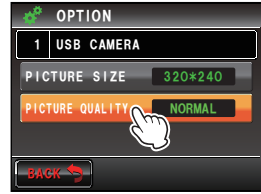


Using the Set-up Menu

- 5 Touch **[PICTURE QUALITY]** to set the picture quality
 The setting will change in the following order each time it is touched.
 “LOW (low resolution)” → “NORMAL” → “HIGH (high resolution)”

Tip Factory default value: NORMAL



- 6 Press **[DISP/STAB]** for one second or longer
 The camera image will be set and the display will return to the previous screen.

Setting the operation of the Bluetooth headset

By mounting the Bluetooth unit to the radio and using a Bluetooth headset, audio can be received and sent wirelessly.

Refer to “Using the Bluetooth headset” (P.134) for details.

Setting the voice memory operation

By mounting the voice guide unit to the radio, audio that is received or picked up by the microphone can be recorded and then played back or erased later.

Refer to “Using the voice memory” (P.146) for details.

Initialization and saving settings

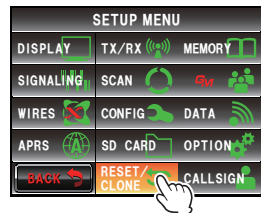
Reconfiguring the settings

The settings and memory of the radio can be returned to the default factory settings. Refer to “Reconfiguring the Settings” (P.61) for details.

Registering the preset

Current settings such as the frequency and memory channels can be registered in a single preset.

- 1 Press **[DISP/STAB]** for one second or longer
 The set-up menu will be displayed.
- 2 Touch **[RESET/CLONE]**



Using the Set-up Menu

3 Touch [2 PRESET]

The screen for confirming the preset registration will be displayed.



4 Touch [OK?]

The preset will be registered.

When canceling the registration, touch [Cancel].



5 Press for one second or longer

The display will return to the previous screen.

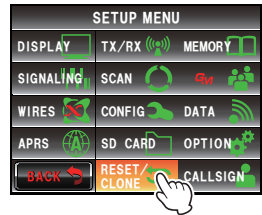
Recalling the registered preset

The registered preset can be recalled from the set-up menu.

1 Press for one second or longer

The set-up menu will be displayed.

2 Touch [RESET/CLONE]



3 Touch [3 RECALL PRESET]

The screen for confirming the recall of the registered preset will be displayed.



4 Touch [OK?]

The registered preset will be recalled and the display will return to the previous screen.

When canceling the recall, touch [Cancel].

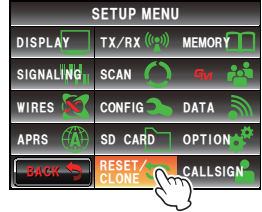


Using the Set-up Menu

Sorting the registered memory channels

The memory channels registered in the radio can be sorted in the ascending order.

- 1 Press **[DISP MENU]** for one second or longer
 The set-up menu will be displayed.
- 2 Touch **[RESET/CLONE]**



- 3 Touch **[5 MEM CH SORT]**
 The screen for confirming the sorting of the memory channels will be displayed.



- 4 Touch **[OK?]**
 The memory channels will be sorted starting from the lowest frequencies.
 When canceling the sorting, touch **[Cancel]**.



- 5 The radio will start up again
 The power will be switched off once and then it will be switched on automatically.

Copying saved data

All the data saved in the radio can be copied directly to another FTM-400XDR/DE. Refer to "Using the clone function" (P.153) for details.

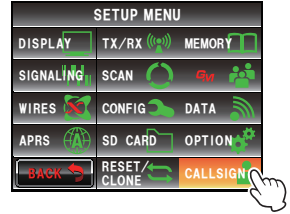
Using the Set-up Menu

Call sign settings

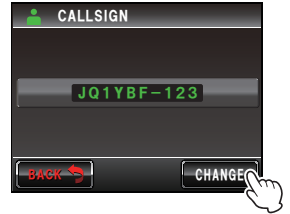
Changing the call sign

You can change your own call sign set in the radio.

- 1 Press **[DSP]** for one second or longer
 The set-up menu will be displayed.
- 2 Touch **[CALLSIGN]**
 The current call sign will be displayed.



- 3 Touch **[CHANGE]**
 The character input screen will be displayed.

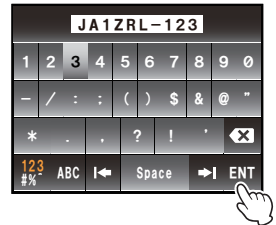


- 4 Touch a character key
 The touched character will be displayed at the top of the screen.

- Tips**
- Up to 10 characters of alphabets, numerics, and a hyphen can be entered.
 - Refer to Page 23 on how to operate the character input screen.




- 5 Touch **[ENT]**
 The new call sign will be displayed.



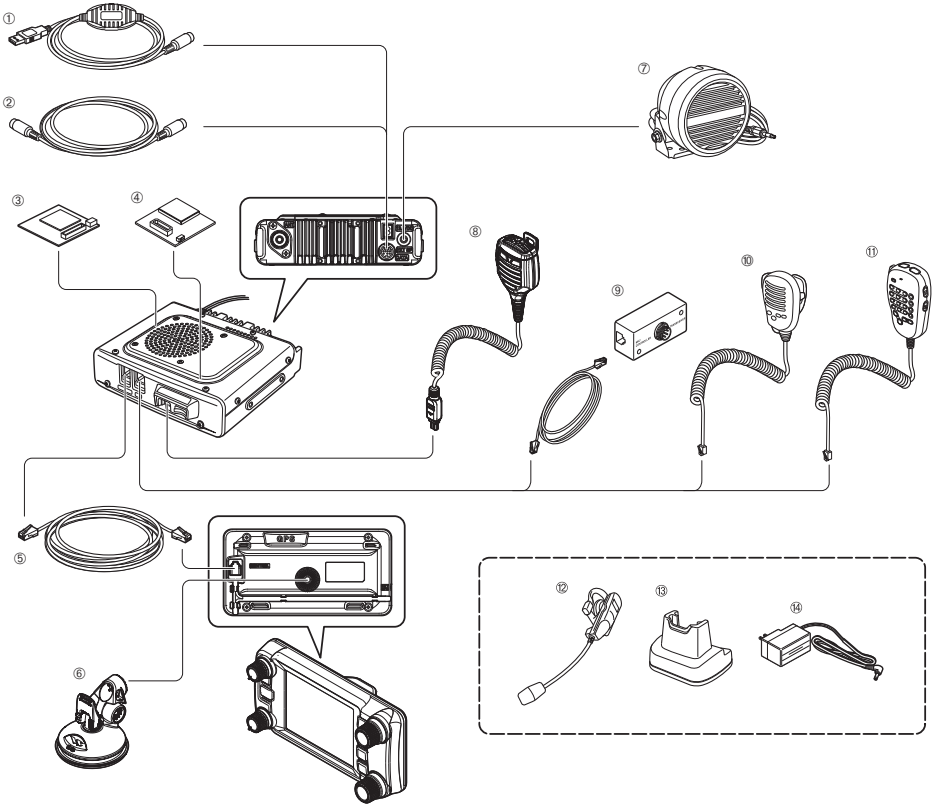
- 6 Touch **[BACK]**



Using the Set-up Menu

- 7 Press  for one second or longer
The call sign will be set and the display will return to the previous screen.

Options List



① PC connection cable (SCU-20)

*Same as the one provided

② Cloning cable (CT-166)

③ Voice guide unit (FVS-2)

④ Bluetooth unit (BU-2)

⑤ Control cable (CT-162)

⑥ Controller bracket (MMB-98)

⑦ Water proof (equivalent to IP55) high power external speaker (MLS-200-M10)

⑧ Speaker microphone with camera (MH-85A11U)

⑨ Microphone extension kit (MEK-2)

⑩ Hand Microphone (MH-42C6J)

⑪ DTMF Microphone (MH-48A6JA)

*Same as the one provided

⑫ Water proof Bluetooth headset (monaural) (BH-2A)

⑬ Charging cradle for BH-2A (CD-40)

⑭ Battery charger for CD-40 (PA-46)

● Data cable (CT-163): DIN 10 pin ↔ DIN 6 pin + Dsub 9 pin

● Data cable (CT-164): DIN 10 pin ↔ DIN 6 pin

● Data cable (CT-165): DIN 10 pin ↔ Dsub 9 pin

● Data cable (CT-167): DIN 10 pin ↔ Split end (10 pin)

Maintenance

Care and maintenance

Turn the transceiver OFF before wiping away any dust and stains on the radio using a dry and soft cloth. For stubborn stains, slightly moisten a soft cloth and wring it hard before using it to wipe away the stains.

Caution Never use washing detergents and organic solvents (thinner, benzene etc.). This may result in the paint peeling off or the cover being damaged.

Replacing the fuse

Use ONLY the correct rating (15 A) replacement fuse in the DC cable fuse holder.

Caution When replacing the fuse, disconnect the power supply cable from the radio and from the external DC power supply.

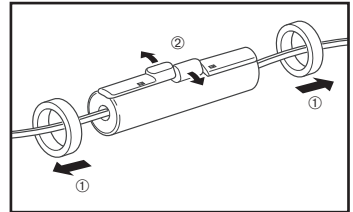
● Replacing the fuse of the DC power supply cable

- 1 Prepare a new fuse

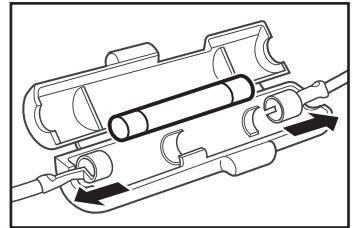
Use a fuse with a rating of 15 A.

Caution Never use a fuse that is not of the specified rating.

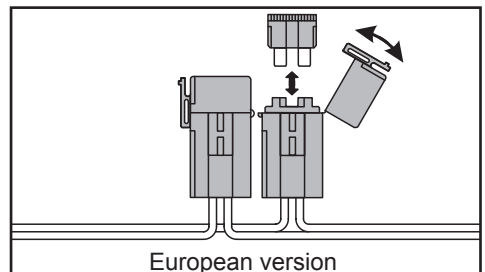
- 2 Open the fuse holder as shown in the diagram on the right



- 3 Remove the broken fuse



- 4 Attach the new fuse
- 5 Close the fuse holder



When you have difficulties ...

Caution

Check the following before requesting for repair services.

There is no power

- Is the external power supply connected correctly?
Connect the black wire to the negative (-) terminal and the red wire to the positive (+) terminal.
- Is the voltage and current capacity of the external power supply sufficient?
Check the voltage (13.8 V) and current capacity (20 A or above) of the external power supply.
- Is the fuse broken?
Replace the fuse.

There is no sound

- Is the squelch level or setting too high?
Adjust the squelch level when receiving weak signals.
- Is the volume low?
Increase the volume by turning the VOL knob in a clockwise direction.
- Is the tone squelch or DCS turned on?
When the tone squelch or DCS is turned on, no sound will be heard until signals containing the same tone frequency, or DCS code that have been set are received.
- Is the external speaker connected?
Connect a speaker with an impedance of 4 to 16 Ω correctly.
- Is the Bluetooth headset in use?
Disable the use of the headset or use the set-up menu to allow sound to come from both the headset and the main body speaker.

There is no transmission

- Is the PTT switch pressed properly?
- Is the microphone connected correctly?
Plug the connector all the way into the MIC jack.
- Is the transmission frequency set to the amateur band?
Transmission outside the amateur band is not possible.
- Is the antenna or co-axial cable broken?
Replace the antenna or co-axial cable.
- Is the voltage of the external power supply normal?
When the voltage of the power supply drops during transmit, the transceiver may not work properly.
Use a stable DC power supply with a voltage of 13.8 V and a current capacity of 20 A.

The keys or knobs will not operate

- Is the lock function activated?
Cancel the lock by pressing the POWER / LOCK key.

When you have difficulties ...**About internal spurious signals**

Certain frequency combinations of signals received simultaneously, may cause some effect on the receiver mixer and IF circuits due to the high frequency of the internal oscillator.

However, this is not a malfunction (refer to the calculation formulas below: n is any integer).

Depending on the combination of the frequencies received at the same time, there may also be fluctuations in the receiver sensitivity

- Reception frequency = 12.288 MHz x n times
- Reception frequency = 2.4576 MHz x n times
- Reception frequency = 11.1 MHz x n times
- Upper (Band A) frequency = (Lower (Band B) frequency \pm 44.85 MHz) \times n times
- Lower (Band B) frequency = (Upper (Band A) frequency \pm 47.25 MHz) \times n times @ Upper band (Band A) MODE = NFM
- Reception frequency = 15.6 MHz x n times
- Reception frequency = 6.1444 MHz x n times
- Reception frequency = 18.432 MHz x n times

After-market Services**○ The warranty period is 1 year or 2 years from the date of purchase**

The warranty certification is enclosed with the product. Breakdowns arising from normal use of the product in accordance with the instructions in the operating manual shall be repaired free-of-charge within a period of 1 year (USA, EXP version) or 2 years (European Version) from the date of purchase.

○ Keep the warranty certificate in a safe location

When the warranty certificate is lost, failures which occur during the warranty period will be treated as chargeable non-warranty claims.

A warranty certificate where necessary information such as the purchase date and the name of the retail store have not been filled in will also be treated as void. Please ensure that the date of purchase and the name of the retail store are filled in correctly in the warranty certificate.

○ You may also check with us for any non-warranty repairs

We will repair at your expense if the functions can be maintained after the repair. Please check with the retail store or Yaesu customer support for more information.

○ Keep the packaging box

When transporting this product for inspection and repair, use the original product packaging box to prevent accidents and damages during the transport.

Specification

● General

Frequency range	: TX 144 - 146 MHz or 144 - 148 MHz 430 - 440 MHz or 430 - 450 MHz
	: RX 108 - 137 MHz (Air Band) 137 - 174 MHz (144 MHz HAM) 174 - 400 MHz (GEN1) 400 - 480 MHz (430 MHz HAM) 480 - 999.99 MHz (GEN2)
Channel steps	: 5/6.25/8.33/10/12.5/15/20/25/50/100 kHz (8.33 kHz : only for Air band)
Emission Type	: F1D, F2D, F3E, F7W
Frequency stability	: ± 2.5 ppm -4°F to $+140^{\circ}\text{F}$ (-20°C to $+60^{\circ}\text{C}$)
Antenna impedance	: 50 Ω
Supply Voltage	: Norminal 13.8 V DC, negative ground
Current consumption	: 0.5 A (receive) 11 A (50 W TX, 144 MHz) 12 A (50 W TX, 430 MHz)
Operating temperature	: -4°F to $+140^{\circ}\text{F}$ (-20°C to $+60^{\circ}\text{C}$)
Case size	: Radio unit: 5.5" (W) \times 1.6" (H) \times 4.9" (D) (140 \times 40 \times 125 mm) w/o fan Controller: 5.5" (W) \times 2.8" (H) \times 0.8" (D) (140 \times 72 \times 20 mm)
Weight (approx.)	: 2.64 lbs (1.2 kg) with radio unit, controller, control cable

● Transmitter

RF power output	: 50/20/5 W
Modulation type	: F1D, F2D, F3E : Variable Reactance Modulation F7W : 4FSK (C4FM)
Spurious emission	: At least 60 dB below
Microphone impedance	: About 2 k Ω
DATA terminal input impedance	: About 10 k Ω

Ratings

● **Receiver**

Circuit type	: Double conversion super-heterodyne	
Intermediate frequencies	: A band:	
	1st : 47.25 MHz, 2nd :450 kHz	
	B band:	
	1st : 44.85 MHz, 2nd : 450 kHz	
Receiver Sensitivity	: 108 - 137 MHz (AM)	0.8 μ V typ for 10 dB SN
	137 - 140 MHz (FM)	0.2 μ V for 12 dB SINAD
	140 - 150MHz (FM)	0.2 μ V for 12 dB SINAD
	150 - 174 MHz (FM)	0.25 μ V for 12 dB SINAD
	174 - 222 MHz (FM)	0.3 μ V typ for 12 dB SINAD
	222 - 300 MHz (FM)	0.25 μ V typ for 12 dB SINAD
	300 - 336 MHz (AM)	0.8 μ V typ for 10 dB SINAD
	336 - 420 MHz (FM)	0.25 μ V for 12 dB SINAD
	420 - 470 MHz (FM)	0.2 μ V typ for 12 dB SINAD
	470 - 520 MHz (FM)	0.2 μ V for 12 dB SINAD
	800 - 900 MHz (FM)	0.4 μ V typ for 12 dB SINAD
	900 - 999.99 MHz (FM)	0.8 μ V typ for 12 dB SINAD
		Cellular blocked (USA only)
	Digital mode	
	140 - 150 MHz (Digital)	0.19 μ V typ for BER 1%
	420 - 470 MHz (Digital)	0.19 μ V typ for BER 1%
Squelch sensitivity	: 0.16 μ V (144/430 MHz)	
Selectivity	: AM, FM 12 kHz/35 kHz (-6 dB/-60 dB)	
AF output	: 3 W (8 Ω , THD10%, 13.8 V) internal speaker	
	8 W (4 Ω , THD10%, 13.8 V) Optional MLS-200-M10	
AF output impedance	: 4 - 16 Ω	
Strength of secondary radio waves:	4 nW and below	

Cautions

- Rated values are at normal temperature and pressure.
- Ratings and specifications are subject to change without notice.

● **Symbols placed on the equipment**

== Direct current

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1. Changes or modifications to this device not expressly approved by YAESU MUSEN could void the user's authorization to operate this device.
2. 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.
3. 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.

Part 15.21: Changes or modifications to this device not expressly approved by YAESU MUSEN could void the user's authorization to operate this device.

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.

Disposal of your Electronic and Electric Equipment

Products with the symbol (crossed-out wheeled bin) cannot be disposed as household waste.

Electronic and Electric Equipment should be recycled at a facility capable of handling these items and their waste by products.

In EU countries, please contact your local equipment supplier representative or service center for information about the waste collection system in your country.



Attention in case of use

This transceiver works on frequencies which are not generally permitted.

As for the actual usage, the user has to possess an amateur radio licence.

Usage is allowed only in the frequency bands which are allocated for amateur radios.

List of national codes					
AT	BE	BG	CY	CZ	DE
DK	ES	EE	FI	FR	GB
GR	HR	HU	IE	IT	LT
LU	LV	MT	NL	PL	PT
RO	SK	SI	SE	CH	IS
LI	NO	-	-	-	-

YAESU

The radio

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