



EXPLORE NEW HORIZONS

with this feature rich GPS-equipped portable.

Kenwood's dual-band transceiver with full APRS® and EchoLink® support. Featuring the SiRFstar III™ high-performance GPS receiver.

The TH-D72A is perhaps the most technology advanced, feature rich portable offered to the Amateur market. Easy to use, yet affordable. You be the judge!

TH-D72A

144/440 MHz FM Dual Bander

- 1200/9600 bps packet TNC
- Sky Command II
- Stand-alone Digipeater
- USB port (mini B)
- MIL-STD810 and IP54 weatherproofing
- 1000 memory channels
- Cross-tone

The TH-D72A comes with the PB-45L a 1,800 mAH lithium-ion rechargeable battery. A single charge will power the transceiver for approximately 6 hours of normal use at the 5W Transmit level. To save battery power the Output can be set at 5, 0.5, or 0.05 Watts.

The GPS and its logging functions can be used for up to 35 hours by turning off the transceiver functions and running in the GPS only mode. Store up to 5000 points of track data, there are three ways to save track data: Interval, Travel Distance or APRS® Beacon.

Free MCP-4A software will convert log data to the KML file format.



SiRFstar III™ is a trademark of CSR plc.
APRS® is a registered trademark of Bob Bruninga. see www.aprs.org
EchoLink® is a registered trademark of Synergenics, LLC in the USA. see www.echolink.org

Contact your local dealer today for more information.

KENWOOD

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

www.kenwoodusa.com



ADS#38312



Scan with your phone to download TH-D72A brochure.

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

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



Scan with your phone to
download TM-281A brochure.


www.kenwoodusa.com



ADS#37212

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



Scan with your phone to
download TS-590S brochure.



www.kenwoodusa.com



ISO9001 Registered
Professional System Business Group
for KENWOOD Corporation
ADS#37112

* 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.

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MFJ

World Leader in Ham Radio Accessories!
FREE 136 Page Ham Radio Catalog... the **LARGEST** selection in the World!

MFJ Antenna Analyzers

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



MFJ-259B The MFJ-259B is **\$289⁹⁵** 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.

MFJ-269 does all MFJ-259B **\$389⁹⁵** 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.

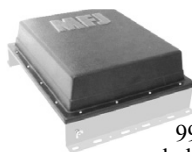


MFJ-266 new compact wide-range analyzer covers HF (1.5-65 MHz), VHF (85-185 MHz), UHF (300-490 MHz). Antenna Analyzer mode reads frequency, SWR, complex impedance *simultaneously*. 500 MHz freq. counter mode has 100 Hz resolution, measures relative field strength/frequency for tracking interference. Signal Generator mode, solid-state switching, and electronic varicap tuning. N-connector.



MFJ Automatic Antenna Tuners

1500 Watt... Remote



MFJ-998RT
\$769⁹⁵

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
\$699⁹⁵

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



For 600 Watt **MFJ-994B** **\$359⁹⁵** 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



World's best selling **MFJ-993B** **\$259⁹⁵** 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 Manual Antenna Tuners

1500 Watt... Legal Limit



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 7/8Wx6Hx11 1/2D in.

MFJ-989D
\$389⁹⁵

800 Watt... for Amps



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.

MFJ-962D
\$299⁹⁵

300 Watt... most used



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 5/8Wx7D inches.

MFJ-949E
\$179⁹⁵

150 Watt... for travel



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-902B
\$109⁹⁵

MFJ Ham Radio Accessories



MFJ-1778, \$44.95. 160-10 Meter *G5RV* antenna. Use with tuner. 102 feet. 1.5 kW. Use on 160 Meters with tuner/ground. 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 1.1:1 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, \$12.95. 3 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 . . . \$899!

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
\$899
Suggested Retail
4-Tubes, 800 Watts

AL-811
\$749
Suggested Retail
3-Tubes, 600 Watts

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. 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.

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 1/2"Wx8Hx16D inches.

AL-811, \$749. 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
\$849
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 1/2"Hx15D in., 7 lbs. **ALS-500RC, \$49, Remote Head.**

Desktop Kilowatt Amplifier



AL-80B
\$1449
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 1/2"Hx15 1/2"D in. **Two-year warranty.**

Near Legal Limit™ Amplifier



AL-572
\$1695
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 1/2"Wx8 1/2"Hx15 1/2"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 1/2"Wx6Hx12D in. **ALS-600S, \$1599,**



ALS-600
\$1499
Suggested Retail

ALS-600 with 10 lb. switching power supply.

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 1/2"Hx18D in.

Eimac 3CX800A7 Amplifiers



Suggested Retail
AL-800
\$2045

1 Eimac® tube, 1250 W

AL-800H
\$3045

2 Eimac® tubes, 1.5 kW Plus

With Imported Tube

AL-800F, \$1875

AL-800HF, \$2745

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 1/4"Wx8 1/2"Hx16 1/2"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-1500
\$3495
Eimac® Tube
AL-1500F
\$3095
Imported 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 -- 3CX1200A7



AL-1200
\$3459
Suggested Retail
Get ham radio's toughest tube with the

Ameritron AL-1200 -- the Eimac® 3CX1200A7. 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 loafs 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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<http://www.ameritron.com>

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ARB-704 amp-to-rig interface. . . \$59⁹⁵



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

RCS-4 Remote Coax Switch. . . \$159⁹⁵



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. . . \$169⁹⁵



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. . . \$179⁹⁵



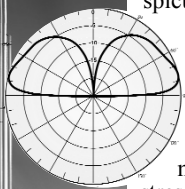
Replace 8 coax with 1! SWR<1.3 to 60 MHz. RCS-10L, \$219.95 with lightning arrestors.

AMERITRON . . . the world's high power leader! Visit www.ameritron.com

Cushcraft R8 8-Band Vertical

R-8
\$539⁹⁵

The R-8 provides 360° (omni) coverage on the horizon and a low radiation angle in the vertical plane for a better DX.



Covers 6, 10, 12, 15, 17, 20, 30, and 40 Meters!

The Cushcraft R8 is recognized as the industry gold standard for multi-band verticals, with thousands in use worldwide. Efficient, rugged, and built to withstand the test of time, the R8's unique ground-independent design has a well-earned reputation for delivering top DX results under tough conditions. Best of all, the R8 is easy to assemble, installs just about anywhere, and blends inconspicuously with urban and country settings alike.

Automatic Band Switching: The R8's famous "black box" matching network combines with traps and parallel resonators to cover 8 bands. You QSY instantly, without a tuner!

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

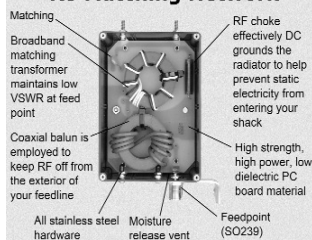
Compact Footprint: Installs in an area about the size of a child's sandbox -- no ground radials to bury and all RF-energized surfaces safely out of reach.

Legal-Limit Power: Heavy-duty components are contest-proven to handle all the power your amplifier can legally deliver and radiating it as RF rather than heat.

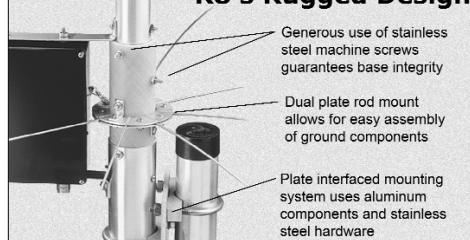
The sunspot count is climbing and long-awaited band openings are finally becoming a reality. Now is the perfect time to discover why Cushcraft's R8 multi-band vertical is the premier choice of DX-wise hams everywhere!

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

R8 Matching Network



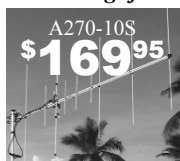
R8's Rugged Design



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

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

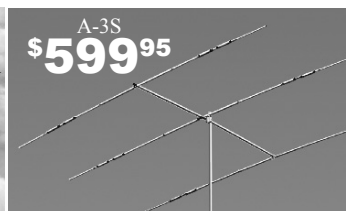


Dual-bander VHF rigs are the norm these days, so why not compliment your FM base station with a dual-band Yagi? Not only will you eliminate a costly feed

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.



attention to detail means low SWR, wide bandwidth, optimum directivity, and high efficiency -- important performance characteristics you rely on to maintain regular schedules, rack up impressive contest scores, and grow your collection of rare QSLs!



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 Famous Ringos Compact FM Verticals



W1BX's famous *Ringo* antenna has been around for a long time and remains unbeaten for solid reliability. The Ringo is broad-banded, lightning 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

308 Industrial Park Road, Starkville, MS 39759 USA
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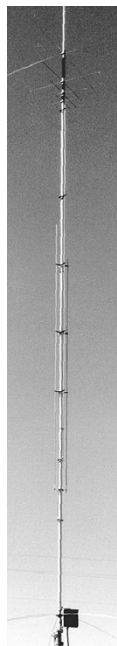
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hy-gain Antennas and Rotators

hy-gain HF Verticals



Work amazing DX with these extremely low radiation angle omnidirectional antennas. All self supporting, 1500 Watts PEP SSB, low SWR. Heavy duty, slotted, tapered, swaged, aircraft quality aluminum tubing. Stainless steel hardware. Two year limited warranty.

AV-640, \$449.95. (6,10,12,15,17,20,30,40 Meters. 25.5 ft., 17.5 lbs. Hy-Gain's most popular vertical lets you work exciting DX with low 17 degree radiation angle! Easily mounts on decks, roofs and patios. No ground or radials needed. Extra wide 2:1 SWR bandwidths. Each band tunable. Auto bandswitching, handles 1.5 kW, 80 MPH wind survival, low 2.5 sq. ft. wind surface. Aircraft quality aluminum tubing, stainless steel hardware.

AV-620, \$349.95. Like AV-640 less 40M. 22 1/2' / 10 1/2' lbs.

AV-680, \$549.95. Like AV-640 but adds 75/80 Meter band. Adjustable over entire 75/80 Meter band.

AV-14AVQ, \$179.95. (10, 15, 20, 40 Meters). 18 ft., 9 lbs. Classic AV-14AVQ uses same trap design as famous Hy-Gain Thunderbird beams. 3 air dielectric Hi-Q traps with oversize coils give superb stability and 1/4 wave resonance on all bands. Automatic bandswitching.

AV-12AVQ, \$139.95. (10, 15, 20 Meters). 13 ft., 9 lbs. Lowest priced automatic bandswitching tri-band vertical! Uses Thunderbird beam design air dielectric traps for extremely hi-Q performance in limited space.

AV-18VS, \$119.95. (10,12,15,17,20,30,40,80M). 18 ft., 4 lbs. Hy-gain's lowest priced vertical gives you 8

bands. Easily tuned to any band by adjusting base loading coil.

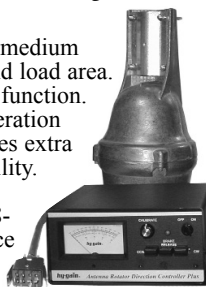
See our website for even more hy-gain vertical antennas!

hy-gain Rotators . . . the first choice of hams around the world!

HAM-IV . . . \$649.95

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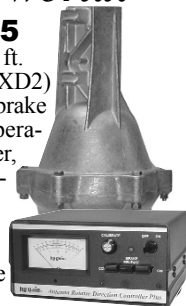
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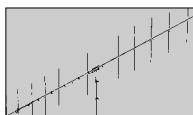
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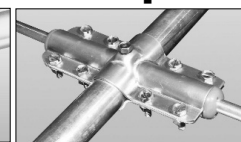
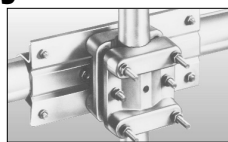
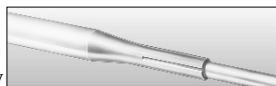
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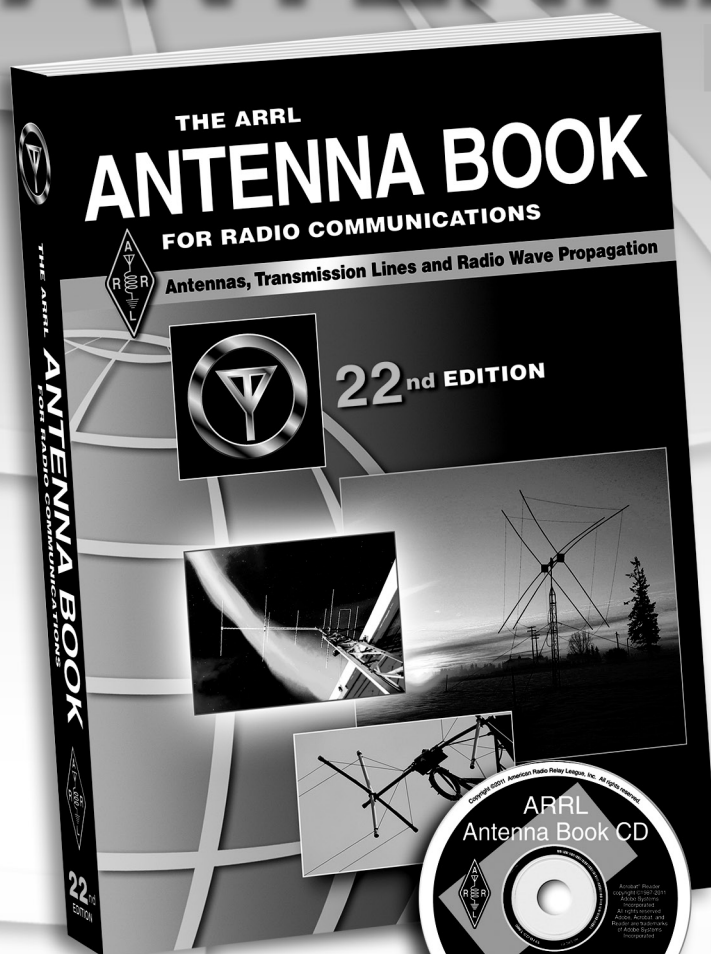
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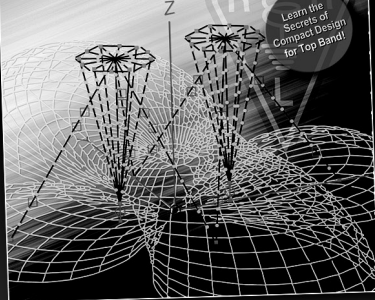
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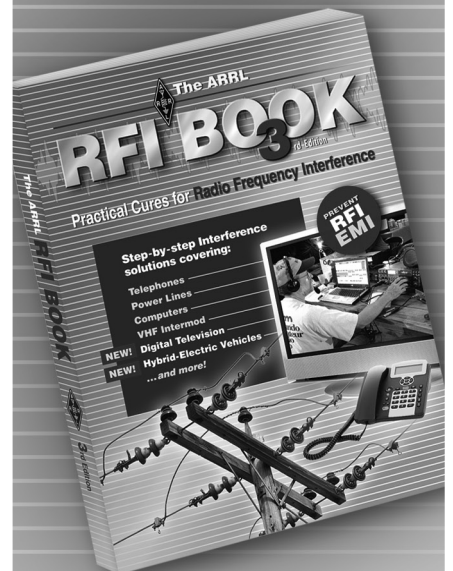
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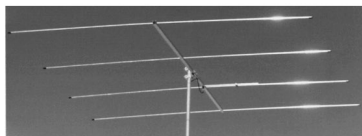
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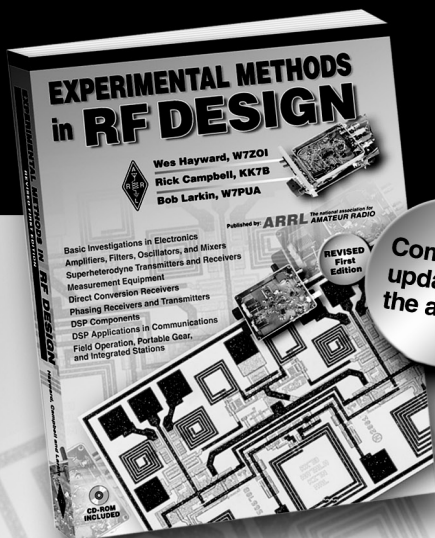
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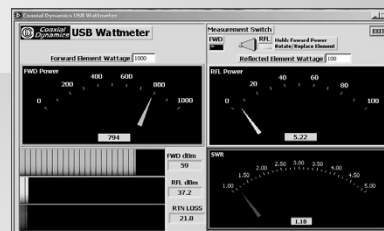
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The 81041 uses standard elements to detect average RF power from 100 mW to 10 kW and from 2 MHz to 2.3 GHz. Software and a detachable six foot USB cable are included for a simple installation on any PC using Windows® Vista, 2000, XP or NT. No additional cables, AC or DC power adapters, batteries or custom remote sensors are required.



- Forward and Reflected Power in Watts and dBm •
- Automatically Calculates SWR and Return Loss • Internal Dual 7/8" Line Section •
- Quick Match Connectors • Uses Standard Plug-In Elements • Two Year Limited Warranty •

Dual Socket Wattmeter Model 81021

The Model 81021 Average Reading Dual Socket Wattmeter allows you to measure both Forward and Reflected RF power with the flip of a switch. The Model 81021 uses standard Elements to accurately detect average RF power from 100mw to 10 kW over a frequency range of 0.45 MHz to 2.3 GHz.

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The Model 81021 is easy to use. No additional black boxes or delicate remote sensors are needed. Simply connect the Wattmeter in-line between the RF source and the Antenna or Load, insert the appropriate Elements and select either the Forward or Reflected switch position. The RF power is visually identified directly on the large 4 1/2" mirrored scale.

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Our use of a rugged shock mounted meter with a mirrored-backed scale along with superior taut band technology provides reliable and accurate readings, plus the integrity that satisfies both the US Navy and Canadian standards for bounce and vibration. This is your assurance of complete accuracy.

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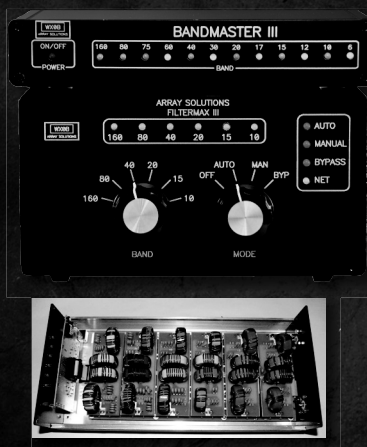
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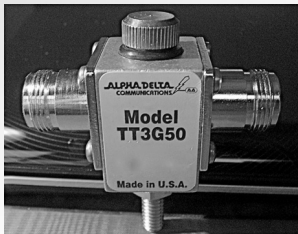
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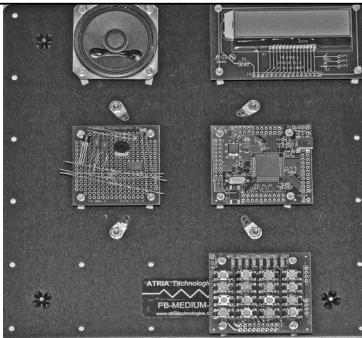
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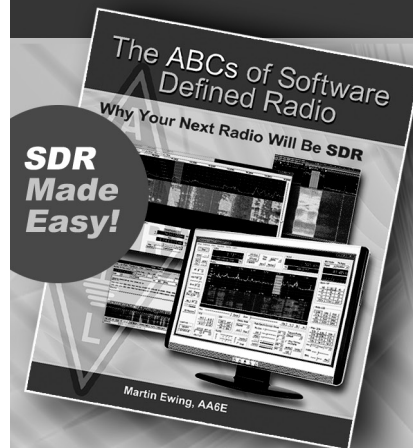
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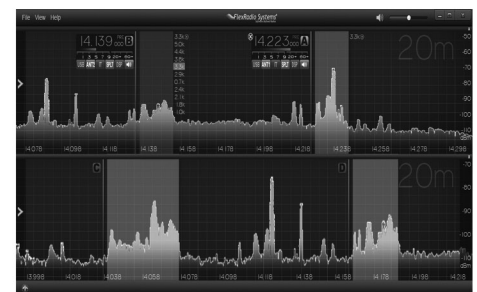
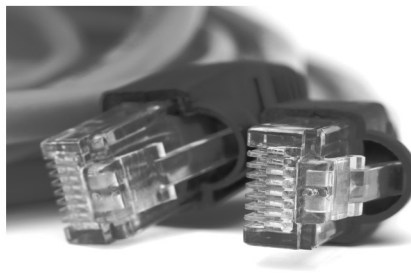
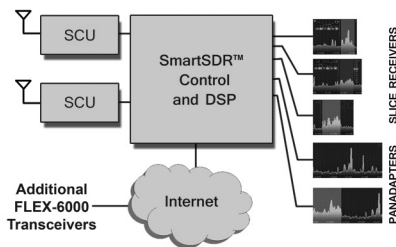
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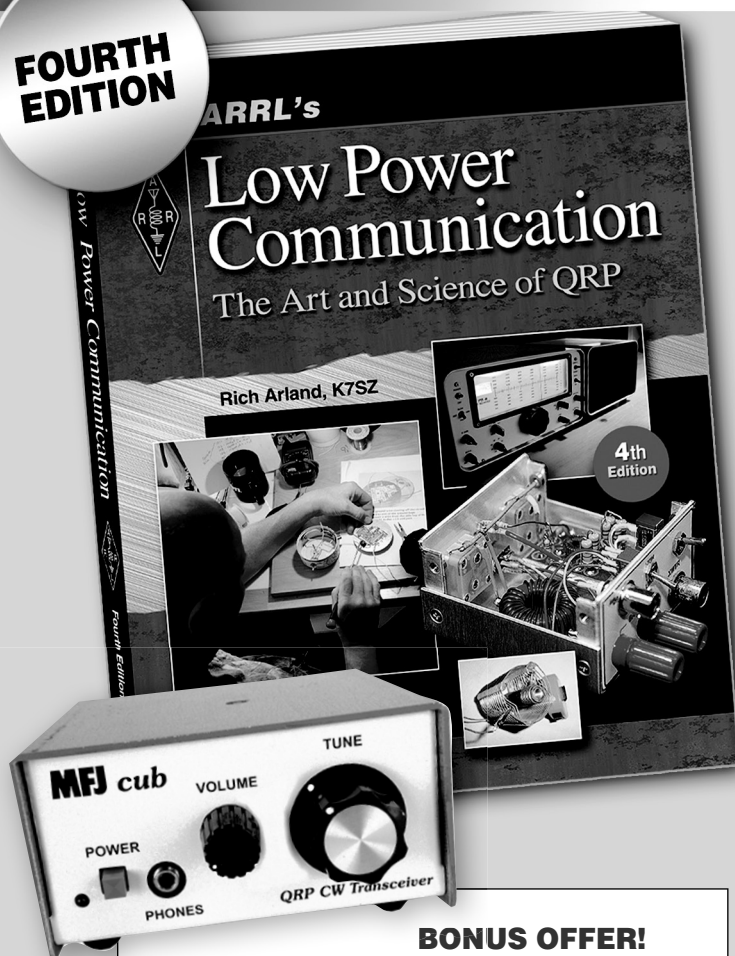
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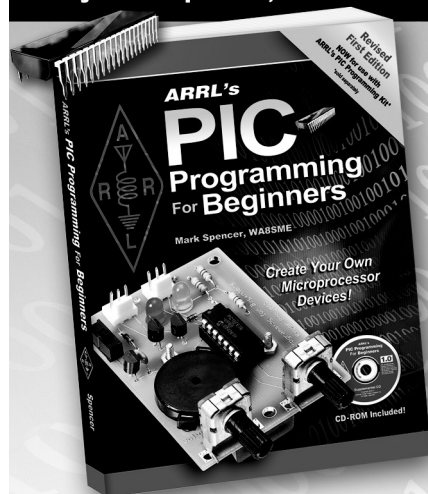
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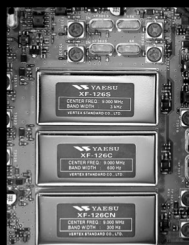
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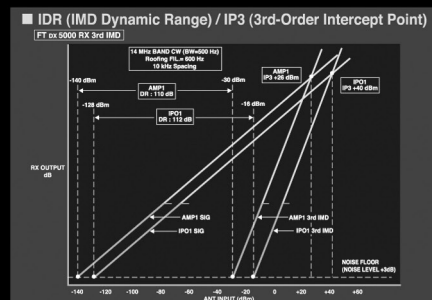
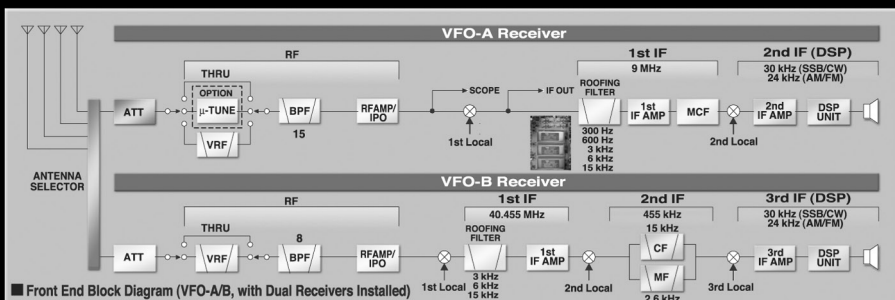
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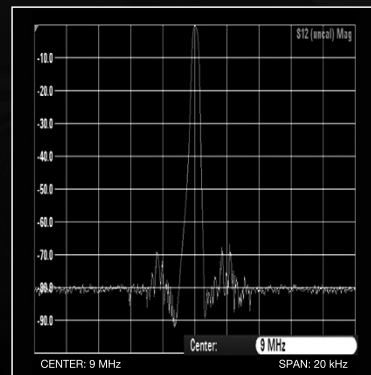
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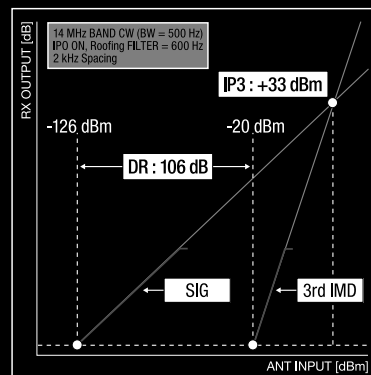
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C4FM FDMA Digital Transceiver FT1DR/E

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The radio

The FT1DR/E has not been approved by the FCC. This product may not be sold or leased, or offered for sale or lease until FCC approval has been obtained.

*E for European Version

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.