

# FT-902DM

COMPETITION-GRADE HF TRANSCEIVER



YAESU





# FT-902DM SERIES

NEW BANDS FACTORY INSTALLED!

COMPETITION-GRADE HF TRANSCEIVER

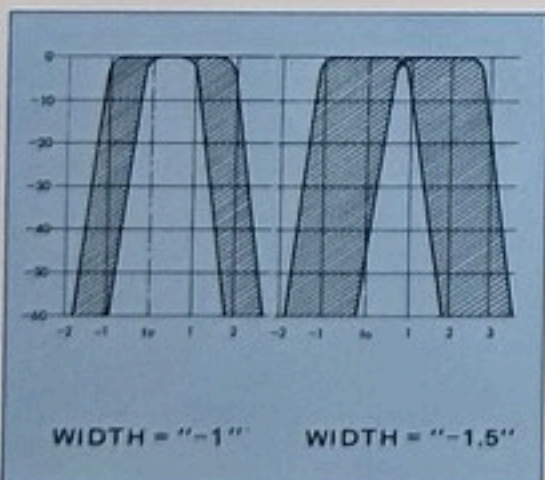
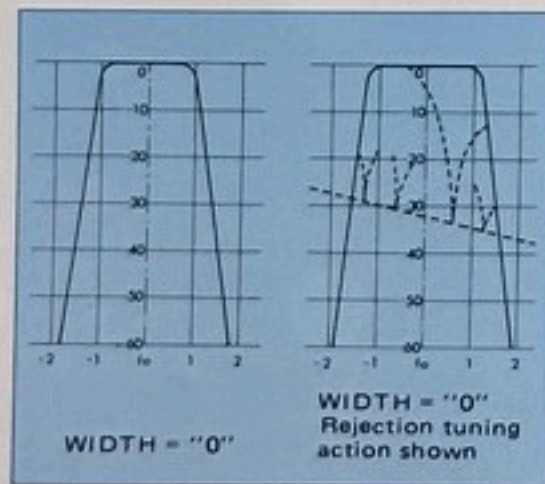
The ham's dream--to have the best--is now reality. YAESU proudly introduces the FT-902DM all-mode HF/VHF/UHF total communications system. Designed to give you the competitive edge, at home or away, the FT-902DM series is without equal, at any price. Leave the crowd behind, and step up to the best: the FT-902DM total communications system. . .from YAESU.

- Selectable up/down repeater offset on 6 and 2 meters.
- Auto scan function scans until a signal is received, then locks on the received station's frequency.
- 40 frequency memory bank.
- Full duplex operation on OSCAR modes A/B/J using an external receiver.
- Curtis 8044 IC keyer provides trouble-free operation. Just plug in your paddle and you're ready for action!
- Clarifier allows precise tuning of VFO or memorized frequencies.
- Audio peak filter for extra-sharp CW selectivity.
- Selectable AGC: slow-fast-off.
- Digital plus analog frequency readout. Digital display resolution to 100 Hz.
- TUNE control places transmitter in "tune" condition for ten seconds, then returns to "receive" to protect final tubes.
- Built-in RF speech processor for more "talk power" when you need it.
- TX monitor for envelope monitoring or amplifier linearity adjustment.
- In-line monitoring of SWR and power levels up to 500 watts.
- Shaped-response external speaker console.
- Full metering and level controls for hybrid phone patch.
- Provision for 50, 144, and 430 MHz operation, with split capability for satellite operation.
- Choice of transceiver or split frequency operation on FT-902DM or FV-901DM VFOs, or use the FV-901DM memory bank. Be seconds ahead of the competition!
- Three-rate manual scanning switches allow fast, medium, or slow QSY.
- All mode operation: SSB, CW, FSK, AM, and FM. 10 meter repeater operation possible--use the memory to program the input frequency!
- Rejection tuning control nulls out adjacent-channel QRM.
- Continuously variable IF bandwidth from 300 Hz to 2.4 kHz.
- Coverage of all HF amateur bands, 160 through 10 meters.
- Clarifier for transmit, receive, or transceive frequency.
- Memory circuitry for storage and recall of any operating frequency, plus interface to FV-901DM external VFO.
- Two-tone generator for SSB transmitter modulation adjustment.
- High performance oscilloscope for station measurements. Easy interface to FT-902DM for station monitoring and received signal observation.
- Optional band scope for quick checking of band conditions and activity.
- Provision for matching 1 random wire and 3 coax-fed antennas.

### UNIQUE RECEIVER FILTERING

The combination of rejection tuning, variable IF bandwidth, and the audio peak filter (APF) makes such accessories as a CW filter unnecessary. The WIDTH control actually varies the width of the IF passband from 2.4 kHz down to 300 Hz! Thus, high-pitched "buckshot" on SSB, as well as unwanted CW signals, can be eliminated by narrowing the bandwidth as desired. Don't be fooled by other systems such as "IF shift," which only *move* the passband; they cannot change the *bandwidth*.

The rejection tuning will null out any interfering signal within the IF passband, and, for CW, the APF provides razor-sharp selectivity without ringing, to yield a dramatic increase in signal-to-noise ratio and QRM rejection.



and the memory circuitry provide the ultimate in versatility and operating efficiency. The PLL local oscillator provides unsurpassed stability, and the memory unit will control the transmit, receive, or transceive frequency, as desired. The FV-901DM synthesized external VFO expands coverage with a 40 frequency memory bank and scanning capability. For DX, contest, or net operation, pushbutton controls take you anywhere in the band--instantly!

### BUILT-IN CURTIS KEYS

CW was not merely an afterthought on the FT-902DM. The Curtis 8044 IC, designed for amateur radio applications, provides such intangible qualities as immunity to RF interference and false keying caused by key contact "bounce." The inclusion of the 8044 IC keyer provides relief for the DX-peditioner, too, as it eliminates the need for a separate electronic keyer (and the power transformer to make the keyer work on unfamiliar voltages).



DIGITAL DISPLAY + MEMORY SYSTEM

### FULL COVERAGE

When the new amateur bands become available, you won't want to miss out on the action. With the FT-902DM, you get complete coverage of 160 through 10 meters, including the new 10, 18, and 24 MHz bands, all factory installed! A hallmark of the FT-902DM is its all mode capability--SSB, CW, AM, FSK, and FM--on both transmit and receive. Teamed with the FTV-901R transverter, operation can be extended to 50, 144, and 430 MHz from your desk top. Be one step ahead of the crowd with the exciting new FT-902DM.

### WORLD-WIDE POWER CAPABILITY

For the traveler, the keyer is not the only helpful feature. The FT-902DM has provision for operation from a variety of AC voltages from 100 to 234 volts. Thus, no heavy, bulky external transformer is ever needed. In addition, a DC-DC converter is built in, for operation from your boat, car, or mobile home. Small enough to

qualify as carry-on baggage on most airlines, the FT-902DM is equipped with a strong, side-mounted handle for ease of carrying around airports.

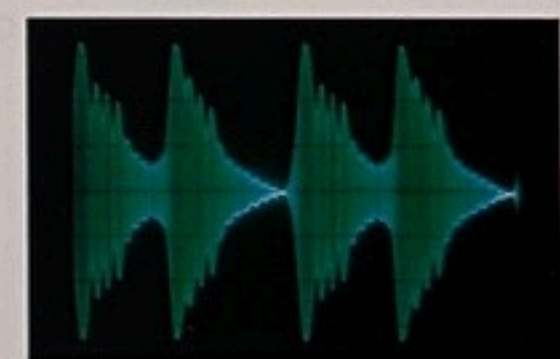
### RF SPEECH PROCESSOR

The built-in RF speech processor increases your average talk power by approximately 6 dB, by filling in the "holes" in your voice. The processor accomplishes this average power increase without an accompanying increase in distortion, and it gives you that extra "boost" you may need in a tough pile-up.

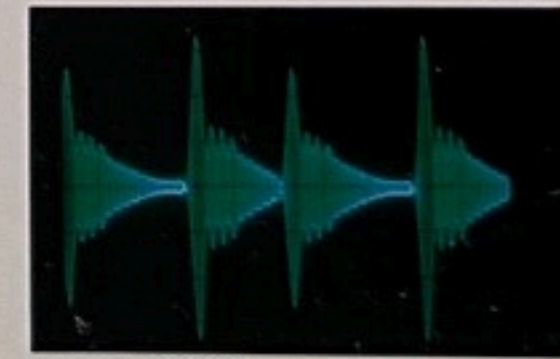
### COMPUTER-BRED MODULAR CONSTRUCTION

The internal layout is clean and straightforward. Computer-type plug-in circuit boards make servicing a breeze, because a technician can perform voltage tests and other measurements using an "extender" board, thus saving valuable time (and your service dollar!) that might be wasted unsoldering components from deep inside the

chassis. The plug-in board concept also reduces point-to-point wiring, resulting in a clean, compact transceiver with high component density.



PROCESSOR ON



PROCESSOR OFF

### CLEAN OUTPUT SIGNAL

Purity of emissions is important, both legally and ethically. The new FCC regulations regarding spurious emissions put tough demands on design. But even more important is your reputation, which can deteriorate quickly if you transmit distortion products across the band and harmonics that can cause TVI. YAESU engineers have included such features as a built-in low-pass filter, toroidal output circuitry, and RF negative feedback, for a spurious-free output signal.

### OUR TOP OF THE LINE

The FT-902DM is the standard by which all other transceivers must be compared. Wide receiver dynamic range, unmatched selectivity, PLL stability, and the convenience of digital readout are but a few reasons for choosing the FT-902DM. Don't compromise when you can have the best... see your YAESU dealer today about the FT-902DM family.









### ANTENNA COUPLER

is an efficient, compact antenna coupler for the FT-902DM series. It features an SWR meter, and provision of three coax-fed antennas and a 50 ohm load antenna. Present a 50 ohm load across the band with the antenna coupler, another quality component from the world's leader in amateur communication equipment.  
 Dimensions: 160m (L, H). 80m. 40m. 15m. 12m. 10m.



### PATCH/SPEAKER

for the FT-902DM station with the combination hybrid phone patch/speaker, size, and interconnections match those of transceivers.

## FT-902D / SD / DE / DM MODEL CHART

○ = Built-in feature      × = Available option

FEATURE	FT-902D	FT-902SD	FT-902DE	FT-902DM
FM UNIT	○	×	×	○
RF SPEECH PROCESSOR	○	○	○	○
AM FILTER	×	×	×	×
CW FILTER	×	×	×	×
KEYER UNIT	×	×	○	○
MEMORY UNIT	×	×	×	○
DC-DC CONVERTER	×	×	×	○
COOLING FAN	○	×	○	○
POWER OUTPUT	100 W	10 W	100 W	100 W
NEW BANDS	○	○	○	○

### FT-902DM SPECIFICATIONS

#### GENERAL

**Frequency coverage:**  
 1.8–2.0 MHz, 3.5–4.0 MHz, 7.0–7.5 MHz, 10.0–10.5 MHz, 14.0–14.5 MHz, 18.0–18.5 MHz, 21.0–21.5 MHz, 24.5–25.0 MHz, 28.0–29.9 MHz

**Power requirements:**  
 AC 100/110/117/200/220/234 V, 50/60 Hz; DC 13.5 V, negative ground

**Power consumption:**  
 AC 117 V: 70 watts receive (45 watts HEATER OFF), 320 watts max transmit; DC 13.5 V: 5 A receive (1.1 A HEATER OFF), 21 A max transmit

**Size:**  
 342(W) x 154(H) x 324(D) mm

**Weight:**  
 Approx 18 kg

#### TRANSMITTER

**Emission:**  
 LSB, USB, AM, CW, FM, FSK.

**PA input power:**  
 SSB – 180 watts PEP  
 CW – 180 watts DC  
 AM, FM, FSK – 80 watts DC

**Carrier suppression:**  
 Better than 40 dB

**Unwanted sideband suppression:**  
 Better than 50 dB @ 1000 Hz

**Spurious radiation:**  
 Better than 40 dB below rated output

**Transmitter frequency response:**  
 300–2700 Hz (–6 dB)

**3rd order distortion products:**  
 Better than 31 dB below rated output

**Stability:**  
 Less than 300 Hz drift from a cold start; less than 100 Hz drift over a 30 minute period after warm-up

**RF negative feedback:**  
 6 dB at 14 MHz

**Modulation type:**  
 SSB–balanced modulator; AM–amplitude modulation of a low power stage; FM–variable reactance frequency modulation, maximum deviation ±5 kHz

**Antenna output impedance:**  
 50–75 ohms unbalanced

**Microphone impedance:**  
 500–600 ohms (low impedance)

#### RECEIVER

**Sensitivity:**  
 0.25 μV for S/N 10 dB

**Image rejection:**  
 1.8–21 MHz–better than 60 dB;  
 28 MHz–better than 50 dB

**IF rejection:**  
 Better than 70 dB

**Selectivity:**  
 WIDTH control at “0”  
 SSB 2.4 kHz (–6 dB), 4.0 kHz (–60 dB); CW/FSK (with optional CW filter installed) 0.6 kHz (–6 dB), 1.2 kHz (–60 dB); AM (with optional AM filter installed) 6 kHz (–6 dB), 12 kHz (–60 dB); FM 12 kHz (–6 dB), 24 kHz (–60 dB)

**Passband tuning:**  
 Continuous from 300 Hz to 2.4 kHz

**Audio output:**  
 Better than 3 watts @ 10% THD, audio output impedance 4–16 ohms