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If your company provides products or services of interest to our readers,
please contact the ARRL Advertising Department today for information on building your business.

MFJ BUILD YOUR OWN!!!

Lightweight Telescopic Portable Masts -- 20-43 feet!

Portable, temporary telescopic fiberglass masts. Twist to lock sections allow quick pull-up/take-down. 5 maximum lengths: 20-43 feet collapses 3.75-4.79 feet.

Super lightweight, high strength fiberglass. Most heavy duty, longest 43 foot mast weighs just 7.7 lbs.

Use for traveling, camping, at hotels, hamfests, field day, DX-peditions. Use longest, heaviest duty MFJ-1917 for permanent wire antenna or lightweight beam.

Put up a full size inverted Vee, dipole or vertical antenna in minutes and get full size performance and the height you need to QSO with anyone, anywhere.

Use multiple telescopic masts to make loops, quads, rotatable dipoles even beams. The ideas are endless!

- A. MFJ-1910, \$79.95. 33 ft., light duty w/top tie ring.
- B. MFJ-1911, \$89.95. 20 ft., light duty w/top tie ring.
- B. MFJ-1913, \$89.95. 28 ft., lightweight w/top tie ring.
- C. MFJ-1915, \$139.95. 25 ft., for heavy duty use.
- C. MFJ-1916, \$159.95. 34 ft., for heavy duty use.
- C. MFJ-1917, \$169.95. 43 ft., heavy duty w/top tie ring.

F G	Model MFJ#	Height feet	collaps. feet	top dia inches	bot dia inches	T-wall inches	B-wall inches	# of sextns	Weight lbs.
A	1910	33 ft.	3.75ft	.100	1.750	.057	.032	10	3.3
B	1911	20 ft.	3.83ft	.877	1.830	.080	.050	6	3.6
B	1913	28 ft.	3.83ft	.333	1.830	.080	.032	8	4.4
C	1915	25 ft.	4.79ft	1.02	2.165	.096	.050	6	6.8
C	1916	34 ft.	4.79ft	.686	2.165	.096	.050	8	7.5
C	1917	43 ft.	4.79ft	.160	2.165	.096	.038	10	7.7

Hy-gain Aluminum Tubing

6063 T832 round, drawn aluminum tubing: **standard** or **one end slotted**, (1-2" slit lengths, .083" gaps,). 3 or 6 foot lengths. Sized to telescope into one another. 3/8" OD to 2-1/2" OD. Select **slotted** for telescoping. Use Hy-gain hose clamps to secure. From \$2.36 to \$27.49. Go to www.hy-gain.com for more details.

Coax Center Insulator



MFJ-16B01
\$19.95

Built-in SO-239, super-strong, UV resistant, custom injection molded, hang hole for inverted vees, wire tie points.

Ladder Line Middle fiberglass insulator



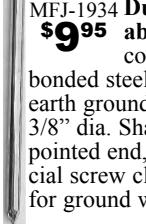
MFJ-16F01 High-strength fiber-glass, SO-239 connection at midpoint. Quadruple weave ladder line stress relief.

3 point Guy Wire Kit



AGK-8
\$59.95
Guy-brackets, thimbles, galvanized steel stakes and 150 foot Danscord rope.

MFJ 4-foot Ground Rod



MFJ-1934 Durable copper bonded steel earth ground, 3/8" dia. Sharp, pointed end, special screw clamp for ground wire.

Self-supporting Antenna Mast Tripod



MFJ-1934
\$44.95

to 1.75" dia. Roof or ground mount, Swivel feet.

Hy-Gain® Arrow Point Anchor



APA-3
\$14.95

13 gauge steel 3" anchor. 36" swiveling cable. 2000 lb. pull resistance.

For All your coax needs go to... www.mfjenterprises.com/productsearch.php

Super-Strong Fiberglass Mast -- Select 10, 22, 33 or 43Feet!

MFJ-1904H 22 Feet	MFJ-1904HD 25 Feet	MFJ-1906H 33 Feet	MFJ-1906HD 38 Feet	MFJ-1908H 43 Feet	MFJ-1908HD 50 Feet
\$139.95	\$159.95	\$189.95	\$219.95	\$229.95	\$259.95

Ship Code C Ship Code C Ship Code E Ship Code E Ship Code E Ship Code E

This is a **super-strong** heavy duty telescoping MAST, not a flimsy pole! Masts are made of .125 inch **thick wall** fiberglass tubing. Support "real" weight including small yagis, verticals, loops, full-size dipoles, more.

Left: Stainless Steel Hose Clamps (use nut/screwdriver). Fiberglass is slotted.

Right: Military quality UV protected QuickClamps. Guy 2 levels when fully extended.

Standard models and H models have 2-inch OD bottom sections and a 3/4" top section.

HD models are extra heavy-duty, they have 2-1/2" OD bottom and 1" OD top sections. Standard model is supplied with stainless steel hose clamps. H and HD models come with military quality UV protected *QuickClamps*™.

MFJ-1906, \$139.95/MFJ-1906H, \$189.95 are 33 feet extended, 6 feet collapsed, six 6-ft. sections, 13 lbs.

MFJ-1908, \$179.95/MFJ-1908H, \$229.95 are 43 feet extended, 8 feet collapsed, six 8-ft. sections, 16 lbs.

MFJ-1908HD, \$259.95 is 50' ext., 8' collapsed, has 2-1/2" OD bottom, 1" OD top, seven 8-foot sections, 24 lbs.

MFJ-1906HD, \$219.95 is 38' ext., 6' collapsed, has 2-1/2" OD bottom, 1" OD top, seven 6' sections, 24 lbs.

MFJ-1904HD, \$159.95 is 25' ext., 4' collapsed, has 2-1/2" OD bottom, 1" OD top, seven 4 ft. sections, 14 lbs.

MFJ-1904H, \$139.95. 22' ext., 5' collapsed, 9 lbs.

MFJ-1902H, \$119.95 is 10' extended, 38" collapsed, weighs just 5 lbs., true portability -- fits in suitcase!

MFJ-1900, \$69.95. Mast base mount. See left.

MFJ-14, \$59.95. Extra set of 5 Military quality UV

protected *QuickClamps*™. Fits 3/4" to 2" OD masts.

MFJ-14HD, \$69.95. Extra set clamps, 1- 2-1/2" masts.



Center Insulator for Dipole Antennas

MFJ-16G01
\$29.95

UV resistant, custom injection molded, hang hole for dipole ends.

Ladder Line Center fiberglass insulator

MFJ-16D01
\$6.95

Strong fiberglass for 450 Ohm ladder line. Double-weave stress relief. Strong tie points.

MFJ All-band Ground Radial Kit

MFJ-1932
\$34.95

2-sets of 4 radial wire assemblies: total of eight 14' radial wires. 1/4" ring lugs, ground stake points.

Water pipe/tower leg ground clamp

GC-1
\$4.95

Clamps securely onto waer pipe/ground rod. Fits pipe/rod 1/2 to 1". Ground wire hole accepts 9/32" dia. UL/CUL.

Dealer/Catalog/Manuals

Visit: <http://www.mfjenterprises.com>

or call toll-free 800-647-1800

Call for additional:

MFJ-18HO50, 50 feet ladder line, \$19.95.
MFJ-18T050, 50 feet, 20# twin lead, \$22.95.
MFJ-18G100, 100 ft., 14# copper wire, \$24.95.
MFJ-19C100, 100 feet, Dacron rope, \$12.95.

• 1 Year *No Matter What*™ warranty • 30 day money back guarantee (less s/h) on orders direct from MFJ

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MS 39759 PH: (662) 323-5869
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MFJ Ham Shack Essentials

MFJ-259C 530 KHz to 230 MHz
World's most popular analyzer

World's most popular antenna analyzer is new and improved. Now covers 530 KHz to 230 MHz. Super easy-to-use -- Read antenna SWR, complex impedance, return loss, reflection coefficient. Determine velocity factor, coax cable loss in dB, length of coax and distance to short or open in feet. Read inductance in uH, capacitance in pF. Large two line LCD screen and dual meters clearly display your info. Built-in frequency counter, signal generator, charger circuit, battery saver, low battery warning...

MFJ Antenna Tuner



MFJ-949E
\$189.95

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. 3½Hx10½Wx7D inches.

30A Switching Power Supply



MFJ-4230MV
\$89.95

MFJ-4230MV, the world's most compact switching power supply has a meter and adjustable voltage. Just 5Wx2½Hx6D inches, it weighs only 3 pounds!

MFJ Dual Display 24/12 Hour Clock



MFJ-108B
\$21.95

Read both UTC and local time simultaneously, huge 5/8" digits! Compact 4½Wx2Hx1D inches.

MFJ 300W True 4:1 Current Balun



MFJ-913
\$29.95

Transform 200 Ohms to 50 Ohms. SO-239. Transmission line transformer construction, low permeability ferrite cores.

MFJ-269C 530 KHz - 230 MHz plus 415-470 MHz, 12-bit A/D

MFJ-269C is a super MFJ-259C that adds 415-470 MHz and 12-bit A/D converter that gives you much better accuracy. Complex Impedance Analyzer reads series parallel equivalents and magnitude and phase. CoaxCalculator™ gives line length from electrical degrees and vice-versa for any frequency, Velocity Factor, coax loss in dB. Use any characteristic impedance 10-600 Ohms for more accuracy when using different coax. Has LCD log SWR bargraph, N-connector.

MFJ G5RV Antenna

The famous G5RV antenna is the most popular ham radio antenna in the world! An efficient, all band antenna only 102 feet long has 32.5 foot ladder line matching section ending in SO-239 for your feedline. Use as Inverted Vee or Sloper with just one support. With a tuner operate all bands 80-10 Meters, 160M with ground. Handles 1500 Watts. Ceramic end and fiberglass center insulators.

World's Largest SWR/Wattmeter



MFJ-868B
\$149.95

MFJ-868B is the World's Largest HF+6M SWR/Wattmeter! It has 6.5" diagonal scale with three 20/200/2000W power ranges. Peak/Avg.

MFJ ClearTone™ Comm. Speaker



MFJ-281
\$12.95

Brings out speech fidelity you never knew existed! 3" speaker handles 8W, 8 Ohms impedance, six feet cord with 3.5 mm mono plug.

MFJ 1500W True 4:1 Current Balun



MFJ-919
\$59.95

Like MFJ-913 but handles legal limit. Sturdy cube shaped heavy duty weather housing, 3½Wx3½Hx2½D inches.

MFJ-225 1.5-180 MHz continuous Two-Port Graphic Analyzer

In the field, MFJ-225 is a completely self-contained handheld graphing analyzer. On the bench it becomes a full-fledged two-port (S21) machine teamed with your PC. Using powerful IG-miniVNA freeware, run detailed data analysis and print stunning color-graphic plots! Back-lighted 3" LCD graphic display. Make fine adjustments using full-screen SWR bargraph, vivid swept displays for SWR, impedance, return loss, phase angle, more. DDS generator.



MFJ-225
\$299.95

MFJ Dry Dummy Loads

MFJ-260C is housed in a perforated metal housing with an air-cooled, non-inductive resistor that will handle a full 300 Watts for 30 seconds.

Silk-screened derating curve to 5 minutes. SWR below 1.1:1 to 30 MHz, 1.5:1 from 30 to 650 MHz. 21/4Wx21.4Hx7D inches.

MFJ-264, \$74.95. Like MFJ-260C, handles 1500 Watts for 10 seconds, 100W for 10 min.



MFJ-260C
\$39.95

MFJ Antenna Switches

MFJ antenna switches have a center ground position, automatic grounding of unused positions, lightning surge protection, handles 2.5 kW PEP and works to over 500 MHz. Better than 60 dB isolation at 300 MHz and 40 dB at 450 MHz. 50 Ohms. Less than 0.2 dB insertion loss and SWR below 1.2:1. MFJ-1704, \$79.95. Like MFJ-1702C, but with four positions.



MFJ-1702C
\$39.95

Hi-Permeability Ferrite Bead Balun

High-permeability ferrite beads on high-quality RG-303 Teflon® coax. 1:1, 2" diameter by 6 inches length. 1.5 kW 1.8-30 MHz. Center insulator.



MFJ-918
\$24.95

Lightning Surge Protector

Safeguard equipment. Shunts to 5000A peak impulse current harmlessly to ground. SWR<1.1:1, <0.1 dB loss. Use to 1000 MHz, 400W PEP.



MFJ-270
\$19.95

MFJ RFI Isolator

Prevents unwanted RF from traveling on your coax shield into your expensive transceiver. Heavy duty weather protected PVC is 2Wx5H inches. 1.5 kW. 1.8-30 MHz.



MFJ-915
\$29.95

MFJ IntelliTuner™ Automatic Antenna Tuners

300/150 Watt IntelliTuner™

MFJ-993B
\$269.95

Select 300 Watts (6-1600 Ohms) or 150 Watts (6-3200 Ohms) with the world's only dual power automatic antenna tuner. 1.8-30 MHz, 4:1 current balun, LED lighted cross meter, backlit LCD, 20,000 virtual antenna memory system, more!



1500 Watt IntelliTuner™

MFJ-998
\$699.95

Full 1500 Watts SSB/CW. Digital and analog SWR/Wattmeter, 12-1600 Ohms from 1.8-30 MHz. Ultra-fast, safe automatic tuning. Built-in antenna switch, automatic amplifier bypass protects your amplifier. Field upgradeable software.

MFJ Dual Band 80/40 Meter Dipole



MFJ-17758
\$89.95

Short 85' long dipole antenna is full-size on 40M and has ultra-efficient end-loading on 80M. 1.5kW.

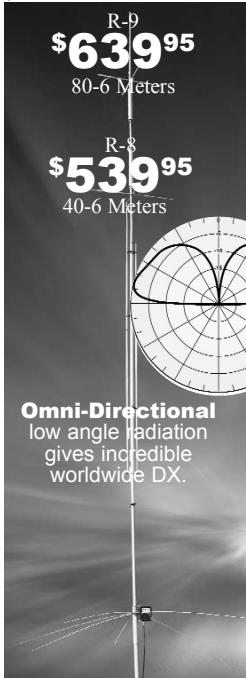
Dealer/Catalog/Manuals

Visit: <http://www.mfjenterprises.com> or call toll-free 800-647-1800

• 1 Year No Matter What™ warranty • 30 day money back guarantee (less s/h) on orders direct from MFJ
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Tech Help: (662) 323-0549
FAX:(662)323-6551 8-4:30 CST, Mon.-Fri. Add shipping.
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New! Cushcraft R9 . . . 80-6 Meters



Omni-Directional
low angle radiation
gives incredible
worldwide DX.

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 incon-
spicuously into the background in urban and coun-
try 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.

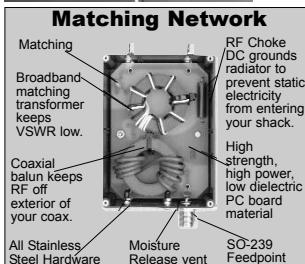
Rugged Construction: Thick fiberglass insulators, all-
stainless steel hardware and 6063 aircraft-aluminum tubing
is double or triple walled at key stress points to han-
dle anything Mother Nature can dish out.

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.

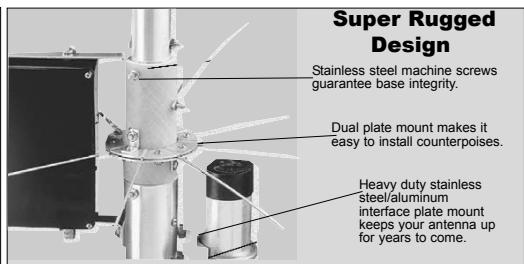


Matching Network

Matching
Broadband
matching
transformer keeps
VSWR low.

Coaxial
balun keeps
RF off
exterior of
your coax.

All Stainless
Steel Hardware
Moisture
Release vent
SÖ-239
Feedpoint



Super Rugged Design

Stainless steel machine screws
guaranteed base integrity.

Dual plate mount makes it
easy to install counterpoises.

Heavy duty stainless
steel/aluminum
interface plate mount
keeps your antenna up
for years to come.

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



A270-10S
\$169.95

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.



A270-6S
\$129.95



A-4S
\$699.95

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!



A-3S
\$599.95

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 Rings 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!



AR-2
\$64.95

AR-6
\$99.95

AR-10
\$109.95

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
Open: 8-4:30 CST, Mon.-Fri. **Add Shipping.**

- Sales/Tech: 662-323-5803 • FAX: 662-323-6551
- <http://www.cushcraftamateur.com>

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Cushcraft . . . Keeping you in touch around the globe!

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



MA-5B
\$499.95

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 for gain figures.

Visit www.cushcraftamateur.com

hy-gain® Antennas and Rotators

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-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 bandswitching, handle 1.5kW, 80 MPH wind survival, low 2.5 sq. ft. wind surface. Aircraft aluminum tubing, stainless steel hardware.

AV-640, \$449.95. Like AV-680 less 80M, 25½, 17½ lbs.

AV-620, \$349.95. Like AV-640 less 40M, 22½/10½ lbs.

AV-14AVQ, \$189.95. (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.

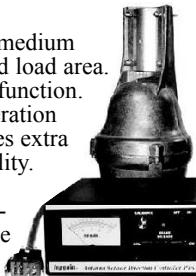
AV-18VS, \$119.95. (10,12,15,17,20,30,40,80M). 18 ft., 4 lbs. Hy-gain's lowest priced vertical gives you 8 bands. Easily tuned to any band by adjusting base loading coil.

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

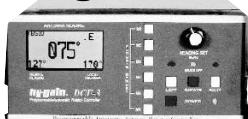
The most popular rotator in the world! For medium communications arrays up to 15 square feet wind load area. New 5-second brake delay! New Test/Calibrate function. New low temperature grease permits normal operation down to -30 degrees F. New alloy ring gear gives extra strength up to 100,000 PSI for maximum reliability. New indicator potentiometer. New ferrite beads reduce RF susceptibility. New Cinch plug plus 8-pin plug at control box. Dual 98 ball bearing race for load bearing strength and electric locking steel wedge brake prevents wind induced antenna movement. North or South center of rotation scale on meter, low voltage control, max mast size of 2½ inches.



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.

Digital Rotator Controller with 6 Programmable beam headings



New!

DCU-3

\$449.95

New DCU-3 Digital Controller lets you program 6 beam headings! Gives you fully automatic or manual control of your hy-gain HAM or Taitlwister Rotators.

Push a memory button or dial in your



hy-gain VHF/UHF Antennas

V2R, \$109.95. 2-Meter vertical has two in-phase 5/8 Wave collinear radiators for exceptional high omnidirectional gain. It has two sets of quarter wave radials that decouple radiator from mast. Covers 138-175 MHz. SO-239, handles 500 Watts. 9 feet.

V4R, \$109.95. UHF vertical. Like V2R but covers 400-475 MHz. Type N, handles 500 Watts, 4 foot.

V42R, \$169.95. Dual band covers 144/440 MHz bands. Two 5/8 Wave collinears.

VB-214FM, \$99.95. 14-element 2-Meter FM beam antenna provides exceptional front-to-back ratio and maximum obtainable gains.

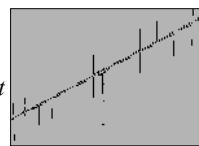
VB-23FM, \$49.95. 3-element.

VB-25FM, \$59.95. 5-element.

VB-28FM, \$89.95. 8-element.

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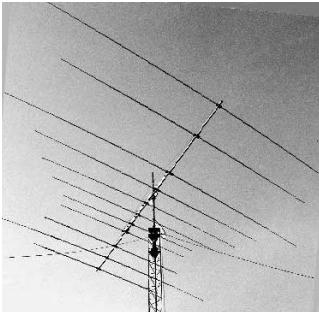
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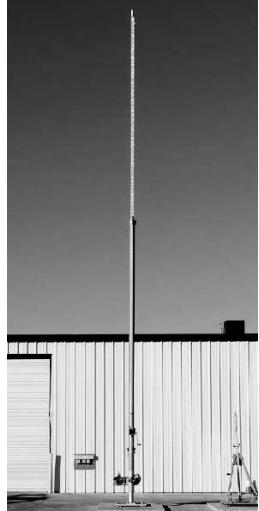
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MA-550MDP*	55'	22' 1"	3	620
MA-770	75'	22' 10"	4	645
MA-770MDP*	75'	22' 10"	4	830
MA-850	85'	23' 6"	5	943
MA-850MDP*	85'	23' 6"	5	1130

All towers will handle 10 sq. ft. of antenna at 50 mph winds. *These towers require purchase of MCL-100 or RMC-10000.



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Model #	Height Max.	Height Min.	Sections	Weight lbs.
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TX-455	55'	21'	3	670
TX-472	72'	22' 8"	4	1040
TX-472MDP*	72'	22' 8"	4	1210
TX-489MDPL	89'	23' 4"	5	1800

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HDX-572MDPL	72'	22' 8"	4	1600
HDX-589MDPL	89'	23' 8"	5	2440
HDX-689MDPL	89'	24'	5	3400
HDX-5106MDPL	106'	24' 3"	6	3850

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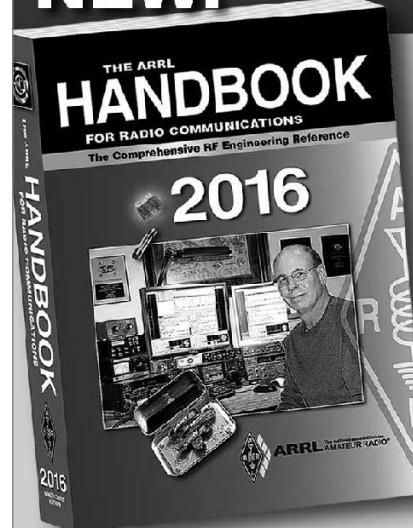
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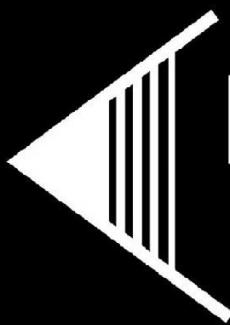
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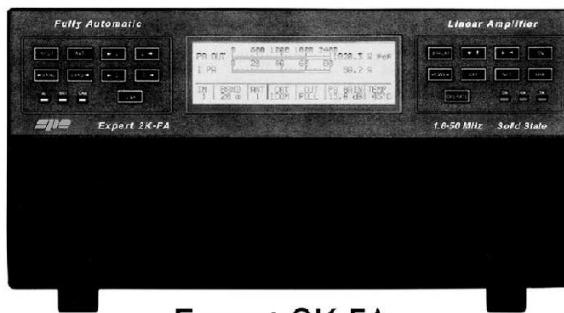
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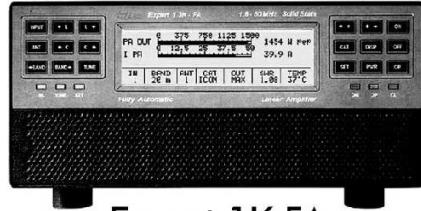
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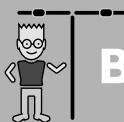


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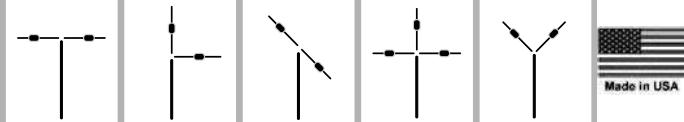
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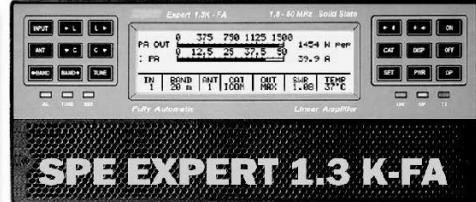
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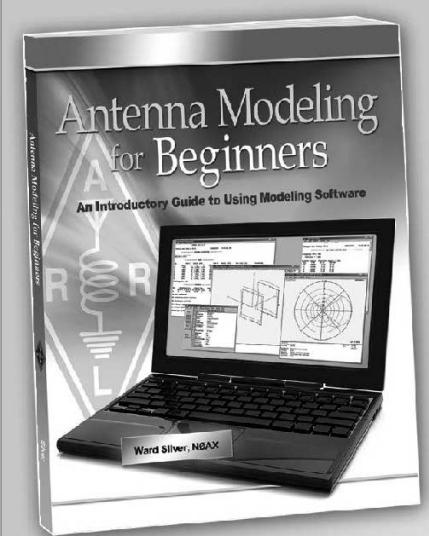
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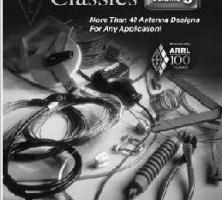
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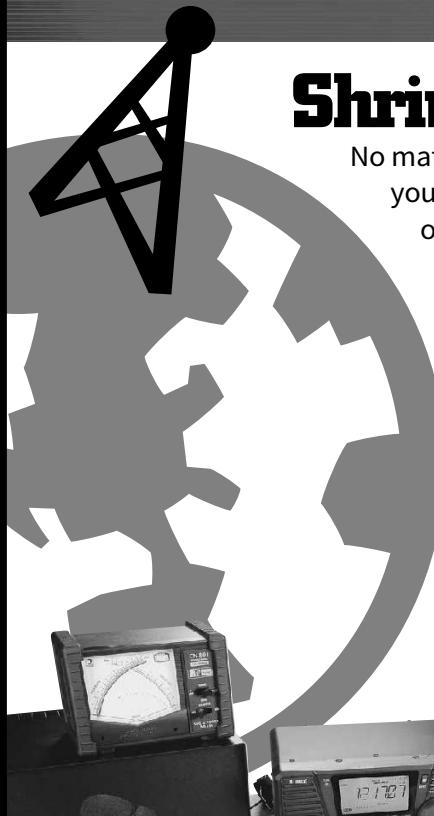
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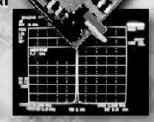
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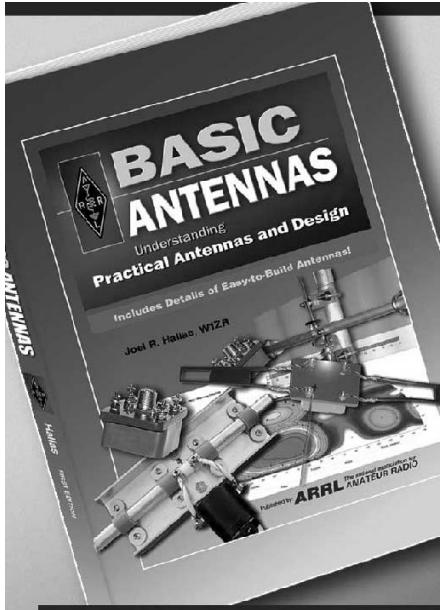


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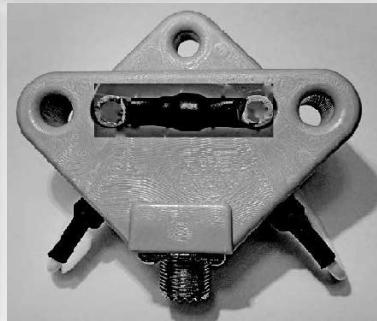
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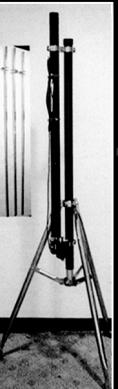
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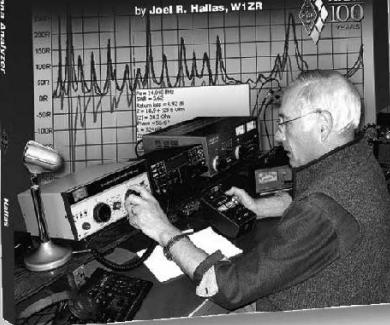
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Understanding Your Antenna Analyzer

A Radio Amateur's Guide to
Measuring Antenna Systems

by Joel R. Hallas, W1ZR

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Understanding Your Antenna Analyzer

By Joel Hallas, W1ZR

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Understanding Your Antenna Analyzer is an introduction to the various types of analyzers available, their component parts, how they operate and how to utilize them to get the best possible data. It discusses how to adjust your antenna, enhance your antenna analyzer and the ways certain analyzers can be used as general purpose test instruments in an Amateur Radio lab. Includes product review testing and an in-depth look at representative antenna analyzers available today.

Includes:

- Why Measure Antennas?
- Making Antenna Measurements
- Information Available from an Antenna Analyzer
- Hooking it Up and Making it Play
- Adjusting Your Antenna
- Taking the Feed Line Into Account
- Other Antenna Analyzer Applications
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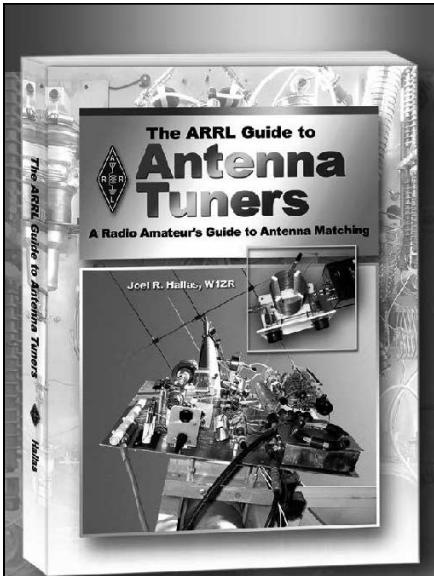


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The ARRL Guide to Antenna Tuners

A Radio Amateur's Guide to Antenna Matching

By Joel R. Hallas, W1ZR

Explore the design, construction and applications of the different types of antenna tuners. Learn what type of tuner is needed in your station and where to install it for maximum improvement. This book will give you a better understanding of your antenna system and the way it can be enhanced through the selection and use of the appropriate antenna tuner.

Contents:

- Why Might I Need an Antenna Tuner?
- A Look at a Typical Configuration
- So Just What is an Antenna Tuner?
- Tuning an Antenna Tuner
- The Internal Tuner—How Does it Help
- An External Tuner at the Radio
- Transmission Lines and Loss
- Moving the Tuner to the Back 40
- Transmission Line Choices for Low Loss
- Balanced Versus Unbalanced Lines
- So What's a Balun, an Unun, a Choke?
- Balanced Antenna Tuners
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