

High-Resolution Full-Color Display
Simultaneous Dual Receive
144/430 MHz Dual Band Mobile

C4FM/FM 144/430MHz DUAL BAND DIGITAL TRANSCEIVER

FTM-300D

《FTM-300DR: US, Asia and Australia FTM-300DE: Europe》



《 Actual Size 》



Superior Visibility, High Resolution QVGA Display Real Dual Band Operation with Simultaneous C4FM Monitoring



C4FM
Dual Band Operation
Clear and Crisp Voice Technology

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

FTM-300D

《FTM-300DR: US, Asia and Australia, FTM-300DE: Europe》

(DTMF Microphone SSM-85D, Mounting Bracket,
Bracket for Controller, Control Cable 10ft (3m),
USB Cable and DC Power Cable Included)

Bluetooth®

microSD
Card

AMS
Automatic Mode Select

66 ch GPS

WRES-X
Portable Digital Node

Excellent Performance with Functions that ensure High-quality, True Dual-band Mobile Operation

High-Resolution QVGA Full-Color Display

High Resolution 2-inch QVGA display provides Clear Visibility with high brightness and a wide viewing angle.

Large-capacity 1104 Channel Memories and Channel TAGs with up to 16 alpha-numeric characters

Dual Band Operation (V+V / U+U / V+U / U+V) & C4FM/C4FM Simultaneous Monitoring

The FTM-300D has two independent receiver circuits. It provides real dual-band operation regardless of whether in the same band or in different bands. In addition, the FTM-300D supports simultaneous C4FM monitoring for both A and B-bands, to fully enjoy C4FM digital communications.

- C4FM/C4FM simultaneous receiving audio output is not supported. If C4FM digital signals are received on both A and B-bands at the same time, priority is given to the C4FM signal received on the operating band.
- Digital data such as call sign and location information can be received simultaneously on both bands.

Loud 3W Exceptional Quality Audio

A 3W audio speaker ensures clear and crisp sound. The circuit has been specifically tuned for quality audio, and you can enjoy communications with outstanding quality audio even in outdoor or noisy environments. Two individual external speaker terminals are provided so A & B band signals can be combined, or connect A and B bands to independent external speakers for monitoring.



3 Watts (φ 66 mm) Speaker

Comfortable Hands-free Operation with Built-in Bluetooth® unit

FTM-300D enables wireless operation using the optional Yaesu Bluetooth® headset SSM-BT10. The SSM-BT10 headset is equipped with a PTT button and supports VOX (voice activated transmission) function which enables the hands-free operation while operating mobile.

- The SSM-BT10 operates for approximately 20 hours on a single charge.
- The SSM-BT10 can be easily charged using the new USB charger cable (SCU-41: Optional) with the controller of the FTM-300D.

* Although other commercially available Bluetooth® headsets can be used, the operation of all Bluetooth® products is not guaranteed. We recommend using the Bluetooth® headset SSM-BT10.



SSM-BT10
Charging with
SCU-41 cable

FACC (Funnel Air-Convection Conductor) cooling system, ensures Stable High-Power Output

FACC Wind Tunnel construction gathers cool air through the wide-open front and side air intakes and directs it to the final amplifier area and then out the rear cooling fan. This efficient cooling system ensures stable output power for sustained long distance communications.



FACC: Funnel Air-Convection
Conductor (Wind Tunnel)

New Easy Operating User Interface E2O-II (Easy to Operate-II)

New Memory Auto Grouping (MAG) function

The new memory auto grouping (MAG) function allows for Memory channels to be automatically categorized in each band, and memory channels can be easily and quickly recalled by Band groups. If you press the "BAND" key while operating on a memory channel, the bands switch in the order of M-ALL → M-AIR → M-VHF → M-UHF → M-GEN, → M-GRP. Only memory channels of that frequency band may be automatically grouped and recalled. With M-ALL, band grouping is turned Off and all memory channels can be called in numerical order.

Memory Channel List		
MEMORY CH LIST		
001	432.100	UHF1
002	146.520	VHF1
003	446.500	UHF2
004	144.640	VHF2
005	145.000	VHF3
006	145.620	VHF4
007	130.100	AIR1
...		
999	431.000	UHF

e.g. Selected VHF Band Group from Memory Channel List

M-VHF

M-AIR

M-UHF

M-GRP

M-GEN

M-ALL

Memory Auto Grouping (MAG) function image

New Multi-Channel Standby (MCS) function

With one touch, the MCS function allows the memory channels registered in the M-GRP (Registration is possible regardless of the band) of the MAG function, to be set to standby mode. When the M-GRP operation is in memory channel mode, you can quickly start watching M-GRP stored channels simply by pressing and holding the "BAND" key. The watch is paused on the channel when a signal is received, so you can communicate on that channel. When the communication is completed, the M-GRP channel standby watch will resume after 5 seconds, so you will not miss the M-GRP channel calls.

- Recommend storing 3 to 5 M-GRP memory channels for effective use of the MCS function.
- The MCS function also works in other band groups of the MAG function.

E2O-II Function Menu that quickly recalls the frequently used functions

With the E2O-II (Easy to Operate -II) function menu, frequently used functions such as frequency direct input, memory channel recall, and signaling selection, can be easily selected by using the function screen accessed by pressing the "F" key. Other function settings are displayed on the menu screen. Press and hold the "F" key to call and set the menu screen.

432.500

1 2 3 4 5

6 7 8 9 0

MEMORY CH LIST

ENTER FREQUENCY

FUNCTION

APRS FUNCTION

FVS-2

E2O-II Function Menu

REV	TXPWR HI
DTMF	SQ-TYP DCS
DTMF MEMORY	CODE 023
LOG LIST	REC

Signaling

M.REC	TRACK ALL
PLAY	STOP
CLEAR	VOICE GUIDE

APRS

REC/PLAY (Only when equipped optional FVS-2 voice guide Unit)

Real Time 61 Channel Band Scope

You can visually monitor the signal information in both VFO mode and Memory Channel mode at high speed, in real time.

- In VFO mode, up to 61 channels, centered around the current frequency are displayed.
- In Memory Channel operation, a maximum of 21 channels of signal information can be displayed.
- The Band scope display can be simply turned ON/OFF by pressing the display "DISP" key on the panel.



High speed Band Scope

Simpler WIRES-X connection for long-distance Internet communication!

Enjoy totally mobile amateur internet communications with the new Portable Digital Node function

WIRES-X

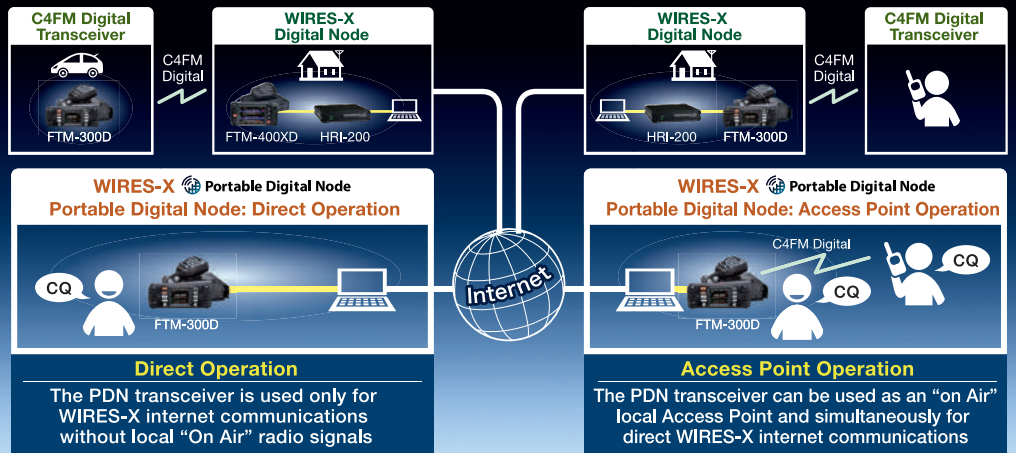
WIRES-X Portable Digital Node Function

Wires-X enables worldwide communications via a node station connected to the internet. You can use your FTM-300D to connect to a local Wires-X node. With Wires-X Portable Digital Node function you can connect your FTM-300D to the Wires-X network through an internet connected PC.

HRI-200 (WIRES-X Internet Kit) is required to connect to the Internet as a fixed Node station.

By using the new Portable Digital Node Function*, you can maintain Internet communications by connecting the FTM-300D directly to a PC, whenever connecting to a node station is not available.

*Please refer to Yaesu website for the detailed preparation, connection, PC settings and operation of the "Portable Digital Node Function"

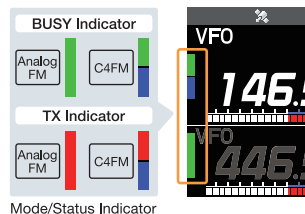


PDN: Portable Digital Node station

Advanced Features of C4FM Digital Communication

FM friendly Digital: AMS (Automatic Mode Select) with Multi-color Mode/Status Indicator

The AMS (Automatic Mode Select) function affords an FM-friendly digital system that automatically selects the digital or analog communications mode according to the received signal. The FTM-300D display has a Mode/Status indicator that shows the Transmit/Receive status and the communications mode for each band at the same time. You can see the current communications mode and status at a glance.



Mode/Status Indicator

Digital Group Monitor (GM) Function

The Digital Group Monitor (GM) function automatically checks whether the station operating the GM function on the same frequency and with the same DG-ID is within communication range, and displays their call sign.

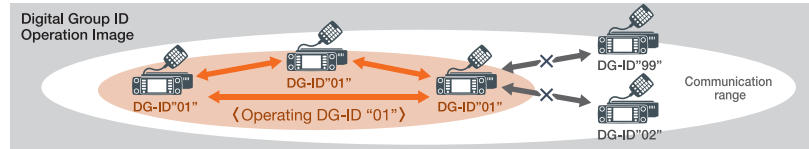
- GM function checks the status up to 24 stations within the communications area.
- You can select a specific group member call sign to display the direction and distance of the member on the compass screen in real time.



Group Monitor Display

Directed Digital Group ID (DG-ID) Communications

In the C4FM digital mode, the Digital-Group-ID (DG-ID) "00 to 99", can be easily configured by each group member to facilitate communications only between the specific group participants. When the DG-ID number is set to "00", the audio of stations with a different DG-ID can also be received.



Smart Navigation Function in Full color

● Real Time Navigation Function

The Digital V/D Mode communicates additional information such as position data, distance and direction at the same time as the voice signal. This allows viewing the location of the station displayed on the compass screen in real time, while communicating.

● Backtrack Function

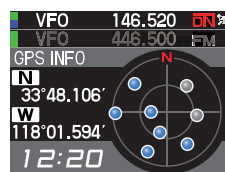
The Backtrack function allows viewing the direction and distance to a pre-registered point* from your current position in real time, and makes possible navigation back to the departure point, or to a previously registered* point.

* Up to three locations can be registered.

Innovative Features that Ensure Ease of Operation

Built-in High Precision GPS Receiver

A high-sensitivity 66 channel GPS receiver is installed in the Control Panel to greatly improve the position information acquisition time and accuracy. In C4FM digital mode, the position and direction of the contacted stations are displayed in real time in conjunction with the voice communications. The FTM-300D also supports a GPS logging function, which can display GPS acquisition information, also the location and the trajectory information of your own station. GPS data may be display with PC software. In addition, the Control Panel has an external connection terminal for attachment of an external GPS device.



GPS satellite Capture Status Display

Micro SD Card Slot

The FTM-300D accepts commercially available micro SD cards (up to 32 GB) for storage of GPS logger data (recorded track information can be displayed later by using map software on your PC). Backing up the memory of the transceiver, storing image data and other useful information on the SD card is also possible. Using the SD card, it is also possible to clone the radio data to other compatible radios.



micro SD card slot

1200/9600bps APRS® Data communication

An APRS® received station information list is displayed. Message exchange as well as SmartBeaconing™ are supported. You will be able to: display the APRS® information; display the station list; send and receive APRS® messages; use the SmartBeaconing™ function; and track your APRS® movement on the Internet websites.

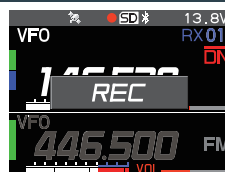


APRS® Display Image

Recording Function

The FTM-300D voice recorder can record the received audio of other stations or the transmit audio from the FTM-300D. The recorded voice data is saved as an audio file list on the micro SD card. You can replay audio and listen at any time.

The optional Voice guide unit (FVS-2) allows you to automatically record the last 30 seconds of received signals on the current operating frequency then immediately replay and review it.



Recording Display Image

Snapshot Feature (Transmit/Receive Image data)

Snapshots may be taken with a connected camera microphone MH-85A11U (optional). The captured images are displayed with full color, and may be sent to other C4FM digital transceivers by pressing the send image button on the microphone. Snapshot images sent from other C4FM stations may be viewed in full color on the display.

- Image transmission time for high quality (High) mode is approximately 1 minute and 40 seconds*1
- The date, time, and location when a snapshot is taken are stored in the image data. This is a very useful function to aid in navigating to the location where the photo was taken by using the backtrack function.
- Images are stored on the micro SD card, so they can be reviewed and transmitted later or edited on a PC.



Snapshot Display Image

*1 The snapshot image transfer time varies depending on the size of the image file.

Additional Handy Features

- Illuminated keyboard that will assist operation in dark or poor lighting
- VOX (Voice Activated Transmit) Operation
- DTMF Encode
- DTMF Memory
- Built-in: CTCSS; DCS; and Pager (EPCS) encode/decode functions, enable the Selective Call features
- Split Memory function
- ARS (Automatic Repeater Shift)
- GPS Logger function
- GPS status (Satellite Capture Status) display
- External GPS device connectivity
- Versatile Rear panel DATA terminal (GPS data output; Waypoint data output; Packet; Clone; HRI-200 or WIRES-X Portable digital Node connection)
- Clock, Lap/Countdown timer
- Key lock function
- Automatic Power Off (APO)
- Time-out Timer (TOT)
- Voltage display
- NOAA Weather alert: when available in-service area*
 - * Check local regulations for availability in your region.

SSM-85D Multifunctional Microphone with DTMF provides the user with quick access to major functions (Supplied accessory)



- [MUTE] Audio Mute
- [1] to [0] Enters the numbers and letters
- [*] Changes the VFO/Memory operating mode of the operating band
- [#] Changes the operating band
- [A] Switches the operating band to Band A
- [B] Switches the operating band to Band B
- [C] Adjusts the squelch level
- [D] Switches the band scope display
- [P1] Activates the GM (Group Monitor) functions
- [P2] to [P4] Assignable from 16 functions*

*Functions to be assigned to [P2] through [P4] can be selected from among 16 functions.
(e.g.: Changes the transmit power; Switches WIRES-X mode; Changes the Mode Digital/Analog)

Specifications

General

Frequency Range: A/B Band
 Rx: 108 - 137MHz (AIR Band)
 137 - 174MHz (144MHz HAM / VHF Band)
 174 - 400MHz (GEN)
 400 - 480MHz (430MHz HAM / UHF Band)
 480 - 999.99MHz (GEN)*1
 Tx: 144 - 148MHz or 144 - 146MHz
 (Depends on the transceiver version)
 430 - 450MHz or 430 - 440MHz
 (Depends on the transceiver version)
 Channel Steps: 5, 6.25, (8.33)*2, 10, 12.5, 15, 20, 25, 50, 100kHz
 Frequency Stability: ±2.5ppm -4°F to +140°F (-20°C to +60°C)
 Emission Type: F1D, F2D, F3E, F7W
 Supply Voltage: Nominal 13.8V DC, Negative Ground
 Current Consumption: 0.5A (Receive)
 11A (50W TX, 144MHz)
 11A (50W TX, 430MHz)
 Operating Temperature: -4°F to +140°F (-20°C to +60°C)
 Case Size : Radio Unit 5.47"(W) x 1.66"(H) x 5.2"(D) (139 x 42 x 132 mm) w/o Fan
 Controller 5.47"(W) x 2.09"(H) x 0.7"(D) (139 x 53 x 18 mm) w/o Knob
 Weight (Approx.) : 2.43 lbs (1.1kg) with Radio Unit, Controller, Control Cable

Transmitter

RF Power Output: 50W/25W/5W
 Modulation Type: F1D, F2D, F3E : Variable Reactance Modulation
 F7W : 4FSK (C4FM)
 Maximum Deviation: ±5 kHz
 Spurious Emission : At least 60dB below
 Microphone Impedance: 2 kΩ
 Data Jack Impedance: 10 kΩ

Receiver

Circuit Type : Double-Conversion Super heterodyne
 Intermediate Frequencies : 1st: 58.05MHz 2nd: 450kHz (A band)
 1st: 57.15MHz 2nd: 450kHz (B band)
 Sensitivity : 0.8µV TYP for 10dB SN (108 - 137MHz, @AM)
 0.2µV for 12dB SINAD (137 - 140MHz, @FM)
 0.2µV for 12dB SINAD (140 - 150MHz, @FM)
 0.25µV for 12dB SINAD (150 - 174MHz, @FM)
 0.3µV TYP for 12dB SINAD (174 - 222MHz, @FM)
 0.25µV TYP for 12dB SINAD (222 - 300MHz, @FM)
 0.8µV TYP for 10dB SN (300 - 336MHz, @AM)
 0.25µV for 12dB SINAD (336 - 420MHz, @FM)
 0.2µV for 12dB SINAD (420 - 470MHz, @FM)
 0.2µV for 12dB SINAD (470 - 520MHz, @FM)
 0.4µV TYP for 12dB SINAD (800 - 900MHz, @FM)
 0.8µV TYP for 12dB SINAD (900 - 999.99MHz, @FM)
 0.19µV TYP for BER 1% (Digital Mode)
 Cellular Blocked (USA only)
 Selectivity: NFM, AM 12kHz / 30kHz (-6 dB / -60 dB)
 AF Output: 3W(8Ω, THD10%, 13.8V) Internal Speaker
 3W(8Ω, THD10%, 13.8V) External Speaker
 AF Output Impedance: 8Ω

*1 USA Cellular Blocked *2 8.33kHz: Only for Air band ■ Specifications are subject to change without notice, and are guaranteed within the amateur bands only. Frequency ranges and functions will vary according to transceiver version; check with your dealer.

Option

 MH-85A11U Microphone with Snapshot camera	 SSM-85D+3 DTMF Microphone	 MH-42c6J Microphone	 SSM-BT10 Bluetooth® Headset	 MLS-100 High-Power External Speaker	 FVS-2 Voice Guide Unit	 MMB-98 Vacuum Cup Mount Bracket for Controller	 SCU-41 Charging Cable for Bluetooth® Headset SSM-BT10	 SCU-47 Control Cable 20 ft (6m) (Radio - Controller connection cable)	
 SCU-23 Mic Extension Cable 10 ft (3m) for MH-85A11U	 MEK-2 Mic Extension Kit 10 ft (3m) for SSM-85D and MH-42C6J	 FP-1030A+4 AC Power Supply (25A)	 FP-1023+5 AC Power Supply (23A)	 SCU-40 WIRES-X Connection Cable kit (inc. SCU-20 and Audio Cable)	 CT-166 Cloning Cable	 CT-163 Data Cable MDIN10 pin to MDIN6 pin + Dsub9	 CT-165 Data Cable MDIN10 pin to Dsub9	 CT-164 Data Cable MDIN10 pin to MDIN6 pin	 CT-167 Data Cable MDIN10 pin to Open

*3 The same as the supplied accessory *4 US and Asian versions only *5 US version only

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2020.0510LS (U/EXP/EU) B9200890 Printed in Japan