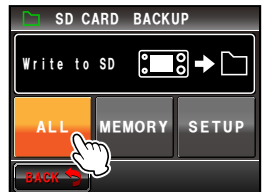
- 4 Select and touch **[1 BACKUP]**  
 The screen for selecting the copy direction will be displayed.



- 5 Touch **[Write to SD]**  
 The screen for selecting the data files to be copied will be displayed.  
 “ALL”: Copies all data.  
 “MEMORY”: Copies only the memory channels and position information for backtrack use.  
 “SETUP”: Copies only the settings in the set-up menu.



- 6 Select and touch the file to be copied  
 The confirmation screen will be displayed.

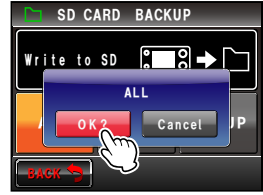


Functions to be Used when Necessary

## Copying the Radio Data to another Transceiver

### 7 Touch [OK?]

The data selected in Step 6 will be copied to the micro-SD card.  
 “Completed” will be displayed when the copying is completed.

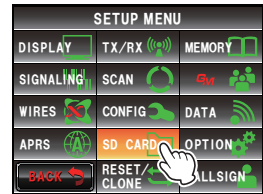


### 8 Press [DISP/GRAPH]

The display will return to the previous screen.

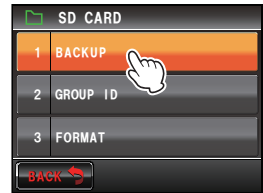
## Copying data from the micro-SD card

- 1 Insert the micro-SD card into the FTM-400XDR/DE where the data is stored and copy the data to the card
- 2 Remove the micro-SD card and insert it into the FTM-400XDR/DE that the data is going to be copied to
- 3 Press [DISP/GRAPH] for one second or longer  
 The set-up menu will be displayed.
- 4 Touch [SD CARD]  
 The menu list will be displayed.



### 5 Select and touch [1 BACKUP]

The screen for selecting the copy direction will be displayed.



### 6 Touch [Read from SD]

The screen for selecting the data files to be copied will be displayed.

“ALL”: Copies all data.

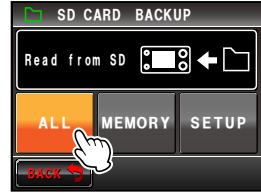
“MEMORY”: Copies only the memory channels and position information for backtrack use.

“SETUP”: Copies only the settings in the set-up menu.

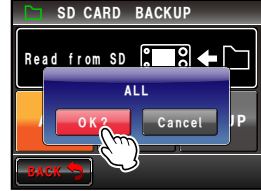


## Copying the Radio Data to another Transceiver

- 7 Select and touch the data to be copied  
 The confirmation screen will be displayed.  
**Tip** Data that has not been saved in the micro-SD card cannot be touched.



- 8 Touch [OK?]  
 The data selected in Step 7 will be copied to the micro-SD card.  
 “Completed” will be displayed when the copying is completed.



- 9 Press **[DISP/SEND]** for one second or longer  
 The display will return to the previous screen.

### Tip

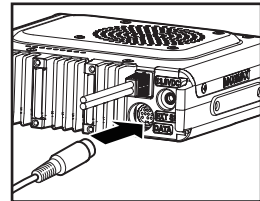
The group and member information saved in the memory using the GM function can be copied using the micro-SD card. Refer to the separate Operating Manual GM Edition for details (download the manual from the YAESU website).

## Using the clone function

Using the clone function, all the data saved in the radio can be copied directly to another FTM-400XDR/DE.

### Example: When using the clone function in two FTM-400XDR/DEs

- 1 Turn both FTM-400XDR/DEs OFF
- 2 Plug in the optional clone cable “CT-166” into the respective [DATA] jacks at the back of the main bodies
- 3 Turn both FTM-400XDR/DEs ON
- 4 Press **[DISP/SEND]** for one second or longer  
 The set-up menu will be displayed.

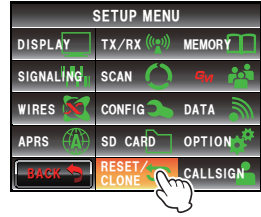


Functions to be Used when Necessary

## Copying the Radio Data to another Transceiver

### 5 Touch [RESET/CLONE]

The menu list will be displayed.



### 6 Select and touch [7 CLONE]

The screen for selecting the copy direction will be displayed.



### 7 Select and touch [This radio → other] in the FTM-400XDR/DE where the data is going to be copied from

The confirmation screen will be displayed.



### 8 Select and touch [Other → This radio] in the FTM-400XDR/DE where the data is going to be copied to

The confirmation screen will be displayed.

### 9 Touch [OK?]

The data will be copied.

“Completed” will be displayed when the copying is completed.



### 10 Press for one second or longer

The display will return to the previous screen.

### 11 Switch OFF both of the FTM-400XDR/DEs and disconnect the clone cable

## Cautions

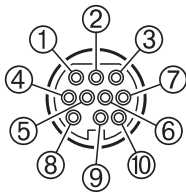
- When “ERROR” is displayed during the copy (clone) operation, check the connection of the clone cable and start the clone operation all again.
- When the operation is terminated before completion due to loss of power during the copy (clone) operation, the FTM-400XDR/DE where the data is being copied to will automatically be reset. Check if there is any abnormality in the power supply and start the cloning operation over again

## Using the Radio with an External Device Connected

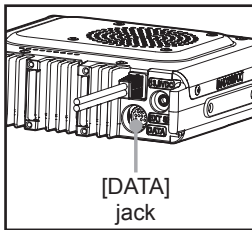
The provided PC connection cable “SCU-20” and other optional cables can be used to connect the radio to a personal computer as a COM port for the following operations.

- Transmitting your own station position information to the personal computer for incorporation into the map software
- Updating the firmware of the radio
- Packet communication

Use the [DATA] jack at the back of the main body to connect with the personal computer. The pin assignment of the [DATA] jack is as follows.



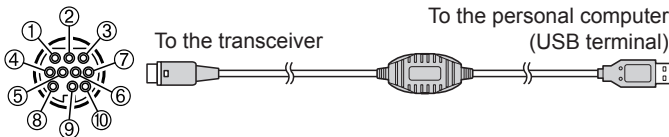
- ① PKD (packet data input) (300 mVp-p)
- ② GND
- ③ PSK (PTT)
- ④ RX 9600 (9600 bps packet data output)
- ⑤ RX 1200 (1200 bps packet data output) (300 mVp-p)
- ⑥ PK SQL (squelch control)
- ⑦ TXD (serial data output [transceiver → PC])
- ⑧ RXD (serial data input [transceiver ← PC])
- ⑨ CTS (data communication control)
- ⑩ RTS (data communication control)



## Connecting to a personal computer

### ● Preparations

- Personal computer
- PC connection cable “SCU-20” (accessories)... when connecting to the USB terminal of a personal computer

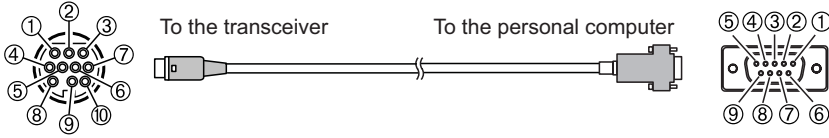


- ① PKD (packet data input)
- ② GND
- ③ PSK (PTT)
- ④ RX 9600 (9600 bps packet data output)
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- ⑨ CTS (data communication control)
- ⑩ RTS (data communication control)

Functions to be Used when Necessary

## Using the Radio with an External Device Connected

- Data cable “CT-165” (optional)... when connecting to the RS-232C terminal of a personal computer



- ① -
- ② GND
- ③ -
- ④ -
- ⑤ -
- ⑥ -
- ⑦ TXD (serial data output [transceiver → PC])
- ⑧ RXD (serial data input [transceiver ← PC])
- ⑨ CTS (data communication control)
- ⑩ RTS (data communication control)

- ① -
- ② TXD (serial data output [transceiver → PC])
- ③ RXD (serial data input [transceiver ← PC])
- ④ -
- ⑤ GND
- ⑥ -
- ⑦ CTS (data communication control)
- ⑧ RTS (data communication control)
- ⑨ -

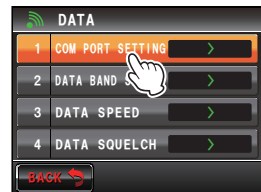
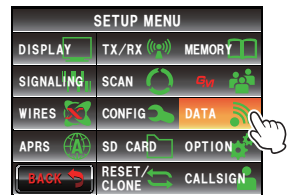
### Tips

- Make sure to switch off the power to the radio first before connecting.
- When using the PC connection cable “SCU-20”, a dedicated driver needs to be installed in the personal computer. Download and use the driver and installation manual from the YAESU website.

Functions to be Used when Necessary

## Sending position information to the computer

- Turn the radio ON
- Press **[DSP]** for one second or longer  
The set-up menu will be displayed.
- Touch **[DATA]**  
The menu list will be displayed.
- Select and touch **[1 COM PORT SETTING]**  
The screen for the detailed settings will be displayed.

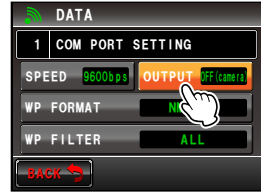


## Using the Radio with an External Device Connected

- 5** Touch **[OUTPUT]** to select “GPS OUT”  
 The setting changes as follows each time it is touched.  
 “OFF(camera)” → “GPS OUT” → “PACKET” → “WAYPOINT”

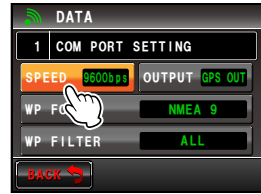
**Tip** Factory default value: OFF (camera)

**Caution** The snapshot function of the speaker microphone with camera will be inactivated when this is set to “OFF (camera)”.



- 6** Touch **[SPEED]** to select the communication speed of the COM port  
 The setting changes as follows each time it is touched.  
 “4800 bps” → “9600 bps” → “19200 bps” → “38400 bps” → “57600 bps”

**Tip** Factory default value: 9600 bps



- 7** Press **[DISP/SEND]** for one second or longer  
 The display will return to the previous screen.  
 The output of the position information data will start, and your own position information will be transmitted to the personal computer at intervals of about a second.

**Tip** An operating software using NMEA-0183 standard GGA and RMC sentence is required to use the position information.

### **Updating the firmware of the radio**

The firmware of the radio can be updated by connecting to a personal computer when Updated firmware is available.. Download and use the updated version of the firmware and the update manual from the YAESU website.

Functions to be Used when Necessary

## Using the Radio with an External Device Connected

### Using the radio as a transceiver for packet communication

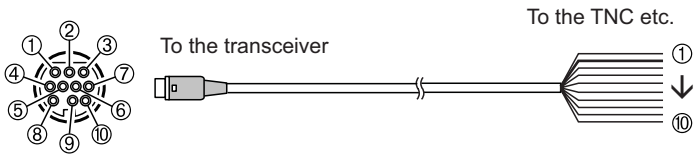
Packet communication via this radio is possible by connecting this radio to the TNC (terminal node controller).

#### ● Preparations

- TNC
- Personal computer
- Data cable\* ... Prepare a data cable to match the connecting device

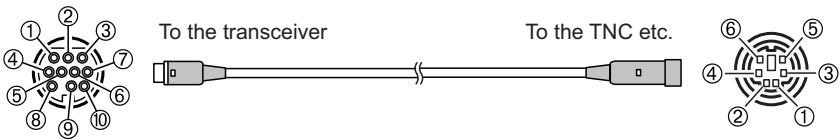
\* We supply the following optional products.

- Data cable “CT-167” (optional)



- |   |                    |   |
|---|--------------------|---|
| ① PKD (packet data input)                     | ① Brown            | PKD (packet data input)                     |
| ② GND   | ② Black thick wire | GND   |
| ③ PSK (PTT)                                   | ③ Red              | PSK (PTT)                                   |
| ④ RX 9600 (9600 bps packet data output)       | ④ Orange           | RX 9600 (9600 bps packet data output)       |
| ⑤ RX 1200 (1200 bps packet data output)       | ⑤ Yellow           | RX 1200 (1200 bps packet data output)       |
| ⑥ PK SQL (squelch control)                    | ⑥ Green            | PK SQL (squelch control)                    |
| ⑦ TXD (serial data output [transceiver → PC]) | ⑦ Blue             | TXD (serial data output [transceiver → PC]) |
| ⑧ RXD (serial data input [transceiver ← PC])  | ⑧ Grey             | RXD (serial data input [transceiver ← PC])  |
| ⑨ CTS (data communication control)            | ⑨ White            | CTS (data communication control)            |
| ⑩ RTS (data communication control)            | ⑩ Black            | RTS (data communication control)            |

- Data cable “CT-164” (optional)



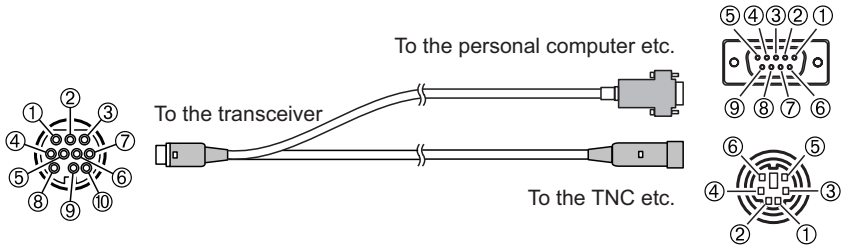
- |   |   |
|---|---|
| ① PKD (packet data input)               | ① PKD (packet data input)               |
| ② GND                                   | ② GND                                   |
| ③ PSK (PTT)                             | ③ PSK (PTT)                             |
| ④ RX 9600 (9600 bps packet data output) | ④ RX 9600 (9600 bps packet data output) |
| ⑤ RX 1200 (1200 bps packet data output) | ⑤ RX 1200 (1200 bps packet data output) |
| ⑥ PK SQL (squelch control)              | ⑥ PK SQL (squelch control)              |
| ⑦ -                                     |   |
| ⑧ -                                     |   |
| ⑨ -                                     |   |
| ⑩ -                                     |   |

Functions to be Used when Necessary



## Using the Radio with an External Device Connected

- Data cable “CT-163” (optional)



- ① PKD (packet data input)
- ② GND
- ③ PSK (PTT)
- ④ RX 9600 (9600 bps packet data output)
- ⑤ RX 1200 (1200 bps packet data output)
- ⑥ PK SQL (squelch control)
- ⑦ TXD (serial data output [transceiver → PC])
- ⑧ RXD (serial data input [transceiver ← PC])
- ⑨ CTS (data communication control)
- ⑩ RTS (data communication control)

### Dsub 9 pin

- ① -
- ② TXD (serial data output [transceiver → PC])
- ③ RXD (serial data input [transceiver ← PC])
- ④ -
- ⑤ GND
- ⑥ -
- ⑦ CTS (data communication control)
- ⑧ RTS (data communication control)
- ⑨ -

### DIN 6 pin

- ① PKD (packet data input)
- ② GND
- ③ PSK (PTT)
- ④ RX 9600 (9600 bps packet data output)
- ⑤ RX 1200 (1200 bps packet data output)
- ⑥ PK SQL (squelch control)

### Tips

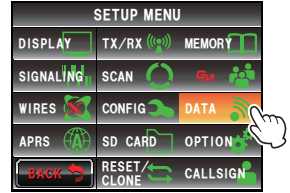
- Make sure to turn the power to the radio OFF before connecting.
- Refer to the operating manual of the TNC used on how to connect the TNC to a personal computer.
- RF receive interference may occur because of noise occurring in the personal computer.  
 When signals cannot be received normally, keep the personal computer at a distance away from the radio and use a photo-coupler and noise filter to connect.

Functions to be Used when Necessary

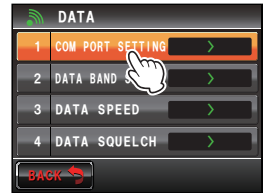
## Using the Radio with an External Device Connected

### ● Set the packet communication operation

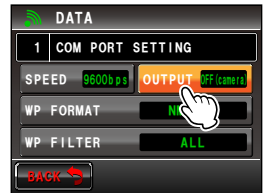
- 1 Turn the radio ON
- 2 Press **[DMSF/DMRP]** for one second or longer  
 The set-up menu will be displayed.
- 3 Touch **[DATA]**  
 The menu list will be displayed.



- 4 Select and touch **[1 COM PORT SETTING]**  
 The screen for the detailed settings will be displayed.



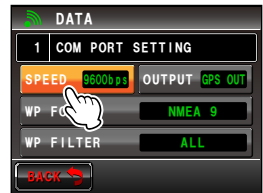
- 5 Touch **[OUTPUT]** to select "PACKET"  
 The setting changes as follows each time it is touched.  
 "OFF(camera)" → "GPS OUT" → "PACKET" → "WAYPOINT"



**Tip** Factory default value: OFF (camera)

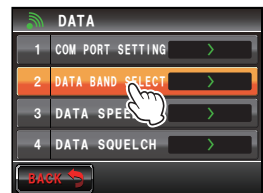
**Caution** The snapshot function of the speaker microphone with camera will be inactivated when this is set to "OFF (camera)".

- 6 Touch **[SPEED]** to select the communication speed of the COM port  
 The setting changes as follows each time it is touched.  
 "4800 bps" → "9600 bps" → "19200 bps" → "38400 bps" → "57600 bps"



**Tip** Factory default value: 9600 bps

- 7 Touch **[BACK]**
- 8 Select and touch **[2 DATA BAND SELECT]**  
 The screen for the detailed settings will be displayed.



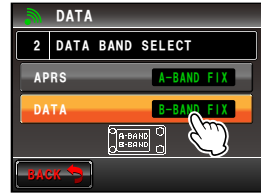
## Using the Radio with an External Device Connected

**9** Touch **[DATA]** to select the band to be used for the packet communication

The setting changes as follows each time it is touched.

“A-BAND FIX” → “B-BAND FIX” → “A=TX/B=RX” → “A=RX/B=TX” → “MAIN BAND” → “SUB BAND”

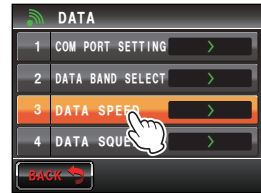
- Tip**
- Refer to “Data communication settings” (P.193) for details.
  - Factory default value: B-BAND FIX



**10** Touch **[BACK]**

**11** Select and touch **[3 DATA SPEED]**

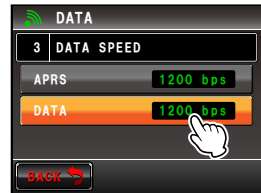
The screen for the detailed settings will be displayed.



**12** Touch **[DATA]** to select the packet communication speed

The setting will switch between “1200 bps” and “9600 bps” each time it is touched.

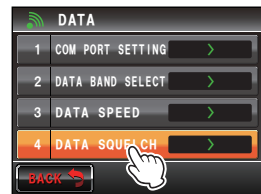
- Tip** Factory default value: 1200 bps



**13** Touch **[BACK]**

**14** Select and touch **[4 DATA SQUELCH]**

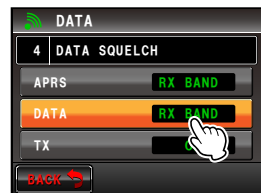
The screen for the detailed settings will be displayed.



**15** Touch **[DATA]** to select the squelch detection method for the packet communication



The setting switches between “RX BAND” and “TX/RX BAND” each time it is touched.

- Tip**
- Refer to “Data communication settings” (P.193) for details.
  - Factory default value: RX BAND



Functions to be Used when Necessary

## Using the Radio with an External Device Connected

- 16** Press  for one second or longer  
The display will return to the previous screen.  
Packet communication will be enabled.
- 17** Choose the band and frequency according to the settings in the set-up menu
- 18** Turn  of the receive band  
The output level to TNC from the radio will be set.
- 19** Adjust the TNC output level  
The input level to the radio will be set.

### Caution

When transmitting a large volume of data, the transmission time gets longer and the radio will get heated up. When transmission continues for a long period of time, the overheating prevention circuit will act to lower the transmit power output. When transmission is continued further, transmission will be suspended automatically and the radio will go into the receive mode in order to prevent failure due to overheating.

When the overheating prevention circuit is activated and the radio goes into the receive mode, either switch turn OFF the power, or wait until the temperature drops in the reception mode.

## Other devices that can be connected

### ● External speaker

An optional high output and high sound quality waterproof external speaker “MLS-200-M10” can be connected.

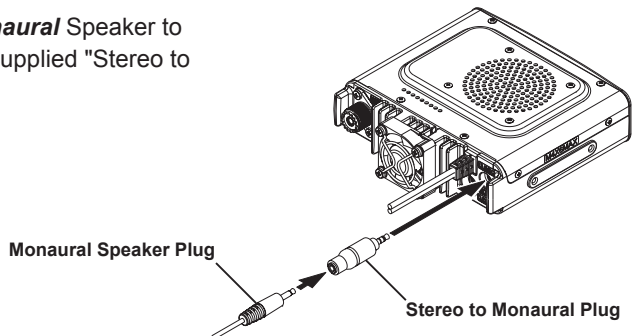
Plug the external speaker into the [EXT SP] jack at the back of the main body.

### Tip

When an external speaker is connected to the [EXT SP] jack, there will be no sound from the internal speaker.

If you connect an External Speaker other than the MLS-200-M10 to the [EXT SP] Jack, use a **Stereo** Speaker only (Do not connect a **Monaural** Speaker plug directly into the [EXT SP] Jack.)

If you wish to connect a **Monaural** Speaker to the [EXT SP] Jack, use the supplied "Stereo to Monaural Plug" (see figure).



Using the set-up menu, the various functions of the radio can be customized to match your individual preferences and type of use. The functions are divided into menus such as display, transmission and reception, memory, device configuration etc.. It is easy to select the items that you would like to adjust from the respective lists and enter or select the settings that are easy to use.

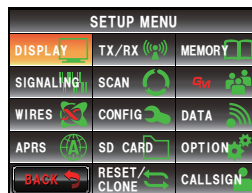
## Set-up Menu Basic Operations

- 1 Press **[DISP/STAND]** for one second or longer

The set-up menu will be displayed.

- 2 Touch the menu item

The menu list will be displayed.

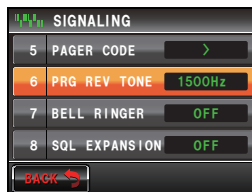


- 3 Select the item to be set

Turn **[MENU]** or touch the item.

The item will turn orange in color.

**Tip** Turn **[MENU]** to select items that are not visible on the screen.

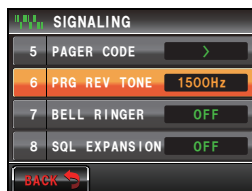


- 4 Change the set values

Press **[MENU]** briefly or touch the item.

The set value will change each time it is pressed or touched.

**Tip** When ">" is displayed in the set value field, pressing **[MENU]** or touching an item will display the screen with the detailed settings.



- 5 Press **[DISP/STAND]** for one second or longer, or press [PTT] on the microphone

The chosen value will be confirmed and the display will return to the previous screen.

- Tips**
- The chosen value can also be confirmed by pressing **[ENT]** briefly.
  - When setting additional items in the same menu next, touch **[BACK]**. The set value will be confirmed and the display will return to the menu list screen.
  - When **[BACK]** is touched in any of the screens, the display will return to the previous screen.

### Tip

When a set menu item is touched again, and the menu list is displayed, a screen in which a previously set item is already selected (displayed in orange color) will be displayed.