

# Nothing But Performance



## The TS-590S

Kenwood has essentially redefined HF performance with the TS-590S compact HF transceiver. The TS-590S RX section sports IMD (intermodulation distortion) characteristics that are on par with those "top of the line" transceivers, not to mention having the best dynamic range in its class when handling unwanted, adjacent off-frequency signals.\*

- HF-50MHz 100W
- Digital IF Filters
- Built-in Antenna Tuner
- Advanced DSP from the IF stage forward
- 500Hz and 2.7KHz roofing filters included
- Heavy duty TX section



- 2 Color LCD Amber/Green

# KENWOOD

Customer Support: (310) 639-4200  
Fax: (310) 537-8235



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download TS-590S brochure.



[www.kenwoodusa.com](http://www.kenwoodusa.com)



ISO9001 Registered  
Professional Systems Business Group  
JAS-ANABO Corporation  
ADS#28313

\* For 1.8/3.5/7/14/21 MHz Amateur bands, when receiving in CW/FSK/SSB modes, down conversion is automatically selected if the final passband is 2.7KHz or less.

# EchoLink® Ready



## TM-V71A

With the Kenwood TM-V71A you have a choice of where you want your speaker, on the top or on the bottom of the radio. Simply remove the faceplate and flip the main body, then reattach the face, it's that simple! Yet another Kenwood 1st, this dual band transceiver has ten dedicated EchoLink® memory channels as well as EchoLink sysop-mode operation. EchoLink connection to your PC via the optional PG-5H cable kit is easy with no expensive interface needed.

EchoLink® is a registered trademark of Synergenics, LLC. For more information please see: [www.echolink.org](http://www.echolink.org).



Large dual color amber or green thirteen segment LCD.

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ADS#28413

# Escape with the TM-281A

On or off the road, Kenwood's TM-281A is a mobile radio you can always count on.



As tough as nails, this MIL-STD-compliant transceiver delivers powerful performance, excellent audio clarity, and a host of advanced features. It offers superb operating ease day or night thanks to the large backlit LCD and illuminated keys. So the next time you take off, take the TM-281A.

## KENWOOD

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ADS#28513

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## MFJ Antenna Analyzers

More Hams use MFJ antenna analyzers than all others put together!



**MFJ-259B** The MFJ-259B is the world's most popular antenna analyzer! Gives complete picture of your antenna 1.8-170 MHz. Super easy-to-use -- makes antenna work quick and easy. Hand-held antenna lab reads antenna SWR, resistance, reactance, return loss, reflection coefficient. Determine coax cable velocity factor, loss in dB, length, distance to a short/open, inductance, capacitance. LCD, side-by-side meters. Built-in frequency counter, signal generator, smooth reduction tuning.

**\$289<sup>95</sup>**

**MFJ-269** does all MFJ-259B does and adds 415-470 MHz. **MFJ-269** exclusive features: 12-bit A/D converter gives much better accuracy. *Complex Impedance Analyzer* reads series/parallel equivalents and magnitude/phase. *Coax Calculator™* gives line length from electrical degrees and vice-versa for any frequency/VF. Use any characteristic impedance 10-600 Ohms. Has LCD log SWR bargraph, N-connector.

**\$389<sup>95</sup>**



**MFJ-225 DDS** graphical analyzer tunes 1.5-180 MHz. Plots SWR, impedance mag, resistance, reactance, phase, return loss. Two port VNA measures S11/S21, PC interface. Self-calibrating.

**MFJ-225**  
**\$399<sup>95</sup>**



**MFJ-266C** Extra wide-band **MFJ-266C** covers 1.5-185 MHz plus 220 and 300-490 MHz. SWR, R/X impedance, capacitance, inductance, field strength, frequency, signal generator.

**\$359<sup>95</sup>**

## MFJ Automatic Antenna Tuners

1500 Watt ... Remote



**MFJ-998RT**  
**\$769<sup>95</sup>**

Place this MFJ-998RT weather-sealed Remote

Tuner at your wire or coax-fed antenna and greatly reduce your coax losses for highest efficiency. Matches 12-1600 Ohms, 1.5 kW SSB/CW, 1.8-30 MHz. Remotely powered thru coax.

1500 Watt ... Legal Limit



**MFJ-998**  
**\$699<sup>95</sup>**

Roam the entire HF spectrum 1.8-30 MHz hands-free with full 1500 Watt legal limit on SSB/CW and near-perfect SWR! Lighted LCD/Cross-Needle Meter. 13Wx4Hx15D inches.

600 Watt ... for Amps



**MFJ-994B**  
**\$359<sup>95</sup>**

For 600 Watt amps like Ameritron AL-811/ALS-600/ALS-500M. Matches 12-800 Ohms. 10,000 Virtual Antenna™ memories. Cross-Needle SWR/Wattmeter. 10Wx2 1/4Hx9D inches.

300 Watt - Wide Range



**MFJ-993B**  
**\$259<sup>95</sup>**

World's best selling automatic antenna tuner is world famous for its ultra high-speed, wide matching range, reliability, ease-of-use! Matches nearly any antenna. 10Wx2 1/4Hx9D". **MFJ-929**, \$219.95. 200 Watts. World's fastest compact autotuner.

## MFJ wide-range Manual Antenna Tuners

1500 Watt ... Legal Limit



**MFJ-989D**  
**\$389<sup>95</sup>**

Improved efficiency, lower losses and a true-peak reading meter. 1500 Watts SSB/CW, 1.8-30 MHz, including MARS and WARC bands. 6-position antenna switch, dummy load, 500 pF air variable capacitors, AirCore™ Roller Inductor, high voltage current balun, crank knob. 12 1/8Wx6Hx11 1/8D in.

800 Watt ... for Amps



**MFJ-962D**  
**\$299<sup>95</sup>**

Plan for the future! Step up to a KW tuner for an amplifier later. Handles 800 Watts SSB/CW amplifier output (1.5 kW input). Ideal for Ameritron's AL-811/H, ALS-600/500M! AirCore™ roller inductor, gear-driven turns counter, peak and average lighted Cross-Needle SWR/Wattmeter, antenna switch, balun, Lexan front, 1.8-30 MHz. 10 3/4x4 1/2x10 7/8 inches.

300 Watt ... most used



**MFJ-949E**  
**\$179<sup>95</sup>**

More hams use MFJ-949s than any other antenna tuner in the world! Does it all! 1.8-30 MHz, 300 Watts, full size peak/average lighted Cross-Needle SWR/Wattmeter, 8 position antenna switch, dummy load. Highly efficient air inductor, 1kV air-variable tuning capacitors. QRM-Free PreTune™, scratch proof Lexan front panel. 3 1/2Hx10 3/8Wx7D inches.

150 Watt ... for travel



**MFJ-902B**  
**\$109<sup>95</sup>**

Now with 6 Meters! Tiny 4 1/2x2 1/4x3 inch Travel-Tuner™. Packs up quickly, takes up little space, full 150 Watts, 80-6 Meters, bypass switch. Tunes coax or random wire. It's no toy -- has gutsy air-variable capacitors 600V, 322 pF and 3 stacked powder iron toroids. Handles real power -- not just QRP. **MFJ-904H**, \$149.95. Like MFJ-902 with cross-needle meter, 4:1 balun, 80-10M. 7 1/4x2 1/4x2 1/4".

## MFJ Ham Radio Accessories



**MFJ-1778**, \$44.95. G5RV antenna,

160-10 Meter. Use with tuner. 102 feet. 1.5 kW. 160 Meters with tuner/ground. Ladder line, SO-239. **MFJ-1702C**, \$39.95. 2-position antenna switch, center ground, lightning surge protector. **MFJ-1704**, \$79.95. 4-pos. antenna switch.

**MFJ-4125**, \$84.95.

Tiny switching power supply, 13.8 VDC, 22 Amps continuous. 110/220 VAC. **MFJ-260C**, \$39.95. 300 Watt dry dummy load. SWR 1:1 to 30 MHz. With Derating curve. **MFJ-264**, \$74.95. 1.5kW dummy load to 650 MHz.



**MFJ-392B**, \$24.95. High-performance communication headphones

with super padded headband and ear cushions. 9' cord, works in stereo or mono w/free 1/4" phono adaptor.

**MFJ-281**, \$129.53 in. speaker, 8 Watts, 8 Ohms.



**MFJ-1724B**, \$24.95. Dual Band 144/440 Mhz

Mobile Antenna. Powerful 3-inch magnet mount, 15 ft. coax, PL-259. Free BNC. **MFJ-1729**, \$39.95. 5/8 Wave high gain dual band 144/440 MHz magnet mount mobile antenna, 12 ft. coax, free BNC.



**MFJ-108B**, \$21.95. Dual 24/12 hour LCD clock. 5/8" digits. 4 1/2Wx1Dx2H".

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# AMERITRON . . . 800 Watts . . . \$949!

More hams use Ameritron AL-811/H amplifiers than any other amplifier in the world!



Only the Ameritron AL-811H gives you four fully neutralized 811A transmitting

AL-811H  
**\$949**  
Suggested Retail  
4-Tubes, 800 Watts

AL-811  
**\$799**  
Suggested Retail  
3-Tubes, 600 Watts

there . . . until QRM sets in. And you can conveniently plug it into your nearest 120 VAC outlet -- no special wiring needed. You get all HF band coverage (with

tubes. You get absolute stability and superb performance on higher bands that can't be matched by un-neutralized tubes.

You get a quiet desktop linear that's so compact it'll slide right into your operating position -- you'll hardly know it's there . . . until QRM sets in. And you can conveniently plug it into your nearest 120 VAC outlet -- no special wiring needed.

license) -- including WARC and most MARS bands at 100% rated output. Ameritron's *Adapt-A-Volt*™ hi-silicon core power transformer has a special buck-boost winding that lets you compensate for high/low power line voltages.

You also get efficient full size heavy duty tank coils, slug tuned input coils, operate/standby switch, transmit LED, ALC, dual illuminated meters, QSK with optional QSK-5, pressurized cooling that you can hardly hear, full height computer grade filter capacitors and more. 13<sup>3</sup>/<sub>4</sub>Wx8Hx16D inches.

AL-811, \$799. Like AL-811H, but has three 811A tubes and 600 Watts output.

## AMERITRON no tune Solid State Amplifiers

### ALS-500M 500 Watt Mobile Amp



ALS-500M  
**\$899**  
Suggested Retail

500 Watts  
PEP/400W CW output, 1.5-22 MHz, instant bandswitching, no tuning, no warm-up. SWR, load fault, thermal overload protected. On/Off/Bypass switch. Re-mote on/off control. DC current meter. Ex-tremely quiet fan. 13.8 VDC. 9Wx3<sup>1</sup>/<sub>2</sub>Hx15D in., 7 lbs. ALS-500RC, \$49, Remote Head.

### Desktop Kilowatt Amplifier



AL-80B  
**\$1495**  
Suggested Retail

Whisper quiet desktop amp plugs into 120 VAC to give full kilowatt SSB PEP output. Ameritron's exclusive *DynamicALC*™ doubles average SSB power out and *Instantaneous RF Bias*™ gives cooler operation. All HF bands. 850 Watts CW out, 500 Watts RTTY out, extra heavy duty power supply, 3-500G tube, 70% efficiency, tuned input, Pi/Pi-L output, inrush current protection, dual Cross-Needle meters, QSK compatible, 48 lbs. 14Wx8<sup>1</sup>/<sub>2</sub>Hx15<sup>1</sup>/<sub>2</sub>D in. Two-year warranty.

### Near Legal Limit™ Amplifier



AL-572  
**\$1795**  
Suggested Retail

New class of Near Legal Limit™ amplifier gives you 1300 Watt PEP SSB power output for 60% of price of a full legal limit amp! 4 rugged 572B tubes. Instant 3-second warm-up, plugs into 120 VAC. Compact 14<sup>1</sup>/<sub>2</sub>Wx8<sup>1</sup>/<sub>2</sub>Hx15<sup>1</sup>/<sub>2</sub>D inches fits on desktop. 160-15 Meters. 1000 Watt CW output. Tuned input, instantaneous RF Bias, dynamic ALC, parasitic killer, inrush protection, two lighted cross-needle meters, multi-voltage transformer.

### ALS-600 Station 600 Watt FET Amp

No tuning, no fuss, no worries -- just turn on and operate. 600 Watts PEP/500W CW, 1.5-22 MHz, instant bandswitching, SWR protected, extremely quiet, SWR/Wattmeter, ALC control. 120/220 VAC. Inrush protected. 9<sup>1</sup>/<sub>2</sub>Wx6Hx12D in. ALS-600S, \$1599, ALS-600 with 10 lb. switching power supply.



ALS-600  
**\$1499**  
Suggested Retail

### ALS-1300 Solid State 1200 Watt Amp



ALS-1300  
**\$2899**  
Suggested Retail

Ameritron's highest power solid state FET no-tune amplifier gives you instant bandswitching, no tuning, no warm-up, no tubes to baby and no fuss! Outstanding reliability is insured by using eight rugged MRF-150 power FET's mounted on the dual heavy duty heat sink. Run up to 1200 Watts of clean SSB output power (just 100 Watts drive gives full rated power) for continuous coverage between 1.5-22 MHz. Compact 10Wx6<sup>1</sup>/<sub>2</sub>Hx18D in.

### HF Amps with 3CX800A7 tube



Suggested Retail  
AL-800F  
**\$1995**  
1 tube, 1250 Watts

AL-800HF  
**\$2745**  
2 tubes, 1.5 kW Plus

AL-800, \$2795  
AL-800H, \$4295  
with Eimac® tubes

These compact desktop amplifiers with 3CX800A7 tubes cover 160-15 Meters including WARC bands. Adjustable slug tuned input circuit, grid protection, front panel ALC control, vernier reduction drives, heavy duty 32 lb. silicone steel core transformer, high capacitance computer grade filter capacitors. Multi-voltage operation, dual lighted cross-needle meters. 14<sup>1</sup>/<sub>2</sub>Wx8<sup>1</sup>/<sub>2</sub>Hx16<sup>1</sup>/<sub>2</sub>D in.

## AMERITRON full legal limit amplifiers

AMERITRON legal limit amps use a super heavy duty Peter Dahl Hypersil® power transformer capable of 2.5 kW!

### Most powerful -- 3CX1500/8877



AL-1500F  
**\$3295**  
3CX1500/8877 Tube  
AL-1500  
**\$4195**  
Suggested Retail Eimac® tube

Ameritron's most powerful amplifier uses the herculean 3CX1500/8877 ceramic tube. 65 watts drive gives you full legal output -- it's just loafing with a 2500 Watts power supply.

### Toughest -- 3CX1200Z7



AL-1200  
**\$3995**  
Suggested Retail  
Get ham radio's toughest tube with the

Ameritron AL-1200 -- the Eimac® 3CX1200Z7. It has a 50 Watt control grid dissipation. What makes the Ameritron AL-1200 stand out from other legal limit amplifiers? The answer: A super heavy duty power supply that loaf at full legal power - it can deliver the power of more than 2500 Watts PEP two tone output for a half hour.

### Classic -- Dual 3-500Gs



AL-82  
**\$2745**  
Suggested Retail  
This linear gives you full legal output using a pair

of genuine 3-500Gs. Competing linears using 3-500Gs can't give you 1500 Watts because their lightweight power supplies can't use these tubes to their full potential.

Call your dealer for your best price!

Free Catalog: 800-713-3550

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. . . the world's high power leader!

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## Ameritron brings you the finest high power accessories!

### ARB-704 amp-to-rig interface. . . \$59<sup>95</sup>



Protects rig from damage by keying line transients and makes hook-up to your rig easy!

### RCS-4 Remote Coax Switch. . . \$159<sup>95</sup>



Use 1 coax for 4 antennas. No control cable needed. SWR <1.25, 1.5 - 60 MHz. Useable to 100 MHz.

### RCS-8V Remote Coax Switch. . . \$169<sup>95</sup>



Replace 5 coax with 1! 1.2 SWR at 250 MHz. Useable to 450 MHz. <.1 dB loss, 1kW@150MHz.

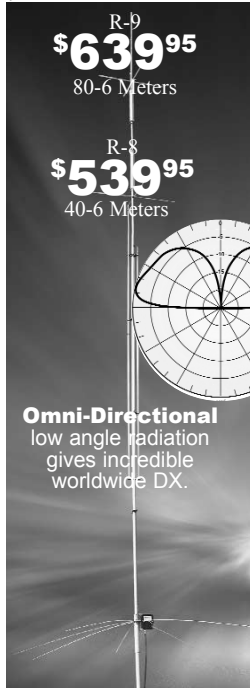
### RCS-10 Remote Coax Switch. . . \$179<sup>95</sup>



Replace 8 coax with 1! SWR<1.3 to 60 MHz. RCS-10L, \$219.95 with lightning arrestors.

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## New! Cushcraft R9 . . . 80-6 Meters



### 80 Meters... No Radials... 1500W

**Cushcraft's world famous R8 now has a big brother!**

**Big Brother R9** now includes 75/80 Meters for local ragchewing and worldwide low band DX *without radials!*

It's omni-directional low angle radiation gives you exciting and easy DX on all 9 bands: 75/80, 40, 30, 20, 17, 15, 12, 10 and 6 Meters with low SWR. QSY instantly -- no antenna tuner needed.

Use full 1500 Watts SSB/CW when the going gets tough to break through pileups/poor band conditions.

The R9 is super easy to assemble, installs just about anywhere, and its low profile blends inconspicuously into the background in urban and country settings alike.

**Compact Footprint:** Installs in an area about the size of a child's sandbox -- no ground radials to bury with all RF-energized surfaces safely out of reach.

**Rugged Construction:** Thick fiberglass insulators, all-stainless steel hardware and 6063 aircraft-aluminum tubing is double or triple walled at key stress points to handle anything Mother Nature can dish out.

31.5 feet tall, 25 lbs. Mounting mast 1.25 to 2 inches. Wind surface area is 4 square feet.

**R8, \$539.95.** Like R9 antenna but less 75/80 Meters.

**R-8TB, \$79.95.** Tilt-base lets you tilt your antenna up/down easily by yourself to work on.

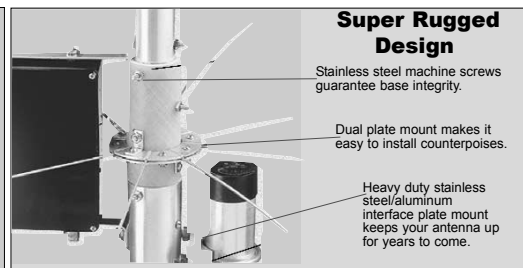
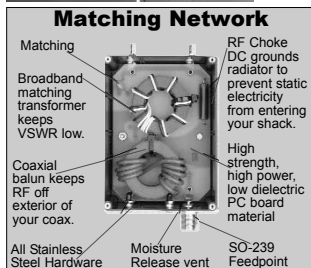
**R-8GK, \$56.95.** Three-point guy kit for high winds.

## MA-5B 5-Band Beam Small Footprint -- Big Signal



The MA-5B is one of Cushcraft's most popular HF antennas, delivering solid *signal-boosting directivity* in a bantam-weight package. Mounts on roof using standard TV hardware. Perfect for exploring exciting DX without the high cost and heavy lifting of installing a large tower and full-sized array. Its 7 foot 3-inch boom has less than 9 feet of turning radius. Contest tough -- handles 1500 Watts.

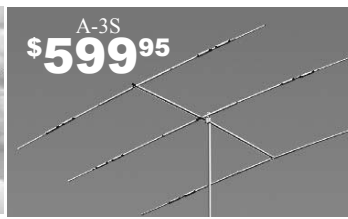
The unique MA-5B gives you 5-bands, automatic band switching and easy installation in a compact 26-pound package. On 10, 15 and 20 Meters the end elements become a two-element Yagi that delivers solid power-multiplying gain over a dipole on all three bands. On 12 and 17 Meters, the middle element is a highly efficient trap dipole. When working DX, what really matters are the interfering signals and noise you *don't hear*. That's where the MA-5B's impressive side rejection and front-to-back ratio really shines. See [cushcraftamateur.com](http://cushcraftamateur.com) for gain figures.



## Cushcraft 10, 15 & 20 Meter Tribander Beams

Only the best tri-band antennas become DX classics, which is why the Cushcraft World-Ranger A4S, A3S, and A3WS go to the head of the class. For more than 30 years, these pace-setting performers have taken on the world's most demanding operating conditions and proven themselves every time.

The key to success comes from attention to basics. For example, element length and spacing has been carefully refined over time, and high-power traps are still hand-made and individually tuned using laboratory-grade instruments. All this

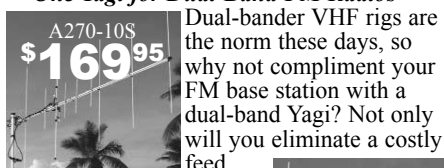


It goes without saying that the World-Ranger lineup is also famous for its rugged construction. In fact, the majority of these antennas sold years ago are still in service today! Conservative mechanical design, rugged over-sized components,

stainless-steel hardware, and aircraft-grade 6063 make all the difference.

The 3-element A3S/A3WS and 4-element A4S are world-famous for powerhouse gain and super performance. **A-3WS, \$499.95,** 12/17 M. **30/40 Meter add-on kits** available.

### Cushcraft Dual Band Yagis One Yagi for Dual-Band FM Radios



line, you'll realize extra gain for digital modes like high-speed packet and D-Star! Cushcraft's A270-6S provides three elements per band and the A270-10S provides five for solid point-to-point performance. They're both pre-tuned and assembly is a snap using the fully illustrated manual.



### Cushcraft Famous Ringos Compact FM Verticals



WIBX's famous *Ringo* antenna has been around for a long time and remains unbeaten for solid reliability. The Ringo is broad-banded, lighting protected, extremely rugged, economical, electrically bullet-proof, low-angle, and more -- but mainly, it just plain works! To discover why hams and commercial two-way installers around the world still love this antenna, order yours now!

**Free Cushcraft Catalog and Nearest Dealer . . . 662-323-5803**  
Call your dealer for your best price!

## Cushcraft Amateur Radio Antennas

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# hy-gain® Antennas and Rotators

## HF Verticals

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AV-680, \$549.95. 9 Bands: (6,10,12,15,17,20,30,40, 80 Meters). 26 ft., 18.5 lbs. Our most popular vertical now has 75/80 Meters! Lets you work exciting DX with a low 17 degree radiation angle! Easily mount on decks, roofs, patios. No ground or radials needed. Extra wide 2:1 SWR bandwidths. Each band tunable. Auto band-switching, handle 1.5kW, 80 MPH wind survival, low 2.5 sq. ft. wind surface. Aircraft aluminum tubing, stainless steel hardware.

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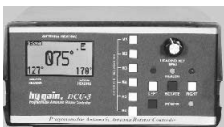
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HAM-VI, \$749.95. For medium arrays up to 15 sq. ft. wind load. Like HAM-IV but has new DCU-2 Digital Rotator Controller. Just dial in your beam heading or let your computer control your antenna.

HAM-VII, \$799.95. Like HAM VI but with DCU-3 digital controller with six programmable memories.

### DCU-3 Digital Controller with 6 Programmable beam headings



DCU-3  
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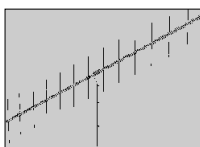
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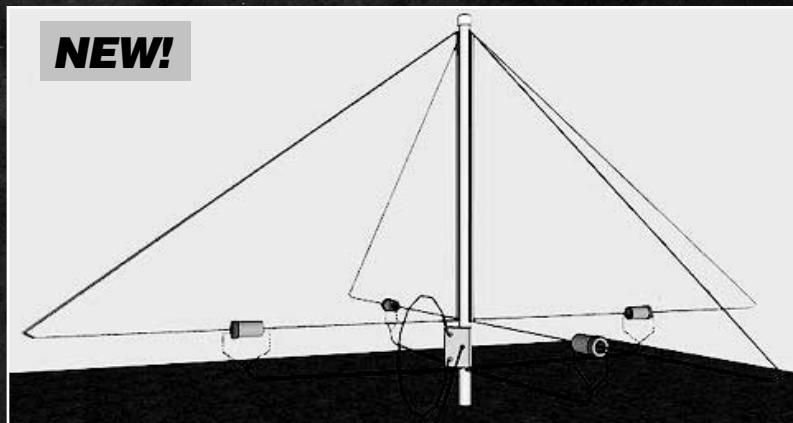
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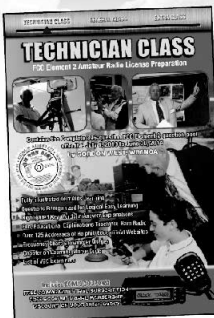


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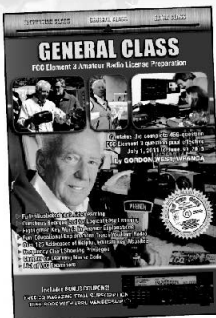
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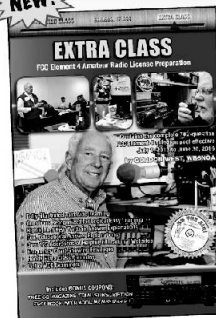
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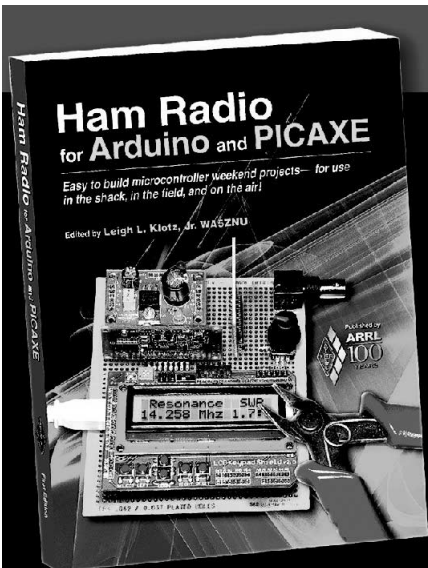
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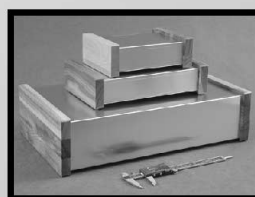
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Fred Hammond (VE3HC) began collecting radios around the time he was first licensed in 1929. A collection that grew in both size and rarity to the point that The Hammond Museum of Radio was formed in 1982. Donors added almost 30% more to the collection - making this one of North America's largest radio museums. Now housing radio equipment spanning over 100 years this collection emphasizes the importance of Amateur Radio to the overall development of wireless communication. For more information visit: [www.hammondmuseumofradio.org](http://www.hammondmuseumofradio.org)



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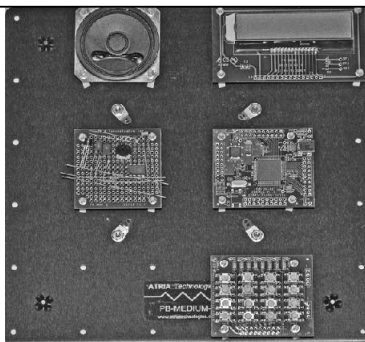
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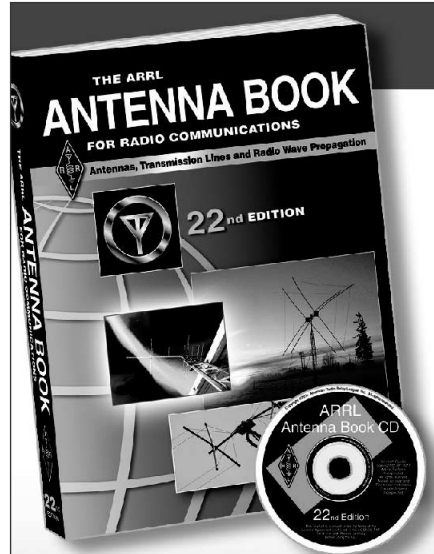
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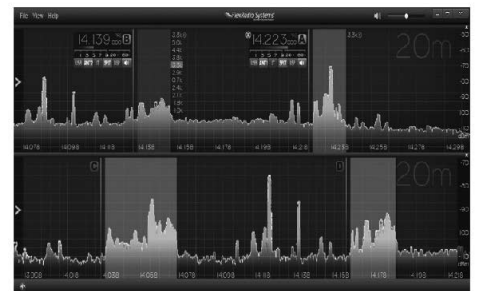
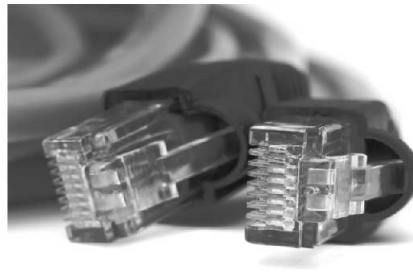
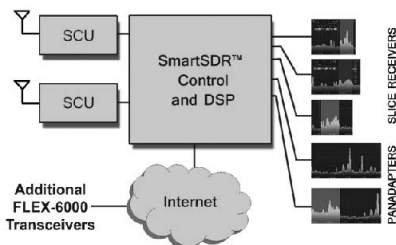
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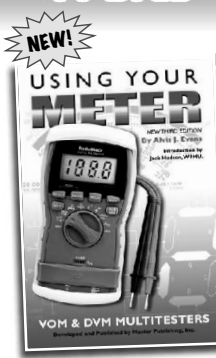
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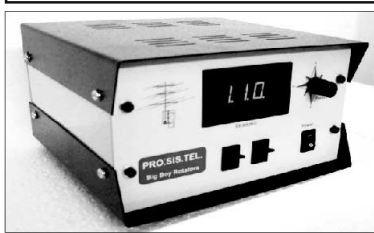
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The FT1DR/FTM-400DR operates in three digital modes and an analog mode. Enjoy communication in the mode that suits each purpose.

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A high-speed data communication mode that uses the entire 12.5 kHz bandwidth for data communication. The FT1DR automatically switches to this mode when sending and receiving images, allowing a large amount of data to be transmitted quickly.

### 2. Voice FR Mode (Voice Full Rate Mode)

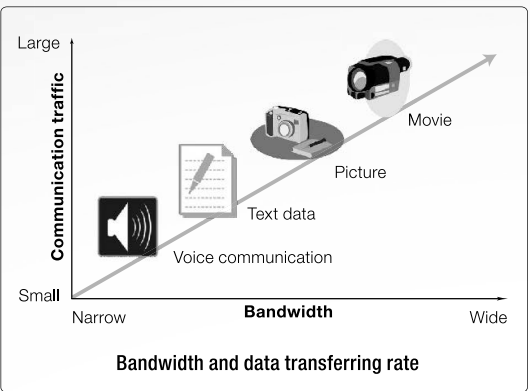
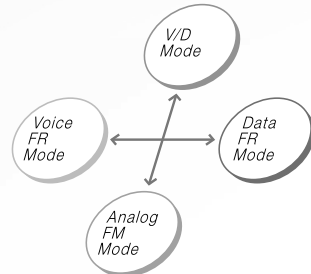
Half of the bandwidth is used for voice signal with error correction. The very effective error correction code provides benefits such as minimal interruption of communication.

### 3. Data FR Mode (High-speed Data Communication Mode)

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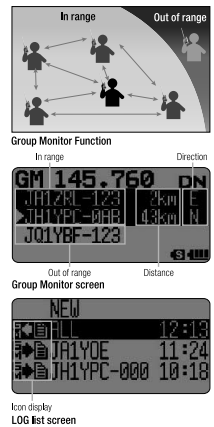
### 4. Analog FM Mode

Analog FM is effective for communication with a weak signal that causes voices to break up in the digital modes. The analog mode allows communication even at distances where noise and weak signals make communication almost impossible.



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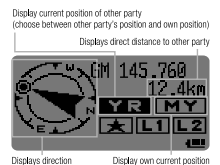
The digital GM function automatically checks whether members registered in a group are within communication range, and displays information such as distance and direction for each call sign on the screen. This convenient function makes it possible not only to see whether any friends are in communication range, but also to instantaneously determine the location and relationship between all members of the group. This function can also be used to send messages and data such as images between members of a group, permitting convenient and fun communication between friends when out for a drive or hike. Sent and received messages and images can be checked on the LOG List screen, with icons making them easy to distinguish.



## Smart Navigation Function

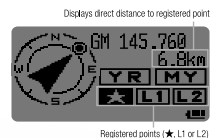
A real-time navigation function that records the location and direction of Group Monitor (GM) stations

Digital V/D Mode communicates information such as position data at the same time as the voice signal, allowing you to view the distance and direction of the other party in real time while communicating. This makes it possible to confirm your position and the other party's in situations such as hiking and driving where your positions are constantly changing, providing an easy way to meet up or join routes.



## Backtrack Function to Return to Departure Point

This function allows navigation back to the departure point, or a point previously added to the memory. When hiking or camping, just register the starting point or the position of your tent and then you can constantly check the direction and distance from your current position. The arrow of the compass display constantly shows the direction to the registered point, making it extremely convenient in finding your way back to the registered place — just move in the direction so that the arrow in the heading-up display points straight upward.



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

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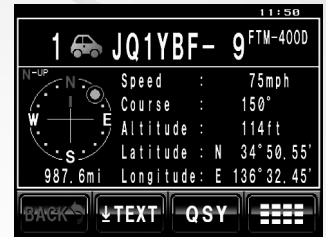
# C4FM FDMA Digital Transceiver



Digital Group Monitor

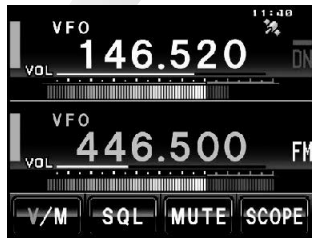


Smart Navigation Screen



APRS® Screen

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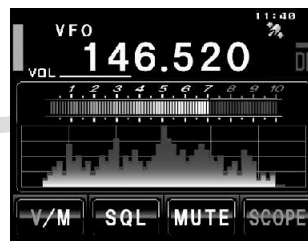
Dual Band Screen

## 3.5-inch full color touch panel operation

The icon symbols, multi-function key display and pop-up messages are all displayed in high-resolution color thanks to the full-color, high luminance TFT liquid crystal screen. The settings and status of the wireless devices are displayed in an easy-to-understand format. You can perform various operations simply and easily by gently touching the screen.



Message Screen



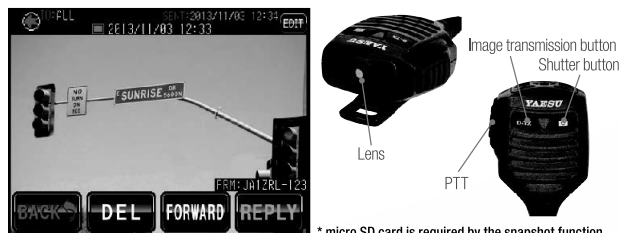
Band Scope Screen



Clock / Timer Screen

## Snapshot Function (Image Data Transmission)

Simply connect an MH-85A11U (option) microphone with camera. Press the microphone shutter button to take snapshots, and then the image data can be displayed on the screen and easily sent to other C4FM FDMA digital transceivers.



\* micro SD card is required by the snapshot function.

Image data which was sent from a group member is displayed on the full-color screen. This image data also retains a time record and the GPS location data of the snapshot. It is easy to navigate to that pictured location by using back track function.

In addition, you can observe on the screen, whether or not transmitted data was successfully received by the member station. The snapshot image or received data is stored in a high capacity micro SD card. You can recall and send that image data from the SD card anytime. The pictures and data files may be easily viewed and edited by using a personal computer.



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

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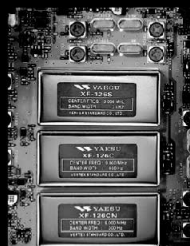
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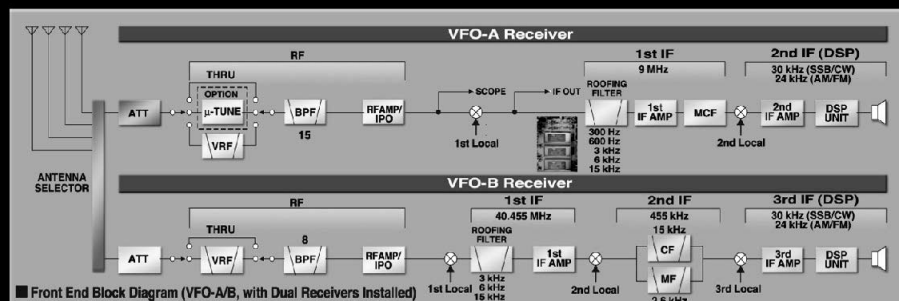
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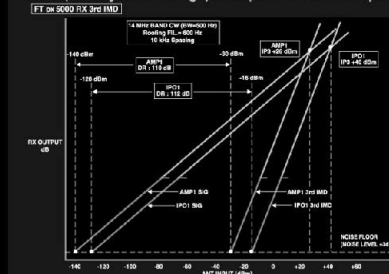


**Superb 3<sup>rd</sup>-Order Dynamic Range and 3<sup>rd</sup>-Order Intercept Point (IP3)**

You will be pleased with the astounding 112 dB dynamic range and superb IP3 + 40 dBm at 10 kHz separation (CW/500 Hz BW). Experience the unmatched close-in dynamic range of 105 dB, IP3 +36 dBm at 2 kHz separation (CW/500 Hz BW)! (VFO-A/Main Receiver, 14 MHz, IPO-1)



■ IDR (IMD Dynamic Range) / IP3 (3<sup>rd</sup>-Order Intercept Point)



HF/50 MHz 200 W Transceiver  
**FT DX 5000MP**

Station Monitor SM-5000 included  
± 0.05ppm OCXO included  
300 Hz Roofing Filter included

For the latest Yaesu news, visit us on the Internet:  
<http://www.yaesu.com>

Specifications subject to change without notice. Some accessories and/or options may be standard in certain areas. Frequency coverage may differ in some countries. Check with your local Yaesu Dealer for specific details.

**YAESU**  
The radio

**YAESU USA**

6125 Phyllis Drive, Cypress, CA 90630 (714) 827-7600

# NEW COMPACT HF TRANSCEIVER WITH IF DSP

A superb, compact HF/50 MHz radio with state-of-the-art IF DSP technology, configured to provide YAESU World-Class Performance in an easy to operate package. New licensees, casual operators, DX chasers, contesters, portable/field enthusiasts, and emergency service providers- YAESU FT-450D...This Radio is for YOU!



Compact size: 9" X 3.3" X 8.8" and Light weight: 7.9 lb

HF/50 MHz 100 W All Mode Transceiver

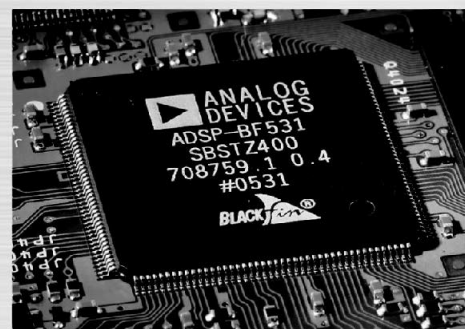
## FT-450D

With Built-in Automatic Antenna Tuner

**NEW** Illuminated Key buttons

**NEW** 300 Hz/500 Hz/2.4 kHz CW IF Filters

■ Large informative Front Panel Display, convenient Control knobs and Switches  
■ The IF DSP guarantees quiet and enjoyable high performance HF/50 MHz operation



Handy Front Panel Control of Important Features including:

### • CONTOUR Control Operation

The Contour filtering system provides a gentle shaping of the filter passband.

### • Manual NOTCH

Highly-effective system that can remove an interfering beat tone/signal.

**NEW** Foot stand

**NEW** Classically Designed Main Dial and Knobs

**NEW** Dynamic Microphone MH-31A8J Included

### • Digital Noise Reduction (DNR)

Dramatically reduces random noise found on the HF and 50 MHz bands.

### • IF WIDTH

The DSP IF WIDTH tuning system provides selectable IF passband width to fight QRM. SSB - 1.8/2.4/3.0 kHz, CW - 300 Hz/500 Hz/2.4 kHz

### • Digital Microphone Equalizer

Custom set your rig to match your voice characteristics for maximum power and punch on the band.

### • Fast IF SHIFT Control

Vary the IF SHIFT higher or lower for effective interference reduction / elimination.

### More features to support your HF operation

● 10 kHz Roofing filter ● 20 dB ATT/IPO ● Built-in TCXO for incredible  $\pm 1$  ppm/hour (@+77°F, after warm-up) stability ● CAT System (D-sub9 pin): Computer programming and Cloning capability ● Large, Easy-to-See digital S-meter with peak hold function ● Speech Processor ● QUICK SPLIT to automatically Offset transmit frequency (+5 kHz default) ● TXW to monitor the transmit frequency when split frequency operation is engaged ● Clarifier ● Built-In Electronic Keyer ● CW Beacon (Up to 118 characters using the CW message keyer's 3 memory banks) ● CW Pitch Adjustment (from 400 to 800 Hz, in 100 Hz steps) ● CW Spotting (Zero-Beating) ● CW Training Feature ● CW Keying using the Up/Down keys on the microphone ● Two Voice Memories (SSB/AM/FM), store up to 10

■ The rugged FT-450D aluminum die-cast chassis, with its quiet, thermostatically controlled cooling fan provides a solid foundation for the power amplifier during long hours of field or home contesting use.



MOS FET RD100HFH1



seconds each ● 20 second Digital Voice Recorder ● Dedicated Data Jack for FSK- RTTY operation ● Versatile Memory System, up to 500 memory channels that may be separated into as many as 13 Memory Groups ● CTCSS Operation (FM) ● My Band / My Mode functions, to recall your favorite operating set-ups ● Lock Function ● C.S. Switch to recall a favorite Menu Selection directly ● Dynamic Microphone included ● IMPORTANT FEATURES FOR THE VISUALLY IMPAIRED OPERATOR - Digital Voice Announcement of the Frequency, Mode or S-meter reading

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<http://www.yaesu.com>

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