YAESU
The radio

C4FM FDMA/FM
144/430 MHz 50 W DUAL BAND TRANSCEIVER

FTM-400DR
FTM-400DE

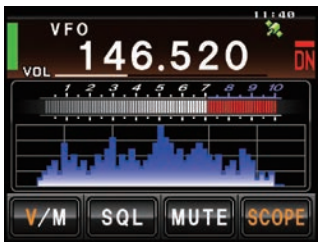
C4FM FDMA

http://www.yaesu.com/

Advanced visibility and operability with full color touch panel Operation
New Functions Enabled by the C4FM FDMA Digital Communication System

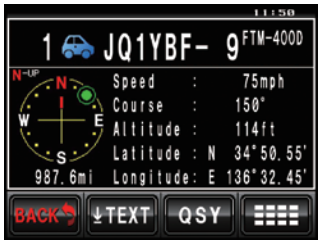
C4FM FDMA / FM
144/430 MHz DUAL BAND TRANSCEIVER
FTM-400DR / FTM-400DE

3.5-inch full color touch panel operation

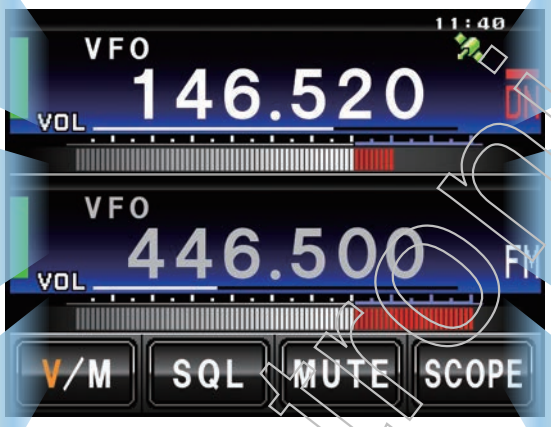


Band Scope Screen

Altitude Screen



APRS® Screen



Screen (actual size)

The icon symbols, multi-function key display and pop-up messages are all displayed in high-resolution color thanks to the full-color, high luminance TFT liquid crystal screen. The settings and status of the wireless devices are displayed in an easy-to-understand format. You can perform various operations simply and easily by gently touching the screen.

Smart Navigation Screen

Frequency Direct Input Screen

Clock / Timer Screen

C4FM FDMA / FM
144/430 MHz 50 W DUAL BAND TRANSCEIVER

FTM-400DR / FTM-400DE

American and Asian versions | European version

DTMF Microphone MH-48A6JA, Mounting Bracket, Bracket for Controller, Control Cable 10ft (3m), PC connection Cable SCU-20, and DC Power Cable included

Snapshot Function (Image Data Transmission)

Simply connect an MH-85A11U (option) microphone with camera.
Press the microphone shutter button to take snapshots, and then the image data can be displayed on the screen, and easily sent to other C4FM FDMA digital transceivers.

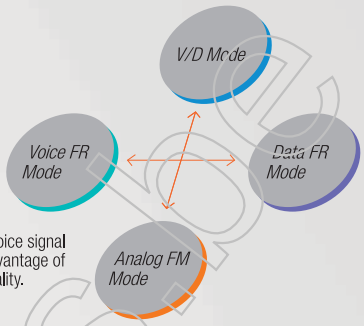
* micro SD card is required by the snapshot function.

Image data which was sent from a group member is displayed on the full-color screen. This image data also retains a time record and the GPS location data of the snapshot. It is easy to navigate to that pictured location by using back track function. In addition, you can observe on the screen whether or not transmitted data was successfully received by the member station. The snapshot image or received data is stored in a high capacity micro SD card. You can recall and send that image data from the SD card anytime. The pictures and data files may be easily viewed and edited by using a personal computer.

The Choice of C4FM Digital

Compared to other digital modulation schemes within FDMA, C4FM has excellent communication quality (BER: Bit Error Rate characteristics). C4FM is the standard method for professional communication devices in FDMA, and is therefore considered to be the main stream digital communication mode in the future.

AMS (Automatic Mode Select)



The FTM-400DR/FTM-400DE operates in three digital modes and an analog mode to suit your needs.
The Automatic Mode Select (AMS) function instantly detects the received signal mode.
The AMS function enables stress-free operation and eliminates the need to manually switch between communication modes.

•V/D mode (Voice/Data simultaneous communication mode)

The digital voice signal is transmitted in one half of the band width. Simultaneously the other half of the 12.5 kHz band width channel is used for error correction of the voice signal and other data. By incorporating powerful error correction technology developed for professional communication devices, effective error correction codes provide the advantage of fewer interruptions to conversations. The Clear Voice technology developed for the C4FM FDMA Digital mode provides the ideal balance of error correction and sound quality.

•Voice FR mode (Voice Full Rate Mode)

This mode uses the full 12.5 kHz bandwidth to transmit digital voice data. The increased amount of voice data permits high quality voice communication, providing superb sound quality for a "rag chew" with friends.

•Data FR mode (High Speed Data Communication Mode)

This high-speed data communication mode uses the full 12.5 kHz bandwidth for data communication. The transceiver automatically switches to Data FR mode when transmitting snapshot pictures, and can be used to transmit large quantities of data at high speed.

•Analog FM mode

Analog FM is effective when weak signal strength causes audio drop out in the digital mode, and enables communication up to the borderline of the noise level. Also the use of established Yaesu low power circuit designs provides greater efficiency than the digital modes.

Digital Group Monitor (GM) Function

The digital GM function automatically checks whether members registered to a group are within the communication range, and displays information such as the distance and orientation for each call sign on the screen. This useful function not only enables you to see which friends are within communication range, it also permits you to see at a glance where all group members are located.
Additionally, this function can be used to send messages and image data between group members.

Digital Group Monitor

Message Screen

Smart Navigation Function

Real-time navigation function enables location checking at any time

In digital V/D mode, information such as position data is transmitted together with voice signals so the distance and direction to the other stations can be displayed in real-time while communicating with them.

Backtrack function that starts navigation direction to a previously registered point

The backtrack function enables navigation to a registered location at the touch of a button. When hiking or camping, simply register your starting point or campsite before departure, and the distance and orientation from the current location are displayed on the screen.

Additional operating and support features

Wideband Receive Capability

Covers 108 MHz - 999.990 MHz (A (Main) / B(Sub) Band), VHF Marine, Aircraft, Public service channels, etc.

Hands-free operation*1

Hands-free operation is available by using the optional wireless Bluetooth® unit and headset.
(Optional Bluetooth® unit (BU-2) and Headset (BH-2A) are required.)

High Power Audio Output

Loud 3 W Audio Outputs.
8 W output for Optional External Speaker (MLS-200-M10)

Voice Guide and Recording Function

Optional Voice Guide Unit (FVS-2) announces your current operating frequency, band change and APRS® messages.*2 You can record up to 5 minutes of received signals, or continuously record the last 30 seconds of received audio.

*1 The Bluetooth® name and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such trademarks by Yaesu Co., Ltd. is under license. Other trademarks and trade names are those of their respective owners. *2 * APRS® is a registered trademark of Bob Bruninga, WB4APR.

Other Useful Features

- Real-time Band Scope with uninterrupted RX audio
- 500 Memory Channels for each A(Main) band and B(Sub) band
- Storage of the Memory channels and personal settings on an inserted micro SD card
- By using a micro SD card, it is easy to copy and transfer the radio data to other compatible radios
- 1200/9600bps APRS® (Automatic Packet Reporting System) Data communication capability*
- Versatile Scanning Receiver for Monitoring Enthusiasts (VFO Scan, Memory Scan, etc)
- Built-in GPS receiver and antenna provides location, time, direction and APRS® information* (External GPS devices can be connected)
- GPS Logging Function
- Analog and Digital Clock
- Timer function : Event timer with Lap or count down functions

* APRS® is a registered trademark of Bob Bruninga, WB4APR.

SPECIFICATIONS

General

Frequency Range:
A (Main) / B (Sub) Band 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) Cellular Blocked (USA only)
Tx: 144 - 146 MHz or 144 - 148 MHz
430 - 440 MHz or 430 - 450 MHz
Channel Steps : 5, 6.25, 8.33, 10, 12.5, 15, 20, 25, 50, 100 kHz
(8.33 kHz : Only for Air band)
Frequency Stability : ±2.5 ppm −4°F to +140°F (−20°C to +60°C)
Emission Type : F1D, F2D, F3E, F7W
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°F (−20°C to +60°C)
Case Size : Radio Unit 5.5"(W) x 1.6"(H) x 4.9"(D) (140 x 40 x 125mm) w/o Fan
Controller 5.5"(W) x 2.8"(H) x 0.8"(D) (140 x 72 x 20mm) w/o Knob

Weight (Approx.) : 2.64 lbs (1.2 kg) with Radio Unit, Controller, Control Cable

Transmitter

RF Power Output : 50 W / 20 W / 5 W
Modulation Type : F1D, F2D, F3E : Variable Reactance Modulation
F7W : 4FSK (C4FM)
Spurious Emission : At least 60 dB below

Receiver

Circuit Type : Double-Conversion Super heterodyne
Intermediate Frequencies : 1st: 47.25 MHz 2nd: 450 kHz (A Band)
1st: 44.85 MHz 2nd: 450 kHz (B Band)
Sensitivity : 0.8 µV TYP for 10 dB SN (108 - 137 MHz, AM)
0.2 µV for 12 dB SINAD (137 - 140 MHz, FM)
0.2 µV for 12 dB SINAD (140 - 150 MHz, FM)
0.19 µV TYP for BER1% (140 - 150 MHz Digital)
0.25 µV for 12 dB SINAD (150 - 174 MHz, FM)
0.3 µV TYP for 12 dB SINAD (174 - 222 MHz, FM)
0.25 µV TYP for 12 dB SINAD (222 - 300 MHz, FM)
0.8 µV TYP for 10 dB SN (300 - 336 MHz, AM)
0.25 µV for 12 dB SINAD (336 - 420 MHz, FM)
0.2 µV for 12 dB SINAD (420 - 470 MHz, FM)
0.19 µV TYP for BER1% (420 - 470 MHz Digital)
0.2 µV for 12 dB SINAD (470 - 520 MHz, FM)
0.4 µV TYP for 12 dB SINAD (800 - 900 MHz, FM)
0.8 µV TYP for 12 dB SINAD (900 - 999.99 MHz, FM)
Cellular Blocked (USA only)
Selectivity : NFM, AM 12 kHz / 30 kHz (−6 dB / −60 dB)
AF Output : 3 W (8Ω, THD10 %, 13.8 V) Internal Speaker
8 W (4Ω, THD10 %, 13.8 V) External Speaker

OPTIONS

 Microphone with Snapshot camera **MH-85A11U**	 DTMF Microphone **MH-48A6JA***1	 Normal Microphone **MH-42C6J**	 Bluetooth® Adapter Unit **BU-2**	 Bluetooth® Headset **BH-2A**	 Charger Cradle (3 hours) for BH-2A Bluetooth®Headset **CD-40**	 AC Adapter for CD-40 **PA-46B/C/U***2
 High-Power External Speaker **MLS-200-M10**	 Voice Guide Unit **FVS-2**	 Vacuum Cup Mount Bracket for Controller **MMB-98**	 PC Connection Cable **SCU-20***1	 Separation Cable 20 ft (6m) **CT-162**	 Cloning Cable **CT-166**	Data Cable **CT-163** MDIN10 pin to MDIN6 pin + Dsub9 **CT-164** MDIN10 pin to MDIN6 pin **CT-165** MDIN10 pin to Dsub9 **CT-167** MDIN10 pin to Open

*1 The same as the supplied accessory *2 "B" for USA version / "C" for 220 - 240 VAC / "U" for 230 VAC w/ UK Plug

YAESU
The radio

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VEGETABLE OIL INK

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