

***YAESU***  
***The radio***

C4FM/FM 144/430MHz  
DUAL BAND DIGITAL TRANSCEIVER

# ***FTM-200DR***

---

## **Operating Manual**



# Contents


<b>Quick Guide .....</b>	<b>1</b>	<b>Convenient Functions .....</b>	<b>19</b>
<b>Safety Precautions</b>		Bluetooth® Operation	
<b>(make sure to read these) .....</b>	<b>2</b>	(Requires optional BU-4) .....	19
<b>Controls &amp; Connections .....</b>	<b>6</b>	Installing the Bluetooth unit "BU-4" .....	19
Transceiver .....	6	When connecting to a Bluetooth	
<b>Supplied Accessories .....</b>	<b>8</b>	Headset for the first time -Pairing- .....	20
<b>Connecting the Power Supply.....</b>	<b>9</b>	Hands-free operation with a Bluetooth	
Connecting the car Battery .....	9	headset (VOX function).....	20
Connecting the external power supply		Send by pressing the button on the	
equipment .....	9	Bluetooth headset (when the VOX	
<b>Using a microSD Memory Card.....</b>	<b>10</b>	function is off).....	20
Usable microSD Memory Cards .....	10	VOX Operation.....	21
Installing the micro-SD card .....	10	Setting VOX function.....	21
Removing the micro-SD card .....	10	Set the VOX (automatic voice	
Formatting a microSD Memory Card .....	10	transmission) delay time .....	21
<b>Basic Operations .....</b>	<b>11</b>	Band Scope .....	22
Turning the Transceiver ON .....	11	GPS Function.....	22
Adjusting the Volume Level.....	11	Tone squelch feature.....	22
Adjusting the squelch setting .....	11	Digital Code squelch (DCS) feature.....	22
Toggling the Operating Band .....	12	Digital Personal ID (DP-ID) feature.....	22
Selecting a Frequency Band.....	12	<b>Using Set Mode.....</b>	<b>23</b>
Tuning to a Frequency .....	12	Set Mode Operation.....	23
Changing the Frequency Step .....	12	<b>Tables of Set Mode Operations .....</b>	<b>24</b>
Selecting the Communication Mode .....	13	<b>Restoring to Defaults (Reset).....</b>	<b>30</b>
Fixing the Communication Mode.....	14	All Reset.....	30
Transmission.....	14	<b>Specifications .....</b>	<b>31</b>
Changing the Transmission Power Level.....	14		
Locking Keys and DIAL knob .....	14		
<b>Repeater Operation .....</b>	<b>15</b>		
Communicating Via the Repeater .....	15		
<b>Using the Memory .....</b>	<b>16</b>		
Registering to Memory Channels.....	16		
Recalling a Memory Channel .....	16		
Clearing Memories .....	16		
Recall only memories in the same			
frequency band (Band) using the			
memory auto grouping (MAG) function.....	17		
PMG allows you to create groups of			
memory channels regardless of frequency ..	17		
Registering memory in PMG			
(Priority Memory Group).....	17		
Deleting memory from PMG			
(Priority Memory Group).....	17		
Recalling the Home Channels .....	17		
Changing the Home Channel Frequency.....	17		
Split Memory .....	17		
Using Memory Tag .....	17		
<b>Scanning Function .....</b>	<b>18</b>		
VFO Scan .....	18		
Memory Channel Scanning.....	18		
Programmable Memory scan (PMS).....	18		

**① Turning the Power ON**

Press and hold the **[POWER]** switch.

**② Inputting the Call sign**

When turning the power ON for the first time after purchasing, input the call sign of your own station.

1. When turning the power ON for the first time after purchasing, the call sign input screen will be displayed.
2. Input the call sign.  
Rotate the **DIAL** knob to select each character, then press the **DIAL** knob to move the cursor to the right.
3. Repeat step 2 to input the remaining call sign characters.  
Rotate the **DIAL** knob to select , then press the **DIAL** knob to move the cursor to the left.
5. Press and hold the **DIAL** knob to conclude inputting.  
Normal operation (VFO Mode) screen will be displayed.

**③ Selecting the Operating Band**

Press the **[BAND(GRP)]** key.

**④ Tuning the frequency**

Rotate the **DIAL** knob.

**⑤ Adjusting the volume**

Rotate the **VOL** knob to adjust the volume to a comfortable level.

**⑥ Adjusting the squelch setting**

The squelch level may be adjusted to mute the background noise when no signal is received.

1. Press the **[SQL(BACK)]** key.
2. Rotate the **DIAL** knob to adjust the squelch to a level at which the background noise is muted.  
\* When the squelch level is increased, the noise is more likely to be silenced, but it may become more difficult to receive weak signals.
3. Press the **[SQL(BACK)]** key to save the setting.

**⑦ Selecting the Communication Mode**

The communication mode is automatically selected to correspond to the signal being received.

Press the **[D X]** to manually select the communication mode.

**⑧ Transmitting/Receiving Signals**  
**Transmitting**

While pressing and holding the **PTT** speak into the microphone.

**Receiving**

Release the **PTT** to return to receive mode.

## Safety Precautions (make sure to read these)

**Make sure to read this manual in order to use this radio safely and correctly.**

Note beforehand that the company shall not be liable for any damages suffered by the customer or third parties in using this product, or for any failures and faults that occur during the use or misuse of this product, unless otherwise provided for under the law.

### Type and meaning of the marks



#### **DANGER**

This symbol indicates the possibility of death or serious injury being inflicted on the user and the surrounding people when these instructions are ignored and the product is handled wrongly.



#### **WARNING**

This symbol indicates the possibility of death or serious injury being inflicted on the user and the surrounding people when these instructions are ignored and the product is handled wrongly.




#### **CAUTION**


This symbol indicates the possibility of physical impediments occurring or impediments being inflicted on the user and the surrounding people when these instructions are ignored and the product is handled wrongly.

### Type and meaning of symbols



Prohibited actions that must not be carried out in order to use this radio safely. For example,  signifies that disassembly is prohibited.



Precautions that must be adhered to in order to use this radio safely. For example,  signifies that the power supply is to be disconnected.



## **DANGER**



**Do not use the device in “regions or aircrafts and vehicles where its use is prohibited” such as in hospitals and aeroplanes.**

This may exert an impact on electronic and medical devices.



**Do not use this product while driving or riding a motorbike. This may result in accidents.**

Make sure to stop the car in a safe location first before use if the device is going to be used by the driver.



**Never touch the antenna during transmission.**

This may result in injury, electric shock and equipment failure.



**When an alarm goes off with the external antenna connected, cut off the power supply to this radio immediately and disconnect the external antenna from this radio.**

If not, this may result in fire, electric shock and equipment failure.



**Do not operate the device when flammable gas is generated.**

Doing so may result in fire and explosion.



**Do not transmit in crowded places in consideration of people who are fitted with medical devices such as heart pacemakers.**

Electromagnetic waves from the device may affect the medical device, resulting in accidents caused by malfunctions.



**Do not touch any liquid leaking from the liquid display with your bare hands.**

There is a risk of chemical burns occurring when the liquid comes into contact with the skin or gets into the eyes. In this case, seek medical treatment immediately.



## WARNING



**Do not use voltages other than the specified power supply voltage.**

Doing so may result in fire and electric shock.



**Do not transmit continuously for long periods of time.**

This may cause the temperature of the main body to rise and result in burns and failures due to overheating.



**Do not dismantle or modify the device.**

This may result in injury, electric shock and equipment failure.



**Do not handle the power plug and connector etc. with wet hands. Also do not plug and unplug the power plug with wet hands.**

This may result in injury, liquid leak, electric shock and equipment failure.



**When smoke or strange odors are emitted from the radio, turn off the power and disconnect the power cord from the socket.**

This may result in fire, liquid leak, overheating, damage, ignition and equipment failure. Please contact our company amateur customer support or the retail store where you purchased the device.



**Keep the power plug pins and the surrounding areas clean at all times.**

This may result in fire, liquid leak, overheating, breakage, ignition etc.



**Do not place the device in areas that may get wet easily (e.g. near a humidifier).**

This may result in fire, electric shock and equipment failure.



**When connecting a DC power cord, pay due care not to mix up the positive and negative polarities.**

This may result in fire, electric shock and equipment failure.



**Do not use DC power cords other than the one enclosed or specified.**

This may result in fire, electric shock and equipment failure.



**Do not bend, twist, pull, heat and modify the power cord and connection cables in an unreasonable manner.**

This may cut or damage the cables and result in fire, electric shock and equipment failure.



**Do not pull the cable when plugging and unplugging the power cord and connection cables.**

Please hold the plug or connector when unplugging. If not, this may result in fire, electric shock and equipment failure.



**When transmitting, keep the antenna at least 1.8 m (VHF) or 2.2 m (UHF) away from your body.**

**Do not use modified or damaged antennas.**



**Do not use the device when the power cord and connection cables are damaged, and when the DC power connector cannot be plugged in tightly.**

Please contact our company amateur customer support or the retail store where you purchased the device as this may result in fire, electric shock and equipment failure.



**Never cut off the fuse holder of the DC power cord.**

This may cause short-circuiting and result in ignition and fire.



**Do not use fuses other than those specified.**

Doing so may result in fire and equipment failure.



**Do not allow metallic objects such as wires and water to get inside the product.**

This may result in fire, electric shock and equipment failure.



**Refrain from using headphones and earphones at a loud volume.**

Continuous exposure to loud volumes may result in hearing impairment.



**Disconnect the power cord and connection cables before incorporating items sold separately and replacing the fuse.**

This may result in fire, electric shock and equipment failure.



**Follow the instructions given when installing items sold separately and replacing the fuse.**

This may result in fire, electric shock and equipment failure.



**Do not use the device when the alarm goes off.**

For safety reasons, please pull the power plug of the DC power equipment connected to the product out of the AC socket.

Never touch the antenna as well. This may result in fire, electric shock and equipment failure due to thunder.



## CAUTION



**Do not place this device near a heating instrument or in a location exposed to direct sunlight.**

This may result in deformation and discoloration.



**Do not place this device in a location where there is a lot of dust and humidity.**

Doing so may result in fire and equipment failure.



**Stay as far away from the antenna as possible during transmission.**

Long-term exposure to electromagnetic radiation may have a negative effect on the human body.



**Do not wipe the case using thinner and benzene etc.**

Please use a soft and dry piece of cloth to wipe away the stains on the case.



**For safety reasons, switch off the power and pull out the DC power cord connected to the DC power connector when the device is not going to be used for a long period of time.**

If not, this may result in fire and overheating.



**Do not throw or subject the device to strong impact forces.**

This may result in equipment failure.



**Do not put this device near magnetic cards and video tapes.**

The data in the cash card and video tape etc. may be erased.



**Do not turn on the volume too high when using a headphone or earphone.**

This may result in hearing impairment.



**Keep out of the reach of small children.**

If not, this may result in injuries to children.



**Do not put heavy objects on top of the power cord and connection cables.**

This may damage the power cord and connection cables, resulting in fire and electric shock.



**Do not transmit near the television and radio.**

This may result in electromagnetic interference.



**Do not use optional products other than those specified by our company.**

If not, this may result in equipment failure.



**When using the device in a hybrid car or fuel-saving car, make sure to check with the car manufacturer before using.**

The device may not be able to receive transmissions normally due to the influence of noises from the electrical devices (inverters etc.) fitted in the car.



**Do not place the device on an unsteady or sloping surface, or in a location where there is a lot of vibration.**

The device may fall over or drop, resulting in fire, injury and equipment failure.



**Do not stand on top of the product, and do not place heavy objects on top or insert objects inside it.**

If not, this may result in equipment failure.



**Do not use a microphone other than those specified when connecting a microphone to the device.**

If not, this may result in equipment failure.



**Do not touch the heat radiating parts.**

When used for a long period of time, the temperature of the heat radiating parts will get higher, resulting in burns when touched.

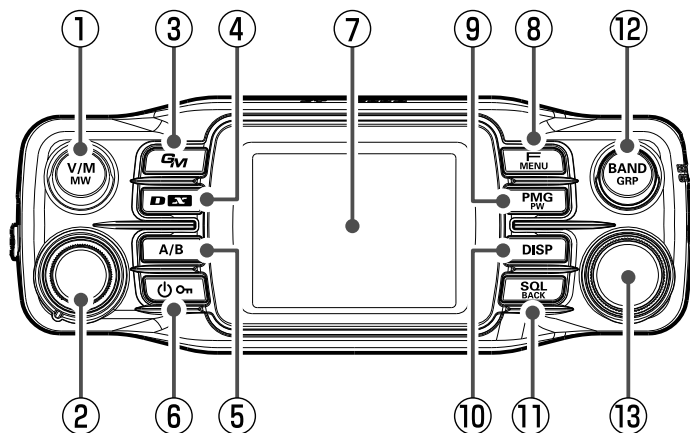


**Do not open the case of the product except when replacing the fuse and when installing items sold separately.**

This may result in injury, electric shock and equipment failure.

# Controls & Connections

## Transceiver



### ① V/M (MW) key

Pressing each time switches between VFO mode and memory mode.  
Press the button for 1 second or longer to change to the memory writing mode.

### ② VOL knob

The volume will increase when the knob is turned in a clockwise direction and decrease when turned in an counter-clockwise direction.

### ③ GM key

Press this key to start the group monitor function.  
Press this key for 1 second or longer to DG-ID number setting screen is displayed.

### ④ D/X key

The communication mode changes each time this key is pressed for a short time.  
WIRES-X will start when this key is pressed for one second or longer.

### ⑤ A/B key

Pressing each time switches between Band A and Band B.

### ⑥ POWER (LOCK) Switch

Press this button for 2 seconds or longer to switch the power ON and OFF.  
The key lock can be engaged or released by pressing the button quickly while the radio is turned ON.

### ⑦ Display

### ⑧ F (SETUP) key

Press the button quickly to display the function menu.  
Press the button for one second or longer to display the setup menu.

---

### ⑨ **PMG (PW) key**

- Each key press switches between PMG (Priority Memory Group) mode and memory or VFO mode.
- Press and hold the key to writing to PMG memory.

### ⑩ **DISP key**

Pressing each time switches between the frequency display and the scope display.

### ⑪ **SQL (BACK) key**

- Press this key, and then rotate the **DIAL** knob to adjust the squelch level.
- Press to return to the previous screen.

### ⑫ **BAND (GRP) key**

- Pressing each time increases the frequency band.
- Each time the [BAND(GRP)] key is pressed, only memory channels of the same frequency band are automatically recalled.

### ⑬ **DIAL knob**

- The frequency of the upper band can be adjusted.  
The frequency will increase when the knob is turned in a clockwise direction and decrease when turned in a counter-clockwise direction.  
Press the knob to enable setting the operating band frequency in 1 MHz units.  
Press the knob for one second or longer to enable setting the frequency in 5 MHz units.
- This knob is also used to select the items during the set up and memory operations, group monitor operations, etc.

## Supplied Accessories

- DTMF Microphone
- Mobile Mounting Bracket
- Control Cable (3 m)
- USB Cable
- Panel Mounting Bracket
- DC power cable
- Spare fuse (15 A)
- Operating Manual (This Manual)

**SSM-85D**



If any item is missing, contact the dealer from which you purchased the transceiver.

---

# Connecting the Power Supply

## Connecting the car Battery

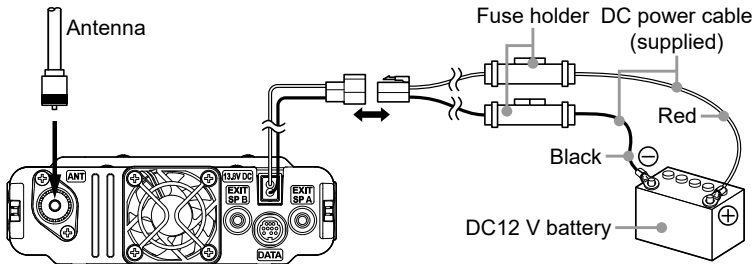
When using this radio as a mobile unit, connect the DC power supply cable to the negative ground 12 V car battery.



- Use the radio in a car with a negative ground 12 V DC system, where the minus (-) pole of the battery is connected to the car body.
- Do not connect the radio to the 24 V battery of a large vehicle.
- Do not use the cigarette lighter inside the car as a power source.

1. Connect the red wire (+) of the DC power supply cable to the positive (+) terminal of the battery.
2. Connect the black wire (-) of the DC power supply cable to the negative (-) terminal of the battery.
3. Connect the DC power supply cable to the connector of the power cord of the main body.

Press the plug into the connector until a click sound is heard.



## Connecting the external power supply equipment

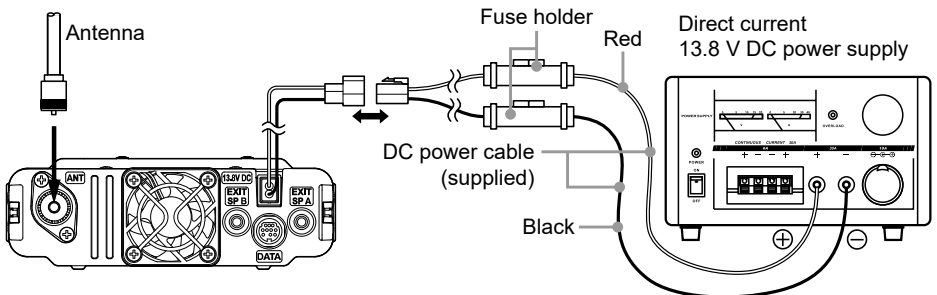
When using this radio as a fixed station, use an external 12 V DC power source.



- Use an external power source capable of supplying DC 13.8 V, a current capacity of 15 A or more.
- Make sure to switch OFF the power of the external power source before connecting.

1. Connect the red wire (+) of the provided DC power supply cable to the positive (+) terminal of the external power source, and the black wire (-) to the negative (-) terminal of the external power source.
2. Connect the DC power supply cable to the connector of the power cord of the main body.

Press the plug into the connector until a click sound is heard.



## Using a microSD Memory Card

Using a microSD memory card with the transceiver allows the following functions.

- Backing up the transceiver data and information
- Saving memory information
- Saving GPS log data
- Saving image data captured with the optional camera-equipped microphone (MH-85A11U)
- Saving messages downloaded with the GM function or WIRES-X function

## Usable microSD Memory Cards

This transceiver only supports the following capacity of microSD and microSDHD memory cards.

• 2GB • 4GB • 8GB • 16GB • 32GB



- microSD memory cards formatted on other devices may not properly save information when used with this transceiver. Format microSD memory cards again with this transceiver when using memory cards formatted with another device.
- Do not remove the microSD memory card or turn the transceiver off, while saving data to a microSD memory card is in progress.

## Installing the micro-SD card

1. Press and hold the Power (Lock) switch to turn the transceiver OFF.
2. Insert the micro-SD card into the micro-SD card slot, with the terminal face on rear, until a click sound is heard.
3. After the power is switched ON, the “SD” icon will be displayed at the top of the display.

## Removing the micro-SD card

1. Press and hold the Power (Lock) switch to turn the transceiver OFF.
2. Push in on the micro-SD card.  
A click sound will be heard and the micro-SD card will be pushed outward.
3. Pull the micro-SD card from the micro-SD card slot.

## Formatting a microSD Memory Card

Format a new microSD memory card following the steps below before use.



Formatting a microSD memory card erases all data saved on it. If you are going to format the microSD memory card you are using, be sure to check the data saved on it before formatting.

1. Press and hold the **[F(SETUP)]** key.  
The “SETUP MENU” screen appears.
2. Turn the **DIAL** knob to select **[SD CARD]**, then press the **DIAL** knob.
3. Turn the **DIAL** knob to select **[A5 FORMAT]**, then press the **DIAL** knob.  
“FORMAT?” appears on the LCD.
4. Turn the **DIAL** knob to select **[OK]**, then press the **DIAL** knob.  
Initialization starts and “Formatting” appears.
  - To cancel formatting, select **[CANCEL]**.
5. When formatting is completed, “Completed” appears on the LCD.

## Turning the Transceiver ON

1. Press and hold the Power (Lock) switch to turn the transceiver ON.



- When switching the power on for the first time after purchasing, or after resetting, a screen requesting the call sign of your own station be entered, will be displayed.
- From the second time onwards, the call sign of your own station entered the first time will be displayed.

### ● Switching the power OFF

1. Press and hold the Power (Lock) switch.

The screen display will disappear, and the power will be switched OFF.

### ● Inputting the call sign

The first time the transceiver is turned ON after it is purchased; the call sign input screen will be displayed.

- When the transceiver is turned on the second time, and subsequently, the opening screen appears followed by the frequency screen.
2. Input the call sign (toggle the alphabet input screen, and the number input screen when necessary).
  3. Saving the inputted call sign:
  4. Press and hold the **DIAL** knob to conclude inputting.



- Up to 10 characters (letters, numbers, and symbols) can be entered.
- Characters that may be inputted for the call sign are the numbers "0" to "9", letters "A" to "Z" in upper case, the hyphen and the slash.

## Adjusting the Volume Level

1. Rotate the **VOL** knob to adjust the volume to a comfortable level.
  - The transceiver volume levels for the Band A and Band B are adjusted separately.

## Adjusting the squelch setting

The squelch level may be adjusted to mute the background noise when no signal is present.

1. Press the **[SQL(BACK)]** key and then rotate the **DIAL** knob to adjust to a level at which the background noise is muted.
  - The transceiver squelch levels for the Band A and Band B are adjusted separately.



When the squelch level is increased, the noise is more likely to be silenced, but it may become more difficult to receive weak signals.

2. Press the **[SQL(BACK)]** key to save the setting.

## Toggling the Operating Band

---

Normally, both operating bands are displayed on the top half and bottom half of the transceiver screen. This is Dual band.

With one of the bands selected, change the frequency and radio operating mode.

- The selected band (displayed in white letters) is called Operating band.
- The other band (displayed in gray letters) is called Sub-band.
- Each time pressing the **[A/B]** key toggles the operating band.

## Selecting a Frequency Band

---

1. Press the **[BAND (GRP)]** key to select the desired frequency band.

## Tuning to a Frequency

---

### ● DIAL knob

By pressing the **DIAL** knob and then rotating the **DIAL** knob, the frequency will change in 1 MHz steps.

### ● The numeric keys

1. Press the **[F(SETUP)]** key.
2. Rotate the **DIAL** knob to select "ENTER FREQUENCY", then press the **DIAL** knob.
3. Enter the frequency.  
Rotate the **DIAL** knob to select numbers, then press the **DIAL** knob to move the cursor to the right.
4. Repeat step 3 to input the frequency.

### ● The numeric keys on microphone

Press the numeric keys "0" to "9" to enter the frequency.

Example: To input 145.520 MHz

[1] → [4] → [5] → [5] → [2]

Example: To input 430.000 MHz

[4] → [3] → [Press and hold any numeric key]



While entering a frequency using the numeric keys, the entry may be canceled by pressing the **PTT** switch.

---

## Changing the Frequency Step

---

The **DIAL** knob rotation frequency step may be changed. Normally, the factory default setting will provide a good frequency step.

1. Press and hold the **[F(SETUP)]** key.
2. Rotate the **DIAL** knob to select "CONFIG", then press the **DIAL** knob.
3. Rotate the **DIAL** knob to select "53 STEP", then press the **DIAL** knob.
4. Rotate the **DIAL** knob to change the frequency step.
5. Press the **PTT** switch to save the setting and return to normal operation.



In the default setting, of the frequency step is set to "AUTO", which automatically provides a suitable frequency step according to the frequency band.

---

## Selecting the Communication Mode

### ● Using AMS

The FTM-200DR transceiver is equipped with the AMS (Automatic Mode Select) function which automatically selects the communication mode corresponding to the received signal.

To utilize the AMS function, press the **[D X]** key to display “**DN**”<sup>\*</sup> on the display. After receiving the signal, “FM” of “**FM**” will be changed according to the received signal.

<sup>\*</sup>The display differs depending on the received signal.

### ● Setting the transmission mode when using the AMS function

The AMS function will automatically set the receiver to the mode of the received signal, but the transmission mode may be fixed regardless of the received mode.

1. Press and hold the **[F(SETUP)]** key.
2. Rotate the **DIAL** knob to select “TX/RX”, then press the **DIAL** knob.
3. Rotate the **DIAL** knob to select “DIGITAL”, then press the **DIAL** knob.
4. Rotate the **DIAL** knob to select “10 AMS TX MODE”, then press the **DIAL** knob.
5. Press the **DIAL** knob to change the transmission mode.
6. Press the **PTT** switch to save the setting and return to normal operation.

Transmit Mode	Receive and Transmit
AUTO (default)	Receive: Automatically selects the communication mode of transmission according to the signal being received. Transmit: Transmits automatically in the communication mode selected by the AMS function.
TX FM FIXED	Receive: Automatically selects the communication mode of transmission according to the signal being received. Transmit: Always transmits in the analog FM mode.
TX DN FIXED (TX DIGITAL)	Receive: Automatically selects the communication mode of transmission according to the signal being received. Transmit: Always transmits in the DN mode.

## Fixing the Communication Mode

1. To fix the transmission mode for operation, press the **[D X]** key to switch the communication mode.

Communication Mode	Icon	Description of Modes
V/D Mode (Voice/Data simultaneous transmission mode)	DN	This is the standard digital mode. Calls are less prone to interruptions caused by detection and correction of the received digital voice signal.
Voice FR Mode* <sup>1</sup> (Voice Full Rate Mode)	VW <sup>*1</sup>	High speed data communication using entire 12.5 kHz band. Enables high-quality voice communication.
FM Mode	FM	Analog communication using FM mode.
AM Mode (receive only)* <sup>2</sup>	AM	The AM mode for receive only.

\*1 When the Set Mode **[TX/RX] → [DIGITAL] → [14 DIGITAL VW]** is set to “**ON**” (factory default is “**OFF**”), the Voice FR mode (VW) may be selected.

\*2 When the Set Mode **[TX/RX] → [MODE] → [9 RX MODE]** is set to “**AUTO**” (factory default setting), AM mode is automatically selected within the AIR band.

## Transmission

1. While pressing and holding the **PTT** switch, speak into the microphone.  
A red (or red and blue) bar will be displayed on the left of the band display.



If the **PTT** switch is pressed when a frequency other than the amateur ham radio band is selected, an alarm tone (beep) will be emitted and “TX PROHIBIT” appears on the LCD, disabling transmission.

2. Release the **PTT** switch to return to receive mode.



If transmission is continued for a long period, the transceiver overheats and the high temperature protection function is activated. As a result, the transmitting power level is automatically set to Low Power. If transmission continues while the high temperature protection function is active, the transceiver will be forcibly returned to the receive mode.

## Changing the Transmission Power Level

1. Press the **[F(SETUP)]** key, then rotate the **DIAL** knob to select “**FUNCTION**”.
2. Press the **DIAL** knob, then rotate the **DIAL** knob to select “**TXPWR**”.
3. Press the **DIAL** knob to select one of the following transmission power levels.  
HI (50 W) → LO (5 W) → MD (20 W)
4. Press the **[SQL(BACK)]** key twice to save the setting and return to the normal operation.





The transmission power level may be set separately for each frequency band.

## Locking Keys and DIAL knob

1. Press the Power (Lock) switch, “**LOCK**” is displayed on the display for one second, the “**🔒**” icon appears on the LCD, and then the keys and **DIAL** knob are locked.
2. Press the POWER (Lock) switch again, “**UN LOCK**” will be displayed on the Display and keys and the **DIAL** knob are unlocked.



## Communicating Via the Repeater

The transceiver includes an ARS (Automatic Repeater Shift) function which sets the repeater operation automatically when the receiver is tuned to the repeater frequency.

1. Set the downlink (output) frequency from the repeater.
2. “” or “” icon may automatically appear above the frequency.
3. Speak into the microphone while pressing and holding the **PTT** switch.

### ● The reverse state

The “reverse” state temporarily reverses the transmit and receive frequencies. This allows checking to find if direct communication with the other station is possible.

1. Press the [**F(SETUP)**] key.
2. Rotate the **DIAL** knob to select “FUNCTION”, then press the **DIAL** knob.
3. Rotate the **DIAL** knob to select “REV”, then press the **DIAL** knob.
  - The transmit and receive frequencies are temporarily reversed (“reverse” state).
  - In the “reverse” state, the “” or “” blinks on the display.
4. Press the [**F(SETUP)**] key.
5. Rotate the **DIAL** knob to select “REV”, then press the **DIAL** knob to exit from the “reverse” state.

- 
- The repeater settings may be changed from the Set Mode.

Set Mode [CONFIG] → [50 RPT SHIFT]: Allows setting the repeater shift direction.

Set Mode [CONFIG] → [51 RPT SHIFT FREQ]: Allows changing the repeater shift offset.

Set Mode [SIGNALING] → [26 TONE SQL FREQ]: Allows setting the tone encoder frequency.

- The ARS function may be set to OFF in the Set Mode [CONFIG] → [49 RPT ARS].
- 



## Using the Memory

### Caution

The information registered to memory channels can be corrupted by incorrect operation, static electricity, or electrical noise. Also, it can be erased in the event of a failure or repair. Be sure to keep a record of the settings on paper or back up the data to the microSD memory card. For details on saving a backup onto a microSD memory card, see “Set Mode: SD CARD Menu Operations”.

### Registering to Memory Channels

1. Set the frequency and the communication mode to be registered to a memory channel.
2. Press and hold the **[V/M(MW)]** key.
3. Rotate the **DIAL** knob to select the desired channel number.
4. Press the **DIAL** knob.
5. The memory tags input screen will be displayed.
  - If you attempt to register a frequency to a memory channel that already contains frequency data, “OVER WRITE?” will appear on the LCD. Rotate the **DIAL** knob to select [OK], then press the **DIAL** knob to overwrite the memory channel.
6. Press and hold the **DIAL** knob.
7. Rotate the **DIAL** knob to select “OK”, then press the **DIAL** knob.
8. “UPDATE?” will appear on the LCD. Rotate the **DIAL** knob to select [OK], then press the **DIAL** knob to save the data to memory.
9. Press the **[SQL(BACK)]** key to the normal operation.

### Recalling a Memory Channel

1. Press the **[V/M(MW)]** key.

The memory channel most recently used appears on the display.
2. Rotate the **DIAL** knob to select the desired memory channel.
3. Press the **[V/M(MW)]** key to exit the memory mode, and return to the normal operation.

### Clearing Memories

1. Press and hold the **[V/M(MW)]** key.
2. Rotate the **DIAL** knob to select the memory channel from which the data is to be cleared.
3. Press the **DIAL** knob.
4. Rotate the **DIAL** knob to select “DELETE”, then press the **DIAL** knob.

Confirmation screen “DELETE?” is displayed.
5. Rotate the **DIAL** knob to select “OK”, then press the **DIAL** knob to clear the memory channel.
6. Press the **[SQL(BACK)]** key to the normal operation.



Data on memory channel One, and the Home channel may not be cleared.

## Recall only memories in the same frequency band (Band) using the memory auto grouping (MAG) function

With the memory auto grouping (MAG) function, only memory channels in the same frequency band (Band) can be called.

In the memory mode, each time the [BAND(GRP)] key is pressed, only memory channels of the specified frequency band are automatically recalled as a group.

## PMG allows you to create groups of memory channels regardless of frequency

### Registering memory in PMG (Priority Memory Group)

1. In the memory mode, rotate the **DIAL** knob to select the memory channel you want to register in PMG.
2. Press and hold the [PMG(PW)] key to register that memory channel in PMG.
  - To register another channel, repeat steps 1 and 2.

### Deleting memory from PMG (Priority Memory Group)

To delete a memory channel from PMG, select the memory channel in PMG then press and hold the [PMG(PW)] key to cancel the registration.

## Recalling the Home Channels

1. Press the [F(SETUP)] key.
2. Rotate the **DIAL** knob to select "HOME", then press the **DIAL** knob.
3. Press the [V/M] key to return to the previous frequency.



While recalling the home channel, rotate the **DIAL** knob to transfer the home channel frequency to the VFO operating band.

## Changing the Home Channel Frequency

1. Set the frequency and the operating mode you want to store as a home channel.
2. Press and hold the [V/M(MW)] key.
3. Rotate the **DIAL** knob to select "HOM", then press the **DIAL** knob.
4. Rotate the **DIAL** knob to select "WRITE", then press the **DIAL** knob.
5. "OVER WRITE?" will appear on the LCD. Rotate the **DIAL** knob to select [OK], then press the **DIAL** knob, the home channel frequency is changed.



For additional details on the following Functions, refer to the Advanced Manual which may be downloaded from the Yaesu website.

## Split Memory

Two different frequencies, one for receive and another for transmit, can be registered to a memory channel.

## Using Memory Tag

Memory name tags may be assigned to the memory channels and home channels.

## Scanning Function

The FTM-200DR supports the following four scanning functions:

- VFO Scan
- Memory Channel Scan
- Programmable Memory Scan (PMS)
- Scan for specified memory channels



For additional details on the Programmable Memory Scan (PMS) and Scan for specified memory channels, refer to the Advanced Manual which may be downloaded from the Yaesu website.

### VFO Scan

VFO scan function scans the frequencies, and detects signals.

1. Press the **[V/M(MW)]** key to enter the VFO mode.
2. Press and hold the microphone **[UP]** or **[DWN]** switch to start scanning.
  - Scanning starts toward higher frequencies.
  - If the **DIAL** knob is rotated while scanning is in progress, the scanning will continue up or down in frequency according to the direction of the **DIAL** Knob rotation.
  - If the scanner halts on an incoming signal, the frequency display will blink. Scanning will resume in about five seconds.
3. Press the **PTT** switch to cancel the scanning.



- If the scan has paused on a signal, rotating the DIAL knob will cause scanning to resume instantly.
- When turning the transceiver OFF while scanning, turning the transceiver ON, will cause scanning to resume.

### Memory Channel Scanning

The receiver may be set to scan memory channels:

1. Recall a memory channel to begin memory scanning.
2. Press and hold the microphone **[UP]** or **[DWN]** switch to start scanning.
  - Scanning starts toward higher memory channel numbers.
  - If the **DIAL** knob is rotated while scanning is in progress, the scanning will continue up or down in frequency according to the direction of the **DIAL** Knob rotation.
  - If the scanner halts on an incoming signal, the frequency display will blink. Scanning will resume in about five seconds.
3. Press the **PTT** switch to cancel the scanning.



If the scan has paused on a signal, rotating the DIAL knob will cause scanning to resume next memory channel.

### Programmable Memory scan (PMS)

This function scans only the range of frequencies between the lower and upper limits registered in a pair of PMS Programmable Memory channels. 50 sets of PMS memory channels (L01/U01 to L50/U50) are available.

### Bluetooth® Operation (Requires optional BU-4)

The FTM-200DR can be equipped with the Bluetooth® function by installing the optional Bluetooth® unit “BU-4”. Remotely operation is possible using the optional Bluetooth® headset (SSM-BT10) or a commercially available Bluetooth® headset.



The operation of all commercially available Bluetooth® headsets cannot be guaranteed.

### Installing the Bluetooth unit “BU-4”

#### ● Preparations

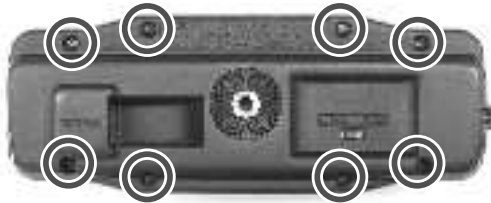
- Bluetooth unit “BU-4” (optional)
- Phillips Screwdriver

#### ● Installing procedure

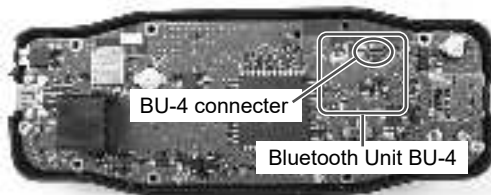


- Avoid touching the electronic components with your hands as the semiconductors may be damaged by static electricity.
- Note that labor charges to install optional items by our customer service support staff shall be separately chargeable.

1. Turn the transceiver OFF, then unplug the control cable from the front panel.
2. Remove the eight screws from the front panel.



3. Carefully lift the back case of the front panel.
4. Refer to the figure to install the BU-4.



Check the direction of the connector and plug the BU-4 in all the way to the back.

5. Carefully attach the back cover and secure it with the eight screws.



Do not tighten the eight screws with excessive force.

## **When connecting to a Bluetooth Headset for the first time -Pairing-**

When using the Bluetooth Headset for the first time, the Bluetooth® Headset and the FTM-200DR must be paired.

This step is necessary only once at the beginning.

1. Bluetooth headset into pairing mode.

**SSM-BT10:** Press and hold the Multi Function Button for 3 seconds, until the SSM-BT10 LED blinks red/blue alternately.

2. Press and hold the **[F(SETUP)]** key.
3. Rotate the **DIAL** knob to select "OPTION", then press the **DIAL** knob.
4. Rotate the **DIAL** knob to select "A7 Bluetooth", then press the **DIAL** knob.
5. Rotate the **DIAL** knob to select "Bluetooth", then press the **DIAL** knob to select "ON".
6. Rotate the **DIAL** knob to select "DEVICE", then press the **DIAL** knob.
7. Press the **DIAL** knob.

"**Searching**" is displayed and the model name of the found Bluetooth® device is displayed in the list.

8. Rotate the **DIAL** knob to select the desired Bluetooth® device.
9. Rotate the **DIAL** knob to select "CONNECT", then press the **DIAL** knob.
10. When pairing is complete and connected, the Bluetooth® headset model name is displayed.

**SSM-BT10:** LED blinks blue.

11. Press the **PTT** switch or the **[DISP]** key to return to the normal operation.

## **Hands-free operation with a Bluetooth headset (VOX function)**

When FTM-200DR's VOX (automatic voice transmission) function is turned on, you can use the Bluetooth headset to perform hands-free operation that transmits automatically just by talking.

Turn on the VOX function according to "VOX (automatic voice transmission) function".

### **Send by pressing the button on the Bluetooth headset (when the VOX function is off)**

When the VOX function is OFF, pressing the "Call button"\* on the Bluetooth headset once will keep the FTM-200DR in transmission and you can make a call using the Bluetooth headset.

If you press the "Call button"\* again, FTM-200DR will return to the reception state.

\*The button name may differ depending on your Bluetooth headset.

**SSM-BT10:** When press the Multi Function Key, a beep will sound and the FTM-200DR will continue to transmit.

Press the Multi Function Key again, a beep will sound and the FTM-200DR will be in receive mode.

## VOX Operation

---

The VOX system provides automatic transmit/receive switching based on voice input to the microphone or Bluetooth Headset. With the VOX system enabled, you do not need to press the **PTT** switch in order to transmit, and it is not necessary to use a VOX headset in order to utilize VOX operation.

### Setting VOX function

---

1. Press and hold the **[F(SETUP)]** key.
2. Rotate the **DIAL** knob to select "TX/RX", then press the **DIAL** knob.
3. Rotate the **DIAL** knob to select "AUDIO", then press the **DIAL** knob.
4. Rotate the **DIAL** knob to select "16 VOX", then press the **DIAL** knob.
5. Rotate the **DIAL** knob to select "VOX", then press the **DIAL** knob to select "**LOW**" or "**HIGH**".
  - OFF:** VOX function OFF
  - LOW:** VOX function ON (VOX Gain Lev1 "**LOW**")
  - HIGH:** VOX function ON (VOX Gain Lev1 "**HIGH**")
6. Press the **[SQL(BACK)]** key several times to return to the normal operation.

#### ● Disable the VOX function

To cancel VOX and return to **PTT** operation, just repeat the above procedures, selecting "**OFF**" in step 5 above.

### Set the VOX (automatic voice transmission) delay time

---

During transmission with VOX (automatic voice transmission) function, set the time to stop speaking and return to reception.

1. Press and hold the **[F(SETUP)]** key.
2. Rotate the **DIAL** knob to select "TX/RX", then press the **DIAL** knob.
3. Rotate the **DIAL** knob to select "AUDIO", then press the **DIAL** knob.
4. Rotate the **DIAL** knob to select "16 VOX", then press the **DIAL** knob.
5. Rotate the **DIAL** knob to select "DELAY", then press the **DIAL** knob.
6. Rotate the **DIAL** knob to select the delay time (the transmit-receive delay after the cessation of speech).
  - 0.5sec / 1.0sec / 1.5sec / 2.0sec / 2.5sec / 3.0sec
7. Press the **PTT** switch or the **[DISP]** key to return to the normal operation.

## Band Scope

The Spectrum Analyzer presents a view of operating activity on channels above and below the current main band operating frequency as the center.

1. Press the **[DISP]** key.
2. With the current frequency in the center, the signal strengths of 61 channels bandwidth are shown on a graph.
3. To turn the Band Scope OFF, press the **[DISP]** key.



- Press and hold the **[F(SETUP)]** key → **[DISPLAY]** → **[3 BAND SCOPE]**. The number of band scope channels can be changed to NARROW (31) or WIDE (61).
- The band scope channel interval is the same as the VFO frequency step.

## GPS Function

FTM-200DR is equipped with GPS (Global Positioning System) reception function. When receiving signals from GPS satellites, the current position (latitude, longitude, altitude) can be calculated and displayed within the tolerance of several meters. In addition, GPS can receive the exact time from a satellite-mounted atomic clock.



For additional details on the following Functions, refer to the Advanced Manual which may be downloaded from the Yaesu website.

## Tone squelch feature

The tone squelch opens the speaker audio only when a signal containing the specified CTCSS tone is received. By matching the tone frequency with the partner station in advance, a quiet standby is possible.

## Digital Code squelch (DCS) feature

DCS (Digital Coded Squelch) function that allows audio to be heard only when signals containing the same DCS code are received.

## Digital Personal ID (DP-ID) feature

Digital Personal ID (DP-ID) feature opens the speaker audio only when a signal set to the same DP-ID in the Digital Mode is received.

The Set Mode permits configuring the various functions according to individual operating needs and preferences.

### Set Mode Operation

1. Press and hold the **[F(SETUP)]** key.
2. The SETUP MENU screen will be displayed.
3. Rotate the **DIAL** knob to select the desired item in Setup Menu.
4. Press the **DIAL** knob.  
The Sub-menu screen will be displayed.
5. Rotate the **DIAL** knob to select the desired Set Mode Sub-menu.  
[When there is no deeper level of menu items]  
Go step 7.  
[When there is deeper level of menu items]
6. Press the **DIAL** knob.
7. Rotate or press the **DIAL** to select the desired item to set.
8. Press the **PTT** switch to save the settings and return to normal operation.  
On some setting screens, pressing **PTT** switch does not exit from Menu Mode. In this case, press the **[SQL(BACK)]** key several times to return to the frequency display screen.

## Tables of Set Mode Operations

Set mode no. / item	Description	Selectable options (Options in bold are the default settings)
<b>DISPLAY</b>		
1 TARGET LOCATION	Set what to display using the smart navigation function.	<b>COMPASS</b> / NUMERIC
2 COMPASS	Set the compass display of the smart navigation function.	<b>HEADING UP</b> / NORTH UP
3 BAND SCOPE	Set the number of search channels for the band scope function.	<b>WIDE</b> / NARROW
4 LCD BRIGHTNESS	Set the brightness level of the LCD backlight and numeric keypad light.	MIN / MID / <b>MAX</b>
5 SOFTWARE VERSION	Display the software version.	Main / Sub / DSP
6 DISPLAY MODE	Back Track, Altitude, Timer/Clock or GPS Information screen display.	BACKTRACK / ALTITUDE / TIMER/CLOCK GPS INFORMATION
7 ENTER FRQ or MCH	Enter a number directly to set the frequency or recall a memory channel.	—
<b>TX/RX</b>		
<b>MODE</b>		
8 FM BANDWIDTH	Set the FM transmission modulation level.	<b>WIDE</b> / NARROW
9 RX MODE	Select the receive mode.	<b>AUTO</b> / FM / AM
<b>DIGITAL</b>		
10 AMS TX MODE	Set the AMS transmission mode	<b>AUTO</b> / TX FM FIXED / TX DN FIXED
11 DIGITAL POPUP	Set the POP UP time.	OFF / 2 sec / 4 sec / 6 sec / 8 sec / <b>10 sec</b> / 20 sec / 30 sec / 60 sec / CONTINUE
12 LOCATION SERVICE	Set whether or not to display your current location in digital mode.	<b>ON</b> / OFF
13 STANDBY BEEP	Switch the standby beep function between ON/OFF.	<b>ON</b> / OFF
14 DIGITAL VW	Turn the VW mode selection ON or OFF.	<b>OFF</b> / ON
<b>AUDIO</b>		
15 MIC GAIN	Adjust the microphone gain level.	<b>NORMAL</b> / HIGH / MAX / MIN / LOW
16 VOX	VOX function setting.	VOX: <b>OFF</b> / LOW / HIGH DELAY: <b>0.5s</b> / 1.0s / 1.5s / 2.0s / 2.5s / 3.0s
17 RECORDING	Voice recode function setting.	BAND: <b>A</b> / B / A+B MIC: ON / <b>OFF</b>
18 REC/STOP	Start or stop recording the received audio on the microSD card.	—
<b>MEMORY</b>		
19 MEMORY LIST MODE	Displays a list of memory channels in memory mode.	<b>OFF</b> / ON
20 MEMORY LIST	Display the Memory List screen.	—
21 HOME	Recalls HOME channel	—
<b>SIGNALING</b>		
22 AUTO DIALER	DTMF code automatic transmission setting	<b>OFF</b> / ON
23 DTMF	Select a registered DTMF memory channel.	—
24 DTMF MEMORY	Set the DTMF auto dialer channel and code (16 characters).	<b>1</b> to 9

Set mode no. / item	Description	Selectable options (Options in bold are the default settings)
25 SQL TYPE	Select a squelch type.	<b>OFF</b> / TONE ENC / TONE SQL / REV TONE DCS / PR FREQ / PAGER / (DCS ENC) (TONE DCS) / (DCS TSQL) * The options in the parentheses are available when the SQL expansion is ON.
26 TONE SQL FREQ	Set a tone frequency.	67.0Hz to 254.1Hz <b>100.0Hz</b>
27 SQL EXPANTION	Set a squelch type separately for Receive and transmit.	ON / <b>OFF</b>
28 PAGER CODE	Pager individual code setting.	RX CODE 1 : 01 - 50 <b>05</b> RX CODE 2: 01 - 50 <b>47</b> TX CODE 1: 01 - 50 <b>05</b> TX CODE 2: 01 - 50 <b>47</b>
29 PR FREQUENCY	Set a non-communication squelch.	300Hz to 3000Hz ( <b>1500Hz</b> )
30 BELL RINGER	Recall sound length setting	<b>OFF</b> / 1 time / 3 times / 5 times / 8 times / CONTINUOUS
31 WX ALEAT	Enables/Disables the Weather Alert Feature.	ON / <b>OFF</b>
<b>SCAN</b>		
32 DUAL RCV MODE	Select a Dual Receive type.	<b>OFF</b> / PRIORITY SCAN / A-B DUAL / ALL
33 DUAL RCV INTRVAL	Set the Dual Receive interval time.	0.5sec / 1.0sec / 2.0sec / 3.0sec / <b>5.0sec</b> / 7.0sec / 10sec
34 PRIORITY REVERT		<b>OFF</b> / ON
35 SCAN RESUME	Set the resume operation after scan stop	<b>BUSY</b> / HOLD / 1 sec / 3 sec / 5 sec
<b>GM</b>		
* For details of the functions, refer to the GM Function Instruction Manual.		
36 DP-ID LIST	Displays the DP-ID list screen.	—
37 RANGE RINGER	Bell sound setting when checking for stations within sphere of communications	<b>OFF</b> / ON
38 RADIO ID CHECK	Display the transceiver specific number (ID). (Uneditable)	—
39 LOG LIST	Display the Log List screen.	—
<b>WIRES-X</b>		
* For details of the functions, refer to the WIRES-X Instruction Manual.		
40 RPT/WIRES FREQ	Set the frequency to be used for Repeater/WIRES.	<b>MANUAL</b> / PRESET
41 SEARCH SETUP	Set the WIRES ROOM selection method.	<b>HISTORY</b> / ACTIVITY
42 EDIT CATEGORY TAG	Edit category tags.	C1 to C5
43 REMOVE ROOM/ NODE	Delete registered Category ROOMs.	C1 to C5
44 WIRES DG-ID	Set the DG-ID number for WIRES-X.	01 to 99 / <b>AUTO</b>
<b>CONFIG</b>		
45 DATE&TIME ADJUST	Setting the date and time.	-
46 DATE&TIME FORMAT	Setting the date and time display formats.	DATE: mmm/dd/yyyy / <b>yyyy/mm/dd</b> / dd/mm/yyyy / yyyy/dd/mm TIME: <b>24 hour</b> / 12 hour
47 TIME ZONE	Time zone setting.	UTC -14:00 to UTC ±0:00 to UTC +14:00
48 RPT ARS	Turn the ARS function on/off.	<b>ON</b> / OFF
49 RPT SHIFT	Set the repeater shift direction.	<b>OFF</b> (SIMPLEX) / - / +
50 RPT SET	Set the repeater shift width.	0.00 MHz to 99.95MHz ( <b>0.60 MHz</b> )
51 RPT REV	Reverse the transmit and receive frequencies temporarily.	—

Set mode no. / item	Description	Selectable options (Options in bold are the default settings)
52 STEP	Set the channel step.	<b>AUTO</b> / 5.00 KHz / 6.25 KHz / (8.33 KHz) / 10.00 KHz / 12.50 KHz / 15.00 KHz / 20.00 KHz / 25.00 KHz / 50.00 KHz / 100.00 KHz
53 BEEP	Set the beep emitting function, and set whether or not to emit the beep sound when a band edge/CH1 is encountered.	OFF / LOW / <b>HIGH</b>
54 CLOCK TYPE	Set the clock shift function.	<b>A</b> / B
55 MIC PROGRAM KEY	Microphone P buttons setting	OFF (disable the P button) / BAND SCOPE / SCAN / HOME / DCS CODE / TONE FREQ / RPT SHIFT / REVERSE / TX POWER / SQL OFF / T-CALL / WIRES / WX / STN-LIST / MSG LIST / REPLY / MSG EDIT P1: <b>GM (FIX)</b> P2: <b>TX POWER</b> P3: <b>WIRES</b> P4: <b>WX</b>
56 RX COVERAGE	Reception range expansion setting	NORMAL / <b>WIDE</b>
57 UNIT	Display unit setting	<b>METRIC</b> / INCH
58 APO	Set the length of time until the transceiver turns off automatically.	<b>OFF</b> / 0.5 hour to 12.0hour
59 TOT	TX time out setting	OFF / 1 min / 2 min / 3 min / <b>5 min</b> / 10 min / 15 min / 20 min / 30 min
60 GPS DATUM	GPS function positioning selection	<b>WGS-84</b> / TOKYO MEAN
61 GPS DEVICE	GPS receiver selection	<b>INTERNAL</b> / EXTERNAL
62 GPS LOG	Set the GPS log recording time interval.	<b>OFF</b> / 1 sec / 2 sec / 5 sec / 10 sec / 30 sec / 60 sec
63 TX POWER	Selects the transmit power output level	<b>HIGH</b> / LOW / MID

## DATA

64 COM PORT SETTING	COM port setting.	SPEED: 4800bps / <b>9600bps</b> / 19200bps / 38400bps / 57600bps OUTPUT: <b>OFF</b> (camera) / GPS OUT / PACKET / WAYPOINT WP FORMAT: NMEA 6 / NMEA 7 / NMEA 8 / <b>NMEA 9</b> WP FILTER: <b>ALL</b> / MOBILE / FREQUENCY / OBJECT/ITEM / DIGIPEATER / VoIP / WEATHER / YAESU / CALL RINGER / RANGE RINGER
65 DATA BAND SELECT	APRS/DATA band selection setting.	APRS: MAIN BAND / SUB BAND / A-BAND FIX / <b>B-BAND FIX</b> / A=TX/B=RX / A=RX/B=TX DATA: MAIN BAND / SUB BAND / A-BAND FIX / <b>B-BAND FIX</b> / A=TX/B=RX / A=RX/B=TX
66 DATA SPEED	APRS/DATA communication baud rate setting.	APRS: <b>1200 bps</b> / 9600 bps DATA: <b>1200 bps</b> / 9600 bps
67 DATA SQUELCH	Squelch detection setting.	APRS: <b>RX BAND</b> / TX/RX BAND DATA: <b>RX BAND</b> / TX/RX BAND TX: <b>ON</b> / OFF

## APRS

\* For details of the functions, refer to the APRS Instruction Manual.

68 APRS DESTINATION	Model code display. Non-editable	APY400
---------------------	-------------------------------------	--------

Set mode no. / item	Description	Selectable options (Options in bold are the default settings)
69 APRS FILTER	Select the filter function.	Mic-E: <b>ON</b> / OFF POSITION: <b>ON</b> / OFF WEATHER: <b>ON</b> / OFF OBJECT: <b>ON</b> / OFF ITEM: <b>ON</b> / OFF STATUS: <b>ON</b> / OFF OTHER: ON / <b>OFF</b> RANGE LIMIT: 1km / 10km / 100km / 1000km / 3000km / <b>OFF</b> ALTNET: ON / <b>OFF</b>
70 APRS MSG TEXT	Standard message text input.	1 to 8
71 APRS MODEM	Set the APRS baud rate.	<b>OFF</b> / ON
72 APRS MUTE	Set the B-band AF muting function ON/OFF when APRS is active.	ON / <b>OFF</b>
73 APRS POPUP	Display time setting for pop-up display of beacons and messages	BEACON: OFF / 3 sec / 5 sec / <b>10 sec</b> / HOLD MESSAGE: OFF / 3 sec / 5 sec / <b>10 sec</b> / HOLD MYPACKET: <b>OFF</b> / ON
74 APRS RINGER	Bell sound setting at beacon arrival	TX BEACON: <b>ON</b> / OFF TX MESSAGE: <b>ON</b> / OFF RX BEACON: <b>ON</b> / OFF RX MESSAGE: <b>ON</b> / OFF MY PACKET: <b>ON</b> / OFF CALL RINGER: ON / <b>OFF</b> RANGE RINGER: <b>OFF</b> / 1km / 5km / 10km / 50km / 100km MSG VOICE: ON / <b>OFF</b>
75 APRS RINGER (CS)	Call sign setting for CALL RINGER	1 to 8 stations
76 APRS TX DELAY	Data transmit delay time setting.	100 ms to 1000 ms ( <b>250 ms</b> )
77 APRS UNITS	APRS display unit setting	POSITION: <b>dd°mm.mm'</b> / dd°mm'ss" DISTANCE: <b>km</b> / mile SPEED: <b>km/h</b> / mph / knot ALTITUDE: <b>m</b> / ft BARO: <b>hPa</b> / mb / mmHg / inHg TEMP: <b>°C</b> / °F RAIN: <b>mm</b> / inch WIND: <b>m/s</b> / mph / knot
78 BEACON INFO	Transmit beacon information setting.	AMBIGUITY: <b>OFF</b> / 1 digit / 2 digits / 3 digits / 4 digits SPEED/COURSE: <b>ON</b> / OFF ALTITUDE: <b>ON</b> / OFF
79 BEACON STATUSTXT	Status text input setting	SELECT: TEXT 1 to TEXT 5 / <b>OFF</b> TX RATE: <b>1/1</b> to 1/8 / 1/2(FREQ) - 1/8(FREQ) TEXT 1 to 5: NONE / FREQUENCY / FREQ & SQL & SHIFT
80 BEACON TX	Select automatic or manual sending of beacon.	AUTO: <b>OFF</b> / ON INTERVAL: 30 sec / 1 min / 2 min / 3 min / <b>5 min</b> / 10 min / 15 min / 20 min / 30 min / 60 min PROPORTIONAL: <b>ON</b> / OFF DECAY: <b>ON</b> / OFF LOW SPEED: 1 km/h to 99 km/h ( <b>5km/h</b> ) RATE LIMIT: 5sec to 180sec ( <b>30sec</b> )
81 DIGI PATH	Set the digital repeater route.	OFF / WIDE1-1 / <b>WIDE1-1,WIDE2-1</b> / PATH 1 / PATH 2 / PATH 3 / PATH 4 / FULL 1 / FULL 2
82 DIGI PATH 1	Digital repeater route address setting	ADDRESS 1: - ADDRESS 2: -
83 DIGI PATH 2		
84 DIGI PATH 3		
85 DIGI PATH 4		

Set mode no. / item	Description	Selectable options (Options in bold are the default settings)
86 DIGI PATH FULL 1	Digital repeater route address setting	ADDRESS 1 to ADDRESS 8: -
87 DIGI PATH FULL 2	Digital repeater route address setting	ADDRESS 1 to ADDRESS 8: -
88 CALLSIGN (APRS)	Specify the call sign of your station.	- - - - -
89 MESSAGE GROUP	Group filtering for received messages.	GROUP 1: ALLxxxxxx GROUP 2: CQxxxxxxx GROUP 3: QSTxxxxxx GROUP 4: YAESUxxxx GROUP 5: - - - - - GROUP 6: - - - - - BULLETIN 1: BLN?xxxxx BULLETIN 2: BLN? BULLETIN 3: BLN?
90 MESSAGE REPLY	Automatic response setting of received messages	REPLY: <b>OFF</b> / ON CALLSIGN: xxxxxx-xx REPLY TEXT: -
91 MY POSITION SET	My position setting	<b>GPS</b> / Manual
92 MY POSITION	My position manual setting.	LAT: N 0°00. 00' (' 00") LON: E 0°00. 00' (' 00")
93 MY SYMBOL	Set your station symbol.	ICON 1: [/>] Car ICON 2: [/R] REC.Vehicle ICON 3: [/ -] House QTH (VHF) USER: [YY] Yaesu Radios
94 POSITION COMMENT	Set up the position comment function.	<b>Off Duty</b> / En Route / In Service / Returning / Committed / Special / Priority / Custom 0 to 6 / Emergency!
95 SmartBeaconing	Set the smart beaconing function.	STATUS: <b>OFF</b> / TYPE1 / TYPE2 / TYPE3 LOW SPEED: 2 km/h to 30 km/h ( <b>5 km/h</b> ) HIGH SPEED: 3 km/h to 90 km/h ( <b>70 km/h</b> ) SLOW RATE: 1 min to 100 min ( <b>30 min</b> ) FAST RATE: 10 sec to 180 sec ( <b>120 sec</b> ) TURN ANGLE: 5° to 90° ( <b>28°</b> ) TURN SLOPE: 1 to 255 ( <b>26</b> ) TURN TIME: 5 sec to 180 sec ( <b>30 sec</b> )
96 SORT FILTER	Sort function / filter function setting	SORT: <b>TIME</b> / CALLSIGN / DISTANCE FILTER : <b>ALL</b> / MOBILE / FREQUENCY / OBJECT/ITEM / DIGIPEATER / VoIP / WEATHER / YAESU /OTHER PACKET / CALL RINGER / RANGE RINGER / 1200 bps / 9600 bps
97 VOICE ALERT	Voice alert function setting	VOICE ALERT: <b>NORMAL</b> / TONE SQL / DCS / RX-TSQL / RX-DCS TONE SQL: 67.0 Hz to 254.1 Hz ( <b>100.0 Hz</b> ) DCS: 023 to 754 ( <b>023</b> )
98 STATION LIST	Displays the APRS function station list	-
99 MESSAGE LIST	Displays the message list of the APRS function	-
A0 BEACON TX MODE	Select automatic or manual sending of Beacon.	-
A1 BCN-TX	Beacon transmission manually.	-
<b>SD CARD</b>		
A3 BACKUP	Save the data stored on the transceiver onto a microSD memory card or load the data from a microSD card.	WRITE TO SD: ALL / MEMORY / SETUP READ FROM SD: ALL / MEMORY / SETUP
A4 MEMORY INFO	Displays the total capacity and free space of the SD Memory Card.	-

Set mode no. / item	Description	Selectable options (Options in bold are the default settings)
A5 FORMAT	Initialize microSD memory cards.	-
<b>OPTION</b>		
A6 USB CAMERA	Set the USB camera resolution and Speaker.	SIZE: <b>320x240</b> / 160x120 QUALITY: <b>NORMAL</b> / HIGH / LOW
A7 Bluetooth	Sets the Bluetooth function.	Bluetooth: <b>OFF</b> / ON DEVICE: - STATUS: - SAVE: <b>OFF</b> / ON
A8 VOICE SETUP	Voice memory function setting	PLAY/REC: <b>FREE 5 min</b> / LAST 30 sec ANNOUNCE: OFF / <b>AUTO</b> / MANUAL LANGUAGE: JAPANESE / <b>ENGLISH</b> VOLUME: <b>HIGH</b> / MID / LOW RX MUTE: <b>ON</b> / OFF
A9 FVS REC	Start recording the received audio to FVS-2.	-
B0 TRACK SELECT	Select the track number recorded on FVS-2.	-
B1 PLAY	Start replaying the recorded audio on FVS-2.	-
B2 STOP	Stop recording / replay	-
B3 CLEAR	Deletes all recorded contents of FVS-2.	-
B4 VOICE GUIDE	The frequency of the operating band will be announced.	-
<b>RESET</b>		
B5 FACTORY RESET	Return all settings to default settings when shipped	-
B6 PRESET	Preset registration	-
B7 RECALL PRESET	Recall preset	-
B8 MEM CH RESET	Erasing registered memory channels	-
B9 APRS RESET	Return APRS settings to default settings when shipped	-
<b>CLONE</b>		
C0 This → other	Copy all saved data	-
C1 other → This	Copy all saved data	-
<b>CALLSIGN</b>		
CALLSIGN	Set the call sign.	xxxxxxxxxx

## Restoring to Defaults (Reset)

### Caution

When the All Reset function is performed, all data registered in the memory will be deleted. Be sure to note the settings on paper or back up the data on a microSD memory card.

### All Reset

To restore all transceiver settings and memory content to the factory defaults.

1. Press and hold the **[F(SETUP)]** key.
2. Rotate the **DIAL** knob to select "RESET", then press the **DIAL** knob.
3. Rotate the **DIAL** knob to select "B5 FACTORY RESET", then press the **DIAL** knob.  
"FACTORY RESET" will appear on the LCD.
4. Rotate the **DIAL** knob to select [OK], then press the **DIAL** knob.
  - The beep will sound, and the transceiver will reset all factory defaults.
  - After resetting all defaults, the call sign input message appears on the LCD. Set the call sign.
  - To cancel the resetting, rotate the **DIAL** knob to select [CANCEL], then press the **DIAL** knob.

## ● General

Frequency Range	: TX 144 - 148 MHz, 430 - 450 MHz : RX: 108 MHz to 999.99 MHz (USA Cellular Blocked)
Channel Steps	: 5/6.25/(8.33)/10/12.5/15/20/25/50/100 kHz ( ) Air Band
Mode of Emission	: F1D, F2D, F3E, F7W
Frequency Stability	: $\pm 2.5$ ppm ( $-4^{\circ}\text{F}$ to $+140^{\circ}\text{F}$ [ $-20^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ ])
Antenna Impedance	: 50 $\Omega$
Supply Voltage	: Nominal 13.8 V DC, Negative Ground Operating 11.7 to 15.8 V DC, Negative Ground
Current Consumption (Approx.)	: 0.7 A (Receive) 10 A (HIGH) 6 A (MID) 3 A (LOW)
Operating Temperature Range	: $-4^{\circ}\text{F}$ to $+140^{\circ}\text{F}$ ( $-20^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ )
Case Size (W x H x D)	: Radio unit: 5.47" x 1.66" x 5.2" (139 x 42 x 132 mm) (w/o FAN) Controller: 5.47" x 2.09" x 0.7" (139 x 53 x 18 mm)
Weight (approx.)	: 2.43 lbs (1.1 kg) (with radio unit, controller, control cable)

## ● Transmitter

Output Power	: 50 / 25 / 5 W
Modulation Type	: F1D, F2D, F3E: Variable Reactance Modulation F7W: 4 FSK (C4FM)
Spurious Emission	: At least 60 dB below

## ● Receiver

Circuit Type	: Double-conversion super heterodyne	
Intermediate Frequency	: 1st: 58.05 MHz 2nd: 450 kHz	
Sensitivity	: 108 - 137 MHz (AM) 0.8 $\mu$ V typ @10 dB SN 137 - 140 MHz (FM) 0.2 $\mu$ V @12 dB SINAD 140 - 150 MHz (FM) 0.2 $\mu$ V @12 dB SINAD 150 - 174 MHz (FM) 0.25 $\mu$ V @12 dB SINAD 174 - 222 MHz (FM) 0.3 $\mu$ V typ @12 dB SINAD 222 - 300 MHz (FM) 0.25 $\mu$ V typ @12 dB SINAD 300 - 336 MHz (AM) 0.8 $\mu$ V typ @10 dB SINAD 336 - 420 MHz (FM) 0.25 $\mu$ V typ @12 dB SINAD 420 - 470 MHz (FM) 0.2 $\mu$ V @12 dB SINAD 470 - 540 MHz (FM) 0.2 $\mu$ V typ @12 dB SINAD 540 - 800 MHz (FM) 0.8 $\mu$ V typ @12 dB SINAD 800 - 900 MHz (FM) 0.4 $\mu$ V typ @12 dB SINAD 900 - 999.99 MHz (FM) 0.8 $\mu$ V typ @12 dB SINAD Digital Mode 0.19 $\mu$ V typ @BER1% Cellular Blocked (USA only)	
Selectivity (-6 dB/-60 dB)	: NFM, AM 12 kHz/30 kHz	
AF Output	: 3 W (8 $\Omega$ for THD 10 % 13.8 V DC) internal speaker 3 W (8 $\Omega$ for THD 10 % 13.8 V DC) external speaker	

## ● Bluetooth (Optional BU-4)

Version	: Version 4.2
Class	: Class 2
Output Power	: 2 dBm

Specifications are subject to change without notice, and are guaranteed within the 144/430 MHz amateur bands only.

Changes or modifications to this device that are not expressly approved by YAESU MUSEN could void the user's authorization to operate this device.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference including received, interference that may cause undesired operation.

The scanning receiver in this equipment is incapable of tuning, or readily being altered, by the User to operate within the frequency bands allocated to the Domestic public Cellular Telecommunications Service in Part 22.

The YAESU MUSEN is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

This device complies with ISSED's applicable license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

#### **DECLARATION BY MANUFACTURER**

The Scanner receiver is not a digital scanner and is incapable of being converted or modified to a digital scanner receiver by any user.

**WARNING:** MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

CAN ICES-3 (B) / NMB-3 (B)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy; and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ☐ Reorient or relocate the receiving antenna.
- ☐ Increase the separation between the equipment and receiver.
- ☐ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ☐ Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC/IC radiation exposure limits and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that is deemed to comply without testing of specific absorption rate (SAR).

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

# ***YAESU***

## **Declaration of Conformity**

Type of Equipment:	144/430MHz Digital/Analog Transceiver
Brand Name:	YAESU
Model Number:	FTM-200DR
Manufacturer:	YAESU MUSEN CO., LTD.
Address of Manufacturer:	Tennozu Parkside Building, 2-5-8 Higashi-Shinagawa, Shinagawa-ku,Tokyo 140-0002 Japan

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions; (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The technical documentation as required by the Conformity Assessment procedures is kept at the following address:

Company: Yaesu U.S.A.

Address: 6125 Phyllis Drive, Cypress, CA 90630, U.S.A.

Telephone: (714) 827-7600



Copyright 2021  
YAESU MUSEN CO., LTD.  
All rights reserved.

No portion of this manual may be  
reproduced without the permission of  
YAESU MUSEN CO., LTD.

**YAESU MUSEN CO., LTD.**

Tennozu Parkside Building  
2-5-8 Higashi-Shinagawa, Shinagawa-ku, Tokyo 140-0002 Japan

**YAESU USA**

6125 Phyllis Drive, Cypress, CA 90630, U.S.A.

**YAESU UK**

Unit 12, Sun Valley Business Park, Winnall Close  
Winchester, Hampshire, SO23 0LB, U.K.

Printed in Japan