

**YAESU**  
The radio

C4FM/FM 144/430MHz DUAL BAND  
DIGITAL TRANSCEIVER

# FT-70D

«FT-70DR: US, Asia and Australia FT-70DE: Europe»

## The Perfect Choice Sophisticated Dual Band Digital Transceiver Built to Commercial Grade Specifications



Advanced C4FM Digital

System Fusion Compatible

Combines FM and Digital Communications  
with AMS (Automatic Mode Select)

Coordinated Group Operation  
with Digital Group ID

700 mW of Loud, Clear Voice, Audio Output

5 Watts of Reliable RF Power  
from a Compact Handheld Unit

Wide Band Receive Coverage 108 - 579.995 MHz

Rugged Construction  
Meets IP54 (Dust & Water protection)

Large Multi-Color Operating Mode Indicator

Huge 1,105 Channel Memory

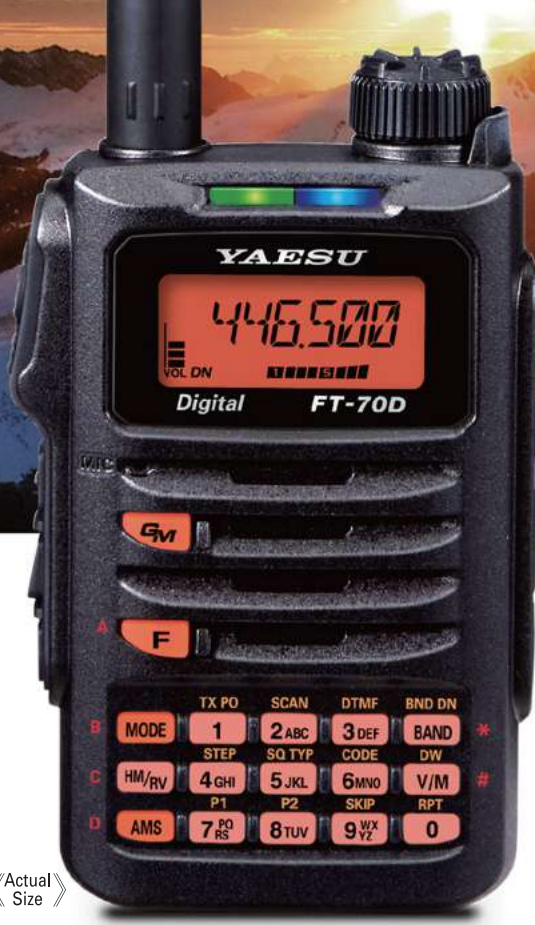
«Actual Size»

**AMS**  
Automatic Mode Select

**C4FM**  
DIGITAL CLEAR VOICE  
Clear and Crisp Voice Technology

# Commercial Grade, C4FM/F Dual Band Digital Transceiver

Both conventional FM operation, and the advanced are available on the FT-70D.  
C4FM digital modulation delivers exceptional audio and long-range communication



《Actual Size》

C4FM/FM 144/430MHz DUAL BAND DIGITAL TRANSCEIVER

## FT-70D



(7.4 V, 1800 mAh Li-ion Battery SBR-24LI, Battery Charger SAD-11(SAD-18B :US), Antenna, Belt Clip and USB Cable included)

## Advanced C4FM Digital Communication

### C4FM provides Excellent Audio Quality and Reliable Communication

C4FM modulation has better BER (Bit Error Rate) characteristics when compared to other Digital modulation systems, and guarantees reliable long distance communication. C4FM digital is the standard method used by professional radio devices. The YAESU C4FM digital clear voice technology uses a 12.5 kHz bandwidth which permits high quality voice communication.

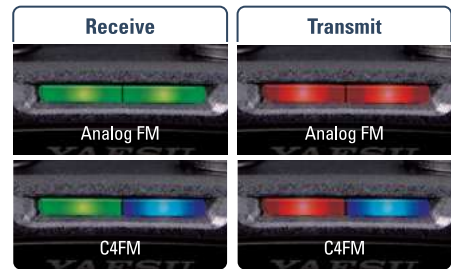
Loud and Clear



C4FM Voice Quality

### AMS with MULTI-COLORED LED MODE-INDICATOR

FM friendly digital operation is made possible by AMS (Automatic Mode Select). AMS automatically differentiates the received signal as C4FM Digital or conventional FM, and sets the receiver to the appropriate mode. The AMS function enables hassle-free operation by removing the need to manually switch between modes. The MODE indicator shows the Transmit/Receive mode at a glance.



Multi-colored LED Mode/Status Indicator

| Communication Mode                | Icon | Description of Modes  |
|-----------------------------------|------|---|
| C4FM Digital Mode                 | DN   | Voice/Data simultaneous transmission mode   |
| C4FM Digital Voice Full Rate Mode | VW   | High speed data communication using entire 12.5 kHz bandwidth, enables high-quality voice communication |
| FM Mode                           | FM   | Analog FM communication using FM mode   |

### Sophisticated Digital-Group-ID Operation

Using the C4FM digital mode, a Digital-Group-ID can easily be set by group members to facilitate direct contact and communications between the participants. The Group Monitor function automatically alerts operators when stations using the same Group- ID are within communication range.

#### DG-ID (Digital Group Identification)

A Group ID of 0 to 99 can easily be set to communicate with all group members that have the same ID number.



#### Alerts LED Indicator and Display

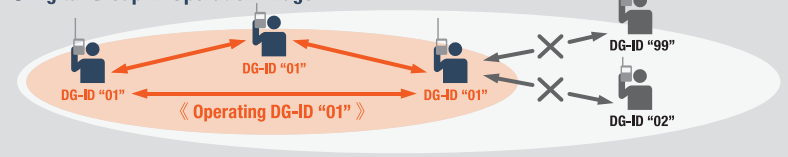
When the member is within communication range, "In" is displayed on the LCD, and the Mode Status LED Indicator lights in light blue.

#### Call Signs Display

Available to show the "In-range" members by each Call sign.



#### Digital Group ID Operation Image



**M for 144/430 MHz**  
**ver**  
**Yaesu C4FM Digital Mode**  
**quality**



## Commercial Grade Specifications

### Reliable 5 W RF Power Output

The FT-70D provides reliable 5 Watts RF power output built into a compact body (2.4" x 3.9" x 1.3": W60xH98xD33mm). Three RF power settings: 5W(High) / 2W(Middle) / 0.5W(Low), may be set individually for each frequency band, for the power-saving choices.



### Rugged Construction

Built Rugged and constructed to commercial grade standards, including the IP54 Rating for Dust and Water protection. This radio is suitable for operation in the harshest field environments.



\* When the included antenna and battery pack are installed and the MIC/SP jack, EXT DC IN jack, and DATA jack are securely covered with rubber caps, the FT-70D meets the IP54 waterproof performance rating.

### 700 mW of Exceptional Quality Audio

Enjoy loud and clear voice quality in any environment, with 700mW of audio delivered from the oversized 32mm front panel speaker.

### Includes High-capacity Lithium-ion battery

The high-capacity lithium-Ion battery pack SBR-24LI (1800mAh) comes standard with the Transceiver. Advanced power saving engineering makes up to 8 hours of battery operation available on the 144MHz band and up to 7 hours possible on the 430MHz band.

◎ **BATTERY OPERATING TIME**(Approximately)

| Band    | Operating Time (SBR-24LI) |
|---------|---------------------------|
| 144 MHz | 8 hours                   |
| 430 MHz | 7 hours                   |

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

### Wideband Receive Coverage 108.000MHz ~ 579.995MHz

In addition to full operation on the 144 MHz and 430 MHz Amateur bands, the FT-70D 108MHz to 579.995MHz receiver frequency coverage provides a wide range of monitoring excitement.

## Advanced Features that Ensures Ease of Operation

### Huge 1,105 Channel Memory

The FT-70D provides a wide variety of memory resources, including 900 "regular" memories, six "Home" channels for favorite frequencies, 99 Skip search memories, and 50 sets of "Programmable Memory Scan" memories for maximum operating efficiency and convenience. Memory channels can be sorted and registered into 24 different memory banks according to the desired use. A maximum of 100 memory channels can be registered in each memory bank.

### Weather Alert Scan (US)

This feature allows checking the Weather Broadcast Memory Channels for the presence of the NOAA Alert Tone, while also scanning VFO frequencies or Memory channels. When the Weather Alert Scan feature is engaged, the FT-70D will check the Weather Broadcast Channels for activity every five seconds while scanning.

### External DC Power Jack

Equipped with an External DC Jack for DC supply operation and Battery Charging with an external DC power supply (11-16 V DC)

\* Optional DC cable: SDD-13 (DC cable with Cigarette Lighter Plug), E-DC-6 (DC cable)

### Versatile Scanning Capabilities

The FT-70D supports efficient scanning capabilities to quickly search for band activity and signals.

**VFO Scan / Memory Channel Scan / Programmable Memory Scan(PMS) / Memory Bank Scan**

### 《Dual Receive feature》

The transceiver checks for signals on the selected Priority Memory Channel, approximately every 5 seconds.  
 (FT-70D supports three Dual receive functions)

① **VFO Dual Receive** ② **Memory Dual Receive** ③ **HOME Channel Dual Receive**

### PC Programmable

Transceiver memory and function settings can be programmed using the PC editing software and USB programming cable.  
 (VFO, Memory channel, Memory Bank, Memory name, Squelch setting, Repeater setting, etc.)

Programming Software (ADMS-10) is Available from the YAESU website  
 Programming cable is a Supplied Accessory

## Convenient Features

### Split Memory Feature

Two different frequencies, one for receive and another for transmit, can be registered to a memory channel.

### Tone Squelch/DCS (Digital Code squelch) feature

Squelch opens only when a signal containing the specified CTCSS tone or DCS code is received.

### New PAGER (EPCS) feature

Allows calling specified stations only, by using a pager code that combines two CTCSS tones.

### Equipped with External mini-USB port

Connect to a PC with the supplied USB cable to edit the transceiver memory and function settings.

### Receiver Battery Save Function

Battery save, receive interval (sleep ratio) settings to reduce power consumption.

### Password Feature

4-digit password may be set to prevent unauthorized operation of the transceiver without permission.

### Automatic Power OFF (APO)

Prevent battery drain, by automatically turning the transceiver OFF if there is no operator activity for a certain period of time.

### Time Out Timer (TOT)

Prevent inadvertent transmission of unnecessary signals, and unwanted battery power consumption.

### Busy Channel Lock-Out (BCL0)

BCL0 feature prevents transmitting while a signal is present on the operating channel.

## SPECIFICATIONS

| GENERAL               |  | TRANSMITTER            |  |
|-----------------------|--|------------------------|--|
| Frequency Ranges      | RX 108 - 137 MHz (AM) 222 - 420 MHz (FM)<br>137 - 174 MHz (FM / C4FM) 420 - 470 MHz (FM / C4FM)<br>174 - 222 MHz (FM) 470 - 579.995 MHz (FM)<br>TX 144 - 148 (146) MHz (FM / C4FM) 430 - 450 (440) MHz (FM / C4FM) | RF Power Output        | 5.0 W (High) / 2 W (Middle) / 0.5 W (Low) @ 7.4 V with SBR-24LI  |
| Channel Steps         | 5/6.25/8.33/10/12.5/15/20/25/50/100 kHz ( ) Air Band   | Modulation Type        | F3E(FM) : Variable Reactance, F7W (C4FM) : 4-level FSK   |
| Frequency Stability   | ±2.5 ppm -4 F to +140F (-20 °C to +60 °C)  | Maximum Deviation      | ±5.0 kHz   |
| Emission Type         | F2D, F3E, F7W  | Spurious Emission      | At least 60 dB down (@ High and Middle power)<br>At least 40 dB down (@ Low power)   |
| Antenna Impedance     | 50 Ohms  | Microphone Impedance   | 2 k Ohms   |
| Supply Voltage        | Nominal: 7.4 V DC (SBR-24LI)<br>Operating: 6 - 14 V Negative Ground (Battery Terminal)<br>11 - 16 V Negative Ground (EXT DC Jack)  | RECEIVER               |  |
| Current Consumption   | 180 mA (Receive: Vol.16) , 120 mA (Standby, Saver Off)<br>1.6 A (144 MHz) , 1.9 A (430 MHz) / 5 W Tx, 7.4 V DC   | Circuit Type           | Double-Conversion Superheterodyne  |
| Operating Temperature | -4 °F to +14 °F (-20 °C to +60 °C)   | Intermediate Frequency | 1st: 47.25 MHz, 2nd: 450 kHz   |
| Case Size             | 2.36" (W) x 3.86" (H) x 1.30" (D)<br>(60 x 98 x 33 mm) (w/o Knob and Antenna)  | Sensitivity            | 1.5 µV TYP for 10 dB SN (108 - 137 MHz, AM)<br>0.16 µV for 12 dB SINAD (137 - 174 MHz, NFM)<br>1µV for 12 dB SINAD (174 - 222 MHz, NFM)<br>0.5 µV for 12 dB SINAD (300 - 350 MHz, NFM)<br>0.2 µV for 12 dB SINAD (350 - 400 MHz, NFM)<br>0.18 µV for 12 dB SINAD (400 - 470 MHz, NFM)<br>0.35 µV for 12 dB SINAD (470 - 579.995 MHz, NFM)<br>0.19 µV TYP for BER 1% (Digital mode @Ham Band) |
| Weight                | 8.99 oz (255 g) with SBR-24LI and Antenna  | Selectivity (NFM, AM)  | 12 kHz / 35 kHz (-6 dB / -60 dB)   |
|                       |  | AF Output              | 700 mW @ 16 Ohms for 10 % THD) Internal speaker<br>300 mW @ 8 Ohms for 10 % THD) External speaker  |

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

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| <br><b>MH-34B4B</b><br>Speaker/Microphone | <br><b>SSM-57A</b><br>Earpiece Microphone | <br><b>SSM-63A</b><br>VOX Headset | <br><b>CT-44</b><br>Microphone Adapter                        | <br><b>SBR-24LI</b> <sup>*3</sup><br>7.4 V, 1,800 mAh<br>Li-Ion Battery | <br><b>SAD-18B</b> <sup>*1*3</sup><br><b>SAD-11C/U/H</b> <sup>*2*3</sup><br>Battery Charger |
| <br><b>SBH-28</b><br>Rapid Charger        | <br><b>CT-27</b><br>Cloning Cable         | <br><b>E-DC-6</b><br>DC Cable     | <br><b>SDD-13</b><br>DC Cable with Cigarette<br>Lighter Plug | <br><b>CN-3</b><br>BNC-to-SMA Adapter                                   | <br><b>SHC-27</b><br>Soft Case  |

\*1 US version only \*2 C: for 220-240 VAC, U: for 220-240 VAC w / BF plug, H: for Australian version \*3 The same as the supplied accessory

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.

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The radio

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