

# NEW DEFINITION OF DIGITAL HANDHELD

Advanced C4FM Digital + 1W High-Grade Audio Output  
Tough Durable Body, Touch & Go Operation



C4FM/FM 144/430MHz DUAL BAND  
5W DIGITAL TRANSCEIVER

# FT5D

« FT5DR: US, Asia and Australia FT5DE: Europe »



# Meet the Advanced Technologies

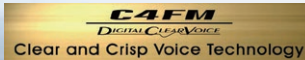
## Full-Featured C4FM Digital Transceiver

## Superior Operability and Sophisticated Functions

C4FM/FM 144/430MHz DUAL BAND  
5W DIGITAL TRANSCEIVER

# FT5D

《 FT5DR: US, Asia and Australia FT5DE: Europe 》



### High-Resolution Full-Color LCD Touch Panel / Touch & Go Operation with Activity Monitor

#### Intuitive and Smooth Operation provided by the Touch Panel Display

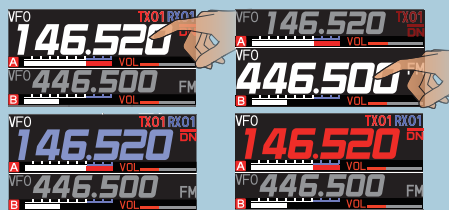
##### Dual LED Indicator

Independent LED indicators for A-band (Left) and B-band (Right) present the status and communication mode of each band at a glance.



##### Large, Easy-to-Read Frequency display

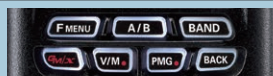
The high-resolution display highlights the frequency of the operational band. The color of the operating band frequency can be selected from White, Blue or Red.



##### Three Touch Panel Keys

"Memory frequency contents to VFO transfer", "TX mode select", and "Communication mode select" are performed using the touch panel operating keys.

##### Frequently used functions have been assigned to dedicated keys, enabling quick and easy access



#### Touch & Go Operation



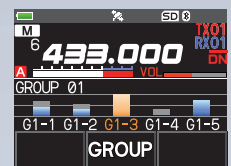
#### PMG (Primary Memory Group Activity Monitor)\*1

By pressing and holding the "PMG" key, the frequency of the current display is registered into PMG regardless of VFO or memory channel. After registration, simply press the "PMG" key to instantly recall that frequency. If multiple frequencies are registered, pressing the "PMG" key will display the receive status of the registered frequencies in a bar graph (activity monitor). Touch-and-Go operation allows instant recall of the operating channel by simply touching the displayed bar. The activity monitor displays up to 5 available channels. It is very comfortable to register 3 channels of frequently used frequencies. It is easy to add or remove the channel from a group by simply pressing and holding the "PMG" key.



#### CAM (CH Activity Monitor)\*1

In addition to the PMG, the CAM (CH Activity Monitor) function is very convenient to monitor the activity on a fixed channel. To use CAM, select the CAM group to be registered for each memory channel. After that, when CAM is called on the menu screen, the status of each channel is displayed on the bar graph similar to the PMG activity monitor. It is a Touch-and-Go operation that moves to the target channel by touching the displayed bar. Up to 10 CAM groups and up to 5 channels per group can be registered.



### Achieves Comfortable Operation with Excellent Basic Performance and Functions

#### Loud 1W Audio with C4FM Exceptional Quality

Although engineered into a compact body, the FT5D achieves loud 1-Watt audio output. The circuit has also been tuned for quality audio to provide excellent communications in outdoor or noisy environments.



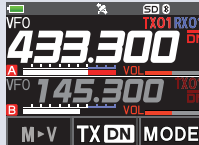
#### Real Dual Band Operation (V+V/U+U/V+U/U+V) Dual LED Indicator

Two independent receiver circuits provide true dual-band operation, regardless of whether in the same band or in different bands. Equipped with large independent LED indicators for A and B band, it is possible to view the current receiver status and communication mode for each band at a glance.

#### C4FM/C4FM Simultaneous Monitoring

The FT5D supports simultaneous C4FM monitoring of both A and B-bands, to fully enjoy C4FM digital communications.

- C4FM/C4FM simultaneously 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.

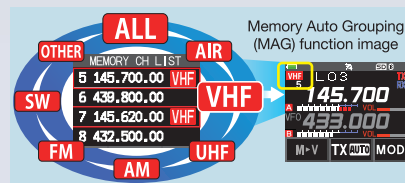


#### VFO Band Skip Function

VFO band selection is enabled by pressing the "BAND" key. Also, unused bands may be skipped. The frequency registered in the memory channel can be recalled even if the frequency is in the skipped band.

#### Memory Auto Grouping (MAG)

The memory auto grouping (MAG) function allows Memory channels to be automatically categorized in each band, and then the memory channels can 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: ALL → AIR → VHF → UHF → AM → SW → OTHER. In ALL, the MAG function is turned Off.



#### Includes Quick Release Holster

Included is a quick release holster that allows attaching or detaching the transceiver with a single touch while wearing it on a belt. The FT5D has a smooth flat back with no protrusions and provides an excellent grasp, even when wearing gloves outdoors and for sports. The FT5D can also be used by attaching only the belt clip directly to the back of the radio.



#### Rugged Construction, IPX7\*2 Waterproof

FT5D has Full-fledged robust construction that protects the front and the LCD with silicone rubber, and rubber protection on the bottom and sides of the main body. The waterproof rating is IPX7, the FT5D can be used with confidence even in bad weather.



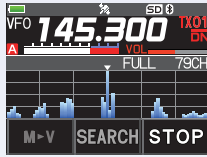
## Advanced Functions that Ensure Ease of Operation

### Wide-band Reception

The FT5D provides continuous wide-range receive coverage from 0.5MHz - 999.99MHz (A Band), and 108MHz - 580MHz (B Band).

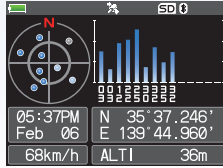
### 79 channel Band scope

Band Scope function displays up to 79 channels, in high-speed real time, centered on the current VFO frequency. The number of channels displayed can be selected from: 79/39/19 channels. The center frequency can be tuned by turning the dial knob, or moving the frequency by touching a displayed channel bar.



### High Precision GPS Receiver

The FT5D comes standard with a high-sensitivity 66 channel GPS receiver (located at the top of the unit). In C4FM digital mode, the position and direction of the partner stations can be displayed in real time. It also supports various navigation, location and GPS log functions.



### Includes 2,200mAh High-capacity Lithium-ion Battery

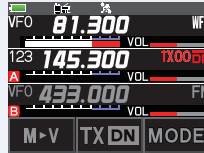
The high-capacity lithium-ion battery pack SBR-14L1 (2200mAh) comes standard with the Transceiver.

BATTERY OPERATING TIME (Approximately)\*3

Band	Operating Time (SBR-14L1)
144 MHz	9.3 hours
430 MHz	8 hours

### AF DUAL Simultaneous AM/FM Broadcast Reception and 2-channel Monitoring

AM or FM radio stations can be received while also monitoring two frequency channels. Independent receivers allow listening to an AM or FM broadcast station while also monitoring two different bands ("A band" and "B band") at the same time.



### 1200/9600bps APRS® Data communication\*4

Communicate the location information between your own station and other stations, and view the positional relationship of the other stations on the compass display. Also, your APRS® movement trajectory can be confirmed on the internet websites.



\*APRS® feature supports only B band.

### Hands-free Operation with Bluetooth®\*5

The FT5D enables wireless operation using the optional Yaesu Bluetooth® headset SSM-BT10. In addition to operation of the PTT button function from the SSM-BT10 headset, voice activated transmit (VOX) function is also supported, so it is possible to operate completely hands-free.

### Recording Function

The received audio of other stations, or the transmit audio of the FT5D can be recorded, and the voice data saved as an audio file on the microSD card. The audio may be replayed at any time.



### 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 can be sent to other C4FM digital transceivers. Images are stored on the microSD card, so they can be viewed and edited later on a PC. The date, time, and location are stored in the image data, making it possible, using the backtrack function, to navigating to the location where the photo was taken.



### microSD Card Slot

The FT5D accepts microSD cards (up to 32 GB) for storage of GPS logger data (recorded track information that can be displayed later by using map software on a PC), Voice data, Memory back-up and other useful information. Using the microSD card, it is also possible to clone the radio data to other compatible radios.

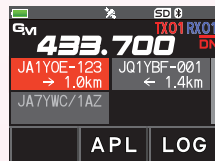
## Outstanding Audio Quality / Automatically Select Analog FM and C4FM Digital Communications

### High-Grade Communication by C4FM Digital Audio

Compared to other digital modulation methods, the C4FM digital is a standard method for professional use, and 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) / Group Monitor (GM)

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 all stations can be received. The Digital Group Monitor (GM) function automatically confirms whether stations with the GM function, on the same frequency and with the same DG-ID, are operating within communication range, and displays their call signs. GM function checks the status of up to 24 stations within the communications area.



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



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

### Smart Navigation Functions are shown in Full color

#### • Real Time Navigation Function

The Digital V/D Mode transmits additional information such as position data, distance and direction at the same time as the audio signal. This allows the location of the received station to be 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. Navigation back to the departure point, or to a previously registered point is made possible. Up to three locations can be pre-registered.

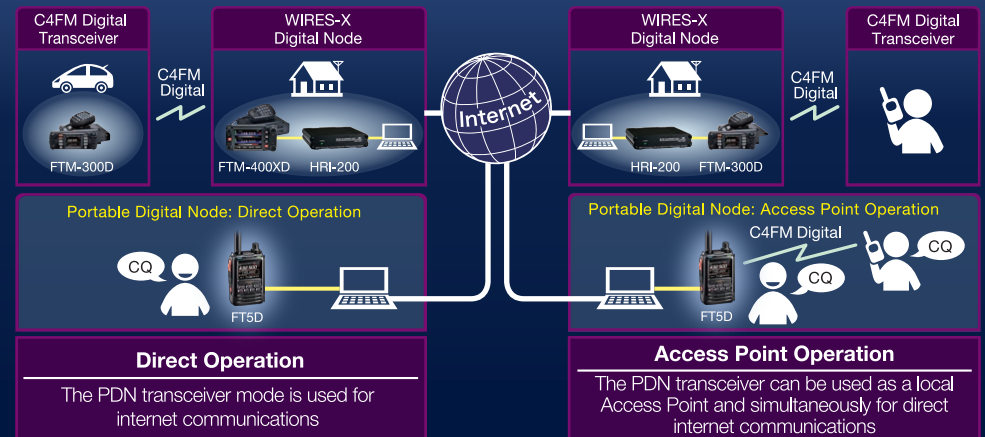
## Enjoy Worldwide WIRES-X Internet Communications anytime, anywhere

### Portable Digital Node Function

Worldwide communications are enabled with a Digital node station connected to the internet. With the Wires-X Portable Digital Node function, the FT5D 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 FT5D and a PC without connecting to a Wires-X node station



**Direct Operation**  
The PDN transceiver mode is used for internet communications

**Access Point Operation**  
The PDN transceiver can be used as a local Access Point and simultaneously for direct internet communications

\*PDN: Portable Digital Node station

## Simpler and Highly-mobile, Portable Digital Node Function

## Specifications

### General

#### Frequency Ranges

**A Band RX:** 0.5 - 1.8MHz (AM Radio)  
1.8 - 30MHz (SW Radio)  
30 - 76 \*6 (88 \*\*\*) MHz  
76 \*6 (88 \*\*\*) - 108MHz (FM Radio)  
108 - 137MHz (Air Band)  
137 - 174MHz (144 MHz HAM)  
174 - 222MHz  
222 - 420MHz  
420 - 470MHz (430 MHz HAM)  
470 - 800MHz  
800 - 999.99MHz \*6

**B Band RX:** 108 - 137MHz (Air Band)  
137 - 174MHz (144 MHz HAM)  
174 - 222MHz  
222 - 420MHz  
420 - 470MHz (430 MHz HAM)  
470 - 580MHz

**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, 9, 10, 12.5, 15, 20, 25, 50, 100kHz  
(8.33kHz : only for Air band, 9kHz : only for AM Radio)

**Frequency Stability:** ±2.5ppm -4°F to +140°F (-20°C to +60°C)

**Emission Type:** F1D, F2D, F3E, F7W

**Supply Voltage:** Nominal: 7.2V DC, Negative Ground SBR-14LI  
7.4V DC, Negative Ground FNB-101LI  
10.5 - 16V DC, Negative Ground (EXT DC JACK)  
Operating: 5.5 - 8.4V DC, Negative Ground (Li-ion Battery)  
4 - 16V DC, Negative Ground (EXT DC JACK)  
10.5 - 16V DC, Negative Ground (EXT DC: for Charging)  
3.6 - 4.5V DC, Negative Ground (with FBA-39)

**Current Consumption:** 180mA (Mono band Receive)  
220mA (Dual band Receive)  
110mA (Mono band Receive, Standby)  
145mA (Dual band Receive, Standby)  
74mA (Mono band Receive, Standby, Saver On "Save Ratio 1:10")  
74mA (Dual band Receive, Standby, Saver On "Save Ratio 1:10")  
+15mA (GPS On)  
+3mA (Digital)  
125mA (AM/FM Radio)  
600µA (Auto Power Off)  
1.6A (5W TX, 144MHz 7.4V DC)  
1.9A (5W TX, 430MHz 7.4V DC)  
-4°F to +140°F (-20°C to +60°C)

**Operating Temperature:** 2,44"(W) x 3,94"(H) x 1,34"(D) (62 x 100 x 34 mm)  
(w/SBR-14LI, w/o knob, antenna, & belt clip)

**Case Size:** 9.95 oz (282g) w/SBR-14LI, antenna

**Weight (Approx.):**

### Transmitter

**RF Power Output:** 5W / 2.5W / 1W / 0.3W @ Li-ion Battery or EXT DC)  
0.9W / 0.3W @ FBA-39)

**Modulation Type:** F1D, F2D, F3E: Variable Reactance modulation  
F7W: 4FSK (C4FM)

**Spurious Emission:** At least 60dB below @TX Power Hi, L3)  
At least 50dB below @TX Power L2, L1)

### Receiver

**Circuit Type:** AM, NFM: Double-Conversion Super heterodyne  
AM/FM Radio: Direct-Conversion

#### Intermediate

**Frequencies:** 1st: 58.05MHz (AM, NFM A Band)  
1st: 57.15MHz (AM, NFM B Band)  
2nd: 450kHz (AM, NFM)

**Sensitivity:** 3µV for 10dB SN (0.5 - 30MHz, @AM)  
0.35µV TYP for 12dB SINAD (30 - 54MHz, @NFM)  
1µV TYP for 12dB SINAD (54 - 76 \*6 (88 \*\*\*) MHz, @NFM)  
1.5µV TYP for 12dB SINAD (76 \*6 (88 \*\*\*) - 108MHz, @WFM)  
1.5µV TYP for 10dB SN (108 - 137MHz, @AM)  
0.2µV for 12dB SINAD (137 - 140MHz, @NFM)  
0.16µV for 12dB SINAD (140 - 150MHz, @NFM)  
0.2µV for 12 B SINAD (150 - 174MHz, @NFM)  
1µV for 12dB SINAD (174 - 222MHz, @NFM)  
0.5µV for 12dB SINAD (300 - 350MHz, @NFM)  
0.2µV for 12dB SINAD (350 - 400MHz, @NFM)  
0.18µV for 12dB SINAD (400 - 470MHz, @NFM)  
1.5µV TYP for 12dB SINAD (470 - 580MHz, @NFM)  
3µV TYP for 12dB SINAD (580 - 800MHz, @NFM)  
1.5µV TYP for 12dB SINAD (800 - 999MHz, @NFM)\*6  
0.19µV TYP for BER 1% (Digital Mode)

**Selectivity:** NFM, AM 12kHz / 35 kHz (-6dB / -60dB)  
**AF Output:** 1000mW (8 Ω for 10 % THD) Internal Speaker  
500mW (8 Ω for 10 % THD) External Speaker Jack

## Option

 <b>MH-85A11U</b> Speaker Microphone with Snapshot camera	 <b>SSM-17A</b> Speaker / Microphone	 <b>SSM-57A</b> Earpiece Microphone	 <b>SSM-63A</b> VOX Headset	 <b>SSM-BT10</b> Bluetooth® Headset	 <b>CT-44</b> Microphone Adapter	 <b>CN-3</b> BNC-to-SMA Adapter	
 <b>FNB-101LI</b> Lithium Ion Battery Pack (1100 mAh) (The belt clip differs from the SHB-13 supplied with the unit.)	 <b>SBR-14LI*9</b> Lithium Ion Battery Pack (2200 mAh) (The belt clip differs from the SHB-13 supplied with the unit.)	 <b>SAD-25*9</b> Battery Charger	 <b>CD-41</b> Rapid Charger	 <b>FBA-39</b> 3x "AA" Cell Battery Tray (The belt clip differs from the SHB-13 supplied with the unit.)	 <b>SDD-13</b> DC Cable with Cigarette-Lighter Plug	 <b>E-DC-6</b> DC Cable	
 <b>SHB-26*9</b> Quick Release Holster * Mount the supplied Belt clip (SHB-13) using attached screw	 <b>SHC-40</b> Soft Case	 <b>SHB-13*9</b> Belt Clip	 <b>SCU-39</b> WIRES-X Connection Cable Kit (PC connection cable: SCU-19, Adapter: CT-44 and Audio cable x 2 included)	 <b>CT-168</b> Cloning Cable	 <b>CT-170</b> Data Cable	 <b>CT-169</b> PC Connection Cable (Dsub9)	 <b>CT-176</b> Data Cable (2.5φ)

**Supplied Accessories:** ■ 2200mAh Li-ion Battery SBR-14LI ■ Battery Charger SAD-25 ■ Antenna  
■ Belt Clip SHB-13 ■ Quick Release Holster SHB-26(BK) ■ USB Cable

\*1 If frequencies other than 108MHz to 580MHz (Shortwave broadcasting, AM/FM radio, 50MHz band, etc.) are registered in PMG or CAM, a gray bar graph will be displayed. Touch the bar to move to that frequency and receive the signal.

\*2 IPX7 Specification for Waterproof: 3ft. (1m) for 30 minutes (with antenna and side terminal cover properly attached)

\*3 Duty Cycle based on Tx 6 seconds (5W): Rx 6 seconds (VOL Level 16); Standby 48 seconds (RX SAVE 1:5). Operating time may vary depending on operating conditions.

\*4 APRS® is a registered trademark of Bob Bruninga, WB4APR. SmartBeaconing™ registered trademark of HamHUD Nichetronix.

\*5 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.

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.

\*6 US and Australia Versions. \*7 Europe and Asia versions. \*8 USA Cellular Blocked.

\*9 The same as the supplied accessory.

**YAESU**  
The radio

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