

## The New Flagship Mobile

144/430MHz 55/50W FM/C4FM Digital Dual Band Transceiver

**FTM-510D ASP**

**FTM-510D** (SPU-1 is required for ASP Operation)

Front Speaker + AESS Dual Speaker System

Search & Go / Touch & Go Operations

Improved PMG Operation

ASP for Better Coverage

# The BIGHEAD



《 Actual Size 》

FTM-510DR ASP / FTM-510DR: US, Asia and Australia

FTM-510DE ASP / FTM-510DE: Europe



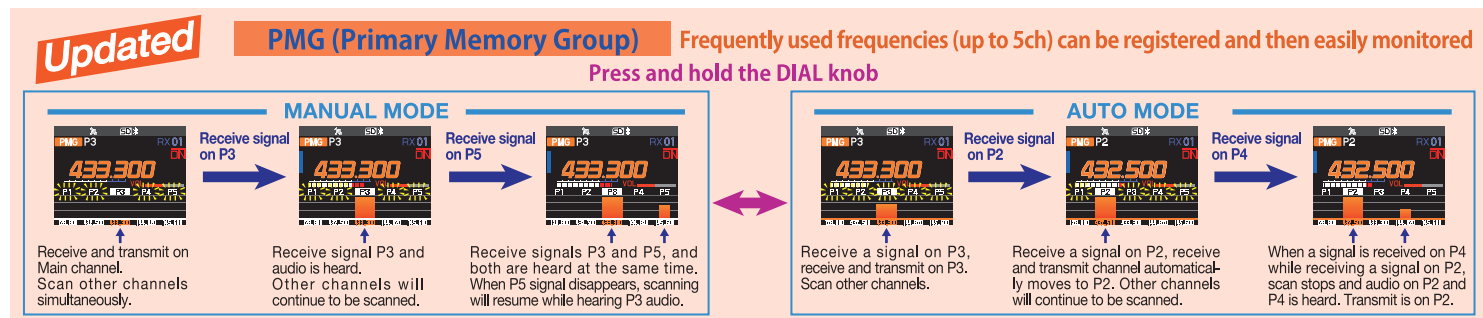
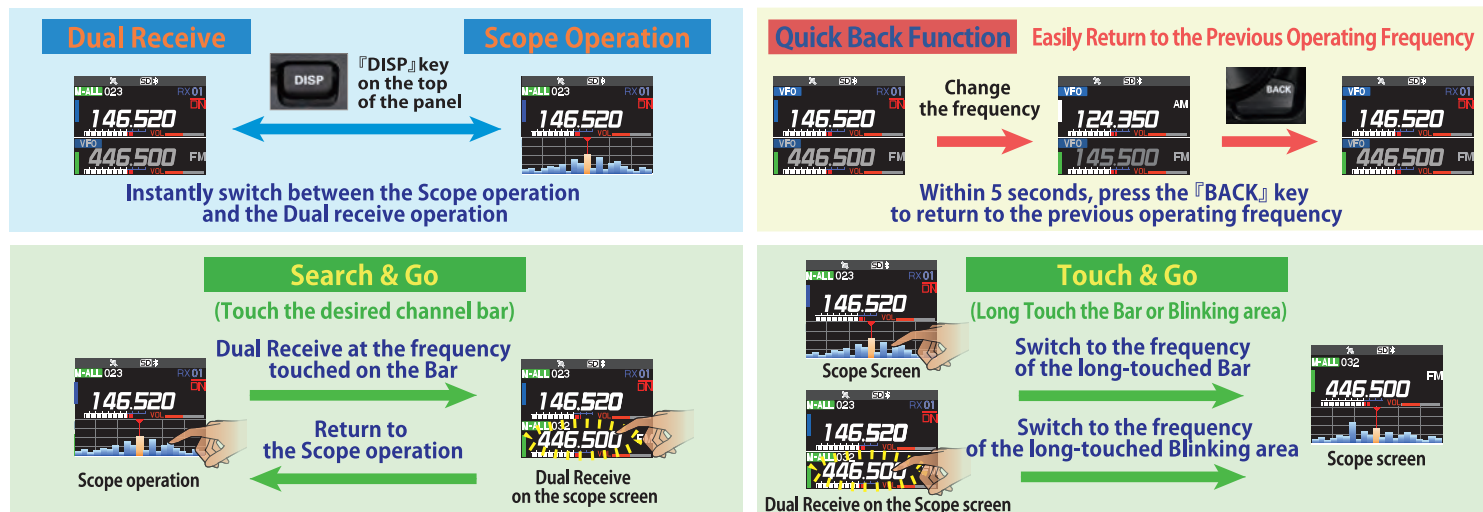
\* BU-5 is required for Bluetooth Operation

# The Best Ever Flagship Dual Band Digital Transceiver

- High Quality Audio AESS Dual Speaker System
- Search & Go / Touch & Go Function
- PMG (Primary Memory Group) Function
- Super-DX + ASP Function
- Professional Digital Modulation, C4FM Digital



## Intuitive & Effortless Smart Operating System (E2O: Easy to Operate-IV)



## New Super-DX + ASP (Audio Signal Processor)

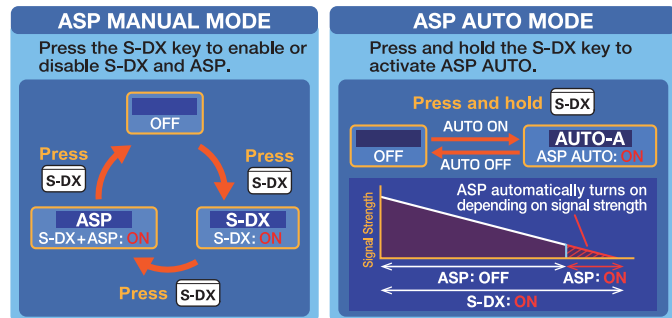
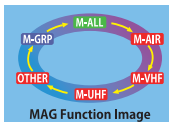
The Super DX function increases the sensitivity of the RF amplifier when the received signal is weak, expanding the communication range. In addition, by installing the "SPU-1" (Optional for FTM-510DR/DE), the received audio signal can be digitally processed to remove noise. The received voice is enhanced to produce clear and comfortable sound quality. Press and hold the S-DX key to select ASP AUTO mode, ASP will be enabled/disabled automatically according to the received signal strength.

\* The ASP function works with analog FM mode and AM mode.



## New Now MAG (Memory Auto Grouping) has the My Group feature could group any channel you mix

The MAG function automatically enables the Memory Channels to be quickly recalled by Band groups. By pressing the [BAND] key while operating on a Memory Channel, the bands will switch in the order of each band. In "M-GRP" (My Group), memory channels can be set to M-GRP regardless of the frequencies. In "M-ALL", the MAG function is turned off and all memory channels are recalled.



## CFL (Customized Function List) Register up to 8 Functions Ensures Easy and Smooth Operation

A single-press of the [FUNC] knob reveals the list of priority functions and their setting statuses at a glance. The functions may be directly executed, or the settings changed on the same screen.

KEYPAD	HOME CH
SCAN	TXPWR HIGH
SQL	ARS AUTO
RPT-R	APRS OFF
DTMF	APRS OFF
	HIGH



## Front Speaker, with AESS Dual Speaker System

### Loud 6W Front Speaker

The 6W high audio output front speaker inside the control-head, ensures clear and powerful audio output. The front speaker is positioned downward inside the head. The wide tapered grille at the bottom of the head is designed so the audio output is efficiently emitted to the front. Even in separate operation where the main-unit is installed under the seat, comfortable operation is possible without adding an external speaker.

### AESS Dual Speaker System produces High-fidelity Audio

The phase modification speaker system AESS is generated jointly by the main-unit speaker and the front speaker. By varying the phase, output balance, and frequency characteristics of the front and main-unit speaker output, AESS achieves clear, high-fidelity audio. The total output of 9W (Front: 6W + Internal: 3W) ensures reliable communications even in outdoor or noisy environments.

\* AESS: Acoustic Enhanced Speaker System

\* When the ASP function is activated, audio is heard from the front speakers only.



AESS Dual Speaker System Image

## Angle variable Swing-head ensures Excellent visibility

The angle of the control-head can be adjusted upward by 20 degrees with respect to the main-unit, visibility of the display is ensured, even when installed under the dashboard of the vehicle. Additionally, by attaching the optional Swing-head kit (SJKM-500) to the control-head, flexible angle adjustment is possible. Even when the installation space is limited, operation can be from the best angle.

\*Optional control-head extension cable "SCU-62" or "CT-132" is not required.



Swing-head kit: SJKM-500 (Optional) Installation Image

## Advanced Functions that Ensure Ease of Operation

### Wide-band Reception

The FTM-510D provides continuous wide-range receive coverage from 108MHz to 550MHz. The communication mode supports C4FM digital with excellent audio quality, analog FM modes, and AM (VHF/UHF Air band receive).

### True Dual Band Operation with C4FM/C4FM simultaneous Receive

Two independent receiver circuits provide true dual-band operation, whether in the same band or in different bands (V+V/U+U/V+U/U+V). Additionally, the FTM-510D supports C4FM/C4FM simultaneous digital receive (digital D/D). Call signs and location data of C4FM digital can also be received simultaneously on both bands.

### High-resolution Full-color Touch Panel Display

2.4-inch full-color touch panel display provides intuitive and smooth operation with high brightness and wide viewing angle. Operating frequency, communication mode, the monitor screen that displays the signal status, and the compass screen that shows position information are all presented in full color for outstanding visibility.

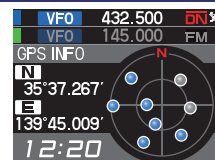
- VFO Band Skip Function
- Memory Data Transfer to the VFO Register

### Control-head with Microphone jack

The FTM-510D provides microphone connections to either the control-head or the front of the transceiver unit. Comfortable mobile operation is provided with a variety of installation options.

### High Precision GPS Receiver

The FTM-510D comes standard with a high-sensitivity 66 channel GPS receiver in the Control-head. With the C4FM digital mode, the position and direction of the contact stations can be displayed in real time. In addition, the control-head has a connection to attach an external GPS device.



### 1200/9600bps APRS® Data communication

An APRS® received station information list is displayed. Message exchange as well as SmartBeaconing™ are supported. Communicate the location information between this station and other stations, and view the positional relationship of the other stations on the compass display. Also, this station's APRS® movement trajectory can be confirmed on the internet websites.



## C4FM Digital Technologies: Outstanding Audio Quality / Automatic Selection of Analog or C4FM digital Communications

### Excellent C4FM Digital Audio Quality

C4FM Digital is a standard method for professional use, it has excellent audio quality (BER: Bit Error Rate characteristics). Adding YAESU's original error correction technology has achieved comprehensive high-grade communications, with uninterrupted, clear-crisp audio, and a wide communication range.

### DG-ID (Digital Group ID) / GM (Group Monitor)

The Digital Group ID (00 to 99) can be 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 all stations can be received. The Digital Group Monitor (GM) function automatically confirms whether up to 24 stations are operating within communication range, and displays the distance and direction for each call sign. Selected specific stations can be displayed in real time on the compass screen.



Group Monitor Display



Compass Display

### FM Friendly Digital Communications using AMS (Automatic Mode Select)

AMS automatically determines if the received signal is C4FM Digital or conventional FM, and sets the receiver to the appropriate mode. The AMS function enables FM compatible digital operation by removing the need for users to manually switch between modes.

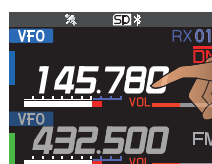
### Smart Navigation with Color Compass Display

#### •Real Time Navigation Function

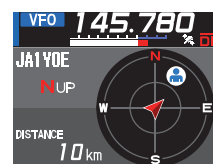
Touching the operating display while communicating in C4FM digital V/D mode, to easily display the direction, distance, and the position of the received station on the compass screen.

#### •Backtrack Function

The Backtrack function allows viewing the direction and distance to a pre-registered point from the current position, in real time. Navigation back to the departure point, or to a previously registered point is made possible. Up to three locations can be pre-registered.



C4FM digital Operating Display



Compass Display



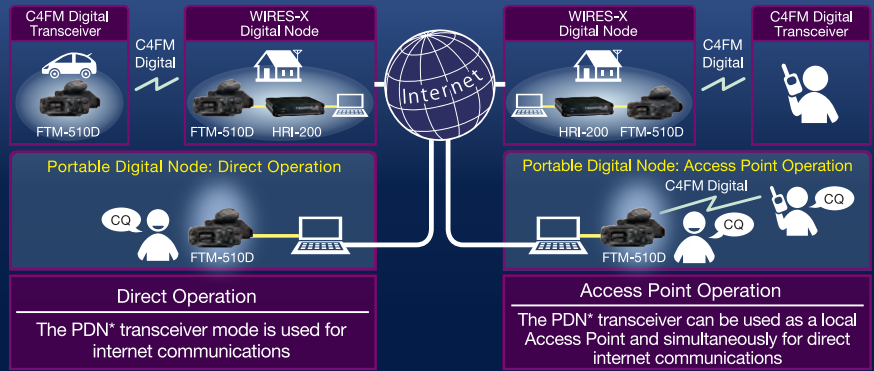
Experience Worldwide Internet Communications anytime, anywhere with World-recognized WIRES-X

### Portable Digital Node Function

Worldwide communications are enabled with this Digital node station connected to the internet. With the Wires-X Portable Digital Node function, the FTM-510D can connect to the Wires-X network through an internet connected PC, from any location.

Operate digital node stations even when you are away from home using the Internet online

Easily enjoy Internet communications using the FTM-510D and a PC, no need to connect to a Wires-X node station



Simpler and Highly-mobile, Portable Digital Node Function

\*PDN: Portable Digital Node station

### Other Practical Features

- FACC\* cooling system, ensures Stable 55W(VHF)/50W(UHF) High-Power Output  
\* FACC: Funnel Air-Convection Conductor
- Large 1103 Memory channels
- Recording function
- DTMF Memory
- Hands-free Bluetooth® Operation\*  
\* BU-5 is required.
- microSD Card Slot
- Split Memory function
- ARS (Automatic Repeater Shift)
- VOX (Voice Activated Transmit) Operation
- GPS Logger function
- DTMF Encode
- DTMF Memory
- Versatile Rear panel DATA terminal (GPS data output; Waypoint data output; Packet; HRI-200 or WIRES-X Portable digital Node connection)
- Built-in: CTCSS; DCS; and Pager (EPCS) encode/decode functions, enable the Selective Call features
- Illuminated keyboard to assist operation in dark or poor lighting
- Automatic Power Off (APO)
- Time-out Timer (TOT)
- Clock, Lap/Countdown timer
- NOAA Weather alert: when available in-service area\*

\* Check local regulations for availability in your region.

SSM-85D multifunctional microphone with a DTMF provides the user with quick access to major functions (Supplied accessory)



\*Functions to be assigned to [P1] through [P4] can be selected from among 18 functions. (e.g.: Change the transmit power; Switch WIRES-X mode; Change the Mode Digital/Analog)

- [ MUTE ] Audio Mute
- [ 1 ] to [ 0 ] Enters the numbers and letters
- [ \* ] Changes the VFO/Memory operating modes of the operating band
- [ # ] Changes the operating band
- [ A ] No function assigned
- [ B ] Switches between Main-band and Sub-band
- [ C ] Adjusts the squelch level
- [ D ] Switches to the scope display
- [ P1 ] Second PTT function (Default setting)\*
- [ P1 ] to [ P4 ] Assignable from 18 functions\*

### Specifications

General	Transmitter	Receiver
Frequency Range: RX: 108 - 137MHz (AIR Band) 137 - 174MHz (144MHz HAM / VHF Band) 174 - 400MHz 400 - 480MHz (430MHz HAM / UHF Band) 480 - 550MHz ** TX: 144 - 148MHz or 144 - 146MHz 430 - 450MHz or 430 - 440MHz (Depends on the transceiver version) Channel Steps: 5, 6.25, (8.33), 10, 12.5, 15, 20, 25, 50, 100kHz (8.33kHz: Only for Air band) 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 (55W TX, 144MHz) 10A (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 132mm) w/o Fan Controller 6.14"(W) x 2.52"(H) x 2.31"(D) (156 x 64 x 58.6mm) w/o Knobs Weight (Approx.): 3.09 lbs. (1.4kg) Transceiver Unit with Control-head	RF Power Output: 55W (144MHz), 50W (430MHz)/25W/5W Modulation Type: F1D, F2D, F3E: Variable Reactance Modulation F7W: 4FSK (C4FM) Maximum Deviation: ±5kHz Spurious Emission: At least 60dB below Microphone Impedance: 2kΩ Data Jack Impedance: 10kΩ	Circuit Type: Double-Conversion Superheterodyne Intermediate Frequencies: 1st: MAIN 56.75MHz SUB 55.85MHz 2nd: 450kHz Sensitivity: 0.8μV TYP for 10dB SN (108 - 137MHz, AM) 0.2μV for 12dB SINAD (137 - 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 - 420 MHz, FM) 0.2μV for 12dB SINAD (420 - 470 MHz, FM) 0.2μV for 12dB SINAD (470 - 550MHz, FM) 0.19μV TYP for BER 1% (Digital Mode) NFM, AM 12kHz / 30kHz (-6dB / -60dB) 6W (8Ω, THD 10%, 13.8V) Front Speaker 3W (8Ω, THD 10%, 13.8V) Internal Speaker 3W (8Ω, THD 10%, 13.8V) External Speaker 8Ω Selectivity: AF Output: AF Output Impedance: Strength of secondary radio waves: 4nW and below

■ 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.

### Options

*Optional extension cable "SCU-62" or "CT-132" is not required. <b>SJMK-500</b> Swing-head kit	<b>MMB-103</b> Dash Mount Bracket	Control-head Extension Cable <b>SCU-62</b> 10ft (3m) <b>CT-132</b> 20ft (6m)	<b>MEK-5</b> Mic Extension Kit 10ft (3m)	* For FTM-510DR/FTM-510DE only <b>SPU-1</b> Audio Digital Signal Processing Unit	<b>SCU-58</b> WIRES-X Connection Cable kit * PC connection Cable and Audio Cable included	<b>FVS-2</b> Voice Guide Unit
<b>FP-1030A</b> *2 AC Power Supply (25A)	<b>FP-1023</b> *3 AC Power Supply (23A)	<b>SSM-85D</b> *4 DTMF Microphone	<b>MH-42C6J</b> Microphone	<b>BU-5</b> Bluetooth® Unit	*BU-5 is required. <b>SSM-BT20</b> Bluetooth® Headset	<b>MLS-100</b> High-Power External Speaker

(Supplied Accessories) ● DTMF Microphone SSM-85D ● Mounting Bracket ● DC Power Cable

\*2 US and Asian versions only \*3 US version only \*4 The same as the supplied accessory

● The APRS® (Automatic Packet Reporting System) trademark is used with permission of Tucson Amateur Packet Radio Corporation (TAPR), its assignee.

● SmartBeaconing™ from HamHUD Nichetronix.

● 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.

**YAESU**

Radio for Professionals

**YAESU MUSEN CO., LTD.** <https://connect.yaesu.com>

Omori Bellport Building D-3F  
6-26-3 Minami Oi, Shinagawa-ku, Tokyo, 140-0013, Japan

**YAESU USA** <https://www.yaesu.com>

**US Headquarters** 6125 Phyllis Drive, Cypress, CA 90630, U.S.A.

**YAESU UK** <https://www.yaesu.co.uk>

Unit 4, Concorde Park, Concorde Way, Segensworth North,  
Fareham, Hampshire PO15 5FG, United Kingdom



About this brochure: We have made this brochure as comprehensive and factual as possible. We reserve the right, however, to make changes at any time in equipment, optional accessories, specifications, model numbers, and availability. Precise frequency range may be different in some countries. Some accessories shown herein may not be available in some countries. Some information may have been updated since the time of printing; please check with your Authorized Yaesu Dealer for complete details.

2025.0310YP (U/EXP/EU) B9200955 Printed in Japan