# MFJ 2008 Ham Catalog

MFJ 1500 Watt Legal Limit IntelliTuner™

Full 1500 watts SSB/CW...Digital & Analog SWR/WattMeter ... All features of MFJ IntelliTuners™— Ultra-fast, Safe Automatic Tuning ... Wide Tuning Range (12-1600 Ohms from 1.8 to 30 MHz) ... Radio Interfaces ... Built-in Antenna Switch for two coax/long wire . . . Automatic Bypass protects your amplifier . . . Field Upgradeable Software . . . Very Compact!

The MFJ-998 The Mrs-770
Full Legal Limit \$69 1500 Watt Intellituner<sup>TM</sup>

MFJ-998

takes you to the final level in automatic antenna tuners. With a capability of 1500 watts SSB and CW, coupled with automatic tuning, your high-power station can now operate essentially hands-free even

when frequency and band changes are made. Fast Automatic Tuning

The MFJ-998 instantly matches impedances from 12-1600 ohms using MFJ's exclusive IntelliTune<sup>TM</sup>, AdaptiveSearch<sup>TM</sup> and InstantRecall<sup>TM</sup> algorithms with over 20,000 VirtualAntenna<sup>TM</sup> Memories. When you key your transmitter, MFJ's InstantRecall<sup>TM</sup> checks to see if that frequency has been used before. If so, tuning is instantaneous. If not, MFJ's  $IntelliTune^{TM}$  algorithm (based on MFJ's efficient SWR Analyzer technology) measures the impedance, snaps the necessary components in place, and then fine-tunes the SWR. If the antenna impedance is outside the tuner's measurement range, MFJ's Adaptive Search™ algorithm measures the frequency and determines only relevant component values -- which are then searched for fast tuning.

Safe Automatic Tuning and Amplifier Protection

The MFJ-998 includes MFJ's Amplifier Bypass Control™ -- an MFJ exclusive feature! When used with a transceiver inter-



face cable, tuning is safe and "stupid-proof"! When a tuning cycle is initiated, the MFJ-998 first bypasses any in-line amplifier. Next, the MFJ-998 initiates a low-power CW tuning carrier from your transceiver. When tuning is complete, the MFJ-998 reverts your transceiver to its prior power and mode, and re-enables the amplifier. This entire cycle typically takes less than a second! Finally, if the MFJ-998 cannot find a match better than a pre-set amplifier SWR trippoint, the amplifier stays bypassed to provide automatic SWR protection for your amplifier -- another MFJ exclusive!

Analog SWR/Wattmeter A large analog Cross-Needle SWR/Wattmeter displays selectable 300/60 watt or 3000/600 watt forward/reflected full-scale ranges. You can even select automatic power ranging -- the best power range is automatically selected for you.

Digital LCD SWR/Wattmeter A two-line, 16-character backlit LCD

meter displays SWR, forward/reflected power, frequency, antenna selected, an autoranging bargraph power indication, and

much more. You can even read the final matching inductor and capacitor values should you want to build your own fixed matching network. Simple menus determine displayed information - no complex button combinations to remember!

MFJ VirtualAntenna™ Memory
MFJ new VirtualAntenna™ Memory system gives you 4 antenna memory banks for each of 2 switchable antenna connectors. Select up to 4 antennas on each antenna connector. Each antenna has 2500 memories, 20,000 total. Has two coax connectors and a binding post for end-fed long wire antennas.

Download and Upgrade Remotely

Field upgradeable firmware via the serial port -- download and upgrade your MFJ-998 as new features are introduced!

Plus Much More!

**Built-in** radio interface provides control of most amateur transceivers.

**Automatic** bypassing when excessive tuning power or power in excess of 1500 watts is applied.

Use balanced line antennas with external MFJ-912, \$59.95, 1.5 kW 4:1 balun.

MFJ-998 is the smallest full legal-limit auto-tuner in the world! 13Wx4Hx15D inches fits easily into your ham station. Weighs just 8 pounds -- great portability!

Requires 10-15VDC at 1.4 amps maximum. For more information on optional power supply and pre-wired rig control interface cables see page 2 (MFJ-929 copy).

#### **Dual Channel** Speech Intelligibility

Adjustable frequency channels for left/right ears.

Sound field expansion.
MFJ-618 **\$219**<sup>95</sup>

See Page 33

MFJ-4416 \$13995

with low

battery.

performance

See Page 24

MFJ-4416 Super

**Battery Booster** 

Get maximum transceiver

# Single-band

Rotatable mini-

**Dipoles** For 75/40/30/20 15/12/10/6M.

MFJ-22XX \$4995

See Page 59

Giant SWR/Wattmeter 144/220/440 MHz...Pg17 MFJ Amplified Mobile Speaker, 6-Watt ... Pg 33 Three New Atomic Wristwatches ... Pg 44 Single Operator/Two Radio Switch . . . Pg 30

# "Shorty" **Antenna**

MFJ-1672 \$39995

See Page 54

#### Super-strong Telescopic Mast

.125 thick wall fiberglass tubing, 2" OD bottom section, 33/6 ft., 43/8 ft. extended/collapsed.

MFJ-1906**\$139**95

MFJ-1908 See Page 55

#### 25 Amp Switching **Power Supply**

No RF Hash! New -- 2 pair of PowerPole(R) connectors

MFJ-4125P **\$124**95

See Page 23

#### MFJ 80/40/20 M **Rotatable Dipole** 33 feet, full-size 20 Meters,

aircraft strength, super efficient end-loading. MFJ-1785 \$36995

See Page 58

# Screwdriver

3.5-54 MHz, 200W 16" base, 32" whip

#### 2.4 GHz WiFi Antennas!

8 dBi full-size airdielectric patch antenna. 12 dBi bi-quad plus more! MFJ-1802 \$49<sup>95</sup>

See Page 66

# Hy-gain 50/144/

440 MHz Yagi 8 dBi gain on 2/6 Meters, 6 dBi gain on 440 MHz!



For your nearest dealer or to order, call 800-647-1800



MFJ ENTERPRISES, INC., 300 Industrial Park Road, [1972] Starkville, MS 39759

Phone: (662) 323-5869; 8-4:30 CST, M-F; Fax: (662) 323-6551



No Matter What™Warranty **Every** MFJ product is protected by MFJ's famous one year No Matter What™ limited warranty. We will repair or replace your MFJ product no matter what (at our option) for one full year.

Visit...www.mfjenterprises.com . . . free manuals!

# MFJ Compact 200 Watt IntelliTuners<sup>TM</sup>

Automatically tunes any unbalanced antenna... Ultra fast... 20,000 VirtualAntenna<sup>TM</sup> Memories . . . Antenna Switch . . . Efficient L-network . . . Matches 6-1600 Ohms at 200 Watts . . . 1.8-30 MHz . . . Digital SWR/Wattmeter . . . Audio SWR meter . . . Radio interface . . .



**The** MFJ-929 *IntelliTuner-Compact*™ lets you automatically tune any coax fed or random wire antenna 1.8-30 MHz at full 200 Watts SSB/CW. It can match 6-1600 Ohms (SWR up to 32:1) - - that's a 50% wider matching range at a higher power level than lesser competing products.

You get a digital SWR/Wattmeter with backlit LCD, antenna switch for 2 antennas, built-in radio interface and built-in internal BiasTee for remote tuner operation.

**MFJ's** exclusive *IntelliTune*™, *Âdaptive* Search™ and InstantRecall™ algorithms give you ultra-fast automatic tuning with over 20,000 VirtualAntenna™ Memories.

#### MFJ VirtualAntenna™ Memory

MFJ new VirtualAntenna™ Memory system gives you 4 antenna memory banks for each of 2 antenna connectors. You can select up to 4 antennas on each antenna connector. Each antenna has 2500 memories.

#### 4 Times the Solutions!

MFJ-929 gives you 256 values each of capacitance and inductances for 131,072 matching solutions. That's 4 times the 32,768 matching solutions of competing products with only 128 L/C values each!

Highly intelligent, ultra-fast tuning!

**Don't** be fooled by competing products claiming fast search times -- if you have a quarter of the matching solutions, of course, it takes less time to finish but it's *not* faster.

MFJ's faster speed comes from advanced technology and software algoMFJ-929 \*21995
Ship Code B
rithms *not* from fewer matching solutions.
MFJ's *IntelliTuner*-

Compact<sup>™</sup> actually measures complex impedance -- R and X -- of your antenna, computes the L-network values needed and snaps in those components to give you an instant match.

If the load is out of measurement range, AdaptiveSearch<sup>TM</sup> determines the smaller subset from all solutions that can match a safe load -- and then searches only that subset -others search through far more solutions.

#### Digital LCD SWR/Wattmeter

**An** easy-to-read, two-line, 16-character backlit LCD displays SWR, peak or average forward/reflected power, frequency, antenna 1 or 2, L/C tuner values, on/off indicators and other info. They are selected from easy-to-understand menus -- not complex combinations of buttons you can't remember.

A fast-response, high-resolution bargraph gives you an auto-ranging 20/200 Watt power meter. You get 60 segments each for forward and reflected power and 36 segments for SWR -- try that with an 8 segment bargraph that makes you change power ranges and doesn't even give you reflected power!

You can read inductance and capacitance directly in uHy and pF. This turns you into an expert L-network designer! Match your load, read the resulting L/C values, then use them to build your fixed L-network.

**Or**, knowing the L/C values you can determine R and X of the load impedance.

#### Plus Much More!

StickyTune™ mode gives you one-hand tuning by locking the TUNE button -- just transmit to tune regardless of SWR.

Has audio SWR meter and audio feed back. Competing products don't.

**Built-in** 50 MHz frequency counter. Its built-in radio interface lets you use a

simple wire cable to compatible rigs. Others require a cable with expensive electronics.

**Binding** post for random wire. Self-test. Highly efficient L-network. 10 Amp/1000V relays, RF duty silver mica capacitors.  $6^{1/2}$  Wx2<sup>7</sup>/<sub>8</sub>Hx8<sup>3</sup>/<sub>8</sub>D in. 2.4 lbs. 12-15 VDC/

1Amp or 110 VAC with MFJ-1316, \$21.95.

MFJ-928, \$199.95. Like MFJ-929, less LCD. manual tune buttons.

#### MFJ-927, \$259.95. Weather protected remote auto tuner for

coax/wire ant., includes MFJ-4116 Power Injector. Most MFJ-929

features, weather protected, no LCD/buttons.

#### Super-Compact MiahtvMite™ IntelliTuner™ MFJ-925,

\$179.95. MFJ-925 has been

designed for

today's compact base/portable/mobile stations.

At just  $6^{1/2}Wx2^{1/8}Hx8^{1/4}D$  inches, the MFJ-925 IntelliTuner™ specifically complements today's compact HF transceivers, such as the IC-706MKIIG, IC-7000, FT-857D, DX-70TH and TS-50S.

It can also be used as a stand-alone automatic antenna tuner for any transceiver that has an output power of 2-200 watts SSB/CW from 1.8-30 MHz with antenna impedances from 6-1600 ohms.

With more than 10,000 non-volatile VirtualAntenna™ Memories, and MFJ's exclusive InstantRecallTM, IntelliTuneTM and AdaptiveSearch™ algorithms, the MFJ-925 gives you fast automatic tuning of unbalanced or single-wire antennas.

Use an optional MFJ-911H. \$29.95 (See page 55 for more details), 1:1/4:1 external balun for balanced feedlines.

MFJ-5114 K/Y/I/A, \$19.95. Prewired Rig Interface cable for MFJ-929/928/925/998. MFJ-5114Y3, \$19.95. MFJ-929 to FT-

1000MP, FT-9000 Yaesu rigs. MFJ-5114Y4, \$19.95. MFJ-929 to FT2000 rigs.

MFJ-4116, \$24.95. Power Injector for remote

MFJ-929/928 use. Sends DČ/RF down coax.

# Automatic Antenna Tuner for HF SSB



#### Weather-sealed for Outdoor or Marine Use -- tough and durable!

MFJ-926 Automatic Antenna Tuner covers the entire HF band, 1.8-30 MHz. It handles 200 Watts PEP maximum

with a 10 watts minimum input power.

MFJ-926 is weather-sealed for outdoor or marine use outside at the base of your ham station antenna -- a durable hard plastic cover and chassis plus an inner lip black rubber seal keeps the interior electronics cool and dry for many years of dependable use.

MFJ-926 has a very fast-tuning: initial tuning is less than 2 seconds and less than .2 seconds tuning from memory.

It has 200 Memory channels. Tunes 6 to 30 MHz with wire greater than 8 feet and tunes 1.8-30 MHz with wire greater than 27 feet. For 50 Ohm transceivers.

**Requires** 13.8 VDC at 1.5 Amps. Sleek, sexy and compact -- measures just 91/4Wx 14<sup>1</sup>/<sub>4</sub>Hx3D inches. Weighs just 4 pounds.

**This** tuner is built-to-last the elements! It is weather-sealed for outdoor or marine use. All connections are double protected with rubber sealing, entire cabinet is specially weather sealed with internal rubber lip. Includes mounting holes with metal strap on each end for easy securing.

MFJ . . . The World Leader in Ham Radio Accessories!

# MFJ-989D 1500 Watt legal limit Antenna Tuner

**New and improved!** World's most popular legal limit antenna tuner just got better -- with no increase in price! You get better efficiency, lower losses, and a new true peak-reading meter. Easily handles full 1500 Watts SSB/CW, 1.8 to 30 MHz including MARS/WARC bands.



- New 500 pF air variable capacitors
- New AirCore™ Roller Inductor with new fast-tune Crank Knob
- New TrueActive™ Peak-Reading Cross-Needle SWR/Wattmeter
- New High-Voltage Current Balun
- New rugged Cabinet maintains hi-Q Made in the U.S.A.

The world's most popular legal limit antenna tuner just got better -- much better -- with no increase in price!

You get better efficiency, lower losses and a new true peak reading SWR/Wattmeter. It easily handles full 1500 Watts SSB/CW and covers 1.8 to 30 MHz, including MARS and WARC bands into balanced or unbalanced loads.

You can match dipoles, verticals, inverted vees, random wires, beams, balanced lines, coax, mobile whips, shortwave -- nearly any antenna.

You get everything you've ever wanted in a high power, full featured antenna tuner — extremely wide matching range, lighted Cross-Needle SWR/Wattmeter, antenna switch, dummy load and balun.

#### Massive Transmitting Capacitors

**New** huge 500 pF *air variable capacitors* give you *twice* the capacitance for much more efficient operation on 160 and 80 Meters.

**Specially** shaped plates give low minimum capacitance resulting in an extremely wide matching range -- 160 thru 10 Meters.

**New** larger, more attractive *capacitor knobs* with easy-to-see dials make tuning much easier and precise.

# MFJ AirCore™ Roller Inductor with new fast-tune Crank Knob

New and improved  $AirCore^{TM}$  Roller Inductor gives you lower losses, higher Q and handles more power with no self-resonances. It gives you cool, efficient and smooth tuning on all bands and it's air core can't burn up!

Large, self-cleaning wiping contact gives excellent low-resistance connection without contact arcing or burning.

**New** fast-tune crank knob lets you reset your roller inductor quickly, smoothly and accurately.

MFJ-989D

Ship Code D

A precision *gear driven* 3-digit turns counter lets you accurately reset your roller inductor for quick band changing.

# TrueActive™ Peak Reading SWR/Wattmeter

New TrueActive™ peak reading SWR/Wattmeter lets you read true peak or average power on all modes. Large, easy-to-read illuminated Cross-Needle meter lets you read SWR and forward/reflected (3000/300 Watt ranges) power at a single glance.

Uses 9-Volt battery and/or 12 VDC or 110 VAC with MFJ-1312D, \$15.95.

Extra wide spaced, heavy duty contacts handle extreme voltages and currents. We've never burned one up!

You can select two coax antennas (directly or through tuner), balanced line/random wire, or built-in dummy load.

#### **Built-in Dummy Load**

A *full-size* 300 Watt non-inductive 50 Ohm dummy load is built-in.

You'll find it handy for transmitter tuning, testing and repairing rigs, setting power level, adjusting mic gain and more.

#### New Cabinet maintains high Q

New roomy cabinet helps maintain components' high Q. Vent holes keeps components cool. Super construction -- non-stripping PEM nuts, wing-nut ground post, fire-retardant epoxy glass PC board, and heavy gauge wire throughout. Measures 127/sWx6Hx115/sD inches.

#### Lexan Front Panel

The MFJ-989D has a new nearly indestructable multi-color Lexan front panel. Its detailed logging scales and legends will be legible for a lifetime of DXing.

#### Wide Range T-Network

The MFJ-989D uses the time-tested wide range T-Matching Network. It gives you the widest matching range and is the easiest to use of all matching networks. With MFJ's new high value 500 pF air variable capacitors and new low loss roller inductor, it easily handles high power efficiently.

No Matter What<sup>™</sup> Warranty
Every MFJ tuner is protected by
MFJ's famous one year No Matter
What<sup>™</sup> limited warranty. We will repair
or replace your MFJ-989D no matter
what (at our option) for one full year.

#### MFJ High Voltage

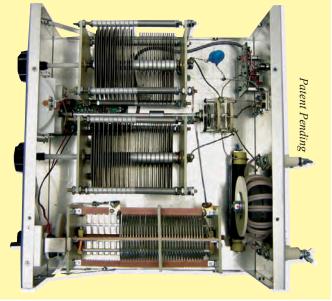
#### Current Balun

New high voltage current balun lets you tune high and low impedance balanced lines without core saturation or voltage breakdown.

It's constructed with two giant  $2^{1/2}$  inch toroid cores and wound with high voltage wire connected to high-voltage glazed ceramic feedthrough insulators.

#### Super Antenna Switch MFJ-989D's

super heavy duty antenna switch is made of two individual ceramic wafers wired in parallel.



# **MFJ KW Differential-T™ Antenna Tuner**

... Gives you absolute minimum SWR ... Simple 2-knob tuning ... Lighted Cross-Needle SWR/Wattmeter . . . AirCore™ Roller Inductor . . . 6-position antenna switch . . . Balun for balanced lines . . . 1.8-30 MHz coverage

Ship Code E

MFJ's innovative Differential- $T^{TM}$  tuner uses a differential capacitor that makes tuning easier than ever. Gives minimum SWR at only one setting. Broadband design ends constant retuning.

The MFJ-986 is a rugged roller inductor

antenna tuner that handles 3 KW PEP SSB amplifier input power (1500 Watts PEP SSB output power). Tunes 1.8-30 MHz continuously, including MARS and all the WARC bands

MFJ's exclusive *AirCore*™ Roller Inductor gives absolute minimum SWR -something tapped inductors just can't do.

3-digit turns counter plus a spinner knob gives precise inductance control so you can quickly retune your frequency.

A lighted peak and average reading crossneedle meter shows SWR, forward and reflected power at a single glance!

You get a 6-position antenna switch that lets you select two coax lines and/or random wires (direct or through tuner), balanced line and external dummy load.

The MFJ TrueCurrentBalun™ for bal-

anced lines minimizes feedline radiation that causes field pattern distortion, TVI and RF in your shack. Ceramic feedthru insulators for balanced lines withstand high voltages and temperatures.

> Differential-T Tuner<sup>TM</sup> . . . . A new twist on proven technology

Replacing two variable capacitors with a single differential capacitor gives wide range T-network tuning with just two controls -- a



tuning capacitor and a roller inductor.

Simple 2-knob tuning makes tuning easier than ever. You get minimum SWR at only one

#### MFJ AirCore™ roller inductor



**MFJ's** exclusive super heavy duty AirCore™ Roller Inductor has an air core that can't burn up! You get ultra high-Q, the lowest loss, highest efficiency and highest power handling of any roller inductor in ham radio.

MFJ's exclusive Self-Resonance Killer™ keeps potentially damaging self-resonances away from your operating frequency.

Large, self-cleaning wiping contact gives excellent low-resistance connection without contact arcing or burning.

A solid 1/4 inch brass shaft with self-align bearings gives smooth nonbinding rotation.

setting and a broadband response that ends constant retuning. You'll spend your time QSOing instead of fooling with your tuner.

The compact  $10^3/4$ x $4^1/2$ x15 inch cabinet has plenty of room to mount the roller inductor away from metal surfaces for highest Q -- you get high efficiency and more power into your antenna. Wide-spaced tuning capacitor plates let you run high power without arcing.

#### Lighted cross-needle meter

MFJ's lighted Cross-Needle Meter shows you SWR, forward and reflected power simultaneously. It reads peak or average power on 2000 or 200 Watt ranges.

Lamp has on/off switch and uses 12 VDC or 110 VAC with MFJ-1312D, \$15.95.

#### MFJ TrueCurrentBalun<sup>TM</sup> reduces feedline radiation

**Most** tuners use a *voltage* balun that forces equal voltages on the two antenna halves. It minimizes unbalanced currents only if the antenna is perfectly balanced -- not the case with practical antennas.

The MFJ-986 uses a *true* current balun to

force equal *currents* in the two antenna halves -- even if the antenna is not perfectly balanced!

The MFJ TrueCurrentBalun™ gives superior balance over voltage baluns and minimizes unbalanced current. This reduces field pattern distortion, concentrates your power for a stronger signal -- plus it reduces TVI and RF in your shack caused by feedline radia-

#### No Matter What<sup>TM</sup> Waranty

Protected by one year limited warranty. Call your dealer for your best price! In stock at ham dealers everywhere.

# MFJ-962D Compact Tuner for Linear Amplifiers

MFJ AirCore™ Roller Inductor, Compact Size, Lexan scratch-proof front panel . . . . . . handles AMERITRON's AL-811H!



Why settle for a mere 300 Watt antenna tuner when a few extra dollars let you add real power when

MFJ-962D

Ship Code C

you're ready? The MFJ-962D lets you use your barefoot rig now, then when you're ready . . . When you're ready . . . you can add a power-

house linear amplifier at no additional cost. The compact MFJ-962D handles 1500 Watts

PEP SSB amplifier input power (800 Watts PEP SSB amplifier output

It's perfect for AMERITRON's best selling 800 Watt AL-811H or 600 Watt AL-811 amplifiers. Features MFJ's AirCore™ Roller Inductor, new aluminum-skirted

knob set including a weighted deluxe spinner knob, ultra compact size (10<sup>3</sup>/<sub>4</sub> x4 x 10<sup>7</sup>/<sub>8</sub> inches) and scratch-proof nearly indestructible multicolored Lexan front panel.

Two transmitting tuning capacitors and MFJ's exclusive AirCore™ roller inductor gives you precise control to get your SWR down to an absolute minimum.

You get an extremely wide matching range from 1.8 to 30 MHz continuously, including MARS and WARC bands.

**MFJ's** *AirCore*<sup>™</sup> roller inductor has an air core that can't burn up. You get ultra high-Q, low loss and MFJ's exclusive Self-Resonance

 $Killer^{TM}$  that eliminates damaging self-resonances. MFJ's lighted peak and average reading Cross-Needle SWR/Wattmeter makes tuning quick and easy. At one glance you can read SWR, forward and reflected power in two power ranges. Meter light uses 12 VDC or 110 VAC with MFJ-1312D, \$15.95.

A 6-position ceramic antenna switch lets you select 2 coax lines (direct or through tuner), random wire and balanced lines.

You get a heavy duty MFJ *TrueCurrentBalun*™ for balanced lines. High-voltage *ceramic* feedthru insulators let you operate high power into balanced feedlines.

# MFJ 2500 Watts Continuous Carrier<sup>TM</sup> Tuner

Silver plated Edge-Wound Roller Inductor . . . 1000/500 pF Variable Capacitors . . . Antenna Switch . . . 4-Core Balun . . . true Peak Cross-Needle SWR/Wattmeter . . . Dummy Load . . . Extremely Wide Matching Range . . . Patent Pending . . .

The MFJ-9982
Continuous Carrier™ antenna
tuner handles 2500 Watts
continuous carrier output
on all modes and all HF bands into most

on all modes and all HF bands into most unbalanced antennas — even on 160 Meters where even the best antenna tuners fail!

The MFJ-9982 gives you every feature you'll ever want in a high power tuner --wide matching range, 1.8 to 30 MHz coverage, 6-position antenna switch, 4-core balun, dummy load, *true* peak/average lighted SWR/Wattmeter, 6:1 reduction drives with detailed logging scales, 3-digit turns counter, extra large knobs.

#### New Components, New Technologies

The *Heart and Soul* of the MFJ-9982 is its roller inductor and variable capacitors.

**MFJ's** high power, high-Q *continuous* current AirCore™ roller inductor is no ordinary roller inductor! It's edge wound from thick .06-inch silver-plated solid copper strap.

It can carry huge circulating RF currents and withstand tremendous heat that'll melt or burn up ordinary roller inductors.

**Self-insulating** construction reduces stray capacitance -- keeps self-resonant frequencies high and out-of-the-way. Dual, *silver-plated* compression wheels give ultra low-resistance contacts. New fast-tune crank knob.

**High-current,** high-capacitance 1000 pF and 500 pF air variable capacitors have low minimum capacitance and are self-insulating.

These newly developed capacitors and MFJ's patent pending innovation gives you very high efficiency on 160/80 Meters and extremely wide matching range on 10/12/15 Meters at 2500 Watts -- a feat only the MFJ-9982 has achieved.

#### Antenna Tuner/Artificial Ground



MFJ-934 **\$209**<sup>95</sup> Ship Code B

MFJ-934 is unique because it has a built-in artificial ground. A ground matching knob lets you switch in inductance to bring an attached wire to a low impedance current point to form an artificial ground. A push button lets you use the Cross-Needle Meter to monitor for maximum ground current. With an artificial ground to work against, you'll be surprised to see how well a random wire can work.

You get a 300 Watt full featured antenna tuner that covers 1.8-30 MHz. Lighted CrossNeedle meter reads SWR/Forward/ Reflected power at-a-glance. 4:1 balun for balanced lines. Features efficient airwound inductor, high current/voltage 12-position inductor switch and two 1000 volt air-variable capacitors. Tunes all antennas and feedlines including random wire, coax and balanced lines. 105/8Wx31/2Hx8D in.



Hi-Voltage/Current Antenna Switch

The antenna switch is completely isolated to handle high-voltage high impedance antennas. High-current, low impedance antennas are handled by parallel sets of high-current contacts of *two* ceramic switches.

#### New 4-Core Balun

**Powerful** balun -- Four 2<sup>1</sup>/<sub>2</sub> inch cores, 12-gauge *Teflon*™ wire. Run balanced lines at full 2500 Watts SSB/CW continuous, 24/7. *New Balanced Line Feed-Thru Insulator* 

**Allows** massive antenna currents to flow directly to the antenna capacitor without passing though lossy screws or bolts.

#### TrueActive™ Peak Reading Circuit

New TrueActive™ circuit reads true peak or average power on all modes. Cross-Needle meter reads SWR/forward/reflected power.

#### 1500 Watt Dummy Load

1500 Watt air-cooled non-inductive 50 Ohm resistor. 100W/10 min., 1.5kW/10 sec.

# MFJ Artificial RF Ground Places your rig near earth ground potential!

MFJ-931 \***109**<sup>95</sup> Ship Code B

Create an artificial ground with

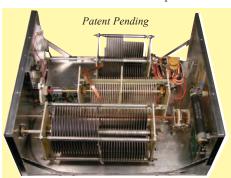
rig near actual earth ground potential even if your rig is on the second floor or higher with no earth ground possible! It electrically places a far away RF ground at your rig.

How's your RF ground? Do you have RF "hot spots" that "bite" you when you transmit? Do you have RF feedback that causes your rig to quit working on some bands? Do you have TVI/RFI that makes your neighbors hard to live with? Do you get weak signal reports because of extreme ground losses or radiation pattern distortion?

These problems could be caused by poor RF grounding, especially if your rig is on a second floor with no ground at all. Even if you have a good ground, a long connection wire can ruin its effectiveness by isolating true RF ground from your rig.

New Cabinet maintains high Q

New roomy cabinet maintains high Q. Vent holes. Heavy gauge, .08 inch aluminum braced chassis. Vinyl cover, nonstripping PEM nuts, heavy 10-gauge or copper strap wiring throughout. 13<sup>3</sup>/<sub>4</sub>Wx7Dx16<sup>1</sup>/<sub>4</sub>D inches. 15 pounds.



#### New! 4 Foot Ground Rod

steel earth ground rod is a tough 3/8 in. diameter that will last and last. Sharp pointed end makes it easy to drive into the ground. Use it to tie your equipment to a single earth ground to help bleed off static and RFI and prevent RF hot spots. Use several to form a good RF ground for random, long wire and vertical antennas.

Continued... MFJ-931 creates an artificial ground! It resonates a random length of wire thrown along the floor and produces a tuned counterpoise. This artificial ground effectively places your rig near actual earth ground potential with no earth ground possible. Reduces the electrical length of the ground connection wire to virtually zero by tuning out its reactance. MFJ-931 connects between your rig and a random length of wire or a connecting ground wire. It's tuned for maximum ground current using the built-in RF ammeter. 1.8 to 30 MHz. 7<sup>1</sup>/<sub>2</sub>Wx3<sup>1</sup>/<sub>2</sub>Hx7D inches. RF tight aluminum cabinet.

# MFJ 300W Roller Inductor Tuner

World's only 300 Watt AirCore™ Roller Inductor Antenna Tuner gives you absolute minimum SWR . . . Covers 6 Meters thru 160 Meters . . .



MFJ-969

MFJ-969 gives you MFJ's superb **95** AirCore™ Roller Inductor and full 6 Meters through 160 Meters coverage!

You get everything you've ever wanted including . . . 300 Watts PEP SSB full featured antenna tuner, widest matching range, full-size lighted Cross-Needle SWR/Wattmeter reads true peak forward power, QRM-Free PreTune™, 8 position

antenna switch, built-in 50 Ohm dummy load, heavy duty 4:1 balun -- all in a tough, attractive cabinet. MFJ's famous one year No Matter What<sup>TM</sup> limited warranty. MFJ-969's AirCore™ Roller Inductor,

gear-driven turns counter and spinner knob gives you exact inductance control for minimum SWR.

MFJ's exclusive AirCore™ Roller

Inductor has an air core that can't burn up! You get ultra high-Q, the lowest loss, highest efficiency and highest power handling of any roller inductor in ham radio.

MFJ's exclusive Self-Resonance Killer™ keeps potentially damaging selfresonances away from your frequency.

**Huge** self-cleaning wiping contact gives you excellent low-resistance connection without contact arcing or burning.

**Solid** 1/4 inch brass shaft, self-align bearings -- smooth non-binding operation.

The MFJ-969 covers all frequencies from 160 Meters thru 6 Meters, including the "magic band" -- the widest matching range of any full featured antenna tuner.

Match any antenna

Match dipoles, verticals, inverted vees, random wires, beams, mobile whips, SWL receiving antennas -- nearly any antenna.

You can use coax cable, random wire or

balanced lines. Has heavy duty 4:1 balun. True Peak Reading Cross-Needle Meter

MFJ's new ActivePeak ReadingCircuit<sup>™</sup> accurately reads true peak forward power -- an MFJ exclusive.

MFJ's lighted Cross-Needle SWR/Wattmeter reads SWR, true peak forward and average reflected power simultaneously on 300 Watt or 30 Watt ranges.

Lamp has on/off switch and uses 12 VDC or 110 VAC with MFJ-1312D, \$15.95. ActivePeakReading Circuit acan also use a 9 volt battery.

MFJ's 8 positions let you select two coax fed antennas, random wire/balanced line or built-in dummy load for use through your MFJ-969 or direct to your rig.

MFJ's *QRM-Free PreTune*™ lets you pre-tune MFJ-969 off-the-air into a built-in dummy load without causing QRM.

Pre-tuning into a dummy load makes tuning your actual antenna quick and easy!

The MFJ-969 has a full size non-inductive 50 Ohm dummy load. You'll find it handy for tuning, testing, repairing rigs, setting power level, adjusting mic gain, etc.

The tough aluminum case has a scratch-proof multi-colored Lexan front panel. Compact  $3^{1/2}Hx10^{1/2}Dx9^{1/2}W$  inches.

MFJ-969 AirCore™ Roller Inductor



# Ham Radio's Most Popular 300 Watt Tuner More hams use MFJ-949s than any other antenna tuner in the world!

More hams use MFJ-949s than any \$ other antenna tuner in the world!

Ship Code B

Why? Because the world's leading tuner has earned a worldwide reputation for being able to match just about anything.

Full 1.8-30 MHz Operation

Custom designed inductor switch, 1000 volt tuning capacitors, Teflon<sup>R</sup> insulating washers and proper L/C ratio gives you arc-free no worries operation with up to 300 Watts 1.8 to 30 MHz.

#### Tunes any antenna

Tunes out SWR on dipoles, verticals, inverted vees, random wires, beams, mobile whips . . . nearly anything! Use coax, random wire or balanced lines. Has heavy duty 4:1 balun.

#### Custom inductor switch

The inductor switch is the most likely component to burn up in any antenna tuner. MFJ's inductor switch in the MFJ-

949E was custom designed to withstand the extremely high RF voltages and currents that are developed in your tuner.

8-Position Antenna switch

lets you select two coax fed antennas, ran-



dom wire/balanced line or built-in dummy load through your MFJ-949E or direct to vour transceiver.

Big Lighted Cross-Needle Meter

Has MFJ's full size 3 inch lighted cross-needle Meter. Lets you easily read SWR, true *peak* forward and average

reflected power simultaneously on 300 Watt or 30 Watt ranges. Lamp has on/off switch, requires 12 VDC or 110 VAC with MFJ-1312D, \$15.95.

#### QRM-Free PreTune™

**MFJ's** *ORM-Free PreTune*™ lets you pre-tune your MFJ-949E off-the-air into its built-in dummy load! Makes tuning your

actual antenna faster and easier.

#### Plus Much More!

Full size built-in non-inductive 50 Ohm dummy load, scratch-proof Lexan multicolored front panel, superior cabinet and construction and more! Measures a sleek and compact 105/8x31/2x7 inches.

#### MFJ-948 -- An E*cono MFJ-949E* for Only \$149.95!

MFJ-948 \$159<sup>95</sup> Ship Code B

All the

features of



connector for one on rear panel.) Features include custom designed inductor switch, 600 volt tuning capacitors, full size 3 inch lighted Cross-Needle meter, 8 position antenna switch, heavy duty 4:1 balun, full 1.8 to 30

MHz operation, MFJ's famous *No Matter What*™ one year limited warranty. Measures a slim and compact  $10^{1/2}x3^{1/2}x7$  inches.

Watt antenna tuner -- for an incredibly low

\$159.95! (Dummy load not included; coax

# **MFJ Compact Mobile HF Antenna Tuner**

#### Covers HF and 6 Meters, Handles 300 watts, Has Antenna Bypass Switch

The compact MFJ-945E mobile antenna tuner covers 6 Meters and HF (1.8-60 MHz), handles 300 PEP watts, and tunes coaxial cable-fed antennas, plus random wires.

Don't leave home without this mobile tuner, and have a a better trip as the MFJ-945E extends antenna bandwidth and eliminates the need to stop, go outside, and readjust your mobile antenna.

**The** frustratingly narrow bandwidth of mobile antennas can be greatly broadened with this tuner.

Of course, this diminutive tuner can be used to tune coax-fed home station antennas of all kinds, too, as well as random

The cross needle meter shows SWR. forward, and reflected power -- at a glance.



It reads forward/reflected power in 300/60 and 30/6 watt ranges.

The ON/ OFF lamp Ship Code B switch is handy for changing light conditions in your vehicle; the meter lamp is 12 VDC powered with optional **MFJ-1312D**, \$15.95.

MFJ-945E

Large, conveniently-placed controls make tuning fast and easy.

The bypass switch lets you bypass the tuner (connecting your antenna and transmitter directly) while still using its SWR/wattmeter.

The back panel has SO-239 coaxial connectors for your transmitter and antenna feedline and a wing nut post for your

For at-home use with a random wire a standard banana plug fits neatly into the antenna jack.

**An** efficient airwound inductor gives you lower losses for more watts output.

The small, 8Wx2Hx6D inch black aluminum cabinet takes up little space.

A mobile mounting bracket, MFJ-20, is \$6.95. Add \$2.00 shipping for the bracket if ordered separately.

**Has** MFJ's One Year *No Matter What*™ limited warranty.

#### for QRP to Full-bore Transceiver Portable Tuner

The MFJ-971 is a tiny, inexpensive portable 200 watt PEP antenna tuner that's a perfect match for today's ultra-compact HF transceivers while offering features especially designed for the QRP operator.

**Covering** 1.8 to 30 MHz, this T-match tuner can match coax-fed antennas, as well as those fed with balanced feedline, and random wires. A 4:1 toroid balun is built in for balanced lines.

From the factory, the MFJ-971 offers forward power readings of 30 watts maximum or 300 watts, on its cross needle meter. You can monitor forward power, reflected power, and SWR simultaneously. For dedicated ORP operation, swapping of a jumper plug internally converts the maximum forward reading on the meter to 6 watts.

The meter lamp may be powered by an external 12 VDC source if you desire (MFJ-1312D, \$15.95).

MFJ PORTABLE TUNER

Ship Code B

The MFJ-971, while an all-around lowpower tuner, is especially suited for MFJ transceivers and power packs. It matches them in size and styling and brackets included with the tuner allow connecting the units together physically into an attractive and compact package.

As in all good antenna tuners, three controls give flexibility in matching: Inductance

\$11995 (12 positions), Transmitter, and Antenna. Once you find the proper setting on each band, just record it for future "instant band changing."

**Rear** panel includes SO-239 coaxial jacks for transmitter and antenna; 2 sturdy binding posts for balanced line; another binding post for a random wire; ground post; 12 VDC input jack for meter lamp; and low/high power meter range switch.

**The** MFJ-971 is backed by MFJ's *No Matter What™* warranty. Measures a tiny 6X6X2.5 inches.

#### MFJ 300-Watt Super Value Versa Tuner Covers 160-10 Meters

It's not just a tuner, it's an 8-position antenna switch.

The photo tells the story: you can select among two coaxial-fed antennas, a balanced line (4:1 toroid balun included) or random wire or an external dummy load, and for each you can select "direct" (bypassing the tuner) or "tuned."

**This** tuner is rated at 300 watts and can match dipoles, vees, random wires, and balanced and coax feedlines, from 1.8 to 30 MHz. You get a lighted cross needle

SWR/wattmeter with on/off switch (lamp uses 12 VDC or

MFJ-941E **39**<sup>95</sup> Ship Code B

110 VAC with **MFJ-1312D**, \$15.95).

The meter shows SWR, and forward and reflected power in 300/60 and 30/6 watt ranges selected at the front panel.

An efficient 12 position airwound inductor gives low losses for more power out. Uses 1000 Volt capacitors.



The aluminum cabinet has a durable scratch-proof multi-color Lexan front panel to complement your rig and fits right into vour station.

Measures a sleek, compact 105/8Wx27/8Hx7D inches.

#### **MFJ's Smallest VERSA TUNER**



MFJ-901B

smallest  $(5x2^{1/2}x6)$  and most affordable 200 Watt PEP VERSA TUNER. Match dipoles, vees, random wires, verticals, mobile whips, beams, balanced and coax lines continuously from 1.8-30 MHz. A 4:1 balun for balanced lines is built into this MFJ-901B tuner. Three adjustment controls for maximum matching capability.

#### **Random Wire Tuner for HF**



MFJ-16010 **Operate \*69**<sup>95</sup> all Ship Code A bands 1.8-30 MHz -anywhere with any transceiver -- using

a single random wire and MFJ's Random Wire Tuner. Small enough to carry in your hip pocket. Handles 200 watts output. Matches high or low impedance loads by interchanging input and output, so it uses SO-239 connectors for both. Measures a compact 31/2Wx21/4Hx51/4D inches.

#### Pre-made Coax Patch Cables

Weather resistant 50-Ohm coax patch cables with PL-259 connectors. Select from RG-58, RG-8X or RG-213.



	length	RG-58	Price	RG-8X	Price	RG-213 (H)	Price	
	3 ft.	MFJ-5803	\$5.95	MFJ-5803X	\$9.95	MFJ-5803H	12.95	
	6 ft.	MFJ-5806	9.95	MFJ-5806X	11.95	MFJ-5806H	15.95	
	9 ft.	MFJ-5809	11.95	MFJ-5809X	13.95			
	12 ft.	MFJ-5812	12.95	MFJ-5812X	14.95	MFJ-5812H	19.95	
	18 ft.	MFJ-5818	14.95	MFJ-5818X	16.95	MFJ-5818H	24.95	
	50 ft.	MFJ-5850	24.95	MFJ-5850X	29.95	MFJ-5850H	59.95	
	100 ft.	MFJ-58100	39.95	MFJ-58100X	49.95	MFJ-58100H	89.95	
ľ								

# MFJ tiny Travel Tuners

Tiny 4<sup>1</sup>/<sub>2</sub>x2<sup>1</sup>/<sub>4</sub>x3 inch tuner handles full 150 Watts! Covers 80-10 Meters, has tuner bypass switch, tunes nearly anything!

MFJ brings you the world's smallest full power 150 Watt 80-10 Meter Antenna Tuner. Extra wide matching range lets you tune nearly any antenna.

It's no toy, its got guts! Built with real air variable capacitors (600 Volt, 322 pF) and three stacked powder iron toroids to handle real power -- not just QRP. Bypass switch lets you bypass tuner when you don't need it.

You can use nearly any transceiver at full power with nearly any coax fed or random wire antenna for portable, home or mobile operation.

It's perfect for compact rigs like Icom IC-706MKIIG, Yaesu FT-100D, Kenwood TS-50, QRP rigs and others with a built-in SWR meter.



Operate anywhere, anytime with a quick easy set-up! Tune out SWR on your mobile whip from inside your car.

**Operate** in your apartment with a wall-to-wall antenna or from a motel room with a wire dropped from a window or from a mountain top with a wire over a tree limb.

It's perfect for DXpeditions or field day -- packs up quickly and takes up little space. Helps you be prepared for emergencies -- this tuner and a wire antenna can be packed and set-up just about anywhere.

MFJ-902 is so small and handy, you'll rely on it wherever you go -- easy to pack away in your briefcase, suitcase, backpack, glove compartment or desk drawer.

It's tiny enough to slide in your back hip pocket! 4½Wx2¼Hx2³¼D inches.

#### MFJ Tiny Travel Tuner with 4:1 Balun

\$11995 Ship Code A The MFJ-902H is the same as the MFJ-902 *Tiny Travel Tuner* but has *4:1 balun* for tuning balanced line antennas.

It includes binding post connections for balanced lines and random wire antennas.

Measures a compact 5¾Wx2¼Hx2 ¾D inches.

#### Tiny Travel Tuner with Cross-Needle SWR/WattMeter and 4:1 Balun



\$149<sup>95</sup>

MFJ-904H is the same as MFJ-902 Tiny Travel Tuner but has a large 1.5 inch Cross-Needle SWR/Wattmeter and a 4:1 balun for tuning balanced lines.

It includes binding post connections for balanced lines and random wire antennas.

The Cross-Needle meter shows SWR, forward and reflected

power simultaneously at-a-glance. A push button selects forward or reflected power in 300/60 and 30/6 Watt ranges. Measures a compact  $7 \frac{1}{4} \text{Hx} 2^{3} \text{Hx} 2^{3} \text{D}$  inches.

#### **Travel Tuner with Cross-Needle SWR/Wattmeter**



\$12995 Ship Code A

**MFJ-904**, Same as MFJ-902 *Tiny Travel Tuner* but has a large 1.5 inch *Cross-Needle SWR/Wattmeter* that shows SWR, forward and reflected power all at a glance. Push button selects forward/reflected power in 300/60 and 30/6 Watt ranges. Measures a compact 7<sup>1</sup>/<sub>4</sub>Hx2<sup>1</sup>/<sub>4</sub>Hx2<sup>3</sup>/<sub>4</sub> D inches.

# MFJ 6 Meter/VHF/UHF Antenna Tuners

MFJ 6 Meter Antenna Tuners



MFJ-906 \$995 Ship code A Six Meter tuner. Low SWR with most any coax fed antenna.

You'll get more power out of your transceiver and into your antenna for more DX.

**Lighted** Cross-Needle SWR/Wattmeter

shows SWR, forward, reflected power, 300/60 and 30/6 Watt ranges. Order MFJ-1312D, \$15.95 for meter lamp. Built-in bypass switch, handles 100 Watts FM, 200 Watts SSB PEP. Works with solid state and tube rigs, 50-60 MHz. 8Wx2<sup>1</sup>/<sub>2</sub>Hx3D inches.

MFJ-903, \$69.95. Like MFJ-906. Less meter/bypass switch. Tiny 5Wx2<sup>1</sup>/Hx3D inches makes it great for the backpack!

144/220 MHz or 440 MHz Tuner

MFJ-921/924 **\$8995** Ship code A

MFJ-921 Dual Band VHF



tuner covers 2 Meters/220 MHz. **Ruilt-in** SWR/Wattmeter measures SV

**Built-in** SWR/Wattmeter measures SWR in 2 power ranges: 300 or 30 Watts. Meter is usable for both 144 MHz and 220 MHz bands. Low SWR with practically any antenna.

**Handles** 200 Watts. Designed to match a wide range of impedances for both mobile/base operation. SO-239 input/output connectors, wing nut post ground. Black aluminum cabinet measures a compact 8x2<sup>1</sup>/<sub>2</sub>x3 inches -- fits just about anywhere.

**MFJ-924, \$89.95.** 440 MHz band only.

## MFJ Balanced Line Antenna Tuners

Superb balance . . . Extremely wide matching range . . . Covers 1.8-54 MHz . . . Cross-Needle SWR Wattmeter . . . Handles 300 Watts . . . Compact size . . .

The MFJ-974HB is a fully balanced true balanced line antenna tuner. It gives you superb current balance throughout its very wide matching and frequency range.

MFJ-974HB Ship Code C

#### Johnson Matchbox

For decades, the Johnson Matchbox has been the standard of comparison for balanced line tuners. But, it had a severely limited matching range and covered only 80, 40, 20, 15 and 10 Meters.

The MFJ-974HB is its successor. It meets today's needs and even surpasses the Johnson Matchbox outstanding performance.

#### Everything You Need

The MFJ-974HB gives you excellent current balance, very wide matching range(12-2000 Ohms) and covers 1.8 through 54 MHz continuously including all WARC bands, 160 Meters, 6 Meters and the new 60 Meter band. Handles 300 Watts SSB PEP and 150 Watts CW.

Tuning is fast and easy - - just three tuning controls. You can even adjust for highly efficient broadband low-Q operation or use higher Q when you encounter extreme

A large three-inch lighted Cross-Needle SWR/Wattmeter lets you read SWR, peak or average forward and reflected power all at a glance on 300 or 30 Watt ranges.

A ground post is provided to ground one output terminal so you can also tune random wires and coax fed antennas.

Compact 71/2Wx6Hx8D inches fits any-



Tunes any Balanced Line

The MFJ-974HB tunes any balanced lines including 600 Ohm open wire line, 450/300 Ohm ladder lines, 300/72 Ohm twin lead - - shielded or unshielded.

Superb current balance minimizes feedline radiation that can cause troublesome TVI and RFI, painful RF bites, mysterious RF feedback problems and radiation pattern distortion.

#### Excellent Balance, Excellent Design

**The** MFJ-974HB is a *fully balanced* wide range T-Network using four gear driven 1000-Volt air variable capacitors and high-Q air wound tapped inductor for 80-10 Meters and separate inductors for 6 and 160 Meters. The tuning components are mounted symmetrically to insure electrical

A 1:1 current balun is placed on the low impedance 50 input side to convert the balanced T-Network to unbalanced operation. The balun is made of 50 ferrite beads on RG-303 Teflon™ coax to give exceptional and efficient isolation. It stays cool even at maximum power.

#### Balanced Line = Extremely Low Loss

Balanced lines give extremely low loss. **Doublet**, horizontal loop, vertical loop, quad, double extended Zepp, Lazy H, W8JK antennas all give efficient multi-band operation when fed with balanced lines.

6-80 Meter Balanced Line Tuner

MFJ-974B \$189<sup>95</sup> Ship Code C

MFJ-974B. Same as MFJ-974HB but for 6-80 Meter oper-

ation (no 160 Meters) Antenna Accessories MFJ-1777, \$49.95. 102 feet all band

doublet antenna covers 160-6 Meters with balanced line tuner. Super strong custom fiberglass center insulator provides stress relief for 450 Ohm ladder line (100 feet included). Authentic glazed ceramic end insulators. Handles 1500 Watts.

MFJ-18H100, \$34.95. 100 feet of quality 450 Ohm ladder line.

MFJ-18G100, \$24.95. 100 feet of extremely strong heavy duty 7-strand, 14gauge hard copper antenna wire.

MFJ-16C06, \$4.56. 6 authentic glazed ceramic end/center antenna insulators. Extra strong. Will not arc or melt.

New! MFJ-16D01, \$8.95. Super strong custom fiberglass stress relieving center insulator for 450 Ohm ladder line.

See page 59 for more antenna accessories.

# MFJ 1500 Watt *Fully Balanced* Antenna Tuner

Fully balanced MFJ-976 handles 1500 Watts legal limit . . . Extra-wide 12-2000 Ohms matching range . . . continuous 1.8 to 30 MHz coverage including all WARC bands . . . Four separate 500 pF in two gangs gives you a total of 2000 pF capacitance... Heavy duty 1:1 current balun... more!



**The** MFJ-976 is a 1500Watt full Legal Limit fully balanced antenna tuner.

You get superb current balance, very wide matching range (12-2000 Ohms) and continuous 1.8-30 MHz coverage including all WARC bands. Handles full 1500 Watts SSB and CW.

You can tune any balanced lines includ-

MFJ-976 \$499<sup>95</sup> open wire line, Ship Code E

ing 600 Ohm 450/300 Ohm ladder lines.

300/72 Ohm twin lead -- shielded or unshielded. Also tunes random wires and coax fed antennas.

MFJ's fully balanced extremely wide-range T-network gives you simple, fast three knob tuning. No complicated switching between high and low impedance and switching in additional capacitance of L-networks.

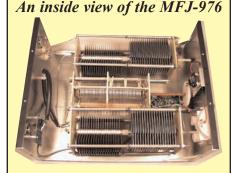
Four separate 500 pF in two gangs gives you a total of 2000 pF for highly efficient low loss operation on 160 Meters.

You get excellent 10 Meter performance because of MFJ's low minimum capacitance and exclusive Self-Resonance Killer™ high-Q AirCore™ roller inductor

with silver plated contacts.

Heavy duty 1:1 current balun gives you superb balance and stays cool even at 1.5kW.

True active peak reading lighted Cross-Needle SWR/Wattmeter lets you read SWR, true peak or average forward and reflected power all at a glance on 300/ 3000 Watt ranges. 12Wx6Hx15<sup>3</sup>/<sub>4</sub>D inches.



# MFJ Small, high efficiency $Loop\ Tuners^{\text{TM}}$

Turns any wire loop into small, high efficiency multi-band transmitting loop antenna



\$259<sup>95</sup> Ship Code C

**Drape** a wire around a bookcase or window and attach both ends to this new MFJ Small Loop Tuner<sup>TM</sup>

It instantly turns into a small, high efficiency multi-band transmitting loop antenna!

You can operate 5.3 to 30 MHz with a full 150 Watts. No ground, radials or counterpoises needed.

The excellent performance of a highefficiency small loop antenna is legendary and well proven by users all over the world.

You'll radiate a low angle DX signal that literally rivals full size dipoles and work incredible DX!

It's a very quiet receiving antenna -you'll hardly notice static crashes. Its high-Q reduces QRM, overloading, harmonics.

It's perfect for apartments, antenna restricted areas and portable operation -- it really gets out!

A 13 foot wire formed into a loop operates 30-20 Meters (4 foot for 17-10 M; 7 foot for 20-15 M; 28 foot for 60-40 M).

You can tune any shape loop -- circle, square, rectangle, any odd shape. A quarter wavelength wire shaped as a circle is the most efficient.

A given wire length covers about 1.5 to 1 frequency range (i.e. 7-10/18-28 MHz, etc.). Exact frequency coverage depends on wire length, loop shape, surroundings and height above ground.

**Has** MFJ low loss *Butterfly* loop tuning capacitor, no rotating contacts. Easy-Carry handle. Mount for PVC Cross on cover.

See June, 1986, QST or recent ARRL Antenna Handbook for more details on small, high efficiency loops.

MFJ-936B, \$259.95. For home/portable stations. Has relative RF antenna current meter with sensitivity control and 30/300 Watts Cross-Needle SWR/Wattmeter.  $9^{1}/_{4}Wx5^{1}/_{2}Hx9^{1}/_{2}D$  inches.

MFJ-935B, \$209.95. For portable/home stations. Smaller, lighter. Relative RF current meter with sensitivity control. 61/4Wx51/2Hx91/2D inches.

MFJ-933, \$189.95. Same as MFJ-935B less RF current meter. 61/4Wx51/2Hx91/2D in.

#### **Wire Loops and Mounts**

**\$29.95.** Has PVC Cross for mounting loop on cover, 20-15M insulated 10-gauge flexible loop, low resistance lugs.

**MFJ-58B**, \$49.95. Has MFJ-57B above, plus 60-

40 M, 20-15 M, 17-10 M loops; wire clips. **Butterfly loop Tuning Capacitors** 

**The** heart of the MFJ Loop Tuners is an extremely low loss butterfly tuning capacitor with no rotating contacts. 4200 Volts RMS. 1/4"dia.x21/2" long shaft.

**A. MFJ-19, \$69.95.** 12 to 67 pF. 6Dx3Wx3½H in. **B. MFJ-23, \$89.95.** 18

to 136 pF. 10Dx3Wx3½H in. high-efficiency



Loop Tunei Tinv 50-Watt version of MFJ-933, Small High-Efficiency Loop Tuner™ Makes portable operation really portable and fun! Ultra low loss butterfly capacitor. Covers 80-10 Meters with appropriate wire loop. Tiny

#### RF Bypass Switches



MFJ-1705 \$19<sup>95</sup> Ship Code A



MFJ-1705H \$29<sup>95</sup> Ship Code A

Connect your antenna and transceiver to this MFJ RF Bypass Switch and you can switch in or bypass your antenna tuner, linear amplifier, preamp, wattmeter or other device -- switch in and bypass any coax fed device with PL-259 UHF connectors. DC to 60 MHz. SO-239 connectors. 50-75 Ohms. 3Wx1<sup>1</sup>/<sub>2</sub>Hx2<sup>1</sup>/<sub>2</sub>D inches.

MFJ-1705, \$19.95. 300 Watts. MFJ-1705H, \$29.95. 1500 Watts.

#### Variable RF Transformer



MFJ-907 \$64<sup>95</sup> Ship Code A

Multi-tap Variable RF Transformer matches low impedance

(2-50 Ohms) of mobile antennas (ham sticks, screwdrivers, etc.) to 50 Ohm transceiver. 11 impedance ratios. Use in reverse to transform high impedances to 50 Ohms. Handles 1000 Watts. 1.8 to 30 MHz. SO-239 connectors.

#### Mobile Antenna L-Matcher



MFJ-908 **\$44**95 Ship Code A

Matches HF mobile antennas (ham sticks, screwdrivers, etc.) 10-80 Meters by adding L (inductance) at the antenna feed-

point to ground to form L-network with antenna. 11 values of switchable inductance, .2 uH-12 uH. Handles 200 Watts. SO-239 connectors. 4Wx3<sup>3</sup>/<sub>4</sub>Hx1<sup>3</sup>/<sub>4</sub>D inches.

#### Mobile Antenna Matcher



MFI-910 \$29<sup>95</sup> Ship Code A

Matches HF mobile antennas 10 through 80 Meters. Select five val-

ues of capacitance 120-470 pF to add at antenna feed point to ground to form L-network with antenna. Gives you more power out. Handles 300 Watts. SO-239 connectors. Tiny 31/2Wx3Hx11/4D inches.

#### Mobile Antenna C-Matcher



MFJ-909 **\$44**95 Ship Code A

Matches HF mobile antennas (ham sticks, screwdrivers. etc.) 10-80

Meters by adding C (capacitance) at the antenna feedpoint to ground to form L-network with antenna. 11 values of switchable capacitance 30 pF-2000 pF. 600 Watts. SO-239 connectors. 3<sup>1</sup>/<sub>2</sub>Wx3Hx1<sup>1</sup>/<sub>4</sub>D inches.

#### AutoTuner Extender™



Does MFJ-914 **\*79**<sup>95</sup> your Ship Code A rig's

automatic tuner have limited matching range? MFJ-914 transforms

your antenna impedance by as much as 10 times! Puts nearly any antenna into the range of your automatic or manual tuner. Covers 160-10 Meters, handles 300 Watts, has bypass position. Measures a compact 6Wx4Ĥx2¹/₂D inches.

# NFJ UHF/VHF/HF Dummy Loads

#### MFJ VersaLoad™ kW Dummv Load

MFJ-250X VersaLoad™ KW dummy load lets you tune up fast! Run 1KW CW or 2 KW PEP for 10 min. Run 1/2 KW CW or 1 KW PEP for 20 minutes. Run continuous duty with 200 Watts CW or 400 W PEP.

MFJ-250X **\$49**95

Complete with derating curve. Quality 50 ohm non-Ship Code A country So offin non-inductive resistor. Use transformer oil (not incl.). Low

VSWR to 400 MHz. Under 1.2:1 to 30 MHz. 1.5:1 for 30-300 MHz. 2:1 for 300-400 MHz. SO-239 connector and vented for safety. Removable vent cap. Carrying handle.  $7^{1/2}$  inches. high by  $6^{5/8}$  diameter.

MFJ-250, \$69.95. Includes transformer oil (no PCB). Ship Code D. Industrial Grade Transformer Oil

MFJ-21, \$29.95. 1 gal. industrial grade transformer oil, (no PCB). Ship Code C.

Drv 1.5 kW UHF/VHF/HF Load

**This** is ham radio's most versatile 50 ohm dummy load. Works with all radios from 160 Meters to 650 MHz and from ORP to the full 1500 watt legal



MFJ-264 limit. SWR below 1.3 to 650 **\$74**95 MHz and below 1.1 at 30 MHz. Handles 100 watts for 10 min- Ship Code A utes, 1500 Watts for 10 seconds. Strong lightweight aluminum construction. 3Wx3H x9D in. Has MFJ's famous No Matter What<sup>TM</sup> one year limited warranty.

MFJ-264N, \$84.95. Similar to MFJ-264 but with type "N" connector.

Coax Patch Cable

MFJ-5803, \$5.95. 3 foot coaxial line with PL-259 connectors. Shipping code A

#### Dry 300 Watt VHF/HF Dummy Load

Air cooled, non-inductive resistor is housed in a perforated metal housing. Has SO-239 connector. Full load for 30 seconds. Silk-screened



MFJ-260C \$39<sup>95</sup> Ship Code A

Handles 300 Watts. SWR below 1.1:1 to 30 MHz, 1.5:1 from 30 to 650 MHz. A super compact 21/4x21/4x7"

derating curve to 5 minutes.

MFJ-260CN, \$49.95. Similar to MFJ-260C but with type "N" connector.

Coax Patch Cables

MFJ-5803, \$5.95. 3-foot RG-58 coaxial line with PL-259 connectors.

MFJ-5806, \$9.95. 6-foot RG-58 coax. MFJ-5809, \$11.95. 9-foot RG-58 coax. See page 7 for more details.

#### oad with Precision SWR/Wattmeter **MFJ Dry Dummy**

World's most versatile 1.5 kW dummy load has a *built-in* true peak reading SWR/Wattmeter that you

MFJ-267 Ship Code B

can switch and use independently! You'll find tons of uses!

**Tune** up your transceiver, linear amplifier or antenna tuner into a safe 50 Ohm dummy load at full power.

**Then** instantly switch to your antenna and monitor SWR, forward and reflected power.

Use for testing/tuning transmitters, transceivers, amplifiers, antenna tuners, baluns, transformers, filters, matching networks, coax, stubs, transmission lines and antennas.

1500Watt Dry Dummy Load

**The** 50-Ohm dry dummy load works DC to 60 MHz.

SWR is below 1.3:1 at 30 MHz. Can

# 11 3 Dummy Load/Wattmeter MODEL: MF.I-267

handle 100 Watts for ten minutes or 1500 Watts for ten seconds. Comes with power derating curve.

#### Cross-Needle SWR/Wattmeter

Extra-large three-inch lighted Cross-Needle meter reads SWR (1:1 to 8:1), forward and reflected power simultaneously.

**Reads** true peak PEP or average power on 300/3000 Watts forward and 60/600 Watts reflected power ranges 1.8-54 MHz.

High accuracy comes from a carefully designed directional coupler, an accurate active-peak reading circuit and a precision d'Arsonval meter movement.

**RF** tight perforated aluminum cabinet. 4<sup>1</sup>/<sub>2</sub>Wx3<sup>1</sup>/<sub>2</sub>Hx10<sup>1</sup>/<sub>2</sub>D inches. Uses 12 VDC or 120 VAC with MFJ-1312D, \$15.95.

MFJ NoMatterWhat™ Warrantv

MFJ-267 is protected by MFJ's famous No Matter What<sup>TM</sup> one year limited warranty. MFJ will repair or replace your MFJ-267 dummy load no matter what for one full year.

# 2500 Watts *fan-cooled* Dry Dummy Load



MFJ's 2500 Watt fan cooled dummy load handles any legal limit amplifier, and lets you tune-up your expensive amplifier fast and super easy.

**Works** with all amplifiers, transceivers and transmitters from DC through 6 Meters.

It can dissipate 2500 Watts average power for one minute on, ten minutes off. Handles 300 Watts continuous.

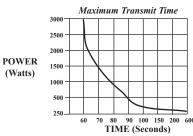
**SWR** is less than 1.25 to 1 below 30 MHz and less than 1.4 from 30 to 60 MHz. Four 50 Ohm non-inductive super high

energy density resistors are used.

Each has an incredibly high energy density of 7000 joules per cubic inch per second with a voltage gradient of 10 kV per inch!

**Detailed** specifications and power curve are permanently silk-screened on the bronzed cabinet for easy reference.

Uses 12 VDC or 110 VAC. 8<sup>1</sup>/<sub>4</sub>Wx4Hx 9<sup>1</sup>/<sub>2</sub>D in. SO-239 connectors. 5 pounds.



#### Dry DC-500 MHz "Handv" Dummv Load

New! MFJ-261 Connects Ship Code A directly to your transmitter or test equipment with a PL-259 connector.

**Great** for use with your MFJ-259B Antenna SWR Analyzer™. Use MFJ-261N, \$37.95 for use with your MFJ-269 SWR Analyzer<sup>TM</sup>.

No patch cable used, reduces SWR.

Finned aluminum, air-cooled heatsink. Handles 100 Watts peak, 15 Watts average. 50 Ohms.

Covers DC to 500 MHz with less than 1.15:1 SWR. 15/8 round by 3" long.

MFJ-261N, \$37.95 Similar to MFJ-261, but has N-male type connector.

# **MFJ Desktop or Remote Antenna Switches**

#### Desk/Remote 6/4 pos. Antenna Switches





back of unit)

MFJ-4716 Use this MFJ-4716 Six-Ship Code B position Antenna Switch

on your desk or place it outof-way under your desk or in another room and use a remote control.

A simple rotary switch lets you select 1 of 6 antennas. All unused inputs are

grounded. You can connect a sense line to your transceiver so when it's off, all inputs are automatically grounded.

In the OFF position, all inputs are grounded or control is transferred to the MFJ-4716RC, \$39.95, Remote Control.

**Ultra-fast** gas discharge tube *lightning surge protector* protects transceiver and safely shunts static electricity and lightning induced surges safely to ground. Does not protect against a direct lightning hit.

**Super** easy-to-use -- just one simple rotary switch. There are no complicated computer buttons to learn or microprocessors to fail or generate RFI that could mask rare DX.

**SO-239** connectors. 1500 Watts/50-75 Ohm load, 1-60 MHz. Useable to 150 MHz. Connects to MFJ-2716RC remote control with common CAT 5 cable, not included (available from MFJ, see below.). Use 12 VDC or 110 VDC with MFJ-1312D, \$15.95. 8Wx2<sup>3</sup>/<sub>4</sub>Hx4<sup>1</sup>/<sub>4</sub>D inches. For indoor use, not weather protected.

**MFJ-4716RC**, \$39.95. 6-position. Remote Control for MFJ-4716. CAT 5 cable not included. Tiny 2<sup>3</sup>/<sub>4</sub>Wx3<sup>3</sup>/<sub>4</sub>Hx1D inches.

**4-Position Desktop/Remote Antenna Switch MFJ-4714, \$79.95.** Like MFJ-4716, but switches between four antennas.

MFJ-4714RC, \$39.95. 4-position Remote Control for MFJ-4714, 4 antenna desktop/remote antenna switch

Cat-5 Cable for Antenna Switches MFJ-5262, \$6.95. 7' CAT-5 cable with connectors. MFJ-5265, \$23.95. 25' CAT-5 cable/connectors.

#### Desktop/Remote 6 & 4 position Antenna/Transceiver Switches





Place this MFJ-4726 Six-Position Antenna/ Transceiver Switch on your desk

MFJ-4726 **\$159**<sup>95</sup> Ship Code B

or place it out-of-way under your desk or in another room and use a remote control. Select one of six antennas and one of six transceivers in any combination with just 2 *easy-to-use* rotary switches.

Plug in antenna tuner, SWR/Wattmeter or other into its common ports, so it is always connected to the antenna and radio selected.

All unused inputs are grounded. When rotary switches are in OFF position, all inputs are grounded or control is transferred to MFJ-

4726RC, \$59.95, remote control.

**Automatically** grounds all inputs when you turn off transceiver. *Lightning surge protector* protects transceivers and shunts surges to ground. Does not protect against a direct lightning hit.

**SO-239s.** 1500 Watts into 50-75 Ohm load 1-60 MHz. Useable to 150 MHz. Use CAT 5 cable for remote control, not included (Buy from MFJ, see below). Use 12 VDC or 110 VAC with MFJ-1312D, \$15.95. For indoors, not weather protected. 8Wx5Hx4<sup>1</sup>/<sub>4</sub>D". **MFJ-4726RC**, \$59.95. 6-position. Remote control for MFJ-

4726. Use CAT 5 cable, not included.



**4-Position Desktop/Remote Ant./Xcvr Switch MFJ-4724, \$139.95**. Like MFJ-4726, but switches between four antennas/transceivers.

**MFJ-4724RC, \$59.95**. 4-position Remote Control for MFJ-4724. Tiny 2<sup>3</sup>/<sub>4</sub>Wx3<sup>3</sup>/<sub>4</sub>Hx1D inches.

**Cat-5 Cable for Antenna Switches MFJ-5262**, **\$6.95.** 7' CAT-5 cable with connectors. **MFJ-5265**, **\$23.95.** 25' CAT-5 cable/connectors.

#### MFJ 2-Position Remote Antenna Switch



MFJ-4712 This MFJ 2-\$7995 position remote Ship Code B antenna switch uses a single coaxial feedline to feed two antennas, DC power and control signals -- no power or control

cable needed.

It's perfect for switching from HF to VHF -- no more unplugging coaxial lines from your antennas just to switch frequen-

#### Rig/Antenna RF Safety Switch



MFJ-1703 MFJ\$2995 1703 keeps
Ship Code A your expensive transceivers safe from transmitting into nothing!
No more burning up your radio because you forgot to change your antenna switch! 1.8 to 30 MHz. Your trans-

ceiver is always hooked up to one of two antennas! Connect two rigs and two antennas and switch to different combinations. 300 watts PEP SSB, 150 watts CW. Handy mounting tabs. All metal, switches 50-75 Ohm unbalanced lines.

cy -- a quick switch does it for you.

MFJ-4712 covers 1.8 MHz-150 MHz and handles 1500 Watts. Impedance is 50-75 Ohms.

The compact 4Wx2<sup>5</sup>/<sub>8</sub>Hx1<sup>1</sup>/<sub>2</sub>D inch *Outside Switch Box* is fully enclosed and weather protected. It also has three quality *Teflon*<sup>(R)</sup> SO-239 connectors for transmitter, antenna one and antenna two.

It uses a Stainless steel 1<sup>1</sup>/<sub>2</sub>" tall bracket with a U-bolt for masts up to 1<sup>1</sup>/<sub>2</sub> in. O.D. *Inside remote control* is 2<sup>1</sup>/<sub>4</sub>Wx2<sup>1</sup>/<sub>2</sub>Hx1<sup>1</sup>/<sub>4</sub> in.

#### MFJ RF Sense T/R Switch



Automatic T/R Switch senses transmitted RF and switches your antenna from receive to transmit using a relay. Shorts your receiver

antenna input to ground to protect your receiver. Provides an auxil-Ship Code A iary contact closure to ground during receive (opened in transmit) for muting speaker, an "On-Air" sign or other use. Instead of using RF sense to switch the antenna, a control line input lets your key/keyer or PTT line switch the antenna. Adjustable time delay circuit gives you delayed switching. All modes. 200 Watts SSB PEP. Measures 4Wx25/sHx11/2D inches. 12 VDC or 110 VAC with MFJ-1312D, \$15.95.

#### **BiasTee DC Power Injector**



MFJ-4116 Send up to 1 Amp DC \$2495 /50 Volts DC through Ship Code A coax cable to power equipment (automatic antenna tuner, remote switch, relay

box) without running separate cable. Requires one MFJ-4116 on each end of coax to *inject* DC power and to *retrieve* DC power. 1-60 MHz. SO-239 connectors. 2<sup>3</sup>/<sub>4</sub>Wx2<sup>1</sup>/<sub>2</sub>Hx1<sup>1</sup>/<sub>4</sub>D in.

MFJ-4116P, \$47.95, pair of MFJ-4116. MFJ-4117, \$29.95. Like MFJ-4116, but with switch to turn remote equipment on/off.

# Automatically Switch your Rig between 2 Antennas

There are times when you want to use separate transmitting and receiving antennas but your transceiver has only one antenna

transceiver has only one antenna port. For example, an efficient 75M \*\*8995 transceiver has only one antenna vertical for transmitting and a sep- Ship Code A arate low noise Beverage for receiving. With an MFJ-1707, simply connect your transceiver, transmit and receive antennas. As soon as you key your rig, the MFJ-1707 RF sensing circuitry instantly switches your rig from receiving antenna to transmitting antenna. Your amplifier control output of your transceiver can also automatically switch antennas. Adjustable delay prevents transmit antenna from instantly switching to receive. Auxiliary contact closure to ground during receive. All modes. 200W SSB PEP. 4Wx2<sup>5</sup>/<sub>8</sub>Hx1<sup>1</sup>/<sub>2</sub>D". Use 12 VDC or 110 VAC with MFJ-1312D, \$15.95.

MFJ... The World Leader in Ham Radio Accessories

# **Lightning Protected Heavy Duty Coax Switches**

MFJ gives you a center ground position, automatic grounding of unused positions, handles 2.5 kW PEP and works to over 500 MHz!







Mount this 4-position SO-239 switch on your operating desk and you'll have more than the convenience of being able to instantly select any of four antennas or the center ground position -- you'll also get the replaceable lightning surge protection device that helps protect against distant lightning induced surges and static. Handles a full 2.5 kW PEP. Extremely low SWR. Isolation is rated from better than 60 dB at 30 MHz to better than 50 dB isolation at

500 MHz, negligible insertion loss, 50 Ohms. MFJ-1704N, \$84.95. Like MFJ-1704, with "N" type connectors.

MFJ-1702C 2-position Coax Switch has a new lightning surge protection device that helps protect against distant lightning induced surges and static. Has center ground position and handles 2.5 kW PEP, 1 kW CW. It has better than 60 dB isolation at 300 MHz and better than 40 dB at 450 MHz. 50 Ohms. Unused terminals are

automatically grounded for static and RF protection. It has less than 0.2 dB insertion loss and SWR below 1.2:1. The MFJ-1702C has heavy cavity type construction and uses SO-239 connectors. Has handy mounting holes. Measures 3Wx2Hx2D in.

MFJ-1702CN, \$44.95. Like MFJ-1702C, with "N" type connectors. Covers DC to 1.1 GHz.

MFJ-1702, \$19.95. Like MFJ-1702C, less lightning surge protection, center ground.

#### MFJ Six Position Antenna/Transceiver and Antenna Switches New and Improved MFJ-1700C!



surge protection and much better isolation between connectors, wires. This high power Antenna/Transceiver

MFJ-1700C, \$99.95.

Switch lets you select one of six antennas and one of six different transceivers in any combination.

The new MFJ-1700C adds lightning

You can also plug in an antenna tuner, SWR wattmeter, other electronic equipment. Has quality SO-239 connectors.

You are always connected to the antenna and radio selected. MFJ-1700C handles 2 kW PEP SSB, 50-75 Ohm loads.

**Unused** terminals are automatically grounded. SO-239 connectors. Covers 1.8 to 30 MHz. Measures 4<sup>3</sup>/<sub>4</sub>W6<sup>1</sup>/<sub>2</sub>Hx3D in.

#### 6 Position HF Antenna Switch



MFJ-1701 MFJ-1701, \$69.95, lets you \$69<sup>95</sup> select one of six antennas. Ship Code B Covers 1.8-30 MHz.

Unused terminals are automatically grounded. Quality SO-239 connectors for hook-up to your antennas.

Handles 2 kW PEP SSB, 1 kW CW, 50-75 Ohm loads. Measures a compact 10Wx3Hx11/2D inches.

#### **12-Position Coax Patch Panel**



MFJ-4706 **\$79**<sup>95</sup> Ship Code A

MFJ-1700C

**\$99**95

Ship Code B

MFJCoax Patch Panel connects devices

with virtually no loss, feed-through or cross-talk . .

Provides 12 Teflon<sup>(R)</sup> SO-239 coax feedthru barrel connectors to patch 12 coax fed devices together with short coax jumpers.

**This** extremely high performance and versatile *military/professional* patch panel approach has virtually no loss, no feed-thru and no cross-talk -- depends only on the quality of your coax -- and has far better performance than any switching system.

To use, connect your coax fed devices (rigs, antennas, SWR/Watt-meters, tuners,

amplifiers, preamps, switches, and other electronic equipment) to coax connectors inside the patch panel.

Each device is then available on the front panel and can be connected to any other device using a short coax patch cable. All devices can be used at the same time.

Cables enter through side or rear on either side. Has wing nut for ground.

Side or back mounting tabs let you mount to a wall, under your table, or on ham station desk.

Compact 9Wx5Hx4D inches fits just about anywhere.

#### MFJ 8-Pos. Coax Patch Panel MFJ-4704,



**\$69.95.** Similar to MFJ-4706 but for 8 coax-fed devices.

**Both** are protected by MFJ's famous No Matter What™ one

year limited warranty.

#### MFJ Balanced line antenna switch



MFJ-1706 \$109<sup>95</sup>

Use one of six different balanced feedlines from 1.8 to 30 MHz. Has handy, versatile 5-way binding posts. Handles 1500 Watts PEP SSB. All metal enclosure has silkscreened label positions. 9Wx31/4Hx61/2D".

MFJ-1706H, \$119.95, similar, but has high-voltage glazed ceramic feedthrough insulators instead of 5-way binding posts.





13

MFJ-1706H back

#### Safeguard expensive gear from static electricity and lightning surges

MFJ Lightning Surge Protectors handle 400 Watts PEP or 1500 Watts PEP



MFJ-270 \$2995 Ship Code A

Safeguard your expensive equipment from static electric-

MFJ LOW PASS FILTER

ity and lightning induced surges on 50 Ohm coaxial line.

MFJ's Guardian Angel™ Lightning Surge Protectors has an Ultra-fast gas discharge tube that safely shunts up to 5000 amps of peak impulse current harmlessly to an independent ground. SWR less than 1.1:1. Less than 0.1 dB loss. Use up to 1000 MHz. MFJ-270 handles 400 W PEP. MFJ-272 handles 1.5 kW PEP. MFJ-270 and MFJ-272 do not protect against a direct lightning hit.

MFJ-270, \$29.95. SO-239 to SO-239. MFJ-270MF, \$34.95. SO-239 to PL-259. MFJ-270N, \$34.95. Low-loss N-connectors. MFJ-97, \$9.95. Replacement gas discharge tube for MFJ-270.



MFJ-272N, \$44.95. N Connectors.

MFJ-272MF, \$44.95. SO-239 to PL-259. MFJ-97H, \$19.95. Replacement Gas Discharge tube for MFJ-272.

# Reduce Harmonics, Avoid TVI with MFJ Filters

#### Low Pass TVI Filter Handles Full Legal Power

MFJ-704 \$**59**<sup>95</sup> Ship Code A

MFJ-704 suppresses TVI, RFI, telephone and other interference by reducing unwanted harmonics going to your antenna.

At the same time your HF signal passes on through with low loss so you can snag that rare and exciting DX!

If your harmonics are causing TVI problems, an MFJ-704 can keep your neighbors happy while you have fun with ham radio!

Nine Chebyshev poles, MFJ's exclusive TeflonDielectric Technology™ capacitors, Hi-Q inductors, ground plane shielding and an RF tight cabinet give you excellent TVI and RFI protection.

These exclusive Teflon Dielectric Technology™ capacitors give you extremely low loss and eliminate voltage breakdown and capacitor heating -- even at full 1500 Watts with a 2:1 SWR load!

Handles full legal power from 1.8-30 MHz. SWR below 1.3 to 30 MHz into 50 Ohms. Attenuates above 40 MHz.

Measures a compact 3x3x9 inches. Handy mounting tabs.

#### 200W Low Pass TVI Filter

MFJ-702B **\$49**95

Ship Code A

Be a good neighbor.

Plug this

Low Pass TVI filter be-tween your transmitter and antenna or tuner and reduce your transmitter harmonics by 50 dB! Harmonics could be the source of interference to your neighbor's TV, radio, VCR, telephone, etc. SWR is below 1.5 to 30 MHz into 50 Ohms. Perfect for barefoot transceivers -- handles 200 Watts with less than 0.5 dB insertion loss. Attenuation is 50 dB at 54 MHz. SO-239 connectors. 3x2x1.5 inches.

#### MFJ 2500 Watts Low Pass TVI Filter



MFJ-705 <sup>\$</sup>139<sup>95</sup> Ship Code B

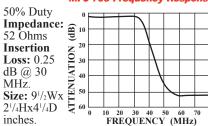
Suppress TV interfer-

ence at the source with the MFJ-705 Low Pass Filter. Use between Transmitter and Antenna or Tuner. Reduces TV interference (TVI) radiated by transmitters operating below 30 MHz. Suppresses harmonics appearing in the TV bands. Additional attenuation to TV IF frequencies above 40 MHz. Low loss to 30 MHz. 9-pole inverse Chebyshev. **SPECIFICATIONS:** 

0-30 MHz Passband: 35 MHz **Cutoff freq:** 

52.25 MHz (Channel 2 Attenuation: Video), -60 dB, Worst case at 65 MHz, -60 dB Power Capacity: 2500 W Key Down -

#### MFJ-705 Frequency Response



#### **High Pass Filter for TV sets** MFJ-711B.

inches.

**\$29.95.** MFJ's ShieldBreaker™ 🛮

high pass filter MFJ-711B effectively suppresses annoying

**\$29**95 TVI! Wipe out TVI caused by 2way, broadcast, commercial, amat- Ship Code A eur and CB radios operating below 30 MHz. Use between cable/antenna and TV/VCR. 75 ohm cable. Type F male/female connectors.

#### MFJ RFI Free Choke Kit for RFI Suppression

**\$24**95 Ship Code A

It's easy to eliminate common RFI problems. Simply

wind the offending cable around MFJ's RFI suppressing toroid to get rid of RFI. Four square ferrite toroids are formulated espe-





cially for eliminating RFI from 0.5 to 200 MHz. Wind on all kinds of cable, computer ribbon, TV coax, power, telephone, etc.

Ferrite RFI Suppression Chokes

These RFI snap-on Chokes are selected for RFI suppression. Install on DC power line to keep ignition noise from your mobile rig and amplifier. Remove RF on cables and wires to your radio station. Isolate RFI on feedline from your station. Two-piece design, snap and lock securely around your cable. Install end to end along rigid cable or loop multiple turns with smaller soft cable. Select from four sizes, .25" ID to .75" ID.

Model # - Price each	Model# - Price 4-Pk	Hole Size	Typical Cable Use
MFJ-700A, \$2.75	MFJ-700A4, \$10.95	.275 inches diameter	RG58/59/6U/8X
MFJ-700B, \$3.50	MFJ-700B4, \$13.95	.402 inches diameter	RG213/6X
MFJ-700C, \$4.95	MFJ-700C4, \$18.95	.528 inches diameter	RG11/8U
MFJ-700D, \$5.95	MFJ-700D4, \$22.95	.750 inches diameter	LMR600
MFJ-700P9, \$32.95	Combination Pack of 9;	consists of 4-A, 2-B, 2-C	and 1-D RFI chokes.



# MFJ Compact HF, VHF, UHF SWR/wattmeters



SWR/wattmeter covers HF thru VHF --1.8-60 MHz, 144 MHz, and 440 MHz bands -- for only 99.95!

MFJ-864, \$99.95, Cross-Needle Meter reads forward and reflected power and SWR simultaneously and features separate HF and VHF/UHF directional couplers, each with its own SO-239 connectors.

**This** lets you connect your HF and VHF/ UHF (1.8-60, 144, and 440 MHz bands) transceivers at the same time. You can then monitor SWR and power of either transceiver at the flick of a switch. Others have a single set of connectors -- you have to plug and unplug to use separate HF or VHF rigs.

Power ranges: 30/300 watts forward and 6/60 watts reflected. Each power range for each band is individually calibrated. Schottky diodes are used for best accuracy.

**Single** knob operation makes it easy to use and the meter is lighted for easy reading. Meter uses 12 VDC or 110 VAC with optional adapter, MFJ-1312D, \$15.95.

The all metal cabinet has a tough vinyl cladding. You won't find a tougher, longer lasting finish anywhere. MFJ-864 measures a compact 71/4 Wx21/2Hx21/4D inches.

MFJ-862, \$69.95, similar to MFJ-864 but covers 144/220/440 MHz. 30/300 Watts forward, 6/60 Watts reflected ranges. 53/4x 2<sup>1</sup>/<sub>2</sub>x2<sup>1</sup>/<sup>4</sup> in. Has one sensor for all 3 bands. **MFJ-860**, **\$59.95**, similar to MFJ-864

but for 1.8-60 MHz only. Push button selects 30/300 Watts forward, 6/60 Watts reflected. Compact 41/2x21/4x3 inches.

### MFJ GrandMaster™ SWR/wattmeter Series



GrandMaster™ SWR/Power Meters are the Cadillacs of ham radio! If you will not settle for less than the best accuracy and precision these *GrandMasters*™ are for you.

**You** get a large  $3^{1}/4x1^{1}/4$  inch precision illuminated meter for easy wide-angle viewing. A highly visible black and red meter scale on a bright white background

1.8-30 MHz SWR/Wattmeter with TrueActive™ Peak Reading circuit



MFJ-815C now reads true-**\$995** *peak* or average power on a Ship Code A large illuminated three-inch Cross-Needle Meter. Has TrueActive™ peak reading circuit.

MFJ-815C covers 1.8 to 30 MHz and reads SWR and true peak/average forward and reflected power simultaneously. Has 3000 and 300 Watts forward and 600/60 Watts reflected power ranges. SWR from 1:1 to 8:1. SO-239 Connectors. 6Wx3<sup>1</sup>/<sub>2</sub>H x4<sup>1</sup>/<sub>2</sub>D inches. Black aluminum cabinet.

VHF/UHF SWR/Wattmeter with TrueActive™ Peak Reading circuit

New! MFJ-817C Like \$**99**<sup>95</sup> MFJ-Ship Code A 815C

but for 144/220/440 MHz, VHF/ UHF bands. Reads SWR



and true peak/average forward and reflected power in two ranges: 300/30 Watts and 60/6 Watts *simultaneously*. SWR 1:1 to 8:1.

makes it quick and easy to read SWR, forward or reflected power. Lamp requires 13.8 VDC or 110 VAC operation.

A functional and simple front panel layout lets you select power ranges, bands or make SWR readings intuitively.

The GrandMaster™ series feature an SWR scale that extends the full view of the meter. 3:1 SWR is centered at mid-scale to give you precision, wide-range measurements.

All GrandMasters™ feature peak and average, forward and reflected power readings and have selectable power ranges.

Each GrandMaster™ is housed in an all metal cabinet with rubber feet and protected by durable speckled black paint. A designer injection molded grey front panel

#### **VHF SWR Wattmeter** plus Field Strength

MFJ-812B \$39<sup>95</sup> Ship Code A

**812B** is the world's most popu-



lar -- and most affordable -- VHF SWR/Wattmeter. Has a built-in field strength meter. Covers 2 Meters and 220 MHz. Reads forward and reflected power in two ranges -- 30 or 300 Watts.

Reads SWR from 14 MHz through 220 MHz. Also reads relative field strength from 1 to 220 MHz. Has binding post for field strength antenna. Black.  $4^{1/2}Wx2^{1/4}Hx3D$  inches.

#### **Econo HF SWR/Wattmeter**

MFJ-816 \$39<sup>95</sup> Ship Code A

MFJ-816 HF SWR/ Wattmeter



lets you read forward and reflected power on two scales -- 30 and 300 Watts -- and SWR from 1.8 to 30 MHz. Toroid current pickup gives uniform sensitivity. Easy push-button operation. Sturdy black aluminum cabinet. SO-239 connectors. 2color meter scale. 41/2Wx 21/4Hx3D inches -- makes it ideal for portable use.

perfectly matches any transceiver.  $7^{1}/_{2}$ Wx $3^{1}/_{8}$ Hx $4^{1}/_{4}$ D inches.

Air dielectric SO-239 connectors with gold plated center pins gives superb performance to beyond 525 MHz.

*GrandMasters*™ are precisely factory calibrated for accurate measurments.

Choose from four MFJ GrandMasters™ MFJ-870, \$99.95. HF, covers 1.6 to 60 MHz. 30, 300, 3000 Watt power ranges. MFJ-872, \$99.95. HF/VHF, covers

1.8 to 200 MHz. 5, 20, 200W power ranges. **MFJ-873**, **\$119.95**. VHF/UHF, covers 125-525 MHz. 5, 20, 200W power ranges.

MFJ-874, \$129.95. HF/VHF/UHF. covers 1.8-525 MHz. 5, 20, 200W power ranges.

#### Compact Cross-Needle SWR/Wattmeters



MFJ-822/MFJ-842 **\$5995** Ship Code A New!

Compact HF/VHF and VHF/UHF SWR/ Wattmeter. Has huge 3" Crossneedle meter.

Read forward/reflected power and SWR simultaneously. Perfect for mobile or portable operation. Two selectable power ranges, built-in meter light (+12 VDC). SO-239 connectors. 3<sup>1</sup>/<sub>4</sub>Wx3<sup>1</sup>/<sub>4</sub>Hx3<sup>1</sup>/<sub>4</sub>D in.

MFJ-822 covers 1.8-200 MHz, 30 or 300 Watts. MFJ-842 covers 140-525 MHz, 15 or 150 Watts.

#### **SWR/Wattmeters for Handhelds**

MFJ-841 \$**49**95 MFJ-841 connects directly in line between your Ship Code A handheld and antenna. Reads SWR up to 6:1 and power output to full 5 Watts. 3-position toggle switch selects SWR, SWR set, or forward power. Compact  $2x2^{1/4}x1^{1/2}$  inches.





MFJ-840, \$29.95, checks power output of your 2 Meter handheld into a 50 ohm dummy load and check battery charge, too. BNC connector, small 2x2<sup>1</sup>/<sub>4</sub>x1<sup>1</sup>/<sub>2</sub>

# MFJ *in-line* Calibrated *RF Ammeters*

. . . for tuning your antenna tuner/xmtr/amp for maximum radiated power ... for determining antenna feedpoint impedance... for comparing antennas and tuners ... for trouble shooting . . . checking for changes



MFJ-834 Coax In-Line Calibrated RF Ammeter

\$**79**<sup>95</sup> Ship Code A Connect the MFJ-834 Coax In-

Line RF Ammeter between your antenna and tuner/ transmitter/amplifier and measure antenna feedline current in 3 calibrated ranges.

**Use** it . . . for *tuning* your antenna tuner/ transmitter/amplifier for maximum radiated power ... for determining antenna feedpoint impedance... for comparing antennas and tuners ... for trouble shooting . . . and for checking for changes.

**Tuning** for *maximum* feedline current for any given antenna always gives maximum radiated power!

Any adjustment -- transceiver or amplifier tuning/loading controls, antenna tuner settings, whatever -- that increases feedline current improves power transfer and gives you a stronger radiated signal.

Radiated power increases rapidly because power increases as the square of the current.

**Minimum** SWR *does not* always mean maximum radiated power -- your tuner or lossy coax may be dissipating power -- and you may not get peak output power even if your tuner or amplifier is properly tuned.

Use the MFJ-834 to determine best antenna tuner settings and to compare various tuners.

Calculate your antenna feedpoint impedance by dividing your applied power by the square of the feedpoint current.

**Your** antenna can change MFJ-836 \$139<sup>95</sup> when you apply power -- insulators break down, traps heat up, Ship Code A capacitors leak -- and your feedpoint impedance may be drastically different from your SWR Analyzer measurements.

MFJ RF ammeters are rugged, read accurately over 1-30MHz in three *linear* ranges (.3, 1, 3 Amps) and barely perturb the antenna.

Large 3-inch lighted meter. Use 12 VDC or 110 VAC with MFJ-1312D, \$15.95. SO-239 connectors. 6Wx3½Hx4½D inches.

MFJ-834H. \$89.95. Like MFJ-834, but 3, 10, 30 Amps high current ranges.

#### MFJ-836 all-in-one RF Ammeter/SWR/Wattmeter

**The** MFJ-836, \$139.95 is an *all-in-one* RF Ammeter/SWR/Wattmeter! You can quickly determine feedpoint impedance and monitor antenna system for detrimental changes under power.

Read RF current in three calibrated ranges -- 1, 3, 10 Amperes. A large 3-inch lighted easy-to-read Cross-Needle meter lets you read SWR, forward (300/3000W) and reflected power (60/600W) simultaneously.

**MFJ's** exclusive *TrueActive*™ circuit gives you *true* peak or average power readings. SO-239 connectors. Use 9 Volt battery and/or 12 VDC or 110 VAC with MFJ-1312D, \$14.95. 6Wx3½Hx4½D inches.

MFJ-836H, \$149.95. Like MFJ-836 but



3, 10, 30 Amps high current ranges. MFJ-835 Balanced Line RF Ammeter

MFJ-835 Ship Code A

How do you detect imbalance in openwire or ladder line? By measuring and comparing each feedline wire current -- your feedline is balanced if the currents are equal.

The MFJ-835, \$129.95 BalancedLine RF Ammeter™ is two identical calibrated RF ammeters using an MFJ Cross-Needle meter.

Feedline currents are simultaneously displayed on separate calibrated scales in three ranges (.3, 1, 3 Amperes).

Balance is clearly revealed on MFJ's exclusive  $BalancedBar^{TM}$  -- when currents are balanced, the dual needles cross in the *center* -- no matter the actual current.

If the needles cross within the vertical  $BalancedBar^{TM}$  the balance is within 10%. If not, you know which line is unbalanced and by how much.

Equal currents in the feeder wires minimize feedline radiation and reduces pattern distortion, RFI, TVI and wasted power. You could lose up to 10% of your power.

**Imbalance** is due to feedline not being perpendicular to antenna, if one side runs close to metal or is shorter or closer to ground.

The MFJ-836 helps you solve all your unbalanced problems.

**Heavy-duty** 5-way binding posts for feedlines. Use 12 VDC or 110 VAC with MFJ-1312D, \$15.95. 6Wx3½Hx4½D in.

#### Calibrated Clamp-On RF Ammeter

**MFJ-854** *Clamp-On* RF Ammeter quickly snaps over wires and cables to measure RF currents flowing in antenna elements, radials, ground wires and on outside of coax.

**Tune** counterpoises, radials and ground systems. Balance your radials. See how much signal is radiating from your antenna, feedline or ground wire. Study/optimize your antennas for peak performance. Find current peaks/ nulls on antennas/ feedlines. Plot current profile, measure and tweak current flow at

each antenna element in phased arrays. **Determine** your antenna feedpoint impedance, radiated power, power losses and efficiency. Track down RFI-causing currents on coax shield, rotator cable, guy wires, house

MFJ-854 wiring, telephone and television cables.

\$119<sup>95</sup> **Has** five *calibrated* ranges to 3 Amperes including Ship Code A sensitive 30 mA range with linearity compensation to assure accuracy at low currents. It's sensitive enough to use an MFJ SWR Analyzer as the source to drive your antennas.

Less than 1 mA on super-sensitive Variable Range yields usable meter deflection for tracking RFI on household wiring and cables. 1-30 MHz plus. ½ inch diameter cables. 2½ Wx5½Hx1½D in.

# Calibrated *mini Clamp-On* RF Ammeter



\$59<sup>95</sup> calibrated Ship Code A mini Clamp-On RF ammeter accurately measures RF current in antenna elements, radials, ground wires, coax shield. Non-metallic lightweight case minimizes electric

field disturbances for accurate

MFJ-853 readings -- clamp on mobile whip/ vertical. Adjust for maximum radiated current. Determine radiated power/losses. Profile its current distribution -- it's maximum at base and tapers to zero at end.

Use like MFJ-854 to do many of its tasks. 0.3, 1, 3 Ampere ranges. Small 21/4Wx33/4Hx1D in.

MFJ-853H, \$69.95. Like MFJ-853, but has 3, 10, 30 Ampere high-current ranges.

MFJ-805 \$99<sup>95</sup> Ship Code A ing up RFI and

#### MFJ Super-Sensitive RFI Sniffer

MFJ-805 works with mobile installations, ferreting out alternator hash, ignition pulses and microprocessor noise on feedlines and power leads. Isolate cables pick-

know when you've suppressed the problem. Easy-to-use. Clamp current transformer over suspected cable or wire (up to <sup>1</sup>/<sub>4</sub> in. dia.) to detect RFI causing common-mode currents. 2<sup>1</sup>/<sub>4</sub>Wx4<sup>3</sup>/<sub>4</sub>H x1D inches fits in shirt pocket. Use 9 Volt battery. Usable VLF to VHF. Gain adjustable over 50 dB range.

MFJ... The World Leader in Ham Radio Accessories

# MFJ-868 World's largest SWR/Wattmeter has giant 61/2 inch meter



Giant 61/2" Meter!!!

MFJ-868 World's largest HF

\$14995 SWR/Wattmeter measures a giant 6½ inches diagonally across meter Ship Code B scale!

> This one you can See! Its huge scale gives you ultra-fine resolution and its big high-contrast numbers makes reading a breeze -- even across your shack.

> The meter needle position and motion gives you an accurate indication for what's going on *quickly* without actually reading the scale -- like your analog watch.

MFJ's exclusive TrueActive<sup>™</sup> peak reading circuit captures true peak or average forward and reflected power readings. Has 20/200/ 2000 Watt ranges makes it valuable for QRP or QRO operation.

The full SWR scale makes reading SWR much more accurate and easier to read.

Exclusive MFJ Wattmeter Power Saver<sup>™</sup> circuit turns on meter only when RF power is being measured.

**Covers** 1.8-30 MHz. Use 9 volt battery or 12 VDC or 110 VAC with optional MFJ-

# 1312D, \$15.95. Measures 7Wx5<sup>1</sup>/<sub>2</sub>Hx5D in. World's Largest VHF/UHF SWR/Wattmeter!

MFJ-867, \$159.95. MFJ-867 is similar to MFJ-868 giant wattmeter but covers 144/220/440 MHz frequencies. Has 400/200/20 Watt ranges.



#### Ruggedized flat Mobile/ portable SWR/Wattmeter



SWR/Wattmeter is *plenty rugged* to take abuse of *brutal* mobileportable operation.

The meter is fully enclosed in a strong aluminum case with just the scales exposed.

Only two small switches are slightly protruding so there's little to break.

Simultaneously read SWR/forward/ reflected power on full size 3-inch lighted Cross-Needle Meter.

Use 12 VDC for meter lamp or plug into cigarette lighter with MFJ-5510, **\$9.95**. 30/300 Watt ranges, 1.8-30 MHz, SO-239 connectors. 5Wx3Hx2D inches. See pages 15-16 for more wattmeters!

#### High-accuracy Digital SWR/Wattmeter, 1.8-60 MHz

DIGITAL WATTMETER

MFJ's MFJ-826 high-accuracy \$14995 digital Ship Code B SWR/Wattmeter/Frequency Counter

measures 100 milliwatts to 1500 Watts. You get three high-resolution ranges with 10-bit accuracy in each range from 1.8 to 60 MHz! True peak or average for-

New! ward and reflected Watts, SWR and frequency can be simultaneously displayed

You can also select auto-ranging bargraph modes to display forward and reflected power or forward power and SWR twin bargraphs or SWR only bargraph. Frequency, SWR and forward power are also displayed numerically.

PeakHold™ feature freezes the highest forward power displayed bar segment for

These digital-analog displays make it visually

easy to tune antenna tuners. amplifiers and transmitters.

You get three high-resolution forward/reflected power ranges that are automatically selected: a true QRP range (100 mW to 25W), a mid-range (250 Watt full scale) and a highrange (1500 Watts full scale). Each range has

excellent 10-bit resolution.

MFJ's *TrueActive*™ peak reading circuit gives you true peak or average power on all modes.

Built-in frequency counter gives any transmitter digital frequency readout in continuous carrier mode. Perfect for older and QRP rigs such as MFJ-9420 travel radios and MFJ-9340 QRPCubs™.

All information is displayed on a 2-line, 16character, high-contrast backlit LCD display. Use 12 VDC or 110 VAC with optional MFJ-1312D, \$15.95. 4Wx3Hx4<sup>1</sup>/<sub>2</sub>D inches.

**Find Power Line Noise Fast!** 

# **MFJ Field Strength Meters** 40-inch

Balanced

Dipole FS

Meter



Choose the highly directional 3 element Yagi (MFJ-856, \$159.95) for pinpoint accuracy or the compact telescoping dipole (MFJ-852, \$119.95) for quick noise finds.

New!

MFJ-856

\$15995

Ship Code B

Walk or drive around with these *handheld* power line noise meters to search out leaky insulators, loose hardware and corroded ground lines quickly. Track noise right down to the pole, transformer or insulator, or other source.

Operates in the 135 MHz region where activity is a minimum and radiation from corona and arcing is far more localized. 0.3 uV sensitivity and wide-range AGC for

noise level meter -- over 70 dB!

**Plug** in headphones and hear noise you're tracking or plug in a tape recorder. 2Wx4Hx1.5D in.

Use this ultra-sensitive pocketsized RFI Detector to track down and eliminate RFI caused by radiating cables and wires. It'll tell exactly which cable is radiating RFI so you can eliminate it with a simple toroid or clamp-on filter.

**Find** RFI generated by consumer devices, computers and office equipment. Eliminate the RFI source and hash, birdies, whistles and transient noises amazingly disappear.

MFJ-1767, \$79.95. Add this 3element beam to your MFJ-852, and turn it into an RFI finder.

Determine Description radiation pattern; make changes to your antenna and see if it radiates better or worse. Adjust a ground lead, artificial ground, counterpoise or tune your transmitter or antenna tuner

for maximum field strength. Check for floating RF. Use from 100 KHz to 500 MHz.

Balanced Dipole

Field Strength Meter MFJ-802, \$49.95. Sensitive telescoping 40-inch balanced dipole is ground independent and reduces influence of surroundings. Big 3-inch meter. Sensitivity control lets you handle milliwatt to kilowatt

signals. Jack for MFJ-802R remote RF sensing head. 25/8Wx4Hx11/2D inches.

MFJ-802R, \$34.95. Read your field strength remotely where you can control your transmitter or rotate your beam. Requires shielded two conductor cable (not includ-

ed). 2<sup>3</sup>/<sub>8</sub>Wx3<sup>5</sup>/<sub>8</sub>Hx 1D inches.

MFJ-802X, \$74.90, MFJ-802 field strength meter and MFJ-802R, remote sensor combination. Saves \$!

#### Telescoping Whip Field Strength Meter

**Take** *quick* field-strength readings with this compact telescoping whip field strength meter. 13/4 inch meter. Sensitivity control. 20 inches (extended) monopole.

Finger contact on side increases sensitivity MFJ-801 when needed.

\$29<sup>95</sup> Ship Code A 23/8x35/8x1 inches.

# MFJ 1.8-170 MHz SWR Analyzer™ Reads complex impedance . . . Super easy-to-use

MFJ-259B reads SWR... Complex RF Impedance: Resistance (R) and Reactance (X) or Magnitude (Z) and Phase (degrees) . . . Coax cable loss (dB) . . . Coax cable length and Distance to fault . . . Return Loss . . . Reflection Coefficient . . . Inductance . . . Capacitance . . . Battery Voltage. LCD digital readout . . . covers 1.8-170 MHz . . . frequency counter . . . side-by-side meters . . . Ni-Cad/Ni-MH charger circuit . . . battery saver . . . low battery warning . . . smooth reduction drive tuning . . . much more . . .



The world's most popular SWR analyzer just got incredibly better and gives you more value than ever!

MFJ-259B gives you a complete picture of your antenna's performance. You can read antenna SWR and Complex Impedance 1.8 to 170 MHz.

Read Complex Impedance as series resistance and reactance (R+jX) or as magnitude (Z) and phase (degrees).

You can determine velocity factor, coax cable loss in dB, length of coax and distance to a short or open in feet.

You can read SWR, return loss and reflection coefficient at any frequency simultaneously at a single glance.

Also read inductance in uH and cap-acitance in pF at RF frequencies.

Large easy-to-read two line LCD screen and side-by-side meters clearly display your information.

#### **MFJ Analyzer Dip Coils**



MFJ-66, \$24.95. Plug \$2495 these MFJ dip meter Ship Code A coupling coils into an MFĴ SWR Analyzer™ and turn it into a sensitive and accurate band switched dip meter. Set

MHz depending on SWR Analyzer™.

MFJ-259B

Built-in frequency \$289<sup>95</sup> counter, Ni-Cad charg-Ship Code B er circuit, batterv saver, low battery

warning and smooth reduction drive tuning, much more!

Super easy to use! Just set the bandswitch and tune the dial -- just like your transceiver. SWR and Complex Impedance are displayed instantly!

#### Here's what you can do

Find your antenna's true resonant frequency. Trim dipoles and verticals.

**Adjust** your Yagi, quad, loop and other antennas, change antenna spacing and height and watch SWR, resistance and reactance change instantly. You'll know exactly what to do by simply watching the display.

Perfectly tune critical HF mobile antennas in seconds for super DX -- without subjecting your transceiver to high SWR.

Measure your antenna's 2:1 SWR bandwidth on one band, or analyze multiband performance from 1.8 to 170 MHz!

Check SWR outside the ham bands without violating FCC rules.

Take the guesswork out of building and adjusting matching networks and baluns.

**Measure** distance in feet to a short or open in faulty coax. Measure length of a roll of coax, coax loss, velocity factor, impedance.

Measure inductance and capacitance. Measure resonant frequency and approximate Q of traps, stubs, transmission lines, RF chokes, tuned circuits and baluns.

Adjust your antenna tuner for a perfect 1:1 match without creating QRM.

And this is only the beginning! The MFJ-259B is a complete ham radio test station including -- frequency counter, RF signal generator, SWR Analyzer™, RF Resistance and Reactance Analyzer, Coax Analyzer, Capacitance/ Inductance Meter and more!

Take it anywhere

Fully portable, take it anywhere -- remote sites, up towers, on DX-peditions. Use 10 AA or Ni-Cad batteries (not included) or 110 VAC with MFJ-1312D, \$15.95. Rugged all metal cabinet is only 4x2x6<sup>3</sup>/<sub>4</sub>".

> How good is the MFJ-259B?

MFJ SWR Analyzers™ work so good, many

#### **Tunable Analyzer Filter**



MFJ-731 Exclusive MFJ \$995 tunable RF filter Ship Code A allows accurate MFJ SWR and impedance measurements

between 1.8-30 MHz in presence of strong RF fields. Has

virtually no effect on measurements by the analyzer. Works with all SWR Analyzers.

antenna manufacturers use them in their lab and on the production line -- saving thousands of dollars in instrumentation costs! Used worldwide by professionals everywhere.

#### **SWR Analyzer Accessories**



MFJ-29C, \$24.95. Tote your MFJ-259B anywhere with this genuine MFJ custom carrying case. Has back pocket with security cover for carrying dip coils, adaptors and accessories. Made of special foam-filled fabric, it cushions blows, deflects scrapes, and protects knobs, meters and displays

from harm. Clear protective window for display and cutouts for knobs and connectors. Authentic MFJ logo!

MFJ-99, \$60.85. Carrying pouch, dip coil

adapters and power supply.

MFJ-99B, \$93.80. Deluxe Accessory Pack has 10 Ni-MH batteries, power supply, pouch and dip coils. Save \$7!

MFJ-92AA10, \$29.95. 10-pack MFJ NiMH AA rechargeable batteries.

MFJ-5510, \$9.95. 12 VDC cigarette lighter adapter lets you use your MFJ SWR Analyzer on-the-road to make quick adjustments to your HF/ VHF/UHF mobile antennas! 18" retracted curly cord, 60 inches fully stretched. Easily fits in glove compartment.

Adapters for your MFJ-259B MFJ-7737, \$5.95. PL-259 to BNC Female Adapter.

MFJ-7727, \$5.95. PL-259 to SMA Female Adapter.

#### MFJ-249B SWR Analvzer™

Save a few bucks! MFJ-MFJ-249B **249B** is \$269<sup>95</sup>

similar to Ship Code A the MFJ-259B, but less analog meters. MFJ-249B reads SWR, true impedance magnitude and frequen-

cy only on LCD module. Has nicd/nimh charging circuit, can use MFJ-259B accessories.



#### **Analyzer Current**

This new 1:1 MFJ-917 Current balun **\$29**95 lets you use your MFJ SWR and Antenna Analyzers on balanced line antennas and

other loads. Covers 1.8-30 MHz. 2Wx3<sup>3</sup>/<sub>4</sub>Hx1<sup>1</sup>/<sub>2</sub>D in. SO-239 for analyzer input. MFJ-7702, \$3.95. PL-259



# 1.8-170 MHz plus 415-470 MHz HF/VHF/UHF SWR Analyzer Covers 1.8-170 MHz and 415-470 MHz ... SWR ... Complex RF Impedance: Resistance(R) and Reactance(X) or Magnitude(Z) and Phase(degrees) ... Coax cable loss(dB) ... Coax cable length and Distance to fault Return Loss Reflection Coefficient Inductance Canacitance

and Distance to fault . . . Return Loss . . . Reflection Coefficient . . . Inductance . . . Capacitance . . . Battery Voltage. LCD digital readout . . . frequency counter . . . side-by-side meters . . . Ni-MH/Ni-Cad charger circuit . . . battery saver . . . low battery warning . . . smooth reduction drive . . .

MFJ-269 covers 1.8 to 170 MHz and 415 to 470 MHz -- an MFJ-269 exclusive! It includes all the fea-

Ship Code B tures of the MFJ-259B, the world's most popular SWR Analyzer plus much more!

MFJ-269

Large easy-to-read two line LCD display and side-by-side meters clearly display your information. Built-in Ni-Cad/Ni-MH charger circuit, battery saver, low battery warning, smooth reduction drive tuning. Use as signal source for testing/alignment.

**Built-in**  $CoaxCalculator^{TM}$  -- calculates coax line length in feet given coax length in electrical degrees and vice versa for any frequency and any velocity factor (great for building matching sections and phasing lines) -- an MFJ-269 exclusive?

New 12-bit A/D converter gives much better accuracy and resolution than common 8-bit A/D converters - an MFJ-269 exclusive!

Super easy to use! Just set the bandswitch and tune the dial -- just like your transceiver.

#### 1.8 to 170 MHz Range Features

MFJ-269 gives you a complete picture of your antenna. Read antenna SWR and Complex Imped-ance 1.8 to 170 MHz. Built-in frequency counter.

**Read** Complex Impedance as series equivalent resistance and reactance (Rs+jXs) or as magnitude (Z) and phase (degrees).

Also reads parallel equivalent resistance and reactance (Rp+jXp) -- an MFJ-269 exclusive!

**Determine** velocity factor, coax loss in dB, length of coax and distance to short/open in feet.

You can read SWR, return loss and reflection coefficient at any frequency simultaneously at a single glance. Also reads match efficiency.

Also read inductance in uH and capacitance in pF at RF frequencies.

You can measure SWR and loss of coax with any characteristic impedance from 10 to over 600 Ohms, including 50, 51, 52, 53, 73, 75, 93, 95, 300, 450 Ohms -- an MFJ-269 exclusive! More info see page 11.

#### 415 to 470 MHz Range features

Just plug in your UHF antenna coax, set the frequency and read SWR, return loss and reflection coefficient simultaneously. You can



read coax cable loss in dB and match efficiency. You can adjust UHF dipoles, verticals,

yagis, quads and other antennas and determine

You can test and tune stubs and coax lines. You can manually determine velocity factor and impedances of transmission lines.

Adjust and test RF matching networks and RF amplifiers without applying power. Has easy-to-read LCD logarithmic SWR

bargraph and SWR meter for quick tuning.

#### Take it anywhere

**Fully** portable, take it anywhere -- on remote sites, up towers, on DX-peditions. Has built-in "N-type" connector. Includes Free N-to-SO-239 adaptor. Use 10 AA Ni-MH or Ni-Cad or alkaline batteries (not included -- alkalines cannot be charged internally) or 110VAC with MFJ-1312D, \$15.95. Compact 4Wx2Dx6<sup>3</sup>/<sub>4</sub>H inches.

**MFJ-269 SWR Analyzer Accessories** 

#### MFJ-269*PRO™ Analyzer*

MFJ-269Pro, \$419.95. Like MFJ-269, but has its UHF range coverage 430 to 520 MHz and an extended *commercial-style* cabinet for lab work (helps protect knobs and connectors from damage.



MFJ-39C, \$24.95. Tote your MFJ-269



anywhere with this genuine MFJ custom carrying case. Back pocket with security cover for carrying dip coils, adaptors and accessories. A special foam-filled fabric cushions blows, deflects scrapes, and protects knobs, meters and displays from

harm. Wear it around your waist, over your shoulder, or clip it onto the tower while you work -- the fully-adjustable webbed-fabric carrying strap has snap hooks on both ends.

Has clear protective window for frequency display and cutouts for knobs and connectors -- use your MFJ Analyzer<sup>TM</sup> without ever taking it out of your case.

#### **MFJ-269 SWR Analyzer Accessories**

MFJ-99C, \$45.90. SWR Analyzer Power Pack. 10-Pack SuperCell™ Ni-MH batteries, & MFJ-1312D Power supply for MFJ-259B/MFJ-269 analyzers.

MFJ-98, \$60.85. MFJ-269 Accessory their SWR, resonant frequency and bandwidth. Pack. Same as MFJ-99 but has MFJ-39 custom Carrying Pouch for MFJ-269. With power supply, dip coils.

MFJ-98B, \$93.80. Complete accessory pack! Pouch, batteries, dip coils, power cube. MFJ-92AA10, \$29.95. MFJ 10-Pack AA

SuperCell<sup>TM</sup> Rechargeable Ni-MH Batteries. MFJ-5510, \$9.95. 12 VDC Cigar-

ette lighter adapter cord for using your MFJ SWR Analyzers on-the-road. 18' retracted curly cord, 60" fully stretched. **MFJ-269 Adaptors for HT Antennas** 

MFJ-7730, \$5.95. N-Male to SMA Female Adapter.

MFJ-7731, \$5.95. N-Male to BNC Female Adapter.

\$29<sup>95</sup>

Ship Code B



MFJ-92AA01, \$3.49 each.
MFJ's super high capacity
MH "A A" betteries have Ni-MH "AA" batteries have Ship Code A twice the power of standard

Nicads at about the same price! MFJ batteries have no detrimental memory effect that are the trademark of Ni-Cad batteries so you can use them to their full potential. MFJ-92AA10, \$29.95.

10-Pack of MFJ SuperCells™, perfect for your MFJ SWR Analyzer!



MFJ *POWERHaus*™ Ultra-fast Intelligent Charger

Charges AA-AAA-C-D and 9V Ni-MH or Ni-Cd Battery types.

Active intelligent IC detects positive/negative, and monitors the voltage level during charging process.

**Two** separate sets of charging compartments optimize energy efficiency. Auto switches to trickle when full charge is completed.

MFJ-633 has charging status LEDs, removable dust cover and 12V, 500 mA AC adapter is included. Quick charges 2-4 AA Ni-MH cells in an hour or less!



# HF/VHF/UHF SWR Analyzers for all Your Building Needs

#### MFJ Analyzers Measure SWR from 270-480 MHz Basic HF/VHF SWR Analyzer™



MFJ-229 \$209<sup>95</sup> Ship Code A

Read SWR of any antenna from 270 to 480 MHz.

Just plug in your antenna coax, set the frequency and read SWR!

Easy-to-read LCD displays frequency and SWR and has a logarithmic SWR bargraph

for precision tuning. Two line high-contrast LCD has 32 huge 1/4 inch characters.

Select any desired frequency range for tuning. Examples: Tune from 280 to 295 MHz, 320 to 350 MHz or 400 to 450 MHz. Tuning knob has a built-in 10:1 vernier

reduction drive for precision tuning.

You can use the MFJ-229 to adjust dipoles, verticals, yagis, quads and other antennas and determine their SWR, resonant frequency, and bandwidth.

Test and tune stubs and coax lines. You can determine velocity factor, impedances and estimate losses of transmission lines.

Adjust and test RF matching networks and RF amplifiers without applying power.

Use as signal source for testing and alignment. Measures 3<sup>3</sup>/<sub>4</sub>Wx6<sup>1</sup>/<sub>2</sub>Hx1<sup>3</sup>/<sub>4</sub>D".

#### MFJ-209 \$159<sup>95</sup> Ship Code A

MFJ Starter SWR Analyzer™ lets you read SWR from 1.8 to 170 MHz quickly only on a single analog meter. Tune knob, frequency control switch. No LCD module, counter or charging circuit. Use 8 AA cells or



110 VAC with MFJ-1312D, \$15.95. Compact, handheld size:  $4x2^{1/2}x6^{3/4}$  inches.

#### HF 10-160M SWR Analyzer™



This compact **\$99**<sup>95</sup> MFJ HF SWR Ship Code A Analyzer will help you build the antennas you need for DX work.

**Just** plug in the coax to measure the SWR of any HF antenna, 160 to 10 Meters. Has jack for external frequency counter, 9VDC of 110 VAC with **MFJ-1312D**, \$15.95.

Plug in coax to find the SWR of any HF antenna on any band 10-160 Meters.

Jack for external frequency counter. 9 V battery or 110 VAC with MFJ-1312D, \$14.95. Measures 7<sup>1</sup>/<sub>2</sub>Hx2<sup>1</sup>/<sub>2</sub>Wx2<sup>1</sup>/<sub>4</sub>D in.

#### MFJ VHF SWR Analvzer™



VHF SWR  $Analyzer^{\text{TM}}$  finds the Ship Code A SWK of any antenna from 138-156 MHz.

**Jack** for external frequency

Measures 7<sup>1</sup>/<sub>2</sub>Hx2<sup>1</sup>/<sub>2</sub>Wx2<sup>1</sup>/<sub>4</sub>D in. 9 V battery or 110 VAC with MFJ-1312D, \$15.95.

#### 6-Meter SWR Analyzer

MFJ-217, \$89.95, same as MFJ-208 but covers 30-56 MHz for 6 Meters and commercial VHF. Jack for external frequency counter. Dimensions, power requirements same as above.

#### MFJ-219B Econo MFJ-229



Similar to \*MFJ-219B MFJ-229, less Ship Code A LCD display. Has meter for SWR

and jack for external frequency counter. Measures 2<sup>1</sup>/<sub>2</sub>Wx7<sup>1</sup>/<sub>2</sub> Hx 2<sup>1</sup>/<sub>4</sub>D inches.

MFJ-229 and MFJ-219 have "N" connector with free N-to-SO-239 UHF adapter.

**Also** they have Battery Check and Power Saving feature. For 50 Ohm systems.

Use 9-Volt battery or 110 VAC with MFJ-1312D, \$15.95. 10 AA batteries for MFJ-229 or 110 VAC adapter.

#### MFJ Antenna Bridge

New & Improved! Now has AGC for constant readings.

\$**99**<sup>95</sup> Ship Code A

No other equipment needed. Take it to your antenna site. Determine if your antenna is too long or too short, measure its resonant frequency, and its resistance to 500 ohms. It's the easiest, most convenient way to determine antenna parameters. Resistance bridge, null meter, tunable oscillator-driver (1.8 to

30MHz). 9 VDC or 110 VAC with MFJ-**1312D**, \$15.95. 7<sup>1</sup>/<sub>2</sub>Hx2<sup>1</sup>/<sub>2</sub>Wx2<sup>1</sup>/<sub>4</sub>D inches. MFJ RX Noise Bridge

Quickly adjust almost any antenna for maximum performance, 1 to 100 MHz.

Lengthen or shorten your antenna for minimum SWR. Measure resonant frequency, feedpoint resistance and reactance.

Works with any receiver or transceiver. Hand-calibrated resistance scale, expanded capacitance range and exclusive built-in range extender. 4<sup>1</sup>/<sub>4</sub>Wx2Hx4D in. Use 9 Volt battery (not included).

#### Custom 24-350 MHz Analyzers



(0)

ME

\$**79**<sup>95</sup>

Ship Code A

For commercial \$279<sup>95</sup> Ship Code A applications. Select a specific frequency

range and MFJ will customize an analyzer for you. Choose the model below for your needs. Specify frequency range and allow 4 weeks for these models.

**MFJ-220A**, 24-49 MHz **MFJ-220B**, 34-69 MHz MFJ-220C, 45-91 MHz MFJ-220D. 67-135 MHz MFJ-220E, 90-176 MHz MFJ-220F, 190-350 MHz MFJ-220G, 140-260 MHz

#### Economical Dip Meter covers 1.5-250 MHz

Back in the vacuum tube days they called these babies grid dip meters and every ham and experimenter either had one

or wanted one. The MFJ-201 solid state (hence no MFJ-201 \$14995 smaller, Ship Code A

"grid") is lighter, and vastly more versatile than its ancestor. Use it as a

traditional

dip meter to

find a coil's

resonant frequency.

Couple it to an antenna, or to coax lines to get their electrical length.

Or use it as an absorption wavemeter for measuring transmitter output, neutralizing tank circuits, or a field strength meter.

Other traditional dip uses include: crystal oscillator, monitoring audio signal output (it includes a headphone jack), and measuring inductance and capacitance.

This solid-state grid dip meter covers 1.5-250 MHz in 6 bands, has thumb wheel tuning, color code readout, 6 coils, earphone jack and battery check. Uses a 9V battery for operation. Measures a compact 2Wx2<sup>1</sup>/<sub>2</sub>Dx7H" including coils.

#### Foam-Padded carrying case



sal foam insert. Pre-separated tear-away cubes let you shape the foam to custom fit your gear. Eggshell type padding on topside. Handle, carrying strap, two key sets, left/right snaps. 10<sup>3</sup>/<sub>4</sub>Dx16Wx4H in. **MFJ**-6404F, \$12.95. Extra foam insert for MFJ-6404. Accessories in picture not included.

MODEL MFJ-201 3-250 MHz MFJ DIP METE

#### MFJ Frequency Counters Cover 1 MHz to 3 GHz or 10 Hz to 3 GHz

\*MFJ-886 Frequency Counter covers 1 MHz 3 GHz. It features 300 MHz direct count with MFJ-886 Frequency Counter covers 1 MHz to Ship Code A 0.1 Hz-per-second resolution.

Incredible deal also includes Ni-Cd battery

pack, charger and telescopic whip!

**10-digit** high-contrast LCD display is easy-to-read. Huge <sup>3</sup>/<sub>4</sub> inch digits are highly visible. Hold switch locks display. Synchronous detector gives ultra-sensitive RF Signal Strength LCD bargraph. Four selectable gate times gives .1 Hz to 10

Hz resolution in 300 MHz range and 10 Hz to 1000

Hz resolution in 3 GHz range.

Rechargeable Ni-Cd battery pack (included) gives up to 6 hours of use. Low battery LED indicator. Rugged aluminum cabinet

(2<sup>3</sup>/<sub>4</sub>Wx3<sup>1</sup>/<sub>4</sub>Hx1<sup>1</sup>/<sub>4</sub>D inches) fits in shirt pocket and has black anodized finish. Order MFJ-886 for 110

VAC, order MFJ-886 "X" for 240 VAC.

# MFJ 13,543

**NEW!** MFJ-888 covers 10 Hz to 3 GHZ with a 10-digit LCD and an ultra-sensitive syn-Ship Code A chronous detector with 16-section bargraph to show RF signal strength.

It features a Hi-Z low range, auto-hold, measures frequency and period, has LED backlight, beeper, low power con-

sumption, hold switch to lock display, low battery indicator and more. A high-speed 300 MHz direct counter with 0.1 Hz resolution has four selectable gate speeds.

**Built-in** Ni-Cd battery pack will operate up to 6 hours and recharges with the external charger. MFJ-888 (2<sup>3</sup>/<sub>4</sub>Wx4<sup>1</sup>/<sub>4</sub>Hx1<sup>1</sup>/<sub>4</sub>D") is complete with Ni-Cd battery pack, charger, and telescopic whip.

Housed in a handsome stamped aluminum cabinet with black anodized finish. Order MFJ-888 for 110 VAC, order MFJ-888 "X" for 240 VAC.

#### Pocket-size Function Generator



MEJ

146 129932

This unique MFJ-5000 unit is the only \$9995 Ship Code A compact, battery-operated

function generator designed for travel or bench use. Based on an XR-2206 integrated circuit, it provides square, triangular, and sine waves contin-

uously from 1 Hz to well over 150 KHz in 3 ranges. 4Hx3Wx1D inches. Frequency range switch, external power jack, 5-way binding posts. Use 9V battery.

MFJ-5004 \$149<sup>95</sup> Ship Code A



Gives precision sine, square and triangular wave forms from 1 Hz to 1 MHz in 6 decade ranges. Amplitude adjustable 0-12 volts peak-to-peak. DC offset is adjustable -6 to +6 VDC. Output is short circuit protected with output impedance of 400 Ohms. Sturdy black all metal

#### 81 dB Step Attenuator



This will be your most useful ham

MFJ-762 \$89<sup>95</sup> Ship Code A

shack accessory! 50 ohms Usable to 500 MHz. 250 milliwatt maximum input.

BNC connectors. Shielded stages. Connect between receiver and antenna and use an S-meter as a precision calibrated field strength meter.

Prevent receiver blocking, cross-modulation. Determine gain and loss. Ideal for fox hunting. Evaluate linearity.

Measure input and output level differences. Isolate circuits.

Extend the range of your sensitive equipment.  $6^{1/2}Wx2^{1/2}Hx1^{1/2}D$  inches.

#### **Professional Function Generator**



cabinet. 110 VAC.

#### 2-Meter FM Signal Analyzer



Ship Code A

MFJ's \$17995 MFJ's handheld Two Meter FM Signal Analyzer™ lets

MFJ-216

\$**79**<sup>95</sup>

Ship Code A

you measure signal strength with over 60 dB dynamic range and measure actual feedline loss in dB. Plug in any scope and your MFJ-224 becomes a service monitor! Lets you visually analyze modulation wave forms, audio distortion, noise and instantaneous peak devia-

tion. Tune in any signal between 143.5 -148.5 MHz. Built-in discriminator-meter function makes accurate tuning simple and easy. 4Wx2<sup>1</sup>/<sub>2</sub>Dx6<sup>3</sup>/<sub>4</sub>H". Use 9V battery.

#### Portable Signal Tracer-Injector

Multi-purpose Portable Signal Tracer-Injector

MFJ-5012 \$9995 Ship Code A

quickly finds defective stages in all kinds of signal amplifiers, radio receivers and transmitters. Includes home theaters, hi-fi

amplifiers, public address systems, guitar

amplifiers, AM/FM/ TV transceivers, phones, scanners, shortwave, etc. Use to find opens and shorts in cables and wires, identify and locate individual wires in multi-conductor cables. Has an AM detector and variable gain audio amplifier. 3Wx4Hx1D inches.

#### **Portable Variable Power Supply**

This MFJ MFJ-4105 \***99**95 power supply Ship Code A is portable enough to fit in any toolbox 3Wx4Hx1D". It's so light you can carry it any-

where. Provides fixed 5 VDC output along with a variable 1.5-12 VDC output. Total output is 500 mA. Output terminals and ground are convenient 5-way binding posts. Easy output voltage setting. Input 110 VAC.

#### MFJ AC Line Monitor



MFJ-850B, \$24.95. Color coded scale lets you read voltage from 95-135 Volts. 2% Accuracy. Built-in AC socket, so you don't lose the outlet.  $2^{1}/_{4}Wx2^{1}/_{4}Hx1^{1}/_{2}D$ inches. It's perfect for the ham shack and motorhomes!

#### Safely tune your amp with this MFJ AmplifierSaver™Interface



MFJ-214 This lets \$69<sup>95</sup> you safely tune Ship Code A up your kilowatt linear

amplifier at full peak power for best linearity. Keeps average power to a low, safe level to prevent

overheating power supply stress.

**Relieves** temperature related stress on amplifiers, tuners, and dummy loads too.

It also can be used as a valuable diagnostic tool for tests of QSK systems, wattmeters, and more. Plugs into rig's CW key jack (for convenience you can use a "Y" connector).

Simply press the Pulse Tune button and

tune your amplifier normally for maximum power output. Use 9V battery, not included.

#### MFJ Deluxe AmplifierSaver™



The MFJ-216 Deluxe AmplifierSaver™ includes front panel adjustments of pulse rate and duty cycle.

Allows for easy performance testing of wattmeters, QSK systems and other electronic equipment.

Measures 3<sup>1</sup>/<sub>2</sub>Wx1<sup>1</sup>/<sub>2</sub>Hx4D inches.

# Tune-Up*Matchmaker*™



Adjust your antenna tuner for 1:1 SWR without transmitting!

Avoids overheat-

\$995 ing/arcing caused by high SWR and long tune-ups. Ship Code A Your MatchMaker<sup>TM</sup> inserts

between transceiver and antenna tuner. Simply tune your transceiver to the desired frequency, then power-up the *MatchMaker*<sup>TM</sup>. Then adjust your tuner for a null in the pulsing "white noise" in your receiver.

Automatic T/R switch bypasses MFJ-212 to prevent damage. Handles 300 Watts. Works with all radios, 160 through 6 meters. Measures a compact  $3^{1}/_{3}x1^{1}/_{4}x4$ inches. Use MFJ-1312D, \$15.95.

# MFJ High Current DC Multi-Outlet Strips

Choose super heavy-duty 5-way binding posts AND/OR Anderson PowerPole® connectors

**Provide** *multiple* high current DC outlets for transceivers and accessories from your transceiver's main DC power supply – keeps you neat, organized and safe. Prevents fire hazards. Keeps wires from tangling up and shorting out. Outlets are fused/switched/RF bypassed.

#### MFJ DC Multi-Outlets with versatile 5-way binding posts



MFJ-1118, \$84.95. Lets you power two HF and/or VHF rigs and six or more accessories from your transceiver's main 12 VDC supply. Two pairs of super heavy duty 35 amp 5-way binding posts connect your transceivers. Each pair is fused and RF bypassed. Handles 35 Amps total. Six pairs of heavy duty, RF bypassed 5-way binding posts

let you power your accessories. They handle 15 Amps total, are protected by a master fuse and have an ON/OFF switch with "ON" LED light. Built-in 0-25 VDC voltmeter. Six feet super heavy duty eight gauge color-coded cable with ring tongue terminals. Binding posts are spaced for standard dual banana plugs. Heavy duty aluminum construction. 12<sup>1</sup>/<sub>2</sub>x2<sup>3</sup>/<sub>4</sub>x2<sup>1</sup>/<sub>2</sub> inches.

MFJ-1117, \$64.95. For powering four HF/VHF radios (two at 35 Amps each and two at 35 Amps combined) simultaneously. Tiny 8x2x3 inches.

MFJ-1116, \$59.95. Similar to MFJ-1118. No 35 amp posts. Has "ON" LED and 0-25 VDC voltmeter. 15 amps total.

**MFJ-1112, \$44.95.** Similar to MFJ-1116. No on/off switch, LED, meter, fuse.

MFJ DC Multi-Outlets with Anderson PowerPole® connectors trademark of Anderson Power Products.

Genderless, polarized and color coded connectors conform to ARES & RACES emergency 12V connector standard

Each Anderson PowerPole® outlet can carry up to 40 amps. You can fuse each outlet as needed to protect your accessories or transceiver. The main fuse is 40 amps.

MFJ-1117

Ship Code A

The standard color coded fuses simply plug in from outside. They are widely available ATC/ATO automobile fuses and can be used for 6. 12. 24 VDC systems.

can be used for 6, 12, 24 VDC systems.

The heavy duty DC input cable is builtin – you don't have to pay extra just to use
it! It's a high-current carrying capacity
eight gauge, flexible, stranded, six foot
(can be shorten) cable with 5/16 ring terminals. It's color coded Red and Black.

Extra Anderson PowerPole® connectors, contacts and fuses are included at no extra cost, unlike lesser competitive products.

A massive 0.062 inch thick double sided plated through PC board with wide traces is used. The current path has an equivalent current carrying capacity of an enormous 4 ounce trace.

**RF-tight** aluminum cabinet has mounting ears and ground post with wing nut.

MFJ-1128 MFJ-1128, \$104.95. 12 out-\$10495 lets. Factory installed fuses:

All PowerPoles®

Ship Code B three 1A, four 5A, four 10A, one 25A, one 40A. Built-in 0-25 VDC Voltmeter. ON/OFF switch controls outlet 4 through 12, handles 20 Amps total. Outlet 1, 2 and 3 are unswitched, handle 40 amps total. Includes 12 pair of Anderson PowerPole® 24 35A contacts, 10 fuses (2 each: 1,5,10,25,40A). 12Wx1<sup>1</sup>/<sub>4</sub>Hx2<sup>3</sup>/<sub>4</sub>D inches.



MFJ-1126, \$84.95. 8 outlets. Factory installed fuses: two 1A, three 5A, two 10A, one 25A, one 40A. Includes 6 pair of *Anderson PowerPole*\* 12 35A contacts and 5 fuses: (1 ea. 1,5,10,25,40). 9Wx1\(^1/4\text{Hx}\)2\(^1/4\text{inches}.

# MFJ 6-Way Desk-Top DC Power Distribution Unit

Convenient planar design optimizes DC distribution on your desk or workbench

MFJ-1106 is an inexpensive, compact, and low profile DC distribution platform de-signed for your operating desk/workbench.

It contains seven

Anderson Power Pole™ connectors all connected in parallel, permitting one DC input to be shared by six DC outputs.

Includes seven sets of mating connectors for your cables. Any connector may be used as an input or output, and the total current carrying capability is 30-amps.

Unit measures 2<sup>1</sup>/<sub>4</sub>Wx1Hx3<sup>3</sup>/<sub>4</sub>D inches,

Unit measures 2¹/4Wx1Hx3³/4D inches, not including the PowerPole<sup>™</sup> connectors sticking out on three sides.

#### MFJ AC Line RFI Filter

**Squash obnoxious** power line computer hashnoise 6 S-units!

Filters and reduces

AC power line RFI, hash, noise, transients, surges generated by computers, motors, RF transmitters, static/lightning by 30 db and

ters, static/lightning by 30 db and up to 60-80 dB with a good earth ground. Super fast, nano-second overvoltage protection.

**Provides** inductive isolation, capacitive decoupling, RFI rejection, overvoltage protection of both common mode and differential signals. Rejects/shunts undesired signals to ground.

Four 3-wire, 15 Amp, 120 VAC outlets spaced for large adapters. 25 Amps/3000 Watts maximum. Fused. 51/2' cord. Wing nut ground. Mounting holes. Rugged aluminum case, 12Wx31/2Hx2D inches.

PowerPoles® AND 5-Way Binding Posts

MFJ-1129 MFJ-1129, \$114.95. Get

\$1 1495 the best of both connectors!

Ship Code B

Ship Code B

10 outlets. Installed fuses: two 1A, three 5A, three 10A, two 25A, one 40A. Outlets 1, 2, 4-8 are

Anderson PowerPole\*. Outlet 3 is a 35A high current binding post; outlet 9, 10 are

15A binding posts. Built-in 0-25 VDC

Voltmeter. ON/OFF switch for outlets 4-10, 20 amps total. Outlets 1, 2, 3 unswitched, handle 40 amps total. Includes 7 pairs of PowerPole\* 14 35A contacts, 10 fuses (2 ea, 1,5,10,25,40). 12½Wx1¼Hx2¾D in.

MFJ-1124 **\$64**95 Ship Code B

MFJ-1124, \$64.95. 6 outlets. Installed fuses: one 1A, one 5A, two 10A, two 25A, one 40A. Outlets 1-4 are *PowerPole*\*. Outlets 5, 6 are 35A high current *binding posts*. Includes 4 pair *PowerPole*\* 8 35A contacts, 5 fuses (1ea, 1,5,10,25,10) 8Wx1<sup>1</sup>/<sub>4</sub>Hx2<sup>3</sup>/<sub>4</sub>D inches.

antien i i i

Anderson PowerPole® with 35A contacts

MFJ-11C106, \$ 5.49, 6 pairs.
MFJ-11C12, \$10.49, 12 pairs.
MFJ-11C25, \$19.95, 25 pairs.
MFJ-11C100, \$79.95, 100 prs.
MFJ-7602, \$14.95. Tool for crimping *Power-Poles*\*.

**Banana Plugs for binding posts A.** MFJ-7713, \$4.95. 1 red, 1 black high current banana plug. *Solderless*, thumb Screw. Fits 10 to 12 gauge wire. **B.** MFJ-7709, \$5.95. High current dual banana plug, Black/Red polarity

rings. Solderless, thumb screw. 75" standard spacing -- fit MFJ outlets and others with 10-12 gauge wire. C. MFJ-7700P, \$5.95. Six red and six black solderless banana plugs.

**MFJ-11F20, \$9.95.** 10 ATO Fuse pack. 2 each: 1, 5, 10,25,40 amp.



# MFJ Switching Power Supplies

Power your HF transceiver, 2-Meter/440 MHz mobile/base and accessories with these 25 or 45 Amp MFJ MightyLite™ Switching Power Supplies! No RF hash, Super lightweight, Volt/Amp Meters . . .

MFJ's new adjustable voltage switching power supplies do it all! Power HF/2M/ 440 MHz radios and accessories. No more hauling around heavy, bulky supplies that can cause a hernia.

**MFJ's** 25 Amp *MightyLite*<sup>™</sup> weighs just 3.7 lbs. -- that's 5 times lighter than an equivalent conventional power supply. MFJ-4225MV measures a super compact 5<sup>1</sup>/<sub>4</sub>Wx4<sup>1</sup>/<sub>2</sub>Hx6D inches. MFJ's 45 Amp is even more dramatic -- 8 times lighter and weighs just 5.5 pounds! It measures just  $7^{1/2}Wx4^{3/4}Hx9D$  inches.

#### No RF hash!

**These** babies are clean . . . Your buddies won't hear any RF hash on your signal! *None* in your receiver either!

**Some** competing switching power supplies generate objectionable RF hash in your transmitted and received signal.

These super clean MFJ *MightyLites*™ meet all FCC Class B regulations.

Low Ripple . . . Highly Regulated Less than 35 mV peak-to-peak ripple



MFJ-4225MV Ship Code B MFJ-4245MV 45 Amp

Ship Code C

under 25 or 45 amp full load. Load regulation is better than 1.5% under full load.

#### Fully Protected

You won't burn up our power supplies! They are fully protected with Over Voltage and Over Current protection circuits.

#### Worldwide Versatility

**MFJ** *MightyLites*<sup>™</sup> can be used anywhere in the world! They have switchable AC input voltage and work from 85 to 135 VAC or 170 to 260 VAC. Replaceable fuse.

MightyLites<sup>TM</sup>... Mighty Features

**MFJ** *MightyLites*<sup>™</sup> feature a front-panel voltage control. It lets you vary the output NO RF HASH!



a highly regulated voltage output.

Easy access front-panel with 5-way binding posts for heavy duty use and a cigarette lighter socket for mobile accessories. MFJ-4245MV has two sets of quick-connects on the rear for accessories.

Large 3 inch dual meters are illuminated to make it easy to monitor load voltage and current. Whisper quiet internal fan cools

your power supply for long life. **About** the MFJ-4225MV, *QST* (January 2000) said, "its external control for varying the output voltage is very handy for test bench applications," and noted, "overall, voltage from 9 to 15 Volts DC and gives you noise generated by this supply is very low".

#### Super Compact MightyLite™ 25 Amp Switching Power Supply The smallest and lightest power supply in ham radio! Tiny 5<sup>3</sup>/<sub>4</sub>Wx3Hx5<sup>3</sup>/<sub>4</sub>D" fits anywhere...

MFJ-4125, similar to the popular MFJ-4225MV but is smaller and doesn't have meters or cigarette lighter socket.

Has 5-way binding posts for high current radio connects and a pair of speaker type terminals for low current accessories.

**Super** protection modes include Over Voltage and Over Current. Whisper quiet internal cooling fan generates tremendous air flow to help keep components cool.

MFJ-4175

\$359<sup>95</sup>

Ship Code D

\$109<sup>95</sup> Ship Code B NO RF HASH! New!

MFJ-4125P with 2-pair *Anderson* 

PowerPole<sup>(R)</sup> connectors \$124<sup>95</sup>

MFJ-4125 has switchable AC input voltage. 110 VAC at 47-62 Hz and 220 VAC at 47-63 Hz.

**Super regulation.** AC input versatility allows 85-135 VAC or 170-260 VAC.

Weighs 3.5 lbs. Measures an unbelievable  $5^{1/2}Wx2^{1/2}Hx5^{3/4}D$ "-- it's the *smallest* and lightest power supply in ham radio!

MFJ-4125P is similar to MFJ-4125. Adds 2-pair of Anderson PowerPole™ connections.

#### MFJ $75\,Amp$ Switching Power Supply

MFJ-4175 is perfect for Ameritron's ALS-500M, 500W solid state amplifier, it gives 75 Amps output continuously! It's tiny,  $(6^{1/2}Wx3^{1/2}H\bar{x}10D \text{ in.})$  and weighs just 7.8 lbs. Less than 100 mV peak-to-peak ripple under 75 Amp full load. Load regulation is better than 1.5% under full load. Reverse polarity protection, brown out input protection, over-current and over-temperature protection.

Thermal-controlled quiet fan. *Output Boost* steps output from 13.8 to 14.2 VDC to compensate the voltage drop to the amp and gives you more output power. Input 108-132 VAC, 50/60 Hz. Draws 11 Amps. Can be used to charge car battery.

#### Ultra-Compact 15A Switching Power Supply

MFJ-4115 is supercompact, great for traveling -- weighs just 11/2 lbs and is a tiny 3<sup>3</sup>/<sub>4</sub>Wx2<sup>1</sup>/<sub>4</sub>Hx3<sup>3</sup>/<sub>4</sub>D inches. This tiny supply will easily fit in

Ship Code D



your briefcase or suitcase and power most VHF/UHF or QRP radios. Has over-voltage and over-current protection systems and works with AC input from 90 to 130 Volts. Output is 13.8 VDC, 17 Amps surge and 15 Amps continuous. It has one set of 5-way binding post connections. It is super clean, has a quiet fan and super regulation. Has load fault indicator and automatic shut-down.

# MFJ 30/22/12 Amp Regulated DC Power Supplies

Massive 19.2 pound transformer, Adjustable 1-14 VDC, Quick connects, cigarette lighter socket . . .

MFJ's heavy duty power supply is excellent for powering your rig/accessories. MFJ-4035MV **MFJ-4035MV** 

A massive 19.2 pound transformer makes this power supply super heavy duty! It delivers 35 amps maximum and 30 amps continuous without even flexing its muscles. Plugs into any 110 VAC wall outlet.

It's highly regulated with load regulation better than 1%. Ripple voltage is less than 30 mV. No RF hash! Fully protected -- has over voltage, fold back short circuit and over-temperature protection systems.

You get front panel adjustable voltage from 1 to 14 VDC with a convenient detent Ship Code F set at 13.8 VDC.

Front-panel meters let you monitor voltage and current.

Three sets of output terminals include a pair of heavy duty five-way binding posts for HF/VHF radios, two pairs of quick-connects for accessories and a covered cigarette lighter socket for mobile accessories.

A front-panel fuse holder makes fuse replacement easy. Whisper quiet fan speed increases as load current increases -- keeps components cool. 91/2Wx6Hx93/4D inches. MFJ 22/20 Amp Power Supply

MFJ-4322,

**\$99.95** delivers 22 Amps surge and 20 Amps continuous at 13.8 VDC. Its massive transformer, heatsink and heavy



duty construction weigh over 19 pounds. 8Wx4<sup>3</sup>/<sub>4</sub>Hx11<sup>3</sup>/<sub>4</sub>D in. 110 VAC. Ship Code F.

# MFJ-4416 Super Battery Booster

Keeps your transceiver operating at full efficiency and performance by eliminating low or marginal voltages in the mobile environment . . .



MFJ-4416 Ship Code A

Today's compact 100-watt HF transceivers are designed to oper-ate from about 12-16 volts,

with output signal distortion, output power problems, and transceiver reset often occurring when voltage drops below 12 volts.

**In** the mobile environment, low voltage is caused in two ways: First - even low resistance DC wiring can result in a noticeable voltage drop. For a 100-watt transceiver with a 20-amp typical current requirement, just 1/10th of an ohm resistance in your DC cable and connectors results in a 2-volt drop! And second - when you turn your car off, the battery voltage drops from around 13.8 volts to close to 12 volts after a short period of time. Couple this with any voltage drop in the cables, and you have a problem.

**The MFJ-4416 Super Battery Booster** eliminates low voltage problems by boosting input voltages as low as 9 volts up to the desired 13.8 volts at up to 25 amps peak with a typical efficiency of close to 90%.

It is compact at just 7<sup>3</sup>/<sub>4</sub>Wx4Hx2<sup>1</sup>/<sub>8</sub>D" and lightweight at 1.3 lbs. And the MFJ-4416 Super Battery Booster is designed to be rugged, reliable, and easy to

MFJ-4416 includes Anderson PowerPole<sup>TM</sup> connectors and high-current 5-way binding posts for both the DC input and regulated output. An internal 30-amp input fuse protects the unit from excess output current demands.

There are also selectable limits on the minimum voltage that the unit will accept: 9-volts, 10volts (default), and 11-volts.

This protects you from over-discharging a battery and possibly damaging it. MFJ-4416 also includes output over-voltage crow-bar protection should regulation be lost.

**Two** additional features offer ways to increase efficiency even more! First, there is an RF sampling port which can be connected to your transceiver's transmission line with an MFJ-7733, \$6.95 UHF-T connector. When this feature is enabled, the MFJ-4416 is bypassed unless RF is sensed so no regulator switching efficiency penalties are incurred during receive.

The second efficiency enhancement feature is a user-adjustable output voltage control which lets you set the output voltage anywhere between 12- and 13.8-volts. When setting the output at 12-volts, input voltages greater than 12V will pass through, but the efficiency of the regulator is higher. And lower input voltage means your transceiver will run cooler!

Typically save over 30 watts in heat dissipation during transmit, and even 3-4 watts during receive. So it can actually be good to let the voltage sag to 12 volts, then let the MFJ-4116 protect you from lower voltages. **HF** Transceiver Power Cord MFJ-5535, \$14.95.

> Replace your HF Radio original power cord at a fraction of the original cost. Two super-flex, 12 gauge,

multi-strand, soft wires 8 feet in length. Two in-line fuse holders with fuses. Power plug is keyed to prevent reverse polarity. Get extra cords for each operating station, mobile/base. Fits Yaesu, Icom, Kenwood & compatibles

MFJ-5535M, \$19.95. HF radio Power Cord, HF Molex to Anderson PowerPole<sup>®</sup>.

#### **HF** Transceiver Power Cord for IC7000/TS-480 and equivalents



MFJ-5538, **\$19.95.** Heavy duty replacement power

close-up cable for Icom 7000, Kenwood TS-480 and equivalent. Keyed plug to prevent reverse polarity. 9 feet, 12 gauge, red and black multi-strand flexible zip cord, two inline

fuses with fuse holders.

#### **UHF/VHF** Transceiver Power Cord MFJ-5512, \$12.95.

Two super-flex, 14 gauge, multi-strand, soft wires 15 feet in length. Single in-line fuse holder with fuse. Power plug is keyed to prevent reverse polarity. For Yaesu, Icom, Kenwood & compatibles.

VHF/UHF Transceiver Power Cord

MFJ-5512M, \$17.95. VHF/UHF radio power cord. T-connector to Anderson PowerPole®.

# MFJ Transceiver Voltage Conditioner

Protects against -- Reverse Voltage . . . Over-Voltage . . . Voltage Transient . . . Short Circuits. Super noise and ripple filtering . . . Power supply buffering ... Lets you run 100 Watt SSB from your vehicle cigarette lighter socket ...



**The MFJ-4403** Transceiver Voltage Conditioner provides reverse voltage, overvoltage, voltage transient and short circuit protection. Gives super noise and ripple filtering and power supply buffering for your base, portable or mobile transceiver.

The MFJ-4403 really shines in mobile and portable operation where your non-ideal voltage source could cause extensive damage.

If you accidentally reverse your voltage connection, the MFJ-4403 protects your

MFJ-4403 \*119<sup>95</sup> transceiver against instant destruction and alerts you destruction and alerts you with a Ship Code A bright warning LED. Once the DC polarity is corrected, the

MFJ-4403 recovers and operates normally.

**Heavy-duty** transient suppressor handles peak currents up to 200 Amps -- protects your transceiver from vehicle and poorly regulated power supply start-up voltage spikes.

MFJ brings *high-end* automotive audio technology to ham radio!

Four Farads of ultra high-value capacitors filters off virtually all power supply noise and ripple, and provides enough power supply buffering so that even underrated and marginal power supplies will run your HF transceiver.

For temporary mobile operation -- rental car, weekend trips, vacations, etc. -- the ultra high-value capacitors in the MFJ-4403 provide enough power supply buffering to let you run full 100 Watts SSB from your 10-15 Amp cigarette lighter socket.

Standard Anderson Powerpole<sup>TM</sup> connectors are used for the DC input and output. MFJ-4403 measures a compact 4Wx3Hx2D inches.

#### Anderson PowerPole™ Cables

MFJ-5535M, \$19.95. HF radio power cable to Anderson PowerPoles® Fits Yaesu, Icom, Kenwood & compatibles. Two super-flex, 12 gauge, multi-strand, 8 ft long. Two in-line fuse holders with fuses.

MFJ-5512M, \$17.95. VHF/UHF radio power cable to Anderson PowerPoles®. Fits Yaesu, Icom, Kenwood & compatibles. 2 super-flex, 14 gauge, multi-strand, 15 feet long. Single in-line fuse holder with fuse.

MFJ-5510M, \$14.95. Power cable with Cigarette Lighter Plug on one end and Anderson PowerPoles™ on other end.

# MFJ/Curtis/Bencher is a winning CW combo!

MFJ-422D The Best of all 189<sup>95</sup> CW worlds -- a MFJ/Curtis keyer™ in Ship Code B a compact package

that fits on the Bencher iambic paddle! Buy the combination or just the keyer for your Bencher or MFJ paddle. MFJ's most popular keyer

is small but big in features giving you adjustable weight and tone and has front panel volume and speed con-

trols (5-65 wpm). Has built-in dot-dash memories, speaker,

sidetone and auto or semi-auto/tune modes.

Keys solid state or tube transmitters. Fully shielded. 9 volt battery or 110 VAC with MFJ-1312D, \$15.95.

Keyer mounts on the paddle base to form a small MFJ-422DX \$**99**95  $4x2^{1/4}x4^{1/4}$ ". Buy the combo or just the MFJ keyer (MFJ-422DX) to fit on your Bencher or MFJ-564 or Ship Code A MFJ-564B iambic paddle (see below).

Paddles to use with MFJ-422DX

MFJ-564 Black or Chrome, \$69.95 (see below). BY-1, \$129.95. Black Bencher. **BY-2, \$149.95.** Beautiful chrome Bencher paddle.

# MFJ Curtis lambic Keyer has Dot, Dash Memory



Everything you need to send great CW from this MFJ Cutris Keyer™ -- easy access front panel controls, all keyer modes, dot-dash memories, iamproof spacing, weight

control, sidetone, built-in speaker and more. Speed, **79**95 weight, tone and volume controls, and tune, semi-Ship Code A auto and on/off switches are on the front panel.

A dual paddle key such as the MFJ-564, lets you use the iambic mode. In this mode, you can insert a dot before a dash finishes or insert a dash before a dot finishes. Also, squeezing both paddles generates alternating dots and dashes. This lets you send characters such as C, K, and R with a single squeeze. It turns an inexperienced fist into a professional.

You can use the *automatic* mode with a single or dual paddle. You automatically generate dots and dashes by pressing the paddle. **You** can switch into a *semi-automatic "bug"* mode to generate

dots automatically and dashes manually. Or you can use a "straight key" and manually generate your own dots and dashes.

**You** get dot-dash memory, self-completing dots and dashes, jam-proof spacing and instant start keying.

**Select** Type A or Type B keying to match your sending style.

#### MFJ Nano-size Keyer/Paddle Combination



Ham radio's tiniest electronic keyer has a built-in iambic paddle! It's just MFJ-402 **\$6995** 2x3x1 inches and weighs 3½ ounces!

Fully-enclosed paddle has a "bug" feel for smooth CW. It's precision formed from resilient phosphorous bronze.

It's easy-to-use. Just set one button and send one letter to change your keyer settings -- speed 5-65 WPM, weight 25%-75%, iambic mode A/B, normal or "bug" mode and reverse paddle.

Screwdriver adjustment for easy speed change. Tune mode for tuning antenna tuner or transmitter. RF proof. 4 foot cord with 3.5 mm plug. Keys nearly any rig.

No on/off switch -- keyer turns off between dits! Battery lasts nearly shelf life.

Weight control lets you adjust your dot-dash space ratio to make your signal sound distinctive to bust through pile-ups. It also lets you compensate for the turn-on delay of your transmitter.

Has tune switch for tuning your transmitter or antenna tuner. RF proof. Built-in speaker for sidetone.

Keys solid state and tube transmitters. Use 9 volt battery or 110 VAC with MFJ-1312D, \$15.95. Attractive black cabinet measures  $5^{3}/4x1^{3}/4x4^{3}/4$  inches.

#### MFJ/Curtis ECONO Kever<sup>TM</sup>

MFJ-401D is the same as MFJ-407D except weight and tone controls are

MFJ-401D

adjusted internally and doesn't have a tune switch. Use 9 volt battery or 110 VAC with MFJ-1312D, \$15.95. 4x1<sup>3</sup>/<sub>4</sub>x3<sup>1</sup>/<sub>4</sub> inches. Build Your Own Keyer with this Curtis Chip

**Revolutionary** new Curtis Chip. Choose . . . 28 pin skinny DIP or SMT SOIC package. MFJ-8045ABM, \$29.95.

Pre-Wired Keyer to Rig Cables MFJ-5164, \$11.95. Keyer to radio keying

cable. Has phono plug on keyer end to fit MFJ keyers and a 3.5 mm plug with 1/4" phone plug adaptor to fit most transceivers.

#### ocket Travel Kever has Built-in Paddle

MFJ-403P Ship Code A

**This** MFJ Travel Keyer is a **\$7995** full-featured CW keyer with a built-in Iambic paddle.

Ultra-compact size 3<sup>3</sup>/<sub>4</sub>Wx 1H x2<sup>1</sup>/<sub>4</sub>D" is perfect for traveling or for home use with QRP or "big" rigs. Throw it in your briefcase along with your MFJ Cub™ or other

favorite on your next trip. A built-in sidetone with LM386 audio amplifier, speaker and volume control makes monitoring your sending easy. Speed adjustable from 3 to 60 WPM. Sidetone pitch is adjustable 300 to 1000 Hz. Weight adjustable from 25% to 75%. Tune mode, RF proof, Battery Saver feature. Select a keyer mode to suit you - - iambic mode A or B, fully automatic or semi-auto "bug" mode. Use 9 Volt battery, not incl. MFJ-403, \$59.95. MFJ ultra compact CW Travel Keyer only.

#### Deluxe lambic Paddles



\$69<sup>95</sup> MFJ deluxe iambic paddles feature a full range of Ship Code B adjustments in tension and contact spacing, self-adjusting nylon and steel bearings, contact points that almost

never need cleaning, precision machined frame and nonskid feet on heavy base. Use with MFJ-422DX/MFJ-490X keyers. MFJ-5166, \$11.95, (left). Paddle to Keyer cable. Has pre-wired solder lugs on paddle end and 3.5 mm plug with 1/4" phone plug adaptor to fit MFJ keyer.

#### MFJ *Miniature* Iambic Paddle



This miniature, lightweight iambic paddle is just 1<sup>3</sup>/<sub>4</sub>Wx1<sup>3</sup>/<sub>4</sub>Dx<sup>3</sup>/<sub>4</sub>H inches and weighs just 2<sup>1</sup>/<sub>2</sub> ounces. Tiny enough to fit in an Altoids(R) tin (cord

MFJ-561 and all!) for protection. It's per-\$2495 feet for traveling or for home use Ship Code A with QRP or "big" rigs. Perfect companion for MFJ or other key-

ers. Great for any QRP or QRO rig! The paddle is precision formed from special phosphorous bronze spring material with an A150 temper. This gives you an excellent feel so you can send smooth CW. Mounted on rugged metal base with non-skid rubber feet. Has 4 foot cord and 3.5 mm plug -- ready to plug into keyer or rig! MFJ-561K, \$19.95. *Build your own!* MFJ iambic paddle kit with instructions, cord, hardware needed to build your paddle.

MFJ-564B

Black

# MFJ Millenium™ CW Memory Keyer

Is CW dead?

Not at MFJ! MFJ's menu driven LCD display makes it so easy to use, you don't need an instruction manual.

The MFJ-495 combines the latest millenium microprocessor technology with non-volatile EEPROM memory for a full-featured, low cost, high reliability design.

Send CW or load messages using a paddle, keyboard or computer serial port.

Easy-to-use menus and LCD display let you set all keyer functions merely by pushing buttons. Keyer functions can also be changed from your paddle, keyboard or computer.

The LCD also shows the message as it's being sent from memory or live from your paddle, keyboard or computer.

The MFJ-495 has 32 message memories of 256 characters each. You can repeat messages continuously, insert timed pauses within messages, insert an auto-incrementing serial number, have messages call other messages or insert embedded commands to change speed, weight, etc. automatically.

MFJ-495 supports both direct and grid-



MFJ-495
17995 block outputs and has a port for an optional remote control. PTT output, built-in speaker, sinewave sidetone, more!

#### Features include:

**Iambic** keyer with dot and dash memories; automatic, semi or hand-key mode.

**Keyboard Input** lets you plug in any AT keyboard for type ahead buffer. All commands, functions, and memories can be done through the keyboard!

Message editing capability.

Input queue to store multiple messages.

**Auto-incrementing** contest serial numbering from 001 to 9999.

Digital and linear analog speed control from

5 to 99 wpm (3:1 to 20:1 speed range) Farnsworth, speed from 10 to 99 wpm Ultra speed sets messages up to 990 wpm Adjustable weight 25% to 75%

Adjustable weight 25% to 75%
Adjustable sidetone from 300 to 1000 Hz

**Keying** output delay up to 20 ms **Push-to-talk** (PTT) hang time up to 5 sec. **Direct** (pos.) or grid-block (neg.) keying

Timed tune for XMTR adjustment Timed pauses in messages/message loop Internal speaker with adjustable volume Supports Owerty and Dvorak keyboards

190 characters type-ahead keyboard buffer with low buffer warning

Dual user mode supports operators with dif-

ferent configuration settings

Compact and handsome all-black metal

Compact and handsome all-black metal cabinet measures just 61/4Wx21/2Hx61/4D in. Use 12 VDC or 110 VAC with MFJ-1312D, \$15.95 AC adapter.

RFI-Suppressed Keyboard
MFJ-551, \$39.95. RFI suppressed keyboard.
Remote Control Unit

**MFJ-70**, **\$34.95**. Full function wired remote control for MFJ-495.

#### Menu Memory Keyer/Bencher Paddle



MFJ-490 **\$219**<sup>95</sup> Ship Code B

The MFJ Menu Driven Memory Keyers™ are the easiest memory keyers to operate. You can even operate them without

an instruction manual! There's no keypad, no complex sequence, nothing to remember. Just select a menu by pressing a button. An LED lights to indicate which menu is active. Then select a feature by pressing a Feature button. It's as easy as using a computer touch screen.

Each menu is clearly printed on the front (or top) panel -- no confusion. From the menu you can save and play messages, decrement serial numbers, set Speed, Weight, Sidetone, enter Iambic, Semi-auto, Handkey, Message Queue, Paddle command modes, turn Sidetone on and off, transmitter Tune, and set keying output on or off.

You can select iambic A or B, reverse paddle, Morse trainer, and store starting serial number for contests. Bypass the menu by keying in simple two-letter commands. The keyer tells you its status in CW.

You can adjust CW speed, 5 to 100 wpm, by pressing the dot or dash paddle smoothly or by knob control. The powerful Morse trainer lets you practice or teach in Farnsworth or normal mode. Select letters,

#### Super Menu Driven Memory Keyer

numbers, prosigns, or any combination for practice using five character groups, or more realistic 1-8 character groups.

MFJ-492 **\$119**<sup>95</sup> Ship Code B



And more! You get contest serial numbering (0-9999) with auto-increment, built-in sidetone, speaker, front panel volume control and adjustable 300-3000 Hz tone. You can use automatic, semi-automatic or bug or handkey modes, reverse dot/dash paddles, adjust weight from 5 to 95%, and compensate for transmitter distortion, You can key direct or grid-block keying transmitters, solid state or tube rigs. Special MARS characters recognized.

The MFJ Menu Driven Memory Keyer™ has 192 character (8K) memories. The memories are divided into four soft sectors. Uses 9V battery (not included) or 110 VAC with MFJ-1312D, \$15.95. Memories are backed up by a lithium battery.

Memories are backed up by a lithium battery.
Order MFJ-490, \$219.95, Memory Keyer/Bencher paddle combination, 5X3X5½ in. MFJ-490X, \$129.95, is the keyer only.
MFJ-492, \$119.95, stand alone keyer, 6½X2½X6¾ inches.

MFJ-492, \$119.95, stand alone keyer,  $6\frac{1}{2}X^2\frac{1}{2}X^6\frac{1}{4}$  inches. MFJ-492X,\$134.95 (MFJ-492 with 8K additional memory installed), MFJ-80, \$21.95, (8K memory for MFJ-492 only). MFJ-78, \$34.95, full function wired remote control.

# MFJ Slimline™ Electronic Keyers with Memory

Tired of sending the same phrase on CW over and over? "OTH, name..."

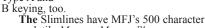
ne \$18995 Ship Code B on't want to f a memory e too confus-

But you don't want to pay the price of a memory keyer, or they're too confusing to use. The MFJ Slimline

keyers have the answer -- a *Slimline*<sup>™</sup> keyer and an iambic paddle are your entry into real CW, at a price not much higher than a plain keyer, with enough memory to store the essential day-to-day messages.

Weight control lets you lengthen or shorten dots and dashes. It compensates your transmitter for a proper 1:3 ratio. Dot/dash lengths are adjustable for a distinctive "touch." Has MFJ-447 **\$99**5

Ship Code A
Type A and



non-volatile *MessageMemory*™. **You** can embed Message Loop, Extra Word Space, pause and serial number increments after each sending.

**LED** blinks during programming and blinks faster for low memory.

SlimLine™ keyers have sidetone volume and tone control, and CW speed (5 to 65 wpm) and weight controls.

**Semi-auto** lets you make dashes manually for "bug" operation. Use dual or single lever

paddle. Positive and negative keying. 9V battery or 110 VAC with

MFJ-441 **\*79**95 Ship Code A



MFJ-1312D, \$15.95.

MFJ-442, SlimLine™ Keyer and MFJ paddle combo. Front panel speed, volume controls. MFJ-442X, \$109.95. Keyer only.

4x1<sup>3</sup>/<sub>4</sub>x2<sup>3</sup>/<sub>4</sub> inches. Fits on your Bencher or MFJ-564/B iambic paddle.

**MFJ-447** *SlimLine*<sup>™</sup> Deluxe keyer; front panel speed, weight, tone, volume controls and message, semi-auto, tune, power buttons. Jack for speaker/headphones. 6<sup>1</sup>/<sub>4</sub>x1<sup>3</sup>/<sub>4</sub>x5 in.

MFJ-441. SlimLine™ Econo Keyer. Just 1<sup>1</sup>/<sub>4</sub> inches tall. Has volatile 89 character MessageMemory™. Front panel speed/volume controls. 4x1<sup>3</sup>/<sub>4</sub>x3<sup>1</sup>/<sub>4</sub> inches.



#### MFJ Pre-Wired Keyer-to-rig and Paddle-to-Keyer Cables

MFJ-5166, \$11.95. Paddle to Keyer cable. Has pre-wired solder lugs for MFJ, Bencher and other lambic paddles and 3.5 mm plug with a 1/4" phone plug adaptor to fit most MFJ and other keyers.

**MFJ-5164, \$11.95.** Keyer to radio keying cable. Has phono plug on keyer end to fit MFJ keyers and a 3.5 mm plug with 1/4" phone plug adaptor to fit most transceivers.



# Morse Code Reader has Built-in Memory Keyer

Is your CW rusty? Relax and plug-in this MFJ Morse Code Reader with built-in keyer at your operating position. Then watch CW turn into solid text messages as they scroll across an easy-to-read LCD display.

It makes working high speed CW a breeze - - even if you're rusty. Type-ahead buffer, message memories and adjustable speed get you ready to compete with the world's best hi-speed CW operators -- and they won't even know you just passed the code test!

The MFJ-464 gives you everything you need to have the ultimate CW Station: sends and Reads 5-99 WPM . . . Automatic speed tracking . . . Large 2-line LCD shows send/receive messages . . . single or iambic paddle or computer keyboard operation . . . Front panel speed, volume controls . . . 4 message memories . . . type ahead buffer . . . read again buffer . . . adjustable weight & sidetone . . . RFI proof . . . much more!

**Reader has Auto Speed Track** MFJ Auto $Trak^{TM}$  automatically locks on, tracks and displays CW to 99 wpm.

Simply plug-in your MFJ-464 to your receiver speaker until the lock LED flashes in time with the CW.

#### High performance modem

Consistently get solid copy from MFJ's high performance PLL (phaselock loop) modem. Digs out weak signals. Even tracks slightly drifting signals. Of course, nothing can clean and copy a sloppy fist, especially weak signals with lots of QRM/QRN.

#### Built-in keyer features

The MFJ-464 combines the latest millenium microprocessor technology with nonvolatile EEPROM memory for a full featured, low cost, high reliability design.

You can send CW or load messages using a paddle, keyboard or through yourcomputer serial port.

Easy-to-use menus and LCD display let you set all keyer functions merely by pushing buttons. Keyer functions can also be changed from your keyboard or computer.

The LCD also shows the message as it's being sent from memory or live from your paddle, keyboard or computer.

The MFJ-464 has 4 message memories of 256 characters each. You can repeat mes-



MFJ-464 Ship Code B

(Keyboard, paddle not included)



sages continuously, insert timed pauses within messages, insert an auto-incrementing serial number, have messages call other messages or insert embedded commands to change speed, weight, etc. automatically.

#### Sinewave Sidetone . . . More!

MFJ-464 supports Direct keying output. Has PTT output, built-in speaker, sinewave sidetone and more! Iambic keyer with dot and dash memories; automatic, semi or hand-key mode. Input queue lets you store multiple messages. Auto-incrementing contest serial numbering from 001 to 9999.

#### Adjustable Speed 5-99 WPM

Digital linear speed control, 5-99 wpm Farnsworth Mode with speed adjustable from 10-99 wpm.

Ultra speed sets messages up to 990 wpm. Adjustable weight 25% to 75%.

Adjustable sidetone from 300-1000 Hz. **Keying** output delay to 20 milliseconds. Push-to-talk hang time to 5 seconds.

Timed tune function for XMTR adjusting. **Timed** pauses in messages/message loop. Internal speaker with adjustable volume. **Qwerty** & Dvorak keyboards.

#### Type-Ahead Buffer

190 character type-ahead keyboard buffer with low buffer warning.

**Keyboard Input** Use any AT keyboard to program functions & memories.

Compact black metal, 6<sup>1</sup>/<sub>4</sub>Wx2<sup>1</sup>/<sub>2</sub>Hx6<sup>1</sup>/<sub>4</sub>D" 12VDC or 110VAC w/ MFJ-1312D, \$15.95.

#### **MFJ-464** Accessories

MFJ-5161, \$16.95. MFJ-464 to computer serial port cable (DB-9).

MFJ-5162, \$7.95. Connects MFJ-464 to radio's external speaker 3.5 mm jack.



MFJ-5163, \$10.95. Connects MFJ-464 and another accessory to your radio speaker.

MFJ-5164, \$11.95. Keyer to radio keying cable. Has phono plug on keyer end to fit MFJ keyers and 3.5 mm plug with 1/4" phono plug adapter to fit most transceivers.



MFJ-551, \$39.95. RFI suppressed keyboard, a must to avoid RFI problems when operating CW keyboard mode.

#### eluxe lambic



MFJ-564 Chrome

MFJ-564/B Ship Code B



MFJ-564B Black

MFJ deluxe iambic paddles feature a full range of adjustments in tension and contact spacing, self-adjusting nylon and steel bearings, contact points that almost never need cleaning, precision machined frame

and non-skid feet on heavy base. MFJ-422D and MFJ422DX/MFJ-490X keyers can be used with these paddles. **MFJ-5166, \$11.95.** Iambic Paddle to keyer cable. Has pre-wired solder lugs on paddle end and 3.5 mm plug with 1/4" phone adapter to fit MFJ keyer.

# Super CW Keyboard -- No Computer Required!

\$159<sup>95</sup> Ship Code B

<sup>\$</sup>129<sup>95</sup> Ship Code A

No Keyboard

MFJ Super CW Keyboard lets you send effortless CW as soon as you turn it on -- no computer to boot, no program to load -- just start typing.

You get a standalone MFJ CW Keyboard that includes an RFI suppressed keyboard, a two line 16 charac-

ter LCD display, eight 250 character nonvolatile message memories, a 150 character type-ahead buffer, iambic keyer, plus a powerful Morse Code trainer, more!

Variable speed from 5 to 100 WPM, adjustable weight from 5

to 95%, sidetone from 300 to 3000 Hz and serial number from 0 to 9999. Has buffer and memory full audible indicators. Keys solid state and tube rigs. AT101 compatible keyboard plugs into compact 3<sup>1</sup>/<sub>2</sub>x2<sup>1</sup>/<sub>2</sub>x3<sup>1</sup>/<sub>2</sub> inch interface. Use 12 VDC or 110 VAC with MFJ-1312D, \$15.95. **MFJ-452X, No keyboard.** 

Use MFJ-5164, \$11.95, keyer to rig keying cable. MFJ Dedicated CW Keyboard

MFJ-451, like MFJ-452 but without LCD display and has two 100 character memories. MFJ-451X, no keyboard.



Ship Code B

Ship Code A No Keyboard

# MFJ Pocket Size Morse Code Tutor

Learn Morse code fast, anywhere . . . LCD display lets you check your copy instantly . . . easy no-code beginner's course . . . plain English QSOs .

ARRL/VEC format. Learn small fixed sets of Ship Code A characters. Previously learned sets are combined with new sets to reinforce all you have learned.

MFJ-418

**Practice** copying, then instantly replay to check your copy on the LCD display.

**Custom Character Sets** 

Having trouble with certain characters? Build and save 3 custom sets of 16 characters for extra practice -- an MFJ exclusive.

Practice copying *realistic* on-the-air style plain English QSOs. Gets you ready to pass your FCC test and upgrade. Also builds confidence for your first real contact.

MFJ Word Recognition Mode<sup>T</sup> **MFJ's** Word Recognition Mode™ gives

you hundreds of commonly used words in ham radio. Practice recognizing entire words instead of individual letters.

Select letter, number, punctuation, prosign or FCC character sets (has only letters, numbers and prosigns required on FCC tests), random call signs, random words, QSOs or combo sets for practice -you'll never run out of study material! MFJ Interactive Mode<sup>TM</sup>

InteractiveMode™ lets you decide when to copy the next or previous group and how many -- great for beginners!



Farnsworth spacing. Farnsworth makes it

easier to learn entire characters. Stop counting individual dots and dashes that slows learning! Adjustable 10 to 60 WPM for high-speed.

Use fixed length or more realistic random length groups (up to 8 characters).

You can change speed *on-the-fly* while playing a session 3 to 60 words-per-minute.

**SettingSaver**<sup>TM</sup>

Settings are automatically saved, ready to use next time--just turn on and replay. Check your copy, select from menus

and program custom characters and words on 2 line LCD display with 32 huge 1/4 inch high-contrast characters -- powerful sound and sight learning!

Only MFJ gives you SilkySmooth  $Sidetone^{TM}$  with  $TruTone^{TM}$  sinewave and SoftStart™ dots/dashes -- lets you concentrate on learning without distracting, harsh keyclicks. Use earphones for private practice or built-in speaker for groups. Volume control. Variable pitch 300-1000 Hz.

Fits in your shirt pocket with room to spare -- smaller than a pack of cigarettes. Tiny  $2^{1}/4x3^{3}/4x1$  in., weighs less than  $5^{1}/2$ ounces. Uses 9 volt battery (not included).

Tapes play the same old boring stuff over and over. Unlike tapes, you'll never MFJ-418 top view memorize MFJ-418's random sessions.

**Pocket Tutor Accessories** 

MFJ-26B, \$9.95. Soft leather protection for MFJ-418 with pocket/belt clip.

MFJ-281, \$12.95. Speaker for group practice. Loud, power-

ful audio! 3<sup>3</sup>/<sub>4</sub>x3x2<sup>1</sup>/<sub>4</sub>

More pocket size MFJ Morse Tutors MFJ-417, \$69.95. Similar to MFJ-418, but no LCD. Most software features.

**MFJ-413, \$49.95.** Similar to MFJ-417, less random words, QSOs, SettingSaver™.

# Deluxe Morse Key and Oscillator for Code and Sending Practice



MFJ-557 Deluxe Code Practice Oscillator features a Morse straight key on a nonskid heavy steel base -- stays put and doesn't move around while you're sending.

MFJ-557 lets you practice sending code at home, work,

riding in your car -- practically anywhere -because it's so easy to take it wherever you go.

MFJ-550 Volume control adjusts from barely audible to blaring \$**14**<sup>95</sup> full sound. Ship Code A

You can practice without bothering anyone.

Tone control gives you a wide adjustment, from high "squeaky" to low "booming" tones. You even get an earphone jack for private listening times.

Plug in an external speaker (MFJ-281, \$12.95, powerful compact speaker) for high volume in the classroom.

MFJ-557 runs on a 9 volt battery (not included) or 110 VAC with MFJ-1312D, \$15.95. Plugs into jack on the side.

When you're finished cleaning up your fist with the MFJ-557, hook up the straight key to your transmitter and go on-the-air.

Don't pass up a super buy! Built-in speaker, adjustable contacts.  $8^{1/2}x2^{1/4}x3^{3/4}$  inches. Black.

#### Use HT for on-the-air CW Fun

MFJ's JimHandy™ CW interface plugs into your 144/440 MHz

handheld and converts it into a mod-MFJ-552 ulated CW transceiver -- just plug **\$99**95 in your key.

Ship Code A Get your ham buddies together on-the-air and enjoy some fantastic CW fun. Run a little code practice on your repeater. Start your own FM CW Net. Have fun and upgrade! A transmit/receive switch automatically switches your HT to transmit when you send CW and returns you to receive when you stop keying.

Built-in speaker, volume control and great sounding true sinewave sidetone -- no harsh keyclicks. 4Wx1<sup>1</sup>/<sub>4</sub>Hx3<sup>3</sup>/<sub>4</sub>D inches. Use 9V battery (not included). Pre-wired patch cables, \$17.95 for your HT on page 38. **MFJ-550** key only, **\$14.95**.

#### **Classroom Code Oscillator**

The world's practice

MFJ-554 **\$99**95 finest code Ship Code A



oscillator is designed for demanding classroom use and abuse.

It produces a true pure *sinewave* sidetone with no trace of harsh keyclicks. You'll hear the clearest, sweetest sounding CW you have ever heard. Delivers full 1 watt into built-in 3" speaker -- fills an entire room. Low distortion -- less than .2% total harmonic distortion from its BTL (Bridge-Tied-Load) amplifier. Volume control, 400-1000 Hz tone control, on/off switch, power on LED, 1/4 inch key jack, 3.5 mm external speaker jack, uses 12 VDC. All metal enclosure  $4^{3}/_{4}x1^{1}/_{2}x5$  in.

Save \$15.85! MFJ-554X, \$119.95. Includes MFJ-554 Code Oscillator, MFJ-281 ClearTone™ speaker, MFJ-550 Telegraph Key, & MFJ-1312D AC adapter.

#### **Classroom Morse Code Tutor**

MFJ-414 \$219<sup>95</sup> Ship Code B The

Cadillac of



all Morse Code trainers! For VECs. Elmers, teachers, ham clubs, schools and hams who want the best. Has everything in the famous MFJ-418 Pocket Size Morse Code Tutor™ plus . . . Hear powerful classroom audio from its built-in speaker/ amplifier with true sinewave sidetone and no harsh keyclicks. Down/upload custom practice groups from PC with serial port . . Store 16 FCC exams for VECs . . . Print correct answers using printer port . . . Record quality code tapes with tape output . . . Send on-the-air CW practice with HF/VHF radio interface. . . Use full featured memory kever with 1000 character memory. Serial port and open end HT cables included. 110 VAC /12VDC operation. 8<sup>1</sup>/<sub>2</sub>Wx2<sup>1</sup>/<sub>4</sub>Hx6D inches.

# MFJ *Pocket size* Morse Code Reader™

Hold near your receiver -- it instantly displays CW in English! Automatic Speed Tracking . . . Instant Replay . . . 32 Character LCD . . . High-Performance Modem . . . Computer Interface . . . Battery Saver . . .

Is your CW rusty? Relax and place this tiny pocket size MFJ Morse Code Reader near your receiver's speaker . . .

Ship Code A

Then watch CW turn into solid text messages as they scroll across an easy-toread LCD display.

Use it as a backup in case you mis-copy a few characters - - it makes working high speed CW a breeze - - even if you're rusty.

Practice by copying along with the MFJ-461. It'll help you learn the code and increase your speed as you instantly see if you're right or wrong.

Eavesdrop on interesting Morse code QSOs from hams all over the world. It's a universal language that's understood the world over.

Automatic Speed Tracking

**MFJ**  $AutoTrak^{TM}$  automatically locks on, tracks and displays CW speed up to 99 Words-Per-Minute.

Simply place your MFJ-461 close to your receiver speaker until the lock LED flashes in time with the CW.

- Four Display Modes

  1. Bottom line scrolls and fills with text, then that entire line is displayed on top line until bottom line refills -- makes reading text extra easy! Automatically displays speed in WPM.
- 2. Same as 1, without speed display -gives you maximum text display.
- **3.** Top line scrolls, bottom line displays speed in Words-Per-Minute.
  - **4.** Both top and bottom lines scroll. Two-line LCD display has 32 large 1/4



inch high-contrast characters.

#### **MFJ Instant Replay**

The last 140 characters can be instantly replayed. Lets you re-read or check copy if you're copying along side the MFJ-461.

#### **High Performance Modem**

Consistently get solid copy from MFJ's high performance PLL (phaselock loop) modem. Digs out weak signals. Even tracks slightly drifting signals.

Of course, nothing can clean up and copy a sloppy fist, especially weak signals with lots of ORM/ORN.

Computer Interface

The MFJ-461's serial port lets you display CW text full screen on a bright computer monitor -- just use your computer serial port and terminal program.

#### **More Features**

When it's too noisy for its mic pickup, connect it to your radio with a cable.

Battery saving feature puts MFJ-461 to

sleep during periods of inactivity. It wakes up and decodes when it hears CW.

Uses 9 Volt battery (not included).

#### **True Pocket Size**

**Fits** in your shirt pocket with room to spare - smaller than a pack of cigarettes. Tiny  $2^{1/4}x3^{1/4}x1$  in.  $5^{1/2}$  ounces.

#### Accessories

MFJ-26B, \$9.95. Soft leather protective pouch for MFJ-461. Clear plastic overlay for display, push button opening, strong, durable pocket or belt clip secures MFJ-461.

MFJ-5161, \$16.95. MFJ-461 to computer serial port cable (DB-9)

MFJ-5162, \$7.95. Connects MFJ-461 to radio external speaker 3.5 mm jack

MFJ-5163, \$10.95. Connects MFJ-461

and another accessory to radio external speaker, 3.5mm.

# two Mics to any two

MFJ's new MFJ-1263 Microphone Control Center lets you mix and match any two microphones to any two transceivers.

The microphones or transceivers can have 8-pin round or 8-pin modular connectors. You don't have to change connectors or rewire -- just push buttons. Your favorite microphones will never become obsolete.

You can use your favorite microphone with your present or new rig by pushing a button. You can instantly switch from a hifi ragchewing mic to a hard-hitting DX mic when a rare one suddenly pops up.

#### Free your hands with external PTT

You can plug in an PTT foot switch (MFJ-1709, \$29.95) or let your computer or voice keyer (MFJ-434B, \$199.95) control your PTT line to free your hands for contesting and DXing.

#### Perfect for Boom-Mic/Headset

Plug in a boom mic/headset (MFJ-**393,** \$69.95) to save the day during noisy field day or multi-operator contesting.

You can plug in your headphones and an external speaker (MFJ-281, \$14.95).



A headphone volume MFJ-1263 control eliminates the need to readjust your rig's volume when you switch the speaker. Ship Code B when you switch the speaker on. The headphones are always active. A push button turns the speaker on or off.

When you want to use your desk or hand mic just push a button.

#### Auxiliary audio input

**An** input jack and On/Off switch is provided to insert external audio into the microphone audio input line. Great for inputting sound card, SSTV, AFSK, TNC and other audio sources.

#### Works with any radio

The MFJ-1263 works with any radio -- Kenwood, Yaesu, Icom, Alinco and com-

patible transceivers - using an 8-pin round or modular microphone jack. Internal jumpers configure the MFJ-1263 for your radio -- your mics never become obsolete! 6Wx1½Hx5D inches. Includes one MFJ-5398 and one MFJ-5397MX radio cables.



MFJ-1261, \$109.95. Like MFJ-1263 but has one mic input and two radio outputs. One MFJ-5398, MFJ-5397MX included.



MFJ-1260, \$99.95. Same as MFJ-1263 but has two microphone inputs and one radio output. One MFJ-5398 and one MFJ-5397MX radio cables included.

#### **ORDER Extra Radio Cables!**

MFJ-1261/1260/1263 to transceiver cables, \$17.95. Order MFJ-5398 for 8-Pin Round; MFJ-5397MX for 8-Pin Modular.

#### MFJ SpeechArticulator<sup>TM</sup> improves transmit speech intelligibility

MFJ-653 hamProAudio™ Speech Articulator™ greatly improves transmit \$14995 speech intelligibility for super punch!

Based on extensive speech research, the MFJ-653 uses optimized frequency shaping to concentrate the energy in the band of frequencies where speech intelligibility is concentrated. It also removes powerful low frequencies that overwhelms the important high frequencies that carry intelligibility.

You can boost the highly intelligible band of frequencies centered around 2 kHz by up to  $16 \, dB$  and gently remove the powerful, low frequencies that have little intelligence. The high-pass filters cutoffs are 1.1 kHz and 500 Hz.

**Using** a SSM-2166 broadcast industry speech compression IC the MFJ-653 syllabic compressor with its adjustable 15 to 1 compression ratio can nearly double your

Ship Code A



RF output power with low distortion.

A highly effective noise gate (downward expansion) with front panel level and delay controls smoothly removes annoying background noise picked up during speech pauses.

The results? You'll be heard and understood. Powerful, highly intelligible speech gives you a commanding presence that slices through DX clutter!

You can use any transceiver and with its UniversalMic™ Interface, you can use almost any microphone (high/low impedance, dynamic and electret) with the MFJ-653, regardless of whether or not the

microphone was designed for your particular transceiver.

Microphone input jacks include a RJ45 modular, an 8 pin round and MFJ's exclusive *programmable* 3.5-mm. MFJ's programmable 3.5 mm jack lets you use Heil series, MFJ-393 boom-mic headphones or even an inexpensive computer boom-mic headset and provides phantom voltage when needed.

An adjustable preamplifier lets you even use low-level output microphones.

Compact size -- 5Wx1<sup>3</sup>/<sub>4</sub>Hx4<sup>3</sup>/<sub>4</sub>D inches. Takes little room on your desk and small enough to use mobile where you really need it.

Output cables to connect transceivers with 8-pin round or 8-pin modular microphone connectors are included.

Use 12 VDC or 110 VAC with optional MFJ-1312D, \$15.95 power supply.

# SO2R switches Mic/PTT/keyer/soundcard for 2 radios

Have you got two radios, but only one keyer, one headphone set, one paddle and other accessories? MFJ's Single Operator/Two Radio Switch (SO2R) is at your rescue! Save money, reduce clutter . . .



MFJ-643 Ship Code A

Have you got

two radios, but only one keyer, one headphone set, one paddle and other accessories? MFJ will unclutter your operating position and save you money -- you only need one microphone, keyer, soundcard interface, iambic paddle, etc.

MFJ-643 lets you operate two radios with the following accessories: Desktop and headset Microphones, keyers/keys/paddles, soundcard interfaces, modems, etc.

The MFJ-643 is designed for easy use. Just set the internal jumpers for the MFJ-393 Professional Boom-Mic Headphones. Heil series headphones, a computer boom-Mic or computer boom-mic Headset.

You get instant LED visual indication of the transmit audio path so you know which radio your audio is being sent to.

On receive, you can instantly choose

between Mix, Radio 1, Stereo or Radio 2 \$13995 depending on how you want the audio presented to your headphones.

> The input source connector is a 3.5mm stereo jack. Your input source can be a dynamic or electret mic (low or high impedance), stereo or monaural receiver audio, sound card or modem, or key or keyer.

You have a choice of PTT functions: Use your microphone's PTT switch, a foot or hand switch or the convenient PTT switch located on the front of the MFJ-643.

There are also additional inputs, dual outputs for your keyer, and two lines to switch an antenna between your radios, key an amplifier, or anything else you want to use them for.

Use 12 VDC or 110 VAC with optional MFJ-1312D, \$15.95 power supply. Compact 7<sup>1</sup>/<sub>4</sub>Wx2<sup>3</sup>/<sub>4</sub>Hx5<sup>1</sup>/<sub>2</sub>D inches.

#### MFJ $\mathit{hamProAudio}^{ exttt{TM}}$ Universal SO2R Switch Enhanced version of the MFJ-643 interfaces with virtually any mic connector



MFJ-644 is similar to the MFJ-643, 159<sup>95</sup> but is enhanced with the *UniversalMic*™ Ship Code A Interface. This MFJ exclusive lets you use any mic with any radio. Internal jumpers configure any microphone to any radio.

MFJ-644 also gives you three additional input sources: 1) An 8-pin modular (RJ-45) input jack, 2) An 8 pin round input jack, and . . 3) MFJ's own input 3.5 mm jack. The 3.5 mm jack allows the user to choose audio and PTT functions from the Heil series of Boom-Mic Headsets and also provides phantom voltage on the tip for the MFJ-393 Boom-Mic Headphones or on the ring for a computer Boom-Mic or computer Boom-Mic headset. Compact 7<sup>1</sup>/<sub>4</sub>Wx2<sup>3</sup>/<sub>4</sub>Hx5<sup>1</sup>/<sub>2</sub>D inches.

#### MFJ hamProAudio<sup>TM</sup> Computer-controllea



MFJ-645

Universal computer inter-249<sup>95</sup> face provides seamless interaction with computer logging and SO2R programs for effort-

less "Single Operator/2 Radios" operation. MFJ-645 extends capabilities of MFJ-644 and includes computer control --

Permits MFJ-645 to interoperate with WinEQF, CT, NA, TRLog, and Write-Log.

**Its** *Universal Mic™ Interface* lets you use any mic with any radio. Internal jumpers configure any microphone to any radio.

MFJ-645 easily interfaces with the MFJ-1275 and MFJ-1279 Sound Card Interfaces giving you full control over your digital modes. You can choose which radio is in the digital mode, or you can even operate dual digital modes. And besides the normal manual PTT capabilities as those of the MFJ-644, when connected to the MFJ-1275 or MFJ-1279 Sound Card Interfaces your digital mode can also control the key line.

Use 12 VDC or 110 VAC with optional MFJ-1312D, \$15.95 power supply. Measures 11<sup>1</sup>/<sub>4</sub>Wx5<sup>1</sup>/<sub>2</sub>Hx2<sup>1</sup>/<sub>2</sub>D inches.

All MFJ hamProAudio™ accessories are designed with the serious ham in mind. The choice of components and extensive RF filtering and bypassing allow for a unit that is designed to be used in an RF environment.

#### **J** hamProAudio 2-Radio Headphone Selector/Mixer



MFJ-640 Ship Code A

MFJ-640 combines or selects

audio from two different receivers -- Great for operating "split" for HF contests and

DXing, or cross-band for VHF/UHF satellite. **Just** connect the audio output of two

receivers to the two 3.5mm audio connectors on back of the unit. Then plug in your stereo headphones and you are ready to go.

MFJ-640 provides both 1/4" and 3.5mm stereo headphone jacks -- no need for adapters! From the front panel you can select the

audio output desired - Mix, Radio 1, Stereo, or Radio 2. In the Mix mode both radios are combined in both the left and right earphones, and the audio mixing levels between the two radios are controllable. In the Stereo mode, Radio 1 is heard in the left ear and Radio 2 is heard in the right ear.

Compact 4<sup>3</sup>/<sub>4</sub>Wx2<sup>1</sup>/<sub>8</sub>Hx5D inches.

# MFJ hamProAudio<sup>TM</sup> Equalizer/Conditioner

MFJ hamProAudio™ console gives you . . . 8-Band Equalizer . . . Downward Expansion noise gate . . . Smooth, clean Compression . . . Limiter . . . Low noise Preamp . . . Universal Mic-Interface . . . VU Meter . . . Headphone Monitor . . . Auxiliary Input . . . Push-to-Talk jack . . .



MFJ brings Pro Audio to ham radio! MFJ makes sophisticated Pro Audio gear user friendly, affordable and RF bulletproof. MFJ adapted Pro Audio's heart and soul to ham radio communications.

**The** MFJ-655B *all-in-one* audio console gives you *Pro Audio* processing that makes your audio professional sounding.

It gives you all the capabilities you'll ever need . . . 8-Band Equalizer . . . Downward Expansion noise gate . . . clean Compressor . . . smooth Limiter . . . low noise Preamp . . . universal microphone interfacing . . . impedance matching . . . level control . . . and RF/audio isolation.

Its processing is so smooth and transparent, no one will detect its presence. All they will hear is your outstanding audio that brings you unsolicited compliments.

A built-in headphone monitor lets you hear improvements as you make them and a VU-meter lets you accurately adjust levels.

An auxilary input lets you use other audio sources and a push-to-talk jack lets you use microphones without PTT.

The MFJ-655B uses the Analog Devices SSM2166. This professional quality audio conditioner gives outstanding performance over an exceptionally wide bandwidth with very low noise and very low total harmonic distortion, typically .25%.

**An** 8 Band Equalizer lets you adjust your voice for full quality ragchewing audio or powerful, pileup penetrating audio.

**An** adjustable *Downward Expansion* noise gate gives you transparent background noise reduction.

A clean, low-distortion Compressor gives you more powerful, richer, fuller sounding speech with more talk power.

A smooth *Limiter* keeps instantaneous audio peaks from overdriving your transmitter and prevents SSB distortion and splatter.

#### hamProAudio<sup>TM</sup> Equalizer/Conditioner



More compact and has **\$19995** everything that the MFJ-655 Ship Code B has except for the built-in VU meter. Measures 9Wx31/4Hx5D inches.

Front panel controls let you

You can use nearly any microphone with any transceiver with its

Universal Mic-Interface, pre-amp, mic element voltages, impedance matching and PTT jack.

**Plug** in your headphones to *hear* your rig's received audio or plug in your MFJ, Heil or computer boom-mic headset to talk and hear.

**New!** The Compressor and Equalizer can be used independently of each other. 8 Band Equalizer

The MFJ-655B voice band equalizer divides the speech frequencies into eight bands -- 50, 100, 200, 400, 800, 1600, 2400 and 3200 Hz. You can increase or decrease the gain of each band by 16 dB.

For ragchewing, you can adjust for rich, full quality audio. And for Dxing, you can increase the high and reduce the low frequencies for a highly intelligible signal that lets you punch through DX pileups.

You can turn ordinary, even poor microphones into pricy professional sounding ones.

Equalization compensates and improves your entire audio chain -- from your voice to your microphone and through your radio.

Downward Expansion noise gating

Downward expansion noise gating eliminates or greatly reduces background noise when you stop speaking -- no more amplifier fan noise, dogs barking, kid's music or traffic.

**Downward** expansion is a professional audio technique. When you stop talking it smoothly attenuates low-level noise by reducing gain instead of abruptly cutting off like a noise gate -- background noise smoothly vanishes.

You control the level at which downward expansion starts and the delay when it ends.

Clean, Smooth Compression Natural unprocessed voice has peaks and

# hamProAudio<sup>TM</sup>



MFJ-651 Ship Code B

Transmit audio Micro-2995 phone Conditioner. Downward Expansion noise gate, Compressor, Limiter, low

noise Preamp, Universal Mic-Interface, headphone monitor, PTT, Auxiliary-in, RF proof, aluminum case. 9Wx2<sup>1</sup>/<sub>4</sub>Hx5D in.

valleys. The average power of SSB speech is only 15 to 30 percent of peak power.

If instantaneous peaks are reduced, average power increases significantly.

The superb Analog Devices SSM2166 provides smooth, clean, almost transparent compression over a very wide bandwidth. It reduces speech peaks as much as 15 times.

Just a small amount of clean compression is impressive and gives you more powerful, richer and fuller sounding audio.

**For** DXing where every ounce of power easily adjust input and output levels. \$21995 counts, you can use more compression to increase average power.

> **Most** of the speech power is in the lower speech frequencies.

**Attenuating** these lower frequencies with the equalizer reduces their power.

**This** lets you increase compression for weaker high frequencies -- where most of the speech intelligibility lies.

The MFJ-655B compressor does a superb job in creating an exceptionally clean, higher average power SSB signal.

Limiting -- splatter prevention If occasional large audio peaks exceed a fixed set level, the compressor's limiting function quickly attenuates them.

**Limiting** prevents over-driving your microphone input, transmitter and amplifier causing SSB distortion and splatter.

In the MFJ-655B, compression and limiting work jointly to provide a level, constant output.

Universal Mic-Interface/Pre-Amp

Standard XLR, 8-pin round or 8-pin modular microphone jacks are provided on the back panel. You can also plug in your MFJ, Heil or computer boom-mic headset.

A PTT jack for a foot switch or other lets you use microphones without push-to-talk.

Its Universal Mic-Interface lets you use any mic with any radio. Internal jumpers configure any microphone to any radio.

A front panel controlled low noise preamp gives you up to 20 dB gain.

Select 600 Ohm, 200 Ohm or Hi-Z input impedances to match dynamic, electret or high impedance crystal/ceramic microphones. Has 8, 5, and 1<sup>1</sup>/<sub>2</sub> VDC mic voltages.

One MFJ-5398 for 8-pin round and one MFJ-5397MX for 8-pin modular included.

Use 12 VDC or 110 VAC with MFJ-1312D, \$15.95. 10<sup>3</sup>/<sub>4</sub>Wx3<sup>1</sup>/<sub>4</sub>Hx5D inches.

#### hamProAudio<sup>TM</sup> transmit audio Conditioner transmit audio Equalizer



Voice Band Equalizer MFJ-652 \$129<sup>95</sup> (300, 600, 1200, 2400 Hz center frequencies), low Ship Code B noise Preamp, Universal

*Mic-Interface*, headphone monitor, PTT, Auxiliary-in, RF proof, aluminum case. 7<sup>1</sup>/<sub>4</sub>Wx2<sup>1</sup>/<sub>4</sub>Hx5D inches.

# Save Your Voice with the MFJ Contest Voice Keyer

Use 8-pin modular or 8-pin round microphone plug!

Let this microprocessor controlled MFJ Contest Voice Keyer<sup>TM</sup> call CQ, send your call and do contest exchanges for you in your own natural voice!

**Store** frequently used phrases like "CQ Contest this is AA5MT", "You're 59"... 'QTH is Mississippi" and more! Contest by pressing a few buttons and save your voice.

You can record and play back five natural sounding messages in a total of 75 seconds. EEPROM technology keeps messages stored for up to 100 years -- no battery backup needed.

You can repeat messages continuously and vary the repeat delay from 3 to 500 seconds.

Makes a great voice beacon and calling CQ is so easy. A receive audio jack lets you record and play back off-the-air signals -- great help if you didn't get it right the first time! No more

A playing message can be halted by pressing the Stop Button, your PTT mic button or



by your VOX PTT line. A closure to ground via remote control or computer also halts messages

MFJ-434B Ship Code B

Has jack for remote or computer control (using CT, NA, TR or other program and its interface). Lets you select, play and cancel messages

**The** MFJ-434B is transparent to your microphone -- your mic's audio characteristics do not change when your MFJ-434B is installed. Dual controls make it easy to tailor audio level to match your voice.

All audio lines are RF filtered to eliminate RFI, audio feedback and distortion. An audio isolation transformer totally eliminates hum and distortion caused by ground loops.

It's easy to use -- just plug in your 8 pin microphone cable and plug the MFJ-434B shielded cable into your transceiver's mic connector. Internal jumpers let you customize it to Kenwood, Icom, Yaesu, Alinco or Radio Shack rigs. Use your station or built-in microphone for recording.

Built-in speaker-amplifier lets you moni-

tor stored messages. 3.5 mm speaker/head-phone jack. SMT technology.

Use 9 Volt battery, 9-15 VDC or 110 VAC with optional MFJ-1312D, \$15.95. Measures a compact 61/2Wx21/2Hx61/2D inches.

MFJ-73, \$34.95. Remote Control Head with cable for MFJ-434B lets you set the MFJ-434B out of the way.

#### MFJ Desk Mic/Ham Station Console

A high-sensitivity ceramic microphone element (10.5 inches with  $FlexNeck^{TM}$ ) bends and stretches to your most comfortable operating position. A fine mesh metal grill helps to eliminate background noise.

MFJ-299 has a high quality compressor amplifier with high, medium, and low selection switches. It always sends out a constant and optimum level without distortion, regardless of audio input level.

**Equipped** with a built-in graphic equalizer with center frequencies of 270, 540, 1000 and 2000 Hz. Gives best audio quality for FM mode and max efficiency for SSB.

Has On-Air indicator and an output level volume control.

On-Air blinks on and off when in receiving mode and will light up continuously when transmitting

MFJ-299 is equipped with PTT momentary and PTT lock switches that allow you to switch between long one-sided QSOs and fast two-sided conversations.

The frequency up/down switches let you operate your transceiver at your desktop microphone. 4 function keys (CALL, VFO. MR, PF) are for Kenwood transceivers only.

An output level meter lets you adjust the output level NOT to exceed 0 dB.

A revolutionary triple radio input socket makes it super easy to install for any model transceiver: Icom, Yaesu, Kenwood and compatible transceivers. See cable chart below.

Built-in battery check circuit. Press power switch and the level meter shows battery condition with power voltage for a few seconds.



#### MFJ-297 Desk Mic

MFJ-297 speech frequency tailored microphone cuts through noise and QRM. \$69<sup>95</sup> Switch for powerful SSB punch or full range broadcast quality FM/AM. Has Silibant Sound Ship Code A Shield<sup>™</sup>, momentary/locking PTT switch, On-Air LED, frequency up/down button, output level control and more! 4Wx11/2H6D

inches with 11 inch flexible boom. 1 lb. Use 2 AA" batteries. Select cable from chart, below

#### GooseNeck™ Microphone Holder

- Heavy-duty all-metal base stays put! • GooseNeck™ gives super flexibility
- to move your mic where you want! Tough, Durable plastic micro-
- phone clip holds tight!
- Turns your favorite handheld microphone into a super attractive desktop mic!



8 Pi	n Round Mic	Plug - \$17.95	8 Pin Modular Mic Plug - \$17.95 each			
MFJ Desk Mic	ICOM	Kenwood	YAESU	ICOM	Kenwood	YAESU
MFJ-297	MFJ-5397I	MFJ-5397K		MFJ-5397MX		
MFJ-299	MFJ-5397I	MFJ-5397K	5399Y2 (FT-847)	MFJ-5397MX	MFJ-5397MX	MFJ-5397MX

#### MFJ-624E Hybrid Phone Patch gives crisp, clear hum-free audio

MFJ-624E Deluxe Hybrid Phone Patch gives you crisp, clear, hum-free audio, and that's what phone patching is all about. It's Ship Code B jumper selectable for Kenwood, Icom, Yaesu, and Alinco rigs with 8 pin mic connectors.

Use VOX or push-to-talk. RF pi-filters and PC board eliminates RF feedback. Use with virtually any rig. Built-in VU meter monitors phone line levels to prevent cross talk. Adjust null depth for maximum isolation between rig. Separate XMTR /receiver gain controls eliminate need to readjust your rig after patching.

MFJ-624E \$15995

Null control.

standard phone connection, RJ-11. Speaker jacks, audio in/audio out. 8x2x6". Use 12VDC 9V battery or 110 VAC with MFJ-1312D, \$15.95.

MFJ-624E has both 8 pin round and RJ45 8-pin modular microphone connectors.

#### MFJ Professional **Boom-Mic Headphones** MFJ-393 I/K/Y

\$**69**<sup>95</sup> Ship Code A

This professional grade MFJ Boom-Mic Head-phone set is for contesting DXing and traffic nets. Comfort designed leatherette padding lets you operate for hours at the rig.

Superb 3/4 inch

thick padding on each ear and headband. MFJ-393 is so super lightweight, you won't even know they're there!

**Headband** adjusts for perfect fit to keep out external noise. Frequency response is enhnanced for communications to bring out speech fidelity you never knew existed. Signals never sounded so clear!

The flexible microphone boom lets you position the mic comfortably at an optimum distance to minimize silibant sounds. MFJ's frequency tailored microphone element lets you bust through noise and QRM! 6 feet of cable lets you move about your ham station!

Even casual operators will appreciate the advantages of MFJ's superbly crafted Boom-Mic headphones for hands-free operating and DXing at an incredibly low MFJ price. MFJ-393 I/K/Y, \$69.95. Headphones with

pre-wired adapter cable. MFJ-393I for 8-pin round Icom and compatibles, MFJ-393Y for Yaesu 8-pin round and compatibles, MFJ-393K for Kenwood 8-pin round. MFJ-393MI for 8 pin modular Icom and compatibles, MFJ-393MY for Yaesu and MFJ-393MK for Kenwood and compatibles.

MFJ-393, \$49.95. Headphones only. Does not include prewired radio cable.

#### MFJ PTT Foot Operated Switch

Add the luxury of foot control PTT transceiver operation. Keeps your hands free for logging, computer

operation and tuning.
Reduces fatigue and improves efficiency -- could be the difference between winning or losing

Non-skid pad a contest.  $2^{1/2}Wx3^{1/2}Dx1^{1/4}H$ ". foot pedal. 1/4 in. phone plug. 10 ft. cord.

Ship Code A

# MFJ Speech Intelligibility Enhancer

...makes barely understandable speech highly understandable!



\$189<sup>95</sup> Ship Code B

The MFJ-**616** splits the audio speech band into four overlapping octave ranges

centered at 300, 600, 1200 and 2400 Hz. You can boost or cut each by nearly 20 dB.

A balance control and separate 2<sup>1</sup>/<sub>2</sub> Watt amplifiers let you equalize perceived loudness to each ear so both ears help.

By boosting high and cutting low frequencies and adjusting the balanced control, speech that you can barely understand become highly

understandable!

Even if you don't have high frequency hearing loss, you'll dramatically improve your abil-

ity to understand speech. *QST* for April, 2001 said "I expected a subtle" effect at best, but I was astonished . . . The result was remarkably clean, understandable speech without hissing, ringing or other strange effects . . . made a dramatic improvement .

Immune to RFI. Has phone jack, on/off speaker switch, 2 inputs, bypass switch. 10Wx2½Hx6D". Needs 12 VDC.

MFJ-1316, \$21.95. For 110 VAC operation. Provides 12 VDC/1.5 Amps.

MFJ-72, \$69.80. All-in-one MFJ-616/618

Accessory Pack. Includes MFJ-392B head-phones, two MFJ-281 speakers and MFJ-1316 power supply. Save \$7.

"What did you say?"

Can you hear but . . . just can't always understand what people are saying?

As we get older, high frequency hearing loss reduces our ability to understand speech. Here's why

**Research** shows that nearly *half* the speech intelligibility is contained in 1000 to 4000 Hz range, but contains a miniscule 4%

of total speech energy On the other hand, the low frequencies, 125 to 500 Hz have most of the speech energy (55%) but contribute very little to intelligibility -- only 4%.

To dramatically improve your ability to understand speech, you must:

First, drastically increase the speech energy above 500 Hz, where 83% of the speech intelligibility is concen-trated.

Second, drastically reduce speech energy below 500 Hz where only 4% of speech intelligibility lies.

#### Dual Channel S*peech Intelli* MFJ-618

Ship Code B

New!

The new MFJ-618 has all of the speech-enhancing features of the MFJ-616 and gives you separately adjustable frequency channels for your left and right ears.

This lets you compensate for deficiencies in your hearing that may be dramatically different for each ear. By equalizing the frequency response of both ears, you vastly improve speech intelligibility.

The MFJ-618 Sound-Field Expansion™



adds a 3-dimensional spatial presence that can greatly improve speech intelligibility by up to an additional 3 dB. It's like hearing and feeling the presence of a person directly in front of you. 10Wx3Hx 6D". 12VDC or 110 VAC w/MFJ-1316, \$21.95

#### MFJ Cleartone™: Our most Popular Speaker

MFJ-281 Plug \$12<sup>95</sup> in this Ship Code A MFJ

Clear Tone™ speaker and bring out speech fidelity that you never knew existed. MFJ-281 restores

the smooth sound of sinewaves that CW naturally generates and makes it easy to under-

stand and copy. The MFJ-281  $ClearTone^{TM}$  speaker was carefully designed to improve the intelligibility of speech in the frequency range of 600 to 4000 Hz while reducing undesirable noise, static and hum.

3-in. speaker handles 8 Watts. 8 Ohms impedance, has six feet of cord terminated

with a 3.5 mm mono plug.

Tiny, compact 3<sup>3</sup>/<sub>4</sub>x3x2<sup>1</sup>/<sub>4</sub> inches, but powerful booming sound!

# CyberEAR ™!



MFJ-388

Tiny powerful MFJ \$2995 CyberEar™ Ship Code A plugs in and loops over ear -captures and amplifies sounds by 12 dB!

Extends your hearing range, helps you hear every word at hamfests and club talks even if you're on the back row! Great for eyeball QSOs. Volume control, on/off switch. For left or right ear. 3 inter-changeable ear plugs. Flesh color -- hardly noticeable. Super lightweight -- 10 grams with battery! Includes batteries. Hear even better -- buy one for each ear! 30 day money back if not absolutely delighted. Not a hearing aid.

#### MFJ Amplified Mobile Speaker

**Perfect** for mobile use -- great clarity and clear tones on CW and SSB -- excellent swivel mounting bracket! It also plugs directly into the cigarette lighter socket of a base station power supply. Large 2<sup>3</sup>/<sub>4</sub>" speaker with a 3-inch fine metal mesh grill re-MFJ-383 duces undesirable noise, static and hum. \$29<sup>95</sup> 6 watts output, 8 Ohms impedance. Ship Code A 8 ft. cord, a 3.5 mm mono jack plug with 13 foot cord, on/off power switch, gain control knob. Requires 12 VDC, has 2 amps

#### MFJ Compact Mobile Speaker MFJ-280

Enjoy superb audio \$19<sup>95</sup> and conven-Ship Code A ience with

this economical mobile speaker. Matches 8 and 4 ohm impedances Handles 3 Watts. 30-in

cord lets you get it to your rig's speaker output. Tiny 2<sup>1</sup>/<sub>2</sub>x2x3 inches fits anywhere. Tough ABS plastic cabinet is built to last.

fuse, max 1 watt audio source. Powerful but compact -- 43/4Wx31/2Hx13/4D inches.

#### Super CyberEAR™

Hear everything! Capture and amplify sounds up to 50 dB! Left or right ear plugs, volume control, extremely small. Not a hearing aid.

MFJ-389 \$5995 Ship Code A

#### MFJ Deluxe Communication Station Speaker

MFJ brings you ultra high quality communication audio with ham radio's most advanced communication speaker.

How? By using America's most modern speaker design, advanced speaker cone and voice coil materials and construction, and a carefully crafted, accoustically-rigid cabinet.

Handsome black cabinet measures  $5^{1/4}Wx9^{3/4}Hx6^{1/2}D$  in. You won't believe the clarity and depth of the audio when you hear the incredible improvements in speech intelligibility and CW tone. 4-in. full range speaker.

It also reduces listening fatigue. It can literally transform your transceiver!

MFJ-385B \$39<sup>95</sup> smooth, wide range response Ship Code C of the MFJ-385B gives you faithful reproduction with no hint of unwanted resonances and sound coloration. Speech becomes more intelligible and easier to

understand.

Pure sine wave tones of CW make copying and tuning in signals easier and faster. Amplified ClearTone™ Speaker



MFJ's Deluxe MFJ-382 ClearTone™ speak-Ship Code A er is an excellent 1watt amplified

speaker for many uses.

The MFJ-382 gives superb. loud and powerful ClearTone™ audio. Speaker is 3-in. diameter.

Adjustable from barely audible to high volume, this rugged speaker is sturdy and

compact. All metal cabinet with rubber feet.  $3^{1/2}x 1^{3/4}x 4^{1/2}$  in. 9 volt battery (not included) or 110 VAC with MFJ-1312D, \$15.95.



# MFJ Noise-Canceling Filters Wipe Out Interference



Wipe out noise and interference before it gets into your receiver with a 60 dB null!

Eliminate all types of noise -- severe power line noise from arcing transformers and insulators, fluorescent lamps, light

dimmers, touch controlled lamps, computers, TV birdies, lightning crashes from distant thunderstorms, electric drills, motors, industrial processes.

It's more effective than a noise blanker because interference much stronger than your desired signal can be completely removed without affecting your signal.

It works on all modes --SSB, AM, CW, FM, frequences from BCB to lower VHF.

Null out strong QRM on top of weak rare DX and then work him! You can null out a strong local ham or AM broadcast station to prevent receiver from overloading.

Use MFJ-1026 as an adjustable phasing network. You can combine two antennas to give you various directional patterns.

**Null** out a strong interfering signal or

peak a weak signal at a push of a button.

Easy-to-use! Plugs between transmitting antenna and transceiver. To null, adjust amplitude and phase controls for minimum S-meter reading or lowest noise. To peak, push reverse button.

**Ûse** built-in active antenna or an external one. MFJ's exclusive Constant Amplitude Phase Control™ makes nulling easy.

RF-sense T/R switch automatically bypasses your transceiver when you transmit. Adjustable delay time. 12 VDC or 110 VAC with MFJ-1312D, \$15.95. Measures 6½X1½X6¼ inches.

MFJ-1025, \$179.95.

Like MFJ-1026 less built-in active antenna, use external antenna. Same size, power requirements.



# MFJ *Tunable, Programmable* Brick Wall DSP Filter

MFJ tunable DSP filter

MFJ's tunable super DSP filter automatically eliminates heterodynes, re-duces noise and interference simultaneously on SSB, AM, CW, packet, Amtor, PACTOR, RTTY, SSTV, WeFAX, FAX, weak signal VHF, EME, satellite.

You get MFJ's tunable FIR linear phase filters that minimize ringing, prevent data errors and have "brick wall" filter response with up to 57 dB attenuation 75 Hz away.

Only MFJ gives you 5 tunable DSP filters. You can tune each lowpass, highpass, notch, and bandpass filter including optimized SSB and CW filters. You can vary the bandwidth to pinpoint and eliminate interference.

Only MFJ gives you 5 factory pre-set filters and 10 programmable pre-set filters that you can customize. Instantly remove QRM with a turn of a switch!

MFJ's automatic notch filter searches for and eliminates multiple heterodynes.

You also get MFJ's advanced adaptive noise reduction. It silences background noise and QRN so much that SSB signals sound like FM

The automatic notch and adaptive noise reduction can be used with all relevant tunable pre-set filters.

Automatic gain control (AGC) keeps audio level constant during signal fade.

#### Tunable bandpass filters

Narrow band signals like CW & RTTY jump out of QRM when you switch in MFJ's tunable FIR bandpass filters.

You can tune the center frequency from 300 to 3400 Hz, and vary the bandwidth from 30 Hz to 2100 Hz -- from super-tight CW filters to wide razor-sharp Data filters. You can use two tunable filters together. For example, tune one to mark, one to space and set bandwidth tight for a super sharp RTTY filter.

You can tune the lower cutoff frequency 200 to 2200 Hz and the upper cutoff frequency 1400 to 3400 Hz. This lets you create custom filters for voice, data and other modes. Signals just 75 Hz away literally disappear -- they are reduced 57 dB!

MFJ-784B

#### Automatic notch filter

MFJ's automatic notch filter searches for and eliminates multiple heterodynes in milli-seconds. It's so fast, that even interfering CW and RTTY signals can also be eliminated. Selectively remove unwanted tones using the two manually tunable notch filters -- an MFJ exclusive. Knock out unwanted CW stations while you're on CW.

Noise reduction works in all filter modes and on all random noise -- white noise, static,

The LMS algorithm gives you up to 20 dB of noise reduction. Noise reduction is

#### 15 Pre-set filters, or customize

SSB, AM, CW, packet, Amtor, Pactor, RTTY, SSTV, WeFAX, FAX or any mode.

notch, noise reduction -- all filter settings -in 10 programmable filters.

More MFJ DSP Filter Features MFJ's tunable Spotting Tone™ -- accurately tunes even the narrowest CW filter.

MFJ's exclusive Adaptive Tuning™ -tuning rate automatically becomes finer as you narrow bandwidth -- makes narrow filters easy-to-use.

**MFJ's** exclusive *FilterTalk*<sup>TM</sup> -- sends precise filter settings in Morse code.

Automatic notch with variable aggressiveness, quieter 21/2 Watt audio amplifier, speaker switch keeps phones always active.

Manual and auto notch can be used together. Noise reduction, automatic notch & custom filter saved in memory is selected.

Accurate easy-to-use input level indicator, improved manual notch in the CW mode, adjustable line level output, more Mark-Space frequencies and baud rates for data filters and automatic bypass during transmit for monitoring CW sidetone, voice/data by sensing the PTT line.

A push-button bypasses your filter -- lets you hear the entire unfiltered signal.2<sup>1</sup>/<sub>2</sub> W amplifier, volume control, input level control, speaker jack, PTT sense line, line level output. Measures 91/2x21/2x6 inches.

Plugs between your transceiver or receiver and external speaker or headphones. 12 VDC or 110 VAC with **MFJ-1312D**, \$15.95.

Cable Pack, MFJ-5184, \$9.95. **Includes** receiver cable, DC cable, 2

open-end TNC cables and power plug. Original 784 Upgrade Chip, \$39.95 MFJ-55, \$39.95. Upgrades your origi-

nal MFJ-784 with most of the new software features of the MFJ-784B model.

Adaptive Noise Reduction

impulse, ignition noise, power line noise, hiss.

adjustable to prevent signal distortion.

**Select** from 15 pre-set filters. Use for

If you don't like our pre-set filters, you can program your own -- an MFJ exclusive! Save center frequency/bandwidth, lowpass/highpass cutoffs, auto/manual

#### Add DSP to any Multimode

MFJ-781, \$149.95. Add DSP filtering to any TNC/multmode data controller. Copy signals buried in QRM. AGC, On/Off Bypass. Plugs between rig & multimode. 4<sup>1</sup>/<sub>2</sub>x2<sup>1</sup>/<sub>2</sub>x5".

MFJ-780, \$119.95. "Brick Wall" DSP filtering for MFJ-1278/B multi-mode. Copy signals that other multi-modes can't. Soldering is required for this plug-in board.

#### MFJ's SSB/CW Audio Filters

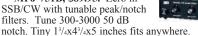
MFJ-752C, \$119.95. All mode dual tunable filter has variable bandwidth 40 Hz to almost flat, eliminates noise



and heterodynes notch depth to 70 dB, inputs for two rigs, selectable, noise limiter, plus more. MFJ-752C measures 10x2x6 inches.

MFJ-722, \$99.95. MFJ SSB/CW tunable 70 dB notch filter. Has 8 poles active IC filtering, uses cascaded low-Q stages. 3 bandwidths: 80/110/180 Hz. Center frequency: 750 Hz. Up to 15 dB. 51/2x21/2x5'

MFJ-751B, \$89.95. Zero in SSB/CW with tunable peak/notch filters. Tune 300-3000 50 dB



# Multireader™ Taps Into Secret Signals



terious chirps, whistles, and buzzing sounds are on the shortwave bands?

Ship Code B

Much of it is RTTY, ASCII, CW and AMTOR (FEC) signals passing commercial, military, diplomatic, weather, aeronautical, maritime, amateur and other traffic.

Tap into these "secret" signals Plug this self-contained MFJ MultiReader™ into your shortwave receiver's earphone jack. Then watch these mysterious signals turn into exciting text messages as they scroll across an easy-to-read LCD display. No computer, interface, special cables or other equipment is needed.

**Eavesdrop** on the latest breaking news as press agencies from all over the world relay them on RTTY -- it's like having a private wire service in your home. Copy RTTY

weather stations from Antarctica, Mali, Congo and many others.

Listen to military traffic passing from Panama, Cyprus, Peru, etc. Catch diplomatic, research, commercial and maritime traffic. Listen to maritime users, diplomats and amateurs send and receive error free messages using various forms of TOR (Telex-Over-Radio).

**Monitor** Morse code communications Ever wonder what those mys- \$1 9995 from hams, military, commercial, aeronautical, diplomatic and maritime coastal stations from around the world.

There's plenty of exciting non-voice traffic on shortwave that'll keep you fascinated . . . traffic you can't read unless you have a decoder.

Printer monitors 24 hours a day MFJ's exclusive *TelePrinterPort*™ lets you monitor any station 24 hours a day by printing their transmissions. Plug your Epson compatible printer into the MFJ-462B printer port and you're ready to print. Save several pages of text in 8 K of memory for later review or re-reading.

Consistently get solid copy from MFJ's high performance *PLL* (phaselock loop) modem technology. Digs out weak signals buried in noise and even tracks slightly drifting signals. Mark and space tones are copied to give you greatly improved decoding under adverse conditions.

Easy to use, tune and read

Just push a button to select modes and features from a menu. A precision tuning indicator makes tuning your receiver for best copy on all modes quick and easy.

The 2 line 16 character LCD display has contrast adjustment. One line comes in at speed of signal, second line is delayed so you

catch every exciting word!

Copy most standard shifts and speeds in all modes. MFJ's AutoTrak™ automatic Morse Code speed tracking helps MFJ-462B to track and decode high speed CW.

MultiReader<sup>TM</sup> Accessories

Use 12 VDC or use 110 VAC with MFJ-1312D AC adapter, \$15.95. MFJ-462B measures  $6^{1/4}Wx2^{1/2}Hx6^{1/4}D$  inches.

MFJ-5162, \$7.95. Receiver cable connects MFJ MultiReader™ to your radio's external speaker (3.5mm jack).

MFJ-5412, \$11.95. Printer Cable is 25-

pin cable for Epson compatibles.

MFJ-5163, \$10.95. Speaker "Y" cable. MFJ-5300, \$6.95. Three foot, 3.5 mm stereo extension cord with volume control. Can use for mono radio speaker output to set audio level to external devices. Has pocket clip for portable use.

#### **Receiver Kit** IFJ Shortwave Regenerative

Remember hunching over your regenerative receiver for hours with a pair of headphones pressing uncomfortably against your ears?

MFJ-8100K 79<sup>95</sup> Ship Code B

You could hear just about anything that fancy superhets could hear. Sure, you had to play around with the regeneration control just right and have a steady hand to tune but you could hear 'em.

Don't you wish you could relive some of this fun and excitement of your youth -- share some of it with your kids and grandkids? Well, you can -- with the MFJ-8100 World Band Shortwave Radio Kit.

**Spend** a fun evening with your child or grandchild and help him put this simple kit together. When the two of you finish, watch his glow of excitement as he tunes the world bands -- just like you did -- and remember for

MFJ World Band Shortwave Radio

life. It might inspire a career in electronics. This baby performs. It has an RF stage that really picks up the weak ones and it goes into regeneration smoothly without pops or dead spots. Stations all over the world will come in loud and clear with just a 10 foot wire antenna strung outside or across the room.

With a 10 foot wire antenna, you'll be amazed at what you can hear -- stations all over the world will come in loud and clear.

Listen to international shortwave broadcasts, hams on SSB and CW, WWV, RTTY,

**High-performance** driver unit reproduces

**Bring** out speech fidelity you never knew

packet and much more. Covers all or part of 75/80, 49, 40, 30, 31, 20, 25, 22, 19, 17, 16, 15, and 13 Meters in five bands.

Range A covers: 3.51-4.31 MHz, Range B: 5.95-7.40 MHz, Range C: 9.56-12.05 MHz, Range D: 13.21-16.4 MHz, and Range E: 17.6-22 MHz.

Has vernier reduction drive, bandswitch, volume and RF gain controls, uses 9V battery and is built into a rugged aluminum cabinet.

Two earphone jacks let you and your child or grandchild listen together with your Walkman style earphones or plug-in speakers. Measures 7Wx6Hx2<sup>1</sup>/<sub>2</sub>D inches. MFJ-8100K, \$79.95. Shortwave regen-

erative receiver kit. You stuff the components, solder and assemble!

MFJ-8100W, \$109.95. Shortwave Regenerative receiver, wired and tested at MFJ and ready-to-operate!

# MFJ Shortwave Radio Communication Headphones

never sounded so crystal clear!

MFJ-392B is perfect for amateur radio and shortwave radio listening. Great for all modes -- SSB, FM, AM, data and CW.

**Each** earphone its own volume control. Superb padded headband and ear cushioned design makes listening extremely com-

You'll forget they're even on as you listen to stations all over the world!

existed. Has free 1/4 inch phono adaptor. Has gold plated plug and cord. Super light-weight earphones (8 ounces) come with 9 feet of cord for roaming around.

enhanced communication sound. Signals

MFJ-392B handles 450 mW and has a fre-

quency response of 20-20,000 Hz.

Impedance is 32 ohms, sensitivity is 102 dB/mW.

Works in stereo mode with 3.5 mm MFJ-392B plug. Works \$24<sup>95</sup> mono with 1/4

Ship Code A inch adapter.



#### AM/FM SW Converter

MFJ-306, \$109.95, turns vour AM/FM car radio into a World Band shortwave



receiver at the push of a button. It covers the entire 19, 25, 31, and 49 Meter international shortwave broadcast bands. Hear sta-

tions all over the world at various times --Europe, Middle East, Asia, Australia, more! Easy to install -- Just unplug your car radio antenna and plug it into MFJ-306. Then insert the MFJ-306 cable into your radio antenna jack and connect 12 VDC. 5Wx1½H x3<sup>1</sup>/<sub>2</sub>D inches. Great for traveling!

# Computer Interface

MFJ-1213. \$69.95, MFJ Computer Interface Decoder



\$**69**<sup>95</sup>

3.5 inch disk. The MFJ-1213 receives and decodes multimode Ship Code A digital data with your receiver

or transceiver. You can decode Color FAX/SSTV pictures, Baudot, ASCII, AMTOR, ARQ/FEC, SITOR, NAVTEX, SHIP, SYNOP and more.

#### RTTY/CW Decoder



1214PC **\$169.95** is a complete package, receives and trans-

MFJ-1214PC Ship Code A

mits RTTY, ASCII. CW, also WeFAX weather maps with all 16 gray levels. Complete package

includes DOS only software, power supply and all cables needed. Perfect for use with older model computers.

#### Indoor T*uned* Active SWL Antenna Covers 0.3 to 40 MHz

MFJ invented the tunable active antenna! New technology uses cascode FET/bipolar transistor and a gigahertz bandwidth buffer

MFJ invented the tunable active antenna! Numerous copies have been made without success -- including most recent ones.

Why? Because MFJ has made continuous improvements where others have not. The MFJ-1020C has been completely redesigned with new technology.

New technology uses a cascode FET/ bipolar transistor and a gigahertz bandwidth buffer.

It improves gain and selectivity, reduces noise and intermod, and is NOT prone to self-oscillations that can severely damage your receiver.

With the MFJ-1020C tuned indoor active antenna you'll rival reception of outside wire antennas hundreds of feet long and pick up signals loud and clear from all over the world.

World Radio TV Handbook says MFJ-1020 is a "fine value . . . fair price . . . best 🔼 offering to date . . . performs very well indeed."

MFJ's unique

MFJ-1020C **\$99**95 Ship Code A

tuned circuitry minimizes intermod, improves selectivity and reduces noise outside the tuned band. You can also use it as a tuned preselector with an external anten-

Covers 0.3 to 40 MHz including VLF, AM broadcast, all shortwave and all amateur radio bands.

Has Tune, Band, Gain, On-Off/Bypass controls and SO-239 coax connectors. Use 9 volt battery, or 12 VDC or 110 VAC with MFJ-1312D, \$15.95. 6Wx2Hx5D inches. Includes telescoping whip.

#### 54" Active Outdoor Antenna

World Radio TV Handbook says **\$159**<sup>95</sup> MFJ-1024 is a "first rate, easy-to-operate Ship Code B active antenna . . . quiet . . . excellent dynamic range . . . good gain . . . very low noise factor . . . broad frequency coverage . excellent choice . . .

**Mount** it outdoors away from electrical noise for maximum signal and minimum noise. Has convenient mounting holes for easy installation.

MFJ-1024 covers 50 KHz to 30 MHz. 20 dB attenuator, gain control, ON LED.

Switch selects two receivers and auxiliary or active antenna. Control unit measures a compact 6Wx3Hx5D inches.

Remote unit has a 54-inch telescopic whip, 50 feet of coaxial line and PL-259

connector. Measures 3Wx2Hx4D inches. Use 12 VDC or 110 VAC with MFJ-1312D, \$15.95.

#### Compact 0.3 to 200 MHz antenna

Your ham band only antenna does MFJ-1022 \$69<sup>95</sup> great on the ham bands . . . but this Ship Code A MFJ all band active antenna will help you hear strong signals from all over the world from 300 KHz to 200 MHz -including low, medium, shortwave and VHF

Enjoy shortwave newscasts, ship-to-shore, airline, commercial RTTY and others.

It also improves weak noisy scanner radio reception from high to low band VHF -- hear signals you couldn't hear before.

A J-310 FET handles strong signals and noiseless feedback circuit gives you excellent low noise reception. 4.5 GHZ MRF-901 transistor lets you receive weak signals well into VHF.

On/off switch, power on LED, SO-239 coax connector and detachable 20 inch telescoping antenna. 9 volt battery or 110 VAC with MFJ-1312D, \$15.95. Measures 3Wx1<sup>1</sup>/<sub>4</sub>Hx4D inches.

# High Dynamic Range *Passive Preselector* Can't Overload



extremely high dynamic range! It

MFJ's new Passive Preselector has

improves the performance of nearly any HF

or shortwave receiver/transceiver. It vastly

Especially helpful to those with broadband

from damage (including switching diodes

and attenuator resistors) caused by very

strong signals from multi-transmitter,

**Protects** your sensitive receiver input

improves the most expensive receivers.

front-ends that are prone to overload.

\$119<sup>95</sup> Ship Code A

MFJ-1046 nearby hams, CBers, TV/FM/AM stations. It eliminates phantom signals by suppressing strong out-of-band signals that cause intermod, blocking and cross modulation. Completely eliminates second order intermod problems.

> MFJ's unique Hi-Q series tunable circuit gives you superb performance.

The tunable series tuned circuit works into a very low impedance formed by broadband toroid transformers.

Has narrow bandwidth, excellent stopband attenuation, very low loss, constant bandwidth and gain over each band.

**Excellent** attenuation in adjacent bands. The entire 1.6 to 33 MHz HF band is covered in five overlapping bands.

An air variable tuning capacitor, 1.8 to

1 tuning range and a vernier reduction drive gives you precision tuning.

Measures  $7^{1/2}x2^{1/2}x3^{1/4}$ ". Use 12 VDC or 110 VAC with MFJ-1312D, \$15.95. MFJ-1048, \$139.95.

Same as MFJ-1046 but adds an RF sense transmit/ receive



switch with adjustable time delay to automatically bypass your MFJ-1048 when you

**Also** adds PTT line T/R switching; connects between antenna and transceiver. Use 12 VDC or 110 VAC with MFJ-1312D, \$15.95

#### multi-band operation -- contests, field-day, **MFJ All-Band Preselector**



36

Lets you copy weak signals. \$119<sup>95</sup> Rejects out-of-band signals, images. 1.8 to 54 MHz. Up to 20 dB gain. Gain control. Uses

a cascode FET/bipolar transistor for low noise, high gain. 20 dB attenuator. Connect 2 antennas, 2 receivers. SO-239 connectors. Automatic bypass when when transmitting to 125 watts. Jack for push-to-talk. 9-18 VDC or MFJ-1312D. \$15.95.

#### LW/MW/SW Preselector/Tuner

MFJ-956 MFJ-956 boosts favorite \$6995 stations while Ship Code A rejecting images, intermod and phantom signals.

**Greatly** improves reception from 0.15 to 30 MHz, especially below 2 MHz. Tuner bypass/ground receiver positions. 2x3x4 in.

MFJ-1045C, \$89.95. No attenuator, transceiver auto bypass, delay, or PTT.



#### **Receiver Antenna Tuner/Preamp**

Don't miss rare DX due to signal power loss between your receiver and



antenna. The MFJ-959C provides proper impedance match- \$11995 ing to transfer maximum signal Ship Code A from antenna to receiver.

Covers 1.6 to 30 MHz. 20 dB preamp with gain control boosts weak stations. 20 dB attenuator prevents overload. Select from 2 antennas and 2 receivers. Measures 9x2x6 inches. Use 9-18 VDC or 110 VAC with optional adapter, MFJ-1312D, \$15.95.

## **MFJ-890 DX Beacon Monitor**

Get up-to-the-minute worldwide DX band conditions in minutes on 14, 18, 21, 24, 28 MHz bands using the International Beacon Network of 18 transmitters around the world!

MFJ's DX Beacon Monitor lets you see which beacon you're hearing on your transceiver -- an LED lights on its world map to show you the beacon location and where to point your antenna.

It's fascinating to hear and watch each beacon location light up as they become active across the world. Great for DXers, contesters, ragchewers and SWLers.

The International Beacon Network provides a reliable source of signals for determining HF propagation 24 hours a day.

It consists of 18 beacons around the world. Each beacon transmits on 14.1, 18.11, 21.150, 24.93 and 28.2 MHz. The transmit sequence moves westward from New York across North America, Asia, Pacific to Africa, Europe, South America.

On each frequency, each beacon trans-



mits for ten-seconds -- its call sign at 22 wpm CW and a one-second dash at 100 watts and three one-second dashes at 10, 1, and 0.1 watts.

When each beacon completes a transmission it goes silent on that band and switches to the next higher band.

**For** more information see Oct/Nov, 1994, Sept, 1997 *QST* and Jan 1999, Sept/Dec 2001, Jan 2002 *Practical Wireless* of U.K.

The more beacons you hear, the more

open the band is to different parts of the world.

The more dashes you hear per beacon, the better the quality of propagation and the more robust the band is. If you hear the 100 milliwatt dashes from many beacons you know *the band is wide open!* 

*In just three minutes* you'll know how band conditions are worldwide.

You don't have to copy CW at 22 wpm to identify a beacon. As you *hear* a beacon, an LED instantly lights on a world map to show you its location. You can positively identify each beacon -- even if the signal is weak, fluttery or distorted.

The MFJ DX Beacon Monitor has a built-in WWVB atomic clock receiver to provide ultra precise synchronization with the GPS-synchronized beacons. You also may manually sync the Monitor (the Monitor is not a receiver).

MFJ-890 is a self-contained standalone unit. 6<sup>3</sup>/<sub>4</sub>Wx5<sup>1</sup>/<sub>4</sub>Hx3D". Use 12 VDC or 110 VAC w/optional MFJ-1312D, \$15.95. No antenna/radio connection required.

MFJ-890UK, \$119.95 (for England).

## **MFJ Micro ATV Transmitter**

## Transmits Live Pictures on Cable TV Channels



This tiny MFJ Micro ATV Transmitter™ lets vou transmit a high quality Amateur Television video signal on 433.97 MHz (cable channel 58, 59, or 60). All you need to do is plug in an antenna and a video source -- vour camcorder, cam-

era, VCR or other video source.

With an antenna and a TV set (or down

converter/ TV) tuned to cable channel 58, 59, or 60, you'll have a *complete ATV* video station.

The MFJ-8708 puts out a solid 50-100 mW signal, capable of transmitting up to 1.8 miles with a 3-element beam. By using a suitable UHF power amplifier and highgain antenna, you can enjoy two way ATV communications over many, many miles with fellow ATV hams.

To transmit video simply connect video to the RCA phono connector and antenna to the BNC connector and connect a 9 volt battery or other 9 VDC source.

**You** can use any standard NTSC or PAL composite video (1V pk-pk) source.

The MFJ Micro ATV Transmitter™ can only be operated by a Technician class or

higher licensed Radio Amateur. All transmissions must be directed to at least one other licensed Radio Amateur.

MFJ-8708, 4 channel, cable channels 58, 59, 60 and test channel. Weight only 1½ ounces, less battery. Has audio and video inputs.

MFL-8704



\$119<sup>95</sup> Ship Code A

MFJ-8704, cable channel 59 video only. Weighs only one ounce, less battery (battery, quarter not included).

## MFJ 4.5 Watts ATV Transmitter

## Amazingly compact 2.35Wx2.8Dx.75H inches, but super powerful!



MFJ-8709 \$19995 Ship Code A

This super high performance amateur radio ATV transmitter

module is capable of putting out a *whop-ping 4.5 Watts!* The RF power output is controlled by an analog potentiometer from near zero output to 4.5 Watts maximum. Current draw varies with power level selected.

Frequency control is provided by means of a digital integer-N, phase locked loop. Dual PLLs provide a frequency locked video carrier and an audio sub-carrier. Transmit frequency is selected via a four position dip switch. Four standard US ATV frequencies 426.25, 427.25, 434.00, and 439.25 MHz on channels 58, 59 and 60.

**Video** modulation is accomplished by a 12-bit digitally controlled DAC-digital to analog controller. A specially embedded software algorithm controls the modulation depth and pre-distortion level to deliver an ultra-clean video signal to the final RF amp.

**High power** transmitting over 0.5 Watt

output requires an external heatsink. When provided with an external heatsink, MFJ-8709 can be used for extended key down operation. Reverse polarity protected. **RF power output:**4.5W Max, 50 Ohm

4.5 MHz Audio Subcarrier: **Spurious Outputs:** Better than -40dBc -75 dBc/Hz @ 500 KHz Phase Noise: **DC power in:** 12-13.5 V Max, (+/-100mV) Current Draw: 2.2 Amps @max output Frequency control: XTÂL ref. to 4 MHz Frequency stability: +/-20 PPM Composite NTSC 1V P-P Video In: Line level 200-250 mV RMS Audio In: -20° to +85° Celsius **Operating Temp:** 2.35Wx2.8Dx.75H inches Size:

## MFJ 5-watt CW Transceivers

New improved ultra-hot receiver...enjoy DXing or ragchewing wherever you go...brush up on CW and upgrade...no-compromise performance...at a trrrific price!

**Easy Operation:** The most user-friendly radio you'll ever own. Sets up in seconds -- no microprocessor mumbo jumbo.

Great Sensitivity: New hotter-than-ever superhet receiver brings weakest signals in at full volume (super-quiet FET post amp stage in the IF filter makes this the best CW receiver going).

Excellent Selectivity: Tight CW bandwidth crystal ladder filter fights unwanted QRM and noise to the maximum.

Smooth and Stable VFO: Wide-spaced reduction drive VFO capacitor glides slowly across the easy-to-read dial.

True RIT: RIT control has center-detent -- makes listening or calling off-frequency a snap!

Easy on your Ears: Smooth AGC tracks

only the signals you want to hear -- it never locks onto strong signals outside the audio bandpass. MFJ's InstantRecovery AGCTM snaps the receiver back at full gain after transmitting.

**Built-in** speaker: High efficiency 3" speaker driv-en by 100 mW of audio gives great volume.

**Rugged Transmitter:** Motorola power amplifier transistor delivers full QRP output, tolerates opens and accidental shorts without damage.

**Sinewave Sidetone:** Pure 700 Hz CW sidetone MFJ-9040/9030/9020 MFJ-9017/9015 209<sup>95</sup>

Each. Choose band. Ship Code B



as receiving!

Semi-QSK: Set adjustable hold transmit/ receive switching to suit your normal sending speed or set it for full OSK during contests.

Easy to Power: It uses little power -only 50 mA average on receive and 1.2 amp peak on transmit. Perfect for battery operation in remote locations!

Rugged Construction: MFJ CW radios are built on G-10 double-sided plate-through PC boards in our plant. Rugged all-metal cabinet with brushed aluminum front panel and vinyl clad cover.

#### Frequency Coverage:

Choose your favorite band! 40 & 15 Meter models cover Nov- ice and TechPlus band segments makes a perfect "first radio" for new upgrading hams. MFJ-9040 covers 7.000-7.150 MHz; MFJ-9030 covers 10.100-10.150 MHz; MFJ-9020 covers 14.000-14.075 MHz; MFJ-9017 covers 18.068-18.110 MHz; MFJ-9015 covers 21.000-21.200 MHz.

## **Great SSB/CW Accessories** for your

90 Series MFJ Transceivers MFJ-902,

**\$99.95.** Tiny Travel Tuner.  $4^{1}/_{2}x2^{1}/_{4}x3$ inches, fits in the palm of your hand!



Handles a full 150 Watts, covers 80-10 Meters, has tuner bypass switch, tunes nearly anything! Perfect for backpacking, traveling, camping, etc. Great for rigs like IC-706MKIIG, Yaesu FT-100D, Kenwood TS-50. See page 6!



MFJ-971, \$119.95. 200 Watt PEP Antenna Tuner also has 6 Watt range setting for QRP. Covers 1.8-30 MHz. 4:1 Toroid Balun is built in for balanced lines. Stackable with your MFJ-90 Series Transceivers. See Page 5!



MFJ-561, \$24.95. Miniature lightweight iambic paddle is just 13/4Wx13/4 D  $^{3}/_{4}$ H inches and weighs just  $^{2}/_{2}$ ounces -- tiny enough to fit in an Altoids<sup>(R)</sup> tin (cord and all!) -- great for traveling with QRP or "big" rigs!



MFJ-402, **\$69.95.** Ham radio's tiniest electronic kever with built-in iambic paddle! It's a nano-size

2x3x1 inches and weighs just 3<sup>1</sup>/<sub>2</sub> ounces! Speed adjusts 5-65 WPM, weight 25-75%, has Tambic mode A or B, normal or "bug" mode and reverse.

#### Folded Dipole Antennas for Your Portable Station

Single band, lightweight, folded dipoles. Low SWR. direct coax feed, 200 Watts. MFJ-1774 (40 Meters), MFJ-1773 (30M), **MFJ-1772** (20M), MFJ-1771 (17M).MFJ-1770 (15M).

**MFJ-1770A** (10M).



Perfect for MFJ Rigs!

#### **Integrated CW Station**

Radio, tuner, power pack fasten together to form a tiny 6X6.5X8.5-in. integrated CW station.

\$384.80 buys a complete CW station. Includes CW transceiver, \$209.95; MFJ-971 tuner, \$119.95; MFJ-4114 power \$39.95 . . . order: MFJ-9130B, 30M; MFJ-9120B, 20M;

pack, \$79.95; portable antenna, MFJ-9140B, 40M;

MFJ-9117B, 17M; MFJ-9115B, 15M. \$44980 if purchased separately.

## makes sending as much fun MFJ-27, \$6.95, carry handle.

## Hip-pocket size *QRP Cub* CW transceiver



MFJ-93XXK \$**99**<sup>95</sup>

Kit, Ship Code A MFJ QRP-Cub™ Trans-

ceivers use surface mount technology to achieve big performance in a pocket-size.

The kit version has all SMT parts mounted and soldered. You just insert and solder the "through-hole" parts such as the connectors, inductors and trimmer caps.

**Designed** by ORP-ARCI hall-of-famer K1BQT for real world low-power operating conditions. Buy all or choose from 80, 40, 30, 20, 17, or 15 Meters. Specify band in "XX"

area of model number. Hot receiver with 0.2 uV sensitivity, low noise, sharp passband crystal filter, Differential mode AGC, rock steady, over 80 dB signal range, robust AF output, 2 Watts thru 20 Meters, 1 Watt 15/17 Meters.

Power adjustable to zero, full QSK for smooth break-in, natural sidetone, shaped keying, custom TX offset, receiver passband center, low power drain. Tiny 3<sup>3</sup>/<sub>4</sub>Wx1<sup>1</sup>/<sub>2</sub>Hx4<sup>1</sup>/<sub>2</sub>D inches. Wired unit covered by MFJ's No Matter What™ warranty.

MFJ-93XXW, \$14995. Wired & tested cub. Specify band in "XX" portion of model #.

## Portable and QRP Power Supplies and Accessories

MFJ-4110, \$59.95. Portable AC power supply. Connect to MFJ radios. LED indicates when power is applied. Output is approximately 13.8 VDC at 1.2 amps.



MFJ-416, \$49.95.

CW option kit for your MFJ-9406 six meter and your MFJ-9402 two meter adventure transceivers

MFJ-726, \$49.95. Narrow audio filter built for MFJ CW transceivers.

MFJ-4114, \$79.95. AC Power supply/Battery Pack uses Ni-Cd D cells or alkaline D cells (not included).

Matches MFJ radios. Output is 13.8 VDC at 1.2 amps. Voltage regulated. Ni-Cd charge circuit.

MFJ-412, \$49.95. Curtis Chip Iambic Keyer Module for your MFJ 90 Series Transceivers. Use your MFJ paddles with the MFJ-412 and your transceiver for complete CW fun!

## HF SSB Travel Radios™are Feature-Packed

...the most powerful 12 watt radios you'll ever own ... hot receiver ... potent speech processing ... rugged transmitter ... proven on-air design ... real alalog S-meter ... powerful audio

Turn on your new MFJ SSB transceiver and you'll marvel at how well it performs.

Weak stations roll in with surprising clarity, faithfully reproduced by a single conversion receiver. On transmit, MFJ's exclusive ConstantCurrent<sup>™</sup> speech processor cuts through noise and QRM like a far more complex radio.

**Take** this performance along on your next vacation or business trip -- the MFJ transceiver, microphone, power supply, and antenna can easily fit into your brief case or carry-on bag.

Simple operation: No microprocessor mumbo-jumbo -- on the air in minutes!

**Great sensitivity:** Features a quiet double balanced mixer front-end, single conversion clarity and plenty of gain. If a signal is there, you'll get it loud & clear!

Analog S-Meter: A real calibrated Smeter -- not a useless bargraph -- that makes adjusting an antenna tuner or finding the best



MFJ-9420,

MFJ-9440/MFJ-9475

\$269.95 with mic

beam heading clear-cut.

**Excellent Selectivity:** Eight poles of tight IF filtering cuts adjacent chatter and focuses transmitter power where you need it. **Smooth VFO:** No

Ship Code B annoying synthesizer jump or obscure keypad commands to deal with. Effortless tuning, custom reductiondrive ball-bearing capacitor.

Powerful audio: Big audio -- even in noisy locations from a special Signetics audio chip and rugged 3 inch speaker.

Low Current Requirements: You'll never have to lug around a heavy power supply to run this radio.

Rugged Transmitter: Bullet-proof output transistor runs cool, easily tolerates 3:1 VSWR and feedline shorts or opens.

**Built to last:** Conservative design, platethrough PC board, quality components, handsome brushed-aluminum panel and a tough vinyl clad case ensure years of dependable

MFJ-9420 covers 14.150-14.350 MHz, MFJ-9440 covers 7.150-7.300 MHz, MFJ-9475 covers 3.750-4.000 MHz. One Watt audio output at 10% THD.

**Draws** 50-100 mA on receive and 1.2 amps peak on transmit at 13.8 VDC.  $21/2x6^{1}/2x6$  inches.

MFJ-415B, \$49.95. Install this CW module and operate CW, a must for DXers. Provides semi-QSK break-in and sidetone.

## B *Adventure* Radios



MFJ-9402 \$309<sup>95</sup> (\$319.95 with MFJ-290 mic)

Ship Code B

enjoyable experience!

144.0 to 144.3 MHz.

covers 28.3 to 28.6 MHz.

ragchews.

MFJ-9406 for 6 Meters can economi-

cally open to you the exciting propaga-

... And you can take this little set

cool streams, overseas, on your bicycle

trip, campgrounds, etc. Your little MFJ

other outdoors hobby for an even more

Adventure Radio can combine with your

MHz with power output of 10 watts PEP.

and (optional) CW with 7 watts output,

MFJ-9410 for 10 Meters packs 20

watts SSB PEP output and you'll be

\$**99**<sup>95</sup>

Ship Code A

MFJ-8400W

amazed at the clarity of its receiver. It

You get full coverage of 50.0 to 50.3

MFJ-9402 for 2 Meters operates SSB

anywhere . . . on top of mountains, down

tion at 50 MHz, not to mention local

MFJ-9406/9410 \$**2**79<sup>95</sup> (\$289.95 with MFJ-290 mic)

Ship Code B

You also get real analog S-meters that double as speech processing level monitors, analog tuning with no unexpected rate shifts or stair-stepping, powerful one-half watt of audio from their 31/2 inch top-mount speakers, and a solid-state FET switch to key an external amplifier.

They're energy efficient, operating from a 2 amp AC supply (3A for the model 9410) or from a 12 volt battery.

MFJ-416, \$49.95. Optional CW module for all Adventure Radios.

MFJ Adventure Radios are built to last through their conservative design, premium quality, plate-through PC boards, quality components, handsome brushed

Fit an Adventure Radio just about

Adventure radios are easy to operate: just turn on and go! MFJ-8400K

They all sport MFJ's exclusive ConstantCurrent™ syllabic speech processing

punch.

All three Adventure radios feature single-conversion superhet receivers wth a lownoise front end and doublebalanced mixer to fight intermod and dig deep, and a 2.3 kHz crystal ladder filter.

All Adventure radios include a built-in low pass filter to help avoid TVI.

aluminum faceplate and tough cabinets.

anywhere: each is just 2.5X6.5X6 inches.

Special offer -- add an MFJ-290

microphone for just \$10 more.

#### **MFJ Adventure Accessories** MFJ-1762, \$99.95. 3-ele-

ment 6 Meter yagi quadruples your effective radiated power over a half-wave



dipole. 6 foot boom, 2 lbs. Can use TV rotator and mast. Handles 300 Watts PEP SSB. Mounts vertically or horizontally. Current balun decouples feedline. Great front-to-back ratio.

MFJ-1756, \$99.95. Omnidirectional low-angle vertical radiator lets you work plenty of DX in all directions even with low power.

GroundIsolated™ radial system eliminates common mode current paths. Reduces undesirable feedline/supporting structure radiation. 55-inch. strong aluminum radiator.



MFJ-1736, \$29.95. Hang this 6 Meter J-pole in the clear. Omni-directional full size 1/2 wave antenna with low angle radiation beats 1/4-waves.



MFJ-1776, \$39.95. Low SWR 6-Meter folded dipole. MFJ-1770A, \$39.95. (10 Meters).



MFJ-906, \$99.95. 6 Meter antenna tuner with lighted cross-needle meter (with MFJ-1312D, \$15.95). 100 Watts FM, 200 Watts SSB

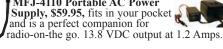
PEP. MFJ-903, \$69.95, Same as MFJ-906, less meter (See Page 6).

Mirage A-1015-G 150 watt ouutput 6-meter amplifier with built-in GaAs FET receiver preamp. \$389. Page 59.



MFJ -290 dynamic handheld mic for all MFJ SSB radios, \$39.95 when ordered separately.

MFJ-4110 Portable AC Power Supply, \$59.95, fits in your pocket and is a perfect companion for



MFJ-4114 Rechargable AC Power Supply, \$79.95, with battry pack uses Ni-Cad D cells or alkaline D cells (not included). Switch-selectable AC or batteries. Output 13.8VDC, 1.2A. Page 31.



## MFJ 2-Meter FM Receiver Kit

Put together the MFJ-8400K and you'll have a super, goanywhere 2-Meter FM receiver that'll rival far more expensive rigs. Save \$20 when you build it yourself!!!

Features include a low noise, high gain RF preamp, smooth reduction drive tuning, and a built-in 19-inch telescopic antenna. MFJ-8400K/W has front panel tune, squelch, and volume

controls, and a quality built-in speaker. Quality components are used throughout with a glass epoxy PC board and all metal cabinet. Power requirement, 9 A tiny 4<sup>1</sup>/<sub>4</sub>Wx2Hx4D inches fits anywhere. MFJ-8400W, \$119.95 is a wired and tested unit.

## Soundcard and TNC Accessories ... Prewired Interface Cables

#### MFJ-1272B/M TNC/Microphone Switch



MFJ-1272B/M Switch **549**95 between Ship code A your TNC or Mic by pushing a button!

**Plug** these pre-wired cables into your rig's microphone connector and into your TNC and you are ready to go -- no more hard-to-find connectors and wiring up cables -- no more plug-

TNC to Radio Prewired Cables **\$17**95 Ship code A

#### Pre-Wired Radio-to-TNC Cables

MFJ takes all the hassle and soldering out of wiring your rig to your TNC with these radio accessory port cables. Pre-wired cables save you time, money and aggravation. Plug and play!

TNC TYPE Radios	All MFJ TNCs and Multimodes	KAM VHF <sup>5</sup> / KAM HF <sup>5</sup> / KPC3 <sup>5</sup> / KPC9612 <sup>5</sup>	PK-232	PK900/PK96/ PK12/DSP232 /PacComm/ other TNC-2 compatibles
Alinco <sup>8</sup> /Strd HT	MFJ-5022	MFJ-5022YV	MFJ-5022X	MFJ-5022
Icom¹/Yaesu/ RadioShack HTs	MFJ-5024	MFJ-5024YV	MFJ-5024X	MFJ-5024B
Kenwood <sup>2</sup> HTs	MFJ-5026	MFJ-5026YV	MFJ-5026X	MFJ-5026
Yaesu <i>R-Series</i> HT	MFJ-5020	MFJ-5020YV	MFJ-5020X	MFJ-5020R
Yaesu 8-pin	MFJ-5080	MFJ-5080YV MFJ-5080YH	MFJ-5080X	MFJ-5080
Icom <sup>3</sup> 8-pin	MFJ-5084	MFJ-5084YV MFJ-5084YH	MFJ-5084X	MFJ-5084
Kenwood/Alinco 8-pin	MFJ-5086	MFJ-5086YV MFJ-5086YH	MFJ-5086X	MFJ-5086
Yaesu 8-pin modular	MFJ-5080M	MFJ-5080MYV	MFJ-5080MX	MFJ-5080M
Icom <sup>4</sup> 8-pin modular	MFJ-5084M	MFJ-5084MYV	MFJ-5084MX	MFJ-5084M
Kenwood 8-pin modular	MFJ-5086M	MFJ-5086MYV	MFJ-5086MX	MFJ-5086M
Radio Shack 8-pin modular	MFJ-5088M	MFJ-5088MYV	MFJ-5088MX	MFJ-5088M
1. does not include IC-W2A	4. does	not include IC-100H, IC-270	0H 6. YV for KP9612	2 1200 baud port

<sup>2.</sup> does not include 2500 3, does not include 25A, 255A

	7.00000.		
TNC TYPE Radios ACC Port TNC MFJ TNC/MMC PK900/PK12/DSP 232/PacComm TNC2 Compatibles		KAM VHF KAM HF KPC3	KPC-9612
ICOM HF 8 Pin DIN	MFJ-5063	MFJ-5063YH	
ICOM VHF 8 Pin DIN	MFJ-5064	MFJ-5064YV	MFJ-5064YV
ICOM 706 13-Pin DIN	MFJ-5065	MFJ-5065YH MFJ-5065YV	MFJ-5065YV
KENW/YAESU, AZDEN VHF 6-Pin mini DIN	MFJ-5060	MFJ-5060YV	MFJ-5060YV
KENW HF 13-Pin DIN	MFJ-5066	MFJ-5066YH	

### Open End Cables with Radio Connnectors

MFJ-5082, \$11.95. 8 pin round mic. MFJ-5106, \$6.95. 6 pin mini DIN. MFJ-5205, \$6.95. 5-pin DIN. MFJ TNC. MFJ-5208, \$11.95. 8 pin DIN. Acc. Port. MFJ-5213, \$11.95. 13-pin DIN, Acc port. MFJ-5268, \$11.95. 8 pin modular mic.

MFJ-5220, \$11.95. Yaesu FT-50R cable. MFJ-5222, \$11.95. Split conn. Alinco. MFJ-5224, \$11.95. IC/YA/AL/RS HTs. MFJ-5226, \$11.95. Kenwood Handhelds.

### Pre-Wired Radio to Computer Interface



**Convenient** pre-wired transceiver to MFJ-5383 (I, K, Y, YB) computer interface cable has serial inter-\$5995 face built-in! MFJ-5383K, Kenwood and compatibles. MFJ-5383I, Icom and compatibles. MFJ-5383Y for Yaesu standard 6-pin DIN, MFJ-5383YB for Yaesu 6 pin Mini DIN.

#### MFJ Cigarette Lighter Adapter

**Plug** in your favorite accessories and operate off your auto's 12 VDC cigarette lighter socket. Or operate from your power supply in the shack! Provides power to your MFJ analyzer, keyer, meter or tuner lamp, counter, etc. Per-MFJ-5510 fect for making quick adjustments to HF/VHF/ \$Q95 UHF mobile antennas with the analyzer in hand! Ship code A 18" retracted curly cord, 60" fully stretched.

ging and unplugging to work voice/packet!

Works with HF, VHF and UHF radios with 8 pin mic connectors -including Kenwood, ICOM, Yaesu, Alinco, Radio Shack, and others.

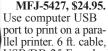
Plug-in jumpers let you quickly set-up for any radio. Factory set for Kenwood and Alinco. Audio-in and speaker jacks. 31/4x11/4x4 in.

TNC TYPE Radio Mic Conn	All MFJ TNCs/PK900 PK12/PK96/PacComm Other TNC2 compatibles	KAM VHF KAM HF / KPC3 KP9612	AEA PK-232
8 pin round mic plug	MFJ-1272B	MFJ-1272BYV MFJ-1272BYH	MFJ-1272BX
8 pin modu- lar mic plug	MFJ-1272M	MFJ-1272MYV MFJ-1272MYH	MFJ-1272MX

## MFJ RS232 to USB Adapter and others

MFJ-5429, \$24.95. DB9 Male RS-232 Serial Port to USB 1.1 port adapter cable. Includes a driver for Win98/ME/2000/XP on a 3.5 inch floppy disk. Use this to con-

nect serial port devies to a computer with no serial ports.



USB/DB-25 Female. Driver incl. MFJ-5428, \$24.95. Same as MFJ-5427, but has

USB and Centronics 36 Male. Driver included.

#### **Audio Cable Accessories**



stereo splitter (Y), 3.5 mm stereo plug to 1/4 phone stereo plug, 3.5 mm mono plug to 2.5 mm mono plug, and 2.5 mm mono plug to 3.5 mm mono plug adapters.



MFJ-5300, \$6.95. 3 foot, 3.5 mm stereo extension cord with volume control. Can use for headphones

on radio speaker output to set audio level to external devices. Pocket clip for portable use.

#### Soundcard Extension Box

MFJ-5420 **\$14**95 Ship Code A 5 foot cord

plugs into sound card on back of your computer. Provides at your fingertips, jacks for

speaker, microphone and headphone and gives you speaker volume control, speaker/headset switch and microphone on/off switch. 3Wx2Hx<sup>3</sup>/<sub>4</sub>D inches.

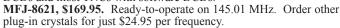
## MFJ Computer Printer & Serial Cables

MFJ-5412	\$11.95	Printer Cable, 36-Pin Centronics to DB-25 male, 6 feet
MFJ-5414	\$9.95	Serial Cable, DB-25 male to DB-9 female, 6 feet
MFJ-5313		Serial Cable, DB-25 male to DB-25 female, 6 feet
MFJ-5409	\$9.95	Serial Cable, DB-9 male to DB-9 female, 6 feet
MFJ-5408	\$9.95	Serial Cable, DB-9 female to DB-9 female, 6 feet
MFJ-5419	\$9.95	Serial Y-cable, (1) DB-9 female to (2) DB-9 male, 8 inches

### MFJ PacketOnly™ data transceivers

Enjoy dedicated high quality packet 1200 to 9600 baud on 2 Meters, 24 hours-a-day! MFJ's data radios are compatible with all TNCs with hardware

DCDs and most TNCs with software DCDs.



MFJ-8621X2, \$179.95. Ready-to-use for APRS. Crystals preinstalled and transceiver precisely aligned. 144.390 MHz. MFJ-8631, \$189.95.  $PacketOnly^{TM}$  220 MHz. Has all the features of the 2 Meter version, ready-to-operate on 223.700 MHz.

#### MFJ TNC Software and Accessories

MFJ-1289W, \$59.95. *MultiCom™ for Windows*. Control 2 TNCs at the same time in separate windows! Send, receive *true color* SSTV Scotty 1, Scotty 2, Martin 1, Martin 2, Robot 72 pictures. Great Multigray level FAX, maps, etc. MFJ-1289M, \$49.95, dos only version.

MFJ-1284W, \$49.95. MFJCom for Windows, MFJ-1270C TNCs and compatibles. MFJ-1284M, \$29.95, dos only version for TNC2s.

MFJ-43, \$9.95. Real-time clock. New low price! MFJ-44, \$14.96. Plug-in scope tuner.

MFJ-780, \$109.95. Plug-in DSP board MFJ-1278/B.



MFJ-2400, \$19.95. Great new low price! 2400 baud packet modem. Faster communication lessens congestion on crowded bands. TNC still gets 300/1200 baud for compatibility with other TNCs.

www.mfjenterprises.com • Toll-free 1-800-647-1800

<sup>4.</sup> does not include IC-100H, IC-2700H 5. YV for KAM VHF port, YH for KAM

<sup>6.</sup> YV for KP9612 1200 baud port 7. YH models for KPC9612 960 8. Excludes DJ-100, 120T, 200, 500

## MFJ Sound Card-to-Rig Interface

Use sound card and rig for all digital modes!

Plug and Play -- includes software, all cables, AC power supply . . . RFI-proof . . . Isolation transformers -- no hum, noise, distortion . . . Operate PSK-31, packet, APRS, AMTOR, RTTY, SSTV, CW, Meteor Scatter, EchoLink . . . Use as Voice Keyer, CW Contest Memory Keyer . . . Monitor On/Off Switch . . .

Plug this new MFJ-1275/M/T sound card interface between your rig and computer and enjoy operating all digital modes.

Everything you need is included -- software, audio cables, RS-232 serial cable and AC power supply.

Provides fully automatic operation with audio and push-to-talk control. Matches sound card audio, eliminates ground loops and provides mic override.

Models available for all fransceivers with 8-pin round or 8-pin modular (MFJ-1275) or 4-pin round (MFJ-1275T) microphone plugs.

Operate PSK-31, packet, APRS, AMTOR, RTTY, SSTV, CW, high speed CW Meteor Scatter and many others. Also use as Contest Voice Keyer and CW Contest Memory Keyer.

Digital Modes or Normal Operation

**Select** the ON digital mode -- all connections are made between your rig and computer for instant digital operation.

**Select** BYPASS normal mode -- your transceiver and computer connections are restored for their normal operation.

**Audio Isolation Transformers** 

**Audio** isolation transformers and relay eliminate ground loops, audio hum, noise and distortion.

RFI-Proof

Extensive RF suppression and line isolation eliminates RF feedback problems. Automatic Microphone Override

**Transmit** mic audio at any time by pressing PTT to override digital modes --great for SSTV and Contest Voice Keyer.

More Impressive Features
Serial port -- lets computer control radio

to override/interrupt digital transmissions.

VOX Control -- lets you use VOX

control when not using computer serial port control.

Level Controls -- for transmitter drive and for receiver-to-sound card drive level. No need to adjust microphone gain or sound card level when you change modes.

**Stereo or Mono Audio Input** -- A front panel switch selects left, right, or both sound card audio output channels to accommodate various programs.

**New!** Selectable positive logic or neg-

ative logic COR input -- provides *EchoLink* interface.

**Off-the-air recording** -- for replaying or for use with spectrum analyzer programs.

Monitor on/off switch lets you have a normal QSO and receive SSTV pictures at the same time in the "monitor on" position. This is great for modes like SSTV and Voice Keyer operation that may require listening to receive audio during operation.

**Rugged Construction** -- All aluminum cabinet and surface-mount construction gives you years of trouble-free service.

Use any Transceiver

Internal jumpers program microphone wiring for any model radio -- no soldering required. Order MFJ-1275 for 8-pin round, MFJ-1275M for 8-pin modular (RJ45) mic plugs and MFJ-1275T for 4-pin mic plugs.

Plug and Play!

**Everything** you need is included --audio and RS-232 cables, AC power supply and a

k CD with a collection of the most popular amateur radio software to operate PSK-31, RTTY, SSTV, PACKET, AMTOR, CW,
 HSCW Meteor Scatter, Contest Voice Keying

Sound Card Radio Interface

MFJ-1275/M/T

HSCW Meteor Scatter, Contest Voice Keying and other modes. Use 12 VDC or 110 VAC.

USB to RS-232 Adapter Cable MFJ-5429. Allows MFJ Soundcard Interface to be used with USB Port computer. DB9M RS-232 to USB 1.1 with driver. Supports Windows programs 98/98SE/ME/2000/XP.

Ship Code B

**DSP Sound Card Programs** 



MFJ-1296, \$119.95. RadioCom4 integrates PSK31, SSTV, FAX/Satellite FAX, RTTY,

SITOR, DSP audio filters and radio control. This program is not compatible with Vista.

MFJ-1298, \$169.95. RadioCom5 -- Includes all the features of RadioCom4 PLUS DSP audio filter analyzer, spectrum analyzer, dual scope display, sound recorder, time and frequency management, frequency analyzer, 3D scanner, satellite tracking, and more! This program is not compatible with Windows Vista.

MFJ-1299, \$209.95. RadioCom6 -- All features of RadioCom4 and 5 *plus* remote control of 2 radios and up to 6 decoders per radio simultaneously, only one sound card needed, level converter included. Requires Intel Pentium/Celeron processor with at least 1 GHZ, 256 MB RAM, a bi-directional sound card with a LINE-IN port, a spare Com port, and either Windows 2000/XP/ Vista or higher installed, as well as a graphics card with 1280x1024 16-bit color resolution.

**MFJ-1299UG, \$79.95.** Upgrades MFJ-1298 program to MFJ-1299 capabilities. Need above system requirements.

## *Super* Sound Card Interface

Dehave Sound Card Radio Interface

FOOTBRIDE

WHITE

\* Auxiliary Input Jack: Lets you switch

This super sound card interface has all of the features of the MFJ-1275 plus

or your sound card from MFJ-1279 so you can use your sound card for something else. No more plugging/unplugging!

• Direct CW/FSK Keying Jack: Allows direct CW or FSK keying operation.

• Headphone Jack: Use your stereo headphones so you won't disturb your XYL (also turns off external speaker).

Footswitch jack: Use footswitch (not included) for PTT when not using VOX. *Plug and Play!* Includes software CD, RS-232 and audio cables, AC power supply.
 Order MFJ-1279 for 8-pin round, MFJ-1279

1279M for 8-pin modular (RJ-45) mic plugs, or MFJ-1279T for 4-pin round mic. *Add "X" suffix for 220VAC*.

## **Basic** Digital Interface

Plug and Play! Has sound card, radio, speaker, RS-232 jacks. Includes: software CD and RS-232, audio, mic cables. No external power needed. Has no mic jack or mic switch. Order MFJ-1273B for 8 pin round mic,



MFJ-1273BM for 8-pin modular (RJ-45) mic, MFJ-1273BT for 4-pin round mic.

MFJ ATOMIC 24/12 HOUR CLOCKS

• Automatically receive WWVB radio signal from National Institute of Standards and Technology in Ft. Collins, Colorado for millisecond accuracy • Choose 24/12 Hour time format or simultaneous dual times • Choose from huge selection of wall or desktop mounts

## MFJ Atomic Alarm Clock - SUPER DEAL!



MFJ-132RC \$**15**<sup>95</sup> Ship Code A

MFJ-132RC has an unbelievable number of features for such a low price! You get HUGE 0.563-inch height LCD digits, atomic-controlled for absolute pin-point accuracy, 24/12 hour selectable, running seconds display, dual alarms, 5-minute ID (snooze), fabulous backlight, month and date display, an indoor thermometer (range 32 to 122 degrees Fahrenheit), uses just two AA 1.5V batteries (not included) and has MFJ's famous one year limited warranty. MFJ will repair/replace (at their option) your clock for one complete year.

## MFJ Dual Time Display Atomic Clock



MFJ-133RC \$**34**<sup>95</sup>

MFJ-133RC dual time zone LCD clock can display two Ship Code A time zones at once. Choose to show UTC and local time or

other dual time format! Lets you read any two time zones in 24 or 12 hour format. Atomic-controlled for absolute pin-point accuracy! Features HUGE 11/8 inch highcontrast LCD numerals easily read from 6 feet away . . . but is a super compact 4Wx3Hx<sup>3</sup>/4D inches. Super attractive silver clock folds up and slides in your shirt pocket for great travelability -- hamfest proven to wake you up on time.

## Solar *Atomic* Clock never needs batteries



MFJ-136RC **\$29**95

**This** fabulous *solar-pow*ered 24/12 Hour atomic clock never needs batteries, has a large LCD display

(time digits 15/8x21/4") and gives precision accurate time from WWVB. Handsome desktop. Alarm. 3Wx41/4Hx11/2D inches.

## Large Display Wall Mount Atomic 24/12 Hour Clocks

## Time/Calendar/Temp Atomic Clock



**\$2995** 24/12 hour Ship Code B wall or desk

mount atomic clock has got all the information you need at a single glance!

Auto daylight savings time can be turned

off, when setting clock for UTC.

Metallic blue/silver colored clock (81/2x9 inches) has easy-to-read LCD display. Time digits are 21/4 inches tall. Running seconds display. Month, date, day and indoor temperature is displayed on bottom LCD display.

Easy-to-program. Choose C or F for

temperatures. Use two AA batteries. Mounts on wall or includes desk mount. Measures 103/4Wx6Hx3/4 inches.

Dual Time Zone Atomic Clock



See in MFJ-121B the \$7995 Dark! Ship Code B Read both UTC and local

gle-glance with this MFJ-121B dual atomic clock. Displays 24/12 hour time simultaneously -- can each be independently set. Automatic backlight lights up every day at your preset time for 8 hours. Mounted in a handsome silver-metallic, hard-plastic frame, it features HUGE, easy-to-see 2" tall by 1" wide LCD numerals, an exclusive UTC zone and has a running seconds display. 113/8W x7<sup>1</sup>/<sub>4</sub>Hx1D inches mounts on wall or desk mount. Daylight savings time can be disabled. Use four AA batteries -- long lasting!

Solar Powered Eternity New! Atomic Clock



**\$79**<sup>95</sup> Ship Code B

MFJ's exclusive solar pow-ered *Eter*nity Atomic  $Clock^{TN}$ 

works for an "eternity"! No need for batteries or to set time! Receives WWVB signal. Display is a whopping 3½Hx6¼W inches with huge 2" time digits. Choose 24 or 12 hour time. Has indoor temperature, running seconds, month/date and day-of-week displays. 9<sup>1</sup>/<sub>2</sub>Wx6<sup>1</sup>/<sub>4</sub>Hx1D in. Attractive silver metallic looks fantastic on the wall or desk mounted in the shack or office! Has power on/off switch for when clock is in storage or not in use.

## MFJ Indoor/Outdoor Temperature/Calendar Atomic Clock



This new high-tech 24/12 hour clock features indoor and wireless outdoor temperature sensors, moonphase display and

monster size 21/4" time digits --MFJ-134RC are easily seen from across the \*39<sup>95</sup> room

MFJ-134RC automatically Ship Code B sets itself via WWVB from Fort Collins, Colorado and daylight savings time can be disabled so the clock can be set to UTC

It has various alarm settings, calendar display, day-of-week and choice of English, French, or Spanish languages.

You can mount it on the Wall or set it on your desk. Wireless outdoor sensor is

housed in a compact 11/2Wx51/4Hx1D inches durable plastic. Hardware is included for easy mounting just about anywhere.

**Indoor** clock is 12Wx7<sup>3</sup>/<sub>4</sub>H inches in a handsome dark wood frame with black display and green illuminated background.

## *12 Vdc* LED Mobile Clock



MFJ-116DC, \$19.95. 12 VDC, plugs in cigarette lighter. Huge .562" green LCD digits! Great

for motor-homes and truckers! 12 hour time only. Attractive black cabinet, long cord.

## MFJ 24/12 Hour Clocks



### Dual Displays: 24 and 12 Hour Clock

MFJ-108B

Ship code A

MFJ-108B dual clock has separate 24 hour and 12 hour displays. Lets you read both UTC and local time simultaneously. Features huge

high-contrast 5/8 inch LCD numerals that makes it easy to read across the room. Mounted in attractive solid brushed aluminum frame with sloped face for easy viewing. Synchronizable to WWV for splitsecond timing. Quartz controlled for excellent accuracy. Long life button battery included. 4<sup>1</sup>/Wx1D x2H". MFJ one year limited warranty.

## **DXer's Wall Clocks**



MFJ-135, \$39.95. 12 inch world time Quartz clock gives five time zones in a single glance. UTC, Local, Honolulu, Tokyo, and Moscow. 5 independently settable dials. Highly visible, easy-to-read. Black outer trim, gold inlet with gold

hands and black numbers, beautiful white face.



MFJ-125, \$34.95. 12 inch DXer's Quartz wall clock gives 24 hour time plus more. Has three smaller independently settable dials for 12 hour time, day of week and date. No more day/ date confusion when logging DX! Highly visible,

easy-to-read dials! Seconds hand.



MFJ-115, \$24.95. Set this 24 hour Ouartz clock to UTC/ GMT and you can determine the time in any time zone of the world at any time of the day. Premier world cities encircle its colorful world map face to indicate time zone. 12 inch

face is easy to see across room. Seconds hand. MFJ-105C, \$24.95.



This is the world's most popular ham radio wall clock! True 24 hour Ouartz movement, Huge 12 inch black face with large white numerals give excellent visibility across room. Attractive gold colored hour, minute

and seconds hands looks great on any wall! MFJ-126B, \$19.95.



New! 12 hour Ouartz movement gives 12 hour time on inner dial (for XYL) and 1200 to 2400 hour time on its outer dial (for you). Attractive clean, white face is highly visible. Handsome black trim shows

24 hour time format, looks great in any decor.

## **Hi-Contrast LCDs**



Clock has large 5/8 inch LCD numerals. 21/4x1x2 inches. Synchronizable to WWV. Solid brushed aluminum frame lasts for years.

Long life button battery included.



MFJ-118, \$29.95. MFJ's Jumbo LCD<sup>™</sup> shows time in 24 UTC or 12 hour format with huge 11/4" high-contrast LCD digits. 53/4Wx21/2Hx1/2D in. Also has year, month, date, and day of week. Choose English, Spanish, German or French for day-of-week display. Easy-to-operate. Has 100 year full calendar. Quartz controlled for excellent accuracy. Manually snchronize to WWV. Black scratch resistant case. Mounting holes for wall mount/flip stand for desk mount. Use "AAA" battery (not included).



**\$29.95.** This DXers World Map Clock shows you the time at any QTH throughout the world on an at-

world map. Also shows day of week, month, date and year. Time displays hour/minute/second. Choose 12/24 Hour. Easy push-buttons move you east and west on the map to display a QTH in every time zone. Daylight saving time feature. Attractive grey. Cool blue backlight for night viewing. Great for gift or use as logging clock. 4<sup>1</sup>/<sub>2</sub>Wx3<sup>3</sup>/<sub>8</sub>Hx2<sup>1</sup>/<sub>4</sub>D in. 1 year *No Matter* What™ limited warranty.

## 24/12 *Atomic* Clock

Read 24 and 12 hour time at a single glance on dual time displays! This huge 12-inch diameter atomic wall clock can be seen from across the room! It'll liven up any hamshack wall and automatically receives the WWVB

signal from Ft. Collins, Colorado. Has second hand with clearly marked seconds display points. Attractive, clean, white, real glass face is highly visible and will improve the decor of any room.



New! MFJ-131RC \$39<sup>95</sup>

## *Atomic* Wall Clock



This huge 14" 12hour clock is easy-tosee! Automatically sets itself, accurate to the second! Daylight savings time can be disabled. Handsome black with white face looks great in your

MFJ-137RC \$295 hamshack, office, hospital, etc. Ship Code B Use single AA battery (not incl.). Can also be manually set.

## Huae 2.5" LED Clock



MFJ-117. \$39.95. This 12/24 hour clock has the biggest and brightest LEDs of

any clock we have ever seen! Giant 2.5 inch super bright LEDs are nearly the width of a 2-Meter HT -- you can see them from across the street, day/night! Perfect for decreasing eyesight. 12/24 hour switch. Wall/desk mount. Black with bright red LEDs! 12Wx7<sup>1</sup>/<sub>2</sub>H in. Use 9V battery for backup. Hour/minute set buttons. 110 VAC, 60 Hz.

## MFJ-113, \$19.95.

Switchable 12/24 hour display with *HUGE* 1.8" red LEDs.

Absolutely shines from across the room. Super compact 11Hx 9Wx2<sup>1</sup>/<sub>2</sub>D in. 9 minute ID timer, alarm, 9V battery back-up. Use 110 VAC, 60 Hz. Great for sight impaired!

## MFJ Radio-Controlled (Atomic) WristWatches

## BREAKTHROUGH LOW PRICE!!!



MFJ-186RC \$**7Q**95 Ship Code A

MFJ-186RC has broken through the high price of Atomic Wrist Watches!!!

For an unbelievable \$29.95, you get a beautiful full-featured atomic watch -rivals the one your buddies paid \$99.95 for!

This MFJ Radio-Controlled Wrist Watch automatically receives the WWVB Signal generated by the US Atomic Clock located in Fort Collins, Colorado.

MFJ-186RC lets you switch from 24 hour format or 12 hour format and to different time zones (Pacific, Mountain, Central, and Eastern). Also has running seconds display and day-of-week and date display.

This MFJ radio-controlled wrist watch

has an alarm function and also can be used as a stopwatch for standard, accumulated, split-time, or competitor measurements. A backlight will illuminate the LCD display for about three seconds in a brilliant blue.

Year, Month, and Day can be displayed in calendar mode. MFJ-186RC is water-resistant up to 3 ATM - no more fear of the rain as you work hamfest security.

Protected by MFJ's famous No Matter What™ One year warranty. MFJ will repair or replace (our option) your atomic wrist watch for one full year.

#### Atomic watch/*stainless* band



## **New! Analog Atomic Wrist Watches**

Ship Code A

Choose a great-looking stainless steel band or a handsome brown leather band!

Gives precision 12 hour time format (accurate to +/- 1 second per day) and automatically receives and updates itself from the WWVB signal from Fort Collins, Colorado daily.

MFJ-188LR \$4995 MFJ-188 has back-light, Ship Code A automatic daylight savings time feature, manual time setting, 5 ATM water resistance, and includes lithium battery. Beautiful Silver-metallic face with huge

Wireless Weather

analog digits give time in-a-glance. Second hand/second notches on face.

MFJ-188MRC has a stainless steel band. MFJ-188LRC has a genuine

brown leather band. MFJ-189RC is

Ship Code A like the others but has a genuine black, leather band and stylish non-numerical 12-hour and second notches on the silver-metallic face.

MFJ-189RC

\$**39**<sup>95</sup>

## Compact Atomic



MFJ-193RC \$59<sup>95</sup> Ship Code B



**An** incredible \$59.95 gives you wireless indoor and outdoor temperatures, humidity, atomic clock, date/day display, back-light and forecast icons: sunny, slightly sunny, cloudy, rainy, stormy.

You get all of this in one compact package -- it'll look great and be one of the most useful accessories at your operating position -- we know you like to discuss the weather and other conditions when ragchewing with your ham buddies.

This unit has HUGE 21/4" time digits! Get quick, accurate forecasts in a single glance! It'll quickly tell you if you need to grab a sweater, rain coat or dress down for sunny weather -- now you can play weatherman and get it right!

Storm alarms warn you when conditions become threatening -- gives you a chance to unplug your equipment in case of lightning, or severe wind storms. This is just the thing for hams that don't know when to quit and protect the shack!

Use up to three separate sensors. Outdoor remote sensor has LCD display. Requires batteries (not included).

**Inside** unit is a super-compact 8Wx8<sup>1</sup>/<sub>4</sub>H inches but has a huge beautifully layed-out LCD display, highly illuminated with a green background. Housed in a handsome tan metallic, tough, durable plastic -- it'll give you years of service.

## MFJ Atomic Wireless Weather Station

Be your own Meterologist! MFJ-196RC gives accurate time and date, in/out temps, in/out humidity, weather forecast icons, pressure, wind speed, wind direction with LCD compass, wind chill, . . . more!



This professional Atomic remote wireless weather stationgives you a base LCD display station, three sensors: thermo-hygro

MFJ-196RC transmitter, wind and rain sensors, comput-er control RS-232 port, CD Rom software, Ship Code D and an AC power adaptor. All of the weather information is simultaneously displayed on the large user-friendly LCD for

up-to-the-minute weather conditions.

MFJ-196RC receives and displays the WWVB radio-controlled time and date. Indoor/outdoor relative humidity displays, air pressure, wind speed, wind direction with LCD compass, wind chill temperature, dew point temperature, weather tendency indicator, storm warning alarm, 2<sup>3</sup>/<sub>8</sub>x4<sup>1</sup>/<sub>2</sub> backlighted LCD display, a COM port makes an easy connection to your computer with programmable alarm functions for certain weather conditions as well as records of all minimum and maximum values along with time and date of their recordings. A

detailed display of rainfall data in 1 hour, 24 hours and total since last reset.

**MFJ-196RC** is a stand-alone unit.

Connection to your computer is optional. Ît is wireless, but it can be installed with wire connections when wireless operation is not possible.



Three cables provided. Wireless coverage is approximately 330 feet in open space from transmitter to base.

Base station uses three AA batteries or AC power input 120 VAC, 60 Hz (provided adapter). The thermo-hygro sensor uses two AA batteries or AC adaptor. Base is 6.7Wx1.37Dx5.43H inches.

## MFJ Accessories for FT-817 and Other QRP rigs

### MFJ Walkabout Antenna 80 through 6 Meters

MFJ-1899T Ship Code A

Work DX walking about! This MFJ

Walkabout antenna is designed for the FT-

817 and other QRP rigs. Covers all bands 80 Meters

through 6 Meters including WARC Bands.

Its ten section telescoping whip is 52 inches fully extended and is 7 inches when collapsed.

The whip unscrews from the 12 inch base loading coil. It is ultra-compact for easy traveling. Handles 25 Watts.

You change bands by plugging the "wander lead" into the appropriate socket on the base coil. Fine tuning is done by adjusting the telescopic whip.

Has BNC connector. Use adapter for SO-239.

#### 2-Meter / 440 MHz "Backof-Radio" Antenna MFJ-1717PL, \$24.95.

Foldover dual band flexduck 161/2 inch antenna with quality PL-259 connector. Hearty 2.15 dBi gain on 440 MHz and full size 1/4 Wave on 2 Meters.

### Single Band Walkabouts 6/10/12/15/17/20/30/40/80

10.12.15.17.20M 30/40/80 M

2495 \$2995 \$3495 Switching Power Supply

Ship Code A Ship Code A Ship Code A

Highly efficient single band Walkabout antennas for the FT-817 and other QRP rigs let you work exciting DX no matter where you are -- hotel, mountain top, etc.!

Each 10 section telescoping whip is 51 inches fully extended and collapses to 51/2 inches and screws into a base loading coil. Handles 25 Watts. Has BNC connector. Use adapter for SO-239. MFJ-7703, \$6.95, below. MFJ-1806T (6M) \$34.95 MFJ-1810T (10M) \$24.95 MFJ-1812T (12M) \$24.95 **MFJ-1815T** (15M) \$24.95 MFJ-1817T (17M) \$24.95 MFJ-1820T (20M) \$24.95 MFJ-1830T (30M) \$29.95 MFJ-1840T (40M) \$29.95 MFJ-1880T (80M) \$29.95

#### PL-259-to-BNC right angle

MFJ-7703, \$7.95. Sturdy, adapter



for your FT-817 and multimode HF antennas like MFJ-1899T. Reinforced elbow for less stress on radio connector.

## for Yaesu FT-817 and QRP Rigs. MFJ-4103 Miniature

can deliver up to 40 Watts (13.8 VDC at 2.89 Amps) of reliable power anywhere in the world.

Incredibly tiny --  $4^1/8X$   $2^5/8X1^3/8$ " and weighs just 10oz., including power cord, connector. Output DC cable with a standard coaxial DC power connector (2.1mm ID, 5.5mm OD).

Tiny 10 oz. Switching Power Supply

Sturdy adapter cable included for Yaesu radios. The MFJ-4103 has excellent specs and out performs all other switching power supplies made for the FT-817. Perfect for QRP rigs needing up to 2.89 Amps.

Works for input voltages 100-240 VAC and power line frequencies 47-63 HZ. Use the MFJ-4103 almost anywhere in the world by plugging in an AC power cord with an appropriate wall plug for that country (Not incl. Laptop computer AC cord recommended).

Overvoltage, overcurrent and overtemp protected. Excellent 1% line and 5% load regulation and 1% peak to peak ripple/noise. Op temperature is 0-40° C. Mean time between failure is 100,000 hours at full load at 25° C ambient. Meets FCC part 15 class B, UL 1950 and

#### MFJ Miniature Travel Iambic Paddle



MFJ-561, \$24.95. 13/4Wx13/4Dx3/4H inches. Full size feel for smooth, easy CW. Precision formed from resilient phosphorous bronze. Stainless steel base with rubber feet. 3 foot cord, 3.5 mm plug.

## MFJ Radio Voice Mail



Two way radio voice mail lets you and your friends or family leave and retrieve voice messages for each other.

When in radio range, stay in touch 24-hours-a-day no matter

where you are. Program custom access codes and security as 1 codes and security codes so you can decide Ship Code A who uses your Radio voice mail. It's your own private, portable repeater. MFJ-664 can provide emer-

gency communications when repeaters are down. **Test** your own signal quality by repeating your transmission thru another radio. Automatically repeat recorded message continuously. Great for determining band openings,

foxhunting and public service announcements. Non-volatile memory -- up to 2 full minutes of voice

messages. Keypad can be used for remote operation with Morse code verification of functions. End-of-message beep and output level control for clean audio. Use 9V battery or 9-15 VDC or 110 VAC with MFJ-1312D, \$15.95. 4Wx3<sup>1</sup>/2 Dx1<sup>1</sup>/<sub>2</sub>H inches. Use any radio. With PTT or mic closure sensing. Pre-wired cables for Yaesu. (See page 38).

#### RADIO MFJ-662

MFJ Pocket Repeater Extend range of any radio 2 Meter, 440 MHz, Handhelds, Mobile, Base!!

> When you and \$8995 your buddy are out of radio range, the MFJ Simplex

Pocket Repeater<sup>TM</sup> greatly extends your range. You can have \$ your own private, portable repeater within your neighborhood or when hunting, fishing, camp-

ing, hiking, caravaning on-the-roadside.

**During a disaster**, your MFJ-662 can provide emergency communications when repeaters are down. You can communicate way beyond the normal range of your handheld or mobile.

Works with virtually any radios in any mode or frequency in any ham band or business band. It's Legal! As a simplex repeater, MFJ-662 with another radio digitally records audio from an out-of-range HT/Mobile, then retransmits to other HT/Mobiles. Tiny, pocket -size 21/4Wx33/4Hx1D"

Repeats up to 32 second messages. LED lights when recording. On/Off switch. 5 pin header for radio cable (connector included). Use 9 volt battery, 9-15 VDC or 110 VAC with optional MFJ-1312D, \$15.95. Pre-wired cables for most radios, \$17.95. See cable column on page 38.

## MFJ JimHandy™ CW Interface lets you use your HT for on-the-air CW Fun

MFJ's JimHandy™ CW interface plugs into your 144/440 MHz handheld and converts it into a modulated CW transceiver -just plug in your key.

Get your ham buddies together on-theair and enjoy some fantastic CW fun. Run a little code practice on your repeater. Start your own FM CW Net. Have fun and

MFJ-552 upgrade! **\$99**95 A

transmit/ Ship Code A receive

switch automatically switches your

HT to transmit when you send CW and returns you to your receive signal when



you stop keying.

Built-in speaker, volume control and great sounding true sinewave sidetone -- no harsh keyclicks. 4Wx1<sup>1</sup>/<sub>4</sub>Hx3<sup>3</sup>/<sub>4</sub>D inches.

Use 9V battery (not included). Pre-wired patch cables, \$17.95 for your HT on page 38.

MFJ-550 key only, \$14.95.

## MFJ *Deluxe Headset Microphone*™ adds professionalism

Ship Code A noisy environment. The microphone can pick up your voice,

## This deluxe headset microphone gives hams the professional look they deserve -- great for public service

when placed appropriately near your MFJ Deluxe Headset mouth. Microphone<sup>™</sup> lets you carry The earphone gives superb tonal quality on a private OSO while in a

so even distant stations will come in loud and clear. Made of sturdy black plastic and strong metal sliders, one size fits all!

**Superb** speaker and mic foaming make it super comfortable for long ragchews.

**Small** PTT switch attaches to your shirt

or pants pocket. Six foot cord.

MFJ-288I fits Icom, Radio Shack, older Yaesus, ADI, Alinco, other compatible HTs. MFJ-288K fits Kenwood and compati-

ble handheld radios.

MFJ-288Y fits VX-5R series, IC-O7A & compatibles.

MFJ-288R fits new Yaesu VX-7R series handheld transceivers.

## MFJ Featherweight earbud Boom Microphone™

## Features rubber flex earloop design for security and comfort and 5-inch boom mic



**24**95 secure Ship Code A and comfortable earbud and boom microphone that's as

whether booming or

at a quiet whisper

small and inconspicuous as your radio! No more gaudy, oversized headsets or massive handheld speaker microphones!

This tiny earbud features a secure and comfortable rubber flex earloop design and 5 inch flexible boom microphone that adjusts perfectly to your mouth. The earloop secures your earbud for a comfortable fit so there's no more worrying about it falling out of your ear.

It's perfect for monitoring your receive audio when you are in a loud environment. MFJ-293's special rubber flex earloop design adjusts to fit the right or left ear (big or small) very securely and comfortably.

Made of a sturdy black polyurethane and

comfortable rubber earloop, it'll give years of dependable use. Tiny thumb-sized PTT switch is built right into the 6 feet of cord.

MFJ-293I fits Icom, older Yaesu, Radio Shack, ADI, Alinco and compatible HTs.

MFJ-293K fits Kenwood and other

MFJ-293Y fits Yaesu FT10R/40R/ 50R/VX-1R, Icom IC-Q7A, and other radios using single plug-ins.

MFJ-293R fits Yaesu VX7R series. **All** MFJ speaker microphones have MFJ's one year no matter what warranty.

## MFJ Featherweight Vibration earbud Microphone™ Picks up the vibration of your earbone and translates it into a signal through your HT

Be the coolest!

The speaker and microphone are both integrated into the earpiece -- it picks up the vibration of your earbone and then translates the vibration into a signal through your handheld transceiver!

Super Audio Quality! It only transmits the vibrations from your ear -- no background noise!

It's perfect for high-ambient environments like hamfests, traveling through airports, on the bus, riding motorcycles, ATVs, etc. It truly is amazing!

**Older** competitive versions of earbud vibration mics sounded terrible -- there was background noise and transmissions sounded like a robot was on the other end. With the new MFJ-283 technology only your natural-sounding voice is transmitted.

The PTT switch has velcro for attaching to wool clothes or your belt.

Two clips on the cord let you position and secure the earpiece/PTT to your shirt or coat comfortably and a 42-inch durable cord lets you snake it a-round your body the way you want.

You can also almost totally conceal your cord, PTT and earpiece. You'll look like a detective, airport security or even a government spy -- nobody will even realize you

are on your \$34<sup>95</sup> handheld Ship Code A radio talking.

MFJ-283I for Icom, Shack, Alinco, ADI and older Yaesu transceivers. MFJ-283K for Kenwoods. MFJ-283Y for Yaesu

VX5R series, Icom Q7A, and other single plugs.



## MFJ BoomMic/FM Scan

MFJ-284, \$39.95, same as MFJ 293, but adds an FM broadcast scan radio inside the tiny PTT switch. Lets you catch up on the news or listen to music or sports while monitoring a 2-Meter operating frequency! Auto switches from FM to HT audio when moni-

toring frequency is detected. Batteries included. Order MFJ-284I (Icom), MFJ-284K (Kenwood), and MFJ-284Y for Yaesu VX5R series and Icom Q7A single plug Handhelds.

MFJ *Featherweight* Earbud Speaker Microphone

Tiny earphone and thumbsize microphone/PTT switch is built right into the cord! It's barely noticeable and so lightweight, you won't know it's there!



Ship Code A

Be Cool! MFJ's

Featherweight Earbud/Mic has a tiny earphone and thumbsize microphone/PTT switch built right into the cord.

It's barely noticeable and so lightweight you won't know it's there -- people will think you are a detective or airport security or even a government spy!

Get crystal clear receive/transmit audio out of an ultra-light (30 grams) speaker. Non-directional electret condenser mic has -64 dB sensitivity, 1.1K Ohm impedance.

MFJ-292R VX7R series \$19<sup>95</sup> Ship Code A

Has 4 foot cord.

MFJ-292I fits ICOM, older Yaesu, Radio Shack, Alinco, other compatibles. MFJ-292K for

Kenwood.

MFJ-292Y for Yaesu FT-10R/40R/50R, and VX-1R/VX5R series.

MFJ-292R, \$19.95, fits new Yaesu VX-7R series handhelds.

## MFJ Neckset Microphone doesn't mess up your hair!

Don't mess up your hair and you can still wear your cap! MFJ-282 stays naturally hidden behind your neck. Super audio, lightweight and comfortable!

MFJ-282I fits Icom and older Yaesu; MFJ-282K fits Kenwood; MFJ-282Y fits Yaesu R-series, Icom Q7A; MFJ-282R fits VX7R series.



## MFJ Speaker Microphones for *New* Yaesu, Icom, Kenwood HTs



MFJ-295 (Y, I, K,)Fits Yaesu, Icom and Kenwood and compatibles.

\$16<sup>95</sup> Ship Code A

Here's a top quality handheld speaker mic that fits snugly in your hand! It's perfect for new Yaesu, Icom, Radio Shack, Kenwood, Alinco, ADI and compatible handheld transceivers.

Fits perfectly in your hand and

MFJ-295R gives booming Fits VX-7R seies only receive audio so you can monitor \$19<sup>95</sup> stations while the Ship Code A microphone is

attached to your lapel -- no more holding the speaker up to your ear! Compact 2Wx3Hx1<sup>1</sup>/4D inches.

MFJ's high-quality non-directional electret condenser microphone gives your handheld crystal clear transmit audio.

The MFJ-295 Microphone has -53 dB sensitivity and 1K Ohm impedance.

**Excellent** top quality speaker produces 83 dB of crystal clear and loud, booming receive audio. 8 Ohm impedance.

**Includes** a built-in 3.5 mm earphone jack lets you continuously monitor receive audio and it lets you hear your radio in a loud, noisy environment (see MFJ-301,

\$6.95 or MFJ-302, \$9.95, below right).

A top quality PTT thumb switch with an eight-position swivel lapel clip rotates 360 degrees. 3<sup>1</sup>/<sub>2</sub> feet of durable, stretchable cord. Made of high-impact plastic -- it can take some casual bumps and a even a few drops. It is water resistant.

The microphone and cord are all black and it has protective rubber at all of the bending points, so it won't break easily.

Choose your model . . .

MFJ-295Y, \$16.95 is for newer Yaesu single prong plugs like Yaesu VX5R and Icom single pin plugs like Q7A.

**MFJ-2951**, \$16.95 is for Icom, Radio Shack, Alinco, ADI and compatibles.

MFJ-295K, \$16.95 is for Kenwood, Alinco and other compatibles.

MFJ-295R, \$19.95 fits new Yaesu VX-7R handheld radios.

## MFJ *Mini* Speaker/Microphone for HTs

This is the "Perfect-size" speaker mic for tiny new HT radios on the market!

Super compact 1<sup>3</sup>/<sub>8</sub>Wx2<sup>1</sup>/<sub>2</sub>Hx<sup>1</sup>/<sub>2</sub>D inches. It matches new tiny handheld radios and fits perfectly in the palm of your hand.

**Sturdy** PTT switch, 3.5 mm earphone jack to monitor receive audio (see MFJ-301/MFJ-302 right) and long, curly cord.

MFJ- 285I, \$15.95, fits Icom, Alinco, Radio Shack, older Yaesus and compatibles. MFJ-285K, \$15.95, fits Kenwood and

MFJ-285 MFJ-285R (I, K, Y)for VX7R

\$**15**<sup>95</sup> \$**19**95 Ship Code A other compatibles.

MFJ-285Y, \$15.95, fits Yaesu R-series, Icom Q7A and other compatibles.

MFJ-285R, \$19.95, fits VX7R series handheld radios.



Ship Code A This new MFJ earphone earpiece is the perfect companion for your MFJ or other brand speaker

microphone. You can continuously monitor receive audio and it lets you hear your radio in a loud, noisy environment. A comfortable foam earpiece fits securely in your ear and doesn't hurt. It's super lightweight. Fits in 3.5 mm jack on speaker/mic.



MFJ-302 is similar to MFJ-301 but has a soft earloop speaker that wraps around your entire ear -- gives

more natural-sounding audio and cuts out background noise -- also has more comfort and security. 3.5 mm jack and cord.

## New deluxe Speaker/Mic has Volume control



MFJ-296 MFJ-296R (I, K, Y) for VX7R **\$21**95 **\$24**95

Ship Code A Ship Code A This new, deluxe speaker microphone has a volume control knob that allows you to set it for a super quiet room or noisy environment

**MFJ-296** has a 360 degree rotating lapel clip, a

first-rate electret mic element and a fullsize speaker that gives you superb receive audio

It also gives you excellent transmitting audio -- no more muffled sounding audio or scratchy voice transmissions!

Also has 3.5 mm earphone jack (see MFJ-301/MFJ-302 right), momentary PTT switch, and retractable cord.

MFJ-296I, \$21.95, fits Icom, Radio Shack, older Yaesus and other compatibles. **MFJ-296Y, \$21.95,** for Yaesu VX5R

series rigs. MFJ-296K, \$21.95, for Kenwood, Alinco and other compatibles.

MFJ-296R, \$24.95, fits VX7R handheld series only.

## MFJ *MightyMic*™ speaker microphone



MFJ-294 (I, K, Y) it's tiny size. **\*16**95 Tiny PTT

**Tiny** PTT thumb switch with speaker/microphone and lapel clip all fits Ship Code A between two fingers! Yet it gives booming MFJ's receive audio and great for transmitting too! Mighty Tiny 19" retractable cord stretches to 4 feet.  $Mic^{TM}$  is a **This** is the perfect speaker/microphone super tiny for concealment. You'll look like an FBI speaker agent when you work with this streamlined, microphone innovative product!

> **An** eight-position swivel lapel clip lets you position and secure the microphone to your shirt or coat comfortably.

MFJ-294I is for Icom, Radio Shack, Alinco, older Yaesu HTs and compatibles

MFJ-294Y is for Yaesu FT10R/40R/50R /VX-1R/VX-5R series HTs, Icom IC-Q7A, and other radios using single plug-ins.

MFJ-294K is for Kenwood and compatibles handheld radios.

#### Identify your speaker/mic model

MFJ uses the letters I, K, Y and R to denote what connector is on the speaker mic. I is for Icom, some Yaesu, Radio Shack, ADI and most Alinco. K is for most Kenwood. Y is for Yaesu VX5R series and Icom Q7A. R for new Yaesu VX7R series.







handheld radios. Most new radios on the market today like Yaesu's VX5R and Icom's Q7A are so small, they are tinier than most of the speaker microphones sold! Not anymore with the MFJ-294! It's a

perfect match for those radios because of

MFJ... The World Leader in Ham Radio Accessories

## MFJ's handheld "Rubber Duck" antennas

High Gain Dual Band HT Flexible Duck Antennas A. MFJ-1717, \$21.95.

The World's best selling HT antenna! When other rubber ducks just give you noise, you'll enjoy dependable QSOs with the MFJ-1717. Only 15<sup>3</sup>/<sub>4</sub> inches in length, it's a halfwave on 440 MHz that gives you a hearty 2.15 dBi gain. On 2 Meters, you get an efficient full-size 1/4 wave antenna for full size performance.

MFJ-1717 is precisely tuned at the factory for low SWR. High-Q, low loss construction gives you maximum radiated power! BNC connector. It's rugged! It'll take all the bending, twisting, flexing and tugging you can dish out, and just pop right back up.

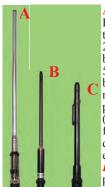
The radiator is protected by a durable synthetic rubber compound and has

a hard protective safety tip.

A strong rigid base protects the matching network from flexing and changing frequency. Tough, durable construction. Order MFJ-1717 for BNC connector. Order MFJ-1717S for SMA connector.

**B. MFJ-1716, \$16.95.** Dual band 144/440 MHz Flexible rubber duck antenna is similar to MFJ-1717. 7½ inches length, 1/4 wave on 440 MHz and loaded 1/4 wave on 2 Mtrs. Tough, durable construction. MFJ-1716 has BNC connector. Order MFJ-1716S for SMA connector.

#### MFJ Telescopic Handheld Antenna Range Extenders



A. MFJ-1714, \$16.95. B. MFJ-1712, For really long range this endfed halfwave 2-Meter is hard to beat! Outperforms a 5/8 wave on an HT because the 5/8 wave needs a ground plane. Čollapsed (10.5 inches) it performs like a rubber duck. 40 inches extended gives you LongRanger<sup>1</sup> performance!

**\$14.95.** This telescopic Dual Band (144/440 MHz) is a <sup>1</sup>/<sub>4</sub> wave on 2 Meters, 5/8 wave with gain on 440 MHz. Just 7<sup>1</sup>/<sub>4</sub>" collapsed. Acts like a rubber duck. 19" extended gives superior performance. MFJ-1712S, \$14.95. Like MFJ-1712, but has SMA connector.

C. MFJ-1710, \$9.95. The PocketLinear<sup>1</sup> is a pen sized 3/8 wave for 2 Meters! Carry this antenna in your shirt pocket like a ball point pen with pocket clip. When you rubber ducky on your HT just won't receive well, pull it out, extend to 24" and carry on your OSO. Tiny 51/4 inches collapsed.

#### SmallWonder™ HT Antenna



MFJ-1719/MFJ-1719S, \$19.95. This HT Antenna is truly amazing for its size! Pound for pound, it's the best antenna around. Less than 1" tall, it's greatt for traveling and and Ante monitoring calls. It doesn't get in your way! Receives and transmits on 2 Meter/440 MHz. Also receives great signals at 1200 MHz. MFJ-1719, BNC connector or MFJ-1719S, SMA connector.

#### MFJ 2-Meter Pocket Roll-up



MFJ-1730, \$29.95. Roll up this 1/2 wave 2-Meter antenna and stick it in your pocket. Vacations, camping, etc. Get home station performance on-the-go! Just 75"

long. Hang in a tree, plug the BNC into your HT and enjoy some great OSOs. Omnidirectional, has significant gain over a 1/4 wave. Doesn't need a cumbersome ground plane so it's convenient for indoors.

#### MFJ 440 MHz Pocket Roll-up

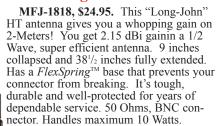
MFJ-1731, \$29.95. 440 MHz pocket roll-up antenna, 1/2 wave. 51" roll-up J-pole for 440 MHz is like MFJ-1730, but shorter. Hang it and operate with MFJ roll-up J-pole antennas anywhere and everywhere!



## *Back-of-Radio* 144/440 Base

MFJ-1717PL, \$24.95. Plug into a 2 Meter/440 MHz mobile/base rig -- not a 10-element yagi but it'll get you out in a hurry! Fold-over, flexiduck, PL-259. 2 dBi gain on 440 MHz, full-size 1/4 wave 2 Meter. Hi-O, low loss construction. 16<sup>1</sup>/<sub>2</sub>". hard safety tip. Watts PEP. **MFJ-1717P, \$24.95.** Like MFJ-1717PL, but no fold-over. Has straight PL-259.

#### MFJ "Long-John" HT Antenna



MFJ SuperFlex ThinDucks<sup>TM</sup>

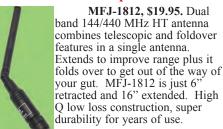
A. MFJ-1715, \$24.95. Tie it in a knot . . . when you use it, it'll bounce back in shape -- you can't break it! It'll take all the bending, twisting, flexing and tugging you can dish out, and just pop right back up. This MFJ-1715 12<sup>1</sup>/<sub>2</sub>" *SuperFLEX*™ radiator is a 1/2 wave on 440 MHz gives a hearty 2.15 dBi gain. On 2 Meters, you get an efficient full size <sup>1</sup>/<sub>4</sub> wave antenna. Safety tip, durable synthetic rubber compound. Add "S" for SMA connector. **B.** MFJ-1713, \$19.95. 5<sup>1</sup>/<sub>2</sub>" radiator is similar to MFJ-1715 except for gain on 440 MHz. Quarter wave

## "S" for SMA connector. MFJ *Triple Band* FlexiDuck™

on 440 MHz and an efficient loaded Quarter wave on 2 Meters. Add

MFJ-1720S, \$29.95. MFJ's Triple Band HT  $FlexiDuck^{TM}$  antenna is a whopping 19 inches tall -- it's big enough to deliver a powerful signal for 2 Meters, 440 MHz, and 6 Meters! It's a 5/8 Wave on 440 MHz to give you a hearty 3.2 dBi gain. On 2 Meters you get a 1/4 Wave antenna with 2.15 dBi gain. On 6 Meters you get an efficient full size 1/4 Wave antenna for full-size performance. Precision-tuned at the factory for low SWR. High-Q, low loss construction gives you maximum radiated power. 10 Watts. SMA Connector only.

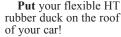
#### Foldover Telescopic HT antenna



### MFJ Scanner/Receiver Antenna MFJ-1811, \$14.95. This antenna can

be dedicated to your Scanner or Receiver operations. It features both telescopic and foldover attributes. It folds-over to create a right angle connection to the back of a base or mobile, and it telescopes/collapses for your handheld. It's 24-inches extended and 7-inches collapsed. Covers 1.8 to 1800 MHz and has 2.15 dB gain. Handles 10 Watts. 50 Ohms. BNC connector. VSWR is 1.5:1.

### MFJ Compact Magnet Mounts for Handheld Antennas



**Compact** but powerful magnet is 2<sup>3</sup>/<sub>4</sub> inches in diameter -- super strong!

MFJ-332S, \$19.95. HT Antenna Magnet Mount with SMA female



connector. 12 feet of tough, flexible RG-58AU coax with SMA male end.

MFJ-332B, \$19.95. HT Antenna Magnet Mount with BNC female. 12 feet of tough, flexible RG-58AU coaxial line with BNC male connector.

## MFJ VHF/UHF *MAGNET MOUNT* MOBILE ANTENNAS

#### Magnet Mount Dual Band 144/440 MHz Mobile

MFJ-1724B This MFJ-1724B is the world's best selling \$2495 dual band 2 Meter/440 MHz magnet mount Ship Code B band mobile or HT. Free BNC handheld adapter. MFJ's powerful 31/2 inch magnet base holds your antenna firmly even at highway speeds. The base has a scratch resistant rubber guard to protect your car. The MFJ-1724B black stainless steel whip looks like an attractive cellular antenna. Only 19 inches tall, you can park in your garage without knocking is over. Low SWR across both bands keeps your transceiver safe from overheating. Get excellent gain on 440 MHz band and 2 Meters. Handles 300 Watts PEP. 15 feet coax, PL-259.

## MFJ 5/8 Wave 2/6 Meter Magnet Mount Mobile

MFJ's 5/8 wave on 2 Meters give you MFJ-1728B \$3495 the maximum possible theoretical gain of any single element mobile antenna, no mat-Ship Code B ter how much others cost. On 6 Meters, the MFJ-1728B is a high performance full quarter wave antenna. It's an excellent companion for your MFJ-9406, MFJ-9606 or other 6 Meter mobile or handheld transceiver. Give you great "magic band" signals used mobile or as a base station antenna. It's perfect for your mobile or HT. Free BNC handheld adapter. It's rated at 300 Watts PEP. It's amplifier ready. Low SWR lets your transceiver deliver full power safely. A heavy duty magnet mount holds your antenna tight at highway speeds. You get 12 ft. of coax and a stainless steel radiator that'll endure years of harsh mobile use. Easy to take down with an allen wrench.

## MFJ UltraLite™ Mag Mounts

MFJ-1721 MFJ-1721, Two Meters **\$1595** (left) is an Ship Code A *UltraLite*™ MFJ-1722/S Mobile mag-Dual Bander \$1995 antenna. 12 ft. Ship Code A RG-174U coax. 1/4 wave on 2-Meters. Weighs less than 2 oz. 1/8" rare earth magnet. Thin 20 inch flexible whip. BNC. MFJ-1722, (right) is similar to MFJ-1721, but dual Band *UltraLite*<sup>fM</sup>. 5/8 Wave on 440 MHz. 1/4 Wave on 2 Meters. MFJ-1722S, similar to MFJ-1722 but has SMA.

#### MFJ Mobile Antenna **Ground Plane Kit**



MFJ-1401 Ship Code B

MFJ-1401 converts most mobile antennas into a ground plane base station antenna. 200 Watts. Accepts VHF/ UHF mobile

antennas with PL-259 connector. Includes stainless steel mounting hardware, two hose clamps, allen wrench, and four 20.5 inch radials. Easy install on any 2" pipe with clamps or mounting holes.

#### MFJ-844 VHF/UHF SWR Mobile Power Meter



MFJ-844 **MFJ-844 \$7995** covers 144 and Ship Code A 440 MHz. Insertion loss is 0.3 dB or lower with 50 Ohm impedance. SO-239 connectors. Tiny size lets you put it just about anywhere in your operating position. 3.75Wx3H x1.25D inches.

Handles 200 Watts and measures SWR and Power in three power ranges: 15W, 60W, and 200W. A multi-colored white, orange, and black meter makes for easy reading. Extra large, highly visible meter. Die-cast metal, quality connectors for years of use.

#### Power\*Gain™ Dual Band 144/440 MHz Mobile

MFJ-1729 **MFJ's** *Power\*Gain™* is ham radio's most \$3995 powerful dual band magnet mount mobile Ship Code B 2 Meters. Low SWR lets your rig deliver full power safely. Get a whopping 2.6 dB gain on 2 Meters and 6.3 dB gain on 440 MHz. Perfect for dual band mobiles or HTs. Free BNC adapter. Handles 300 Watts PEP. MFJ's exclusive 27<sup>1</sup>/<sub>2</sub> inch stainless steel *SlimLine* Radiator™ minimizes wind vibration for less SWR flutter giving you longer range and better readability. Inculdes 15 feet of coax with PL 259 Connector, heavy duty magnet mount. MFJ-1723, \$39.95. Similar to MFJ-1729, covers 220 MHz, 2.6dB gain. 22.5 inch radiator.

#### MFJ Glass Mount Dual Band 144/440 Mobiles



A MFJ-1734 2-Meters \$34<sup>95</sup>

Glass mount dual band 144/440 Dual Bander MHz mobile. A 6 inch counterpoise \$4495 mounted inside lowers SWR and Ship Code B makes tuning easy. Excellent gain on B MFJ-1738 440 MHz and 2 Meters. Low SWR lets your transceiver deliver full power safely. MFJ's Exclusive 26 Ship Code B inch stainless steel radiator minimizes wind vibration for less SWR flutter.

Longer range and better readability. Handles 50 Watts. 12 Ft. tough coaxial line, cleaning pad and mounting hardware.

**MFJ-1738**, \$34.95. Similar to MFJ-1734 but 2 Meter mobile glass mount antenna.

MFJ-94, \$4.95. Remount Kit for Glass Mounts. Avoid factory tint placement.

#### MFJ Handheld Antenna Window Mount

MFJ-310/MFJ-310S \$19<sup>95</sup> Ship Code A

This Handheld Antenna Window Mount gets your antenna outside where it can radiate freely -- takes away the auto shielding effect and gives increased signal strength and reception.

Use 144/440 MHz handheld radio with BNC or SMA connector.

Includes 10 feet of mini RG-58 coaxial line. The indoor portion of the mount safely rolls up inside your auto's window.

Your antenna is mounted outside where it can radiate freely and provide you with great performance! Order "S" for SMA.

## SMA to BNC Adaptors





MFJ-7718, \$4.95 each. SMA male to BNC female adaptor.



MFJ-7719, \$4.95 each SMA male to SO-239 adaptor.

#### MFJ-916B HF/VHF/UHF Duplexer, handles 200 Watts



MFJ-916B This MFJ duplexer lets **\$3495** you use an HF or 2 Meter/440 MHz antenna Ship Code A with separate HF or 2

Meter and 440 MHz transceivers without a built-in duplexer. You can also use two dual band antennas with a dual band transceiver with only one RF output.

Heavy duty diecast enclosure houses low pass networks that separate/combine 144/440 MHz signals.

Low loss SO-239 connectors. Ports are 50 Ohms, unit handles 200 Watts PEP. MFJ-916BN, \$39.95. Same as MFJ-

916B, but has low loss type "N" connectors instead of SO-239.

## MFJ Programmable Screwdriver Antenna Controller

10 Memories ... Super Accurate ... AutoPark ... StallProtector ... Super bright LEDs



**Tuning** your mobile screwdriver antenna couldn't be easier or more reliable!

**The** MFJ-1924 lets you save 10 of your favorite screwdriver antenna positions in memory -- that's more than enough for all HF bands. Then, with a push of a button, you can quickly return to any saved position.

Up/Down buttons let you manually move the antenna to any desired position. A 4-digit turns counter gives you precise

O

ATAS 100 CONTROLLER

MFJ-1925/I2

MFJ-1924 antenna position -- you can \$129<sup>95</sup> see its super bright LEDs even in direct sunlight! Ship Code A

Returning to a position from memory is extremely accurate for three reasons . . .

A. The antenna always moves to its desired position from the bottom, insuring that the motor is always loaded the same -moving the antenna up is harder than moving it down. It's harder to walk up a hill than down a hill.

**B.** MFJ's exclusive *AutoPark*™ feature automatically bottoms your antenna for parking in your garage and resets and calibrates your counter each time to eliminate antenna slippage and turns count errors.

C. The momentum of the moving antenna causes it to overshoot its stop point. MFJ's exclusive *Dead-OnSTÔP™* feature automatically reverses the motor briefly just before it stops to eliminate overshoot and come to a precise stop.

MFJ's exclusive *StallProtector*™ feature prevents your expensive motor from burning out. Automatically detects motor stall

MFJ-1925 I2 plugs directly into the

Icom 706 in low power and tunes antenna.

Simple to install. No modification to

radio/antenna needed. SO-239 connectors.

Order MFJ-1925 I2 for Icom 706.

Order MFJ-1925 for Kenwood, Alinco

Icom IC-706. Up/Down switch puts the

and completely shuts off power to motor.

Motor current can be monitored on the LEDs to look for signs of trouble and to determine stall current.

If you wire the motor backwards, you can reverse its direction from the MFJ-1924 front panel so the UP button is always up and the DOWN button is always down.

Compatible with single and dual magnetic turns sensors. Requires 12 VDC. 3<sup>1</sup>/<sub>2</sub>Wx3<sup>1</sup>/<sub>4</sub>Hx1<sup>1</sup>/<sub>4</sub>D inches. Power, motor control and sensor lines included for connection to your screwdriver antenna.

#### Automatic Screwdriver Antenna Controller for Icom Radios

MFJ-1926 is perfect for your Icom radio equipped with a CI-V interface. Connect the controller to your Icom radio and the MFJ-1924 receives the frequency data and

will automatically tune your screwdriver antenna. Has all features of the MFJ-1924. 31/2Wx31/4Hx11/4D in.



\$**149**95

MFJ-82, \$29.95. Magnetic sensor kit for High Sierra antennas to use MFJ-1924.

MFJ-83, \$9.95. Magnetic sensor kit for Hi-Q Antennas to use MFJ-1924.

## SWR/Power Meters and *Intermod Fighters*™

Use *any* rig with Yaesu ATAS Screwdriver Ant

MFJ lets

995 you use the

series screwdriv-

er antenna with Icom, Kenwood,

Ship Code A popular Yaesu ATAS

Alinco radios, others.



MFJ-840 accurately checks the power output of your 2-Meter HT into a 50-Ohm dummy load. Also checks battery charge. 5 Watts full scale. BNC connector.

Compact 2Wx2<sup>1</sup>/<sub>4</sub>Hx1<sup>1</sup>/<sub>2</sub>D inches can go with you anywhere.

Ship Code A MFJ-841, \$39.95. Ship Code A. This connects directly in-line between your HT and antenna. Reads SWR up to 6:1 and power output to a full 5 watts. A three-position toggle switch selects SWR, SWR set, or forward power. Compact 2Wx2<sup>1</sup>/<sub>4</sub>Hx1<sup>1</sup>/<sub>2</sub>D inches.



and others.

MFJ-714 shown MFJ-713 \$59<sup>95</sup>

MFJ-714

MFJ-713 HT IntermodFighter<sup>TM</sup>. BNC connectors. Your rubber duck antenna sits on top of the MFJ-713. Uses 9 volt battery. To eliminate intermod, place MFJ-713 on your HT and attach HT antenna and turn it on. On/off switch, LED. RF-free. 2Wx21/2Hx11/2D" MFJ-714 Mobile Intermod

Ship Code A Fighter<sup>TM</sup> plugs between mobile rig For handhelds and antenna coax. Has SO-239 connectors. Uses external 12 VDC \$5995 for power. On/off switch, LED, Ship Code A power jack. RF-Free cabinet. For Mobiles Compact 2Wx2<sup>1</sup>/<sub>4</sub>Hx1<sup>1</sup>/<sub>2</sub>D inches.

### MFJ Digital Screwdriver Controller Tells you



MFJ-1922 \$995 exactly where your Ship Code A antenna is positioned! Re-tune exactly -- fast, no more guessing. Super

bright .40" high-intensity 4-digit LED display and precision micro-controller gives digital count range -999 to +999. On/off/reset switch for easy calibration. 4Wx1<sup>1</sup>/<sub>2</sub>H x2D inches. Use 13.8VDC.

MFJ-82, \$29.95. Magnetic sensor kit for High Sierra antennas to use MFJ-1922.

MFJ-83, \$9.95. Magnetic sensor kit for Hi-Q Antennas to use MFJ-1922.

## MFJ Classic *HamGear*™



MFJ-6200, \$19.95. This MFJ waistpack is the perfect hamfest, DXpedition or field day hands-free carry-all. It has an amazing 9 spots to put your ham radio gear, tools, accessories, refreshments, etc.

50

MFJ-15, \$14.95. Durable HT pocket with elastic cord and velcro closure fits on your belt keeps radio secure.

MFJ-18, \$29.95. This MFJ Radio chest harness holds your handheld radio or cell phone snugly for

no worries, hands-free operation. Great for rugged action use like DX peditions, field day, biking, hiking, hamfests, search & rescue, etc. Accessory pockets. One size fits all.

## Flashlight Tool set



# MFJ Coffee Mug

MFJ-9-102, \$3.95. Porcelain MFJ Coffee Mug, with other purchase.

#### **MFJ Gift Certificate**

Call 1-800-647-1800. Any amount gift certificate can be purchased. Allow 2 weeks.

## RapidBattery<sup>TM</sup> Charger



MFJ-641 \$**59**<sup>95</sup> Ship Code A This MFJ Rapid-

Battery™ Charger has Quick/trickle charges for Ni-Cad/Ni-MH. Status LED, Quick/Trickle Autoswitch.  $3^{1}/_{2}x5^{1}/_{2}x3$  inches. One charger slot included. (I2) for BP-131/132; (I3) BP-173/180; (Y2) FNB-10/11/12/17/27; (Y3) FNB-31/33; (Y4) FNB-40/41/V47/V49; (K) Kenwood PB and KNB. Additional slots, \$9.95 each.

## MFJ RuffRider<sup>TM</sup> High Gain Mobile Antennas



Most RuffRiders™ come with MFJ's 90 degree "fold-over" feature -- lets you pull into your garage without knocking your antenna over!

MFJ's RuffRider™ High Gain multi-banded antenna series is for serious mobile hams demanding highest quality at low prices.

RuffRiders<sup>TM</sup> feature the finest quality construction using precision machined components.  $RuffRiders^{TM}$  battle the elements, handle rugged rides and day-today highway abuse.

Each has a PL-259 base mount for quick installation to trunk/hatch, gutter or mirror mount. A free NMO adapter is included for use with an NMO mount. MFJ tri-magnet mount is recommended for big antennas.

Choose from several different length and gain antennas . . . A. RuffRider MFJ-1402 \$34<sup>95</sup>

Junior<sup>TM</sup>. Shown on magnet mounts, not included. Ship Code A Premium, short 161/2"

Wave, 3 dB gain on 440 MHz.100 Watts. No fold-over. MFJ-1402B, \$41.95. Black. B. RuffRider High Power<sup>TM</sup>.

Just 40" long handles full 200 MFJ-1412 Watts. Great for high \$49<sup>95</sup> power mobile amp. <sup>1</sup>/<sub>2</sub> Wave, 3 dB gain on 2 Ship Code A Meters, 5/8 Wave, 5.5 dB gain on 440 MHz.

MFJ-1412B, \$56.95. Black. C. RuffRider High Gain™.411/2' long antenna gives extra gain MFJ-1422 with little height increase.

MFJ-1422 **\$4995** 150 Watts. ½ wave, 3.2 dB gain on 2 M, ½ your heavy duty SO-239 magnet, Ship Code B Wave, 5.7 dB, 440 MHz. MFJ-1422B, \$59.95. Black

D. RuffRider Hyper Gain™. 62<sup>1</sup>/<sub>2</sub>" brute gives a whopping 5

MFJ-1432 dB gain on 7/8 Wave 2 \$6995 Meters, 5/8 Wave, and a Ship Code B 440 MHz. Our highest gain dual band antenna will work wonders. Handles 150 Watts. MFJ-1432B, \$79.95. Black.

antenna fits in any garage on any auto.  $^{1}/_{4}$  Wave on 2 Meters,  $^{1}/_{2}$  E. RuffRider Triple Threat 59 inches of stacked elements 59 inches of stacked elements MFJ-1436 with high-Q phasing \$7995 coils give a whopping Ship Code B 7.2 dB gain on 440 MHz, 4.5 dB on 2 Meters and 2.15 dB on 6 Meters. Handles 150 Watts.

F. NEW! Covers 220 MHz! RuffRider Triple ThreatII<sup>TM</sup>. MFJ-1434 Slim 38 inches, similar \$**79**95 to MFJ-1436, but 2.15 dB on 2-Meters, 3.5 dB Ship Code A on 220 MHz, and 6 dB gain on 440 MHz. 100 Watts. RuffRider QuadBanderTM.

Covers VHF/UHF & 10 Meters! MFJ-1438 52", 7.2 dB - 440 MHz, \$995 4.5 dB - 144 and 2.15 Ship Code B dB on 6. Go HF with 10 Meters! 150 Watts. H. RuffRider™ 40 through 6,

MFJ-1456 Plus 144/440 MHz! \$14995 Covers 40/20/15 /10/6/2 Meters &r Ship Code B 440 MHz! Use up to 4 coils at one time. See page 41 for more details. Tri-magnet

## MFJ super heavy duty RuffRider™ mobile antenna mounts

MFJ Trunk/Hatchback Lip Mount Deluxe Trunk/Hatchback Lip Mount



MFJ's RuffRider™ Mounts feature extrawide four inch lip and large reinforcing tabs on

MFJ-345S MFJ-345T each side safely dis-SO-239 3/8x24 tributes load over 3/8x24 **34**95 **39**95 your vehicle's lip. 2 large set screws on Ship Code A each end locks your

mount in place. A scratch proof rubber guard protects your vehicle's finish.

Secures large VHF/UHF and medium size HF antennas. Adjustable angles. 10 ft. low loss coax has PL-259 connector. Has Allen wrenches and weather protection caps.

This heavy-duty trunk/hatchback fold-over lip mount has a wide 3.3 inch lip and reinforcing tabs on each side to safely distribute

MFJ-348S SO-239 \$36<sup>95</sup> Ship Code A **MFJ-348T** 3/8x24

the antenna load. Convenient thumb/finger lay-over knob lets you lay down your antenna to clear garages and low over-hangs -- several position detents in either direction. Scratch-proof foam guard protects your vehicles finish. 17 feet of coaxial line is terminated with PL-259 connector.

Mirror/Luggage Pipe Mounts

mount recommended

MFJ-342 3/8 inch threaded \$995 HF antenna pipe /mirror mount fits Ship Code A MFJ's HF mobile HamTennas<sup>TM</sup> or any 3/8" style whips. Stainless steel clamps can mount to 1/4 or <sup>1</sup>/<sub>2</sub>" pipe. SO-239 connector w/lock washer feeds coaxial line underneath 3/8 inch connector.

MFJ-344 is similar to MFJ-342, but is vertical mount for 3/8 inch antennas.



Triple Magnet Mount 3 super-strong 5-Inch Magnets



SO-239

MFJ-335BM \$2195 NMO

5-inch super strong





MFJ-335BM



black magnet mount with 17 feet of coaxial line terminated with PL-259 connector. SO-239 (BS) or NMO (BM) or 3/8 inch (BT). All are jet-black in color.

MFJ 3" Magnet Mount with coax



MFJ-333BM NMO \$16<sup>95</sup> Ship Code A



Quality adapter lets you use MFJ-7707 an HF whip \$895 with an Ship Code A NMO style mount.



MFJ Goliath™ Tri-Magnet Mount has three super strong 5-inch magnets bolted to 1/4 inch tri-

angular mount. 17 feet coax. Caution: once on, it's difficult to get it back off! Select SO-239, NMO or 3/8x24:

MFJ-336S

MFJ-336M

MFJ-336T NMO

Each Ship Code C

#### MFJ *HT Antenna* Mag Mounts

MFJ-332S, \$19.95. HT Antenna Magnet Mount with SMA on each end. 12 ft. flexible RG-58AU coaxial line. MFJ-332B, \$19.95. HT Mount with BNC on each end.

MFJ Mirror/Luggage Pipe Mount



knob. 10 foot coax with PL-259. MFJ GumDrop™ 3/8x24 Mount GumDrop™ 3/8" MFJ-343 antenna hard mount. Tough, durable plas-

**\$Q**95 tic, rubber seal pro-Ship Code A



Ship Code A

#### tects vehicle finish. MFJ Hard Mount Coaxial Line

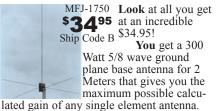


MFJ-341S/M Hard mount coax-Q-239 or NMO ial line, 16.5 feet. \$19<sup>95</sup> SO-239(S) or Ship Code A NMO (M).



## MFJ 5/8 Wave Ground Plane

For an incredible \$34.95, you get a 300 Watt 5/8 Wave ground plane 2 Meter home station antenna. Other 5/8 wave ground planes can't work any better -- no matter how much they cost . . .



Other 5/8 waves can't work any better -no matter how much they cost.

You get shunt fed matching network for

lowest possible SWR over entire 2 Meter band. Plus, it bleeds off unwanted static.

You get MFJ's RapidTuneRadiator™ for quick accurate tuning.

You get a ceramic insulator for low RF loss. Result? Maximum radiated power is achieved.

**Easy** installation to any 1 to  $1^{1/2}$  inch mast, (not included) with a single U-bolt (included).

You get strong lightweight aluminum construction that's protected by MFJ's

PermanentMolecularBonding Technology™. This super durable finish actually bonds itself to aluminum molecules -- it won't come off unless metal comes off!

You get MFJ's famous No Matter What™ one year limited warranty.

Just \$34.95 gets you the most incredible value in a 5/8 wave base station ground plane. Remember, other 5/8 wave ground planes can't work any better.

MFJ-1750, \$34.95. 2 Meter <sup>5</sup>/<sub>8</sub> Wave. MFJ-1752, \$34.95. 220 MHz 5/8 Wave.

### **Dual Band 144/440 Ground Plane**

MFJ's dual band 144/440 ground \$3995 plane antenna is small, lightweight and Ship Code A super easy to mount to any 1 to 1½ inch mast, (not included) with a single included U-bolt -- you'll have it up and operating anywhere in just minutes. Great for backpacking.

**Mount** it inside to get on-the-air quickly. You get extra long range on 440 MHz with a high gain halfwave over quarter wave antenna and solid 1/4 wave performance on 2 Meters.

Ground plane is sloped to give low SWR across both bands and to minimize feedline radiation. This gives you more useful radiated power, reduced TVI and noise pickup by the coax shield.

## *Improved* 1/4 Wave Ground Plane

For \$29.95, you get an improved MFJ-1740 \$295 300 Wat 1/4 Wave Ground Plane for 2 Ship Code A Meters that'll bring up repeaters as well as or better than any 1/4 wave ground plane -- even if it costs twice as much.

The improved MFJ 1/4 wave ground plane minimizes feedline radiation for more useful radiated

power, reduced TVI and noise pickup by the coax shield.

You get MFJ's Fast-Tune-Radiator™ that makes tuning to your favorite part of the band a snap. U-bolt and mounting hardware included. Easy to install on  $1^1/2^{\circ}$  mast. Can be cut for 220 or 440 MHz. A cutting chart is included.

#### Portable 3-element 2-Meter beam

Unique design lets you set it up or take it down in seconds! Elements simply screw into the boom. Easy to store and sturdy enough to use as your base antenna. **Center** mount it and use it vertically on FM or

horizontally for SSB. By rotating it you can minimize QRM. You can also mount it vertically or horizontally on the leg of a tower . . . great for Packet and PacketCluster<sup>TM</sup>

MFJ-1763 Compact 2<sup>3</sup>/<sub>4</sub> foot boom gives you calculated gain \$**54**95 Ship Code B within 1 dB of a four element Yagi with a boom nearly twice as long. Extra thick elements maintain high gain and directivity over virtually the whole 2-Meter band. Ferrite choke balun gives excellent feedline decoupling. Coax coupling is further reduced by mounting the SO-239 connector behind the reflector.

**Weighs** just 2 lbs. Boom is  $30^{1}/2x1^{3}/4x1^{1}/4$  in. Mounts easily to mast or tower leg with single included U-bolt. Mast not included.

### MFJ *Dual Band* 144/440 MHz Yaqi



MFJ-1760 MFJ-1760 gives a whopping 8 \$8995 dBi gain on 2-Meters and 6 dBi Ship Code B gain on 440 MHz. Has 3-elements on two meters and 5-ele-

ments on 440 MHz. Requires only one feedline for true dual band performance. Point in direction of your QSO for more direction of your output power. This reduces interference and increases signal strength. Has 17 dB

front-to-back ratio on 2-Meters and 10 dB on 440 MHz. Handles 500 Watts. The longest element is 40.5 inches and the boom is 45 inches. Mast diameter is 1.5 inches. Weighs just 2 pounds.

## MFJ 7 element 144/440 MHz Yagi



MFJ-1768 Get 7 elements on 440 MHz \$995 and 4 elements on 2 Meters. Ship Code C anced feed with FerriteChoke<sup>TM</sup> Exclusive dual band bal-

decoupling prevents pattern skewing-- gives low SWR. 1/4 inch diameter driver elements

give wide bandwidth. National Bureau of Standards design is optimized for maximum gain, high front-to-back, clean symmetrical pattern. Mounts vertically for FM/Packet or horizontally for SSB with single included U-bolt on 1 to 1<sup>1</sup>/<sub>2</sub> inch mast or tower leg.

**Includes** a 5 foot, 1<sup>1</sup>/<sub>8</sub> inch diameter boom, antenna weighs in at 2 pounds. Elements are electrically isolated from boom.

## Stacked 2-Meter 5/8 Wave

MFJ's stacked 5/8 wave radiators give you more than twice the omni-directional gain of a single 5/8 wave radiator!

Wide 10 MHz 2:1 SWR bandwidth . . . excellent ferrite choke balun feedline decoupling . . . shunt choke for bleeding off unwanted static . . . strong lightweight aluminum.

Works as an excellent 6 Meter full half-wave centerfed antenna. Great for MFJ's 6 Meter radios! Mounts vertically for FM/packet or horizontally for SSB. U-bolt (included) to any  $\hat{1}$  to  $1^{1/2}$  inch mast or tower leg.

MFJ-1766, \$124.95. Gives you four times the gain of a single 5/8 wave. 2 MFJ-1764 antennas, phasing cables. Double gain on 6M. MFJ-1765, \$39.95. Includes phasing cables for two MFJ-1764s.

MFJ Six Meter Antennas

## MFJ Discone Antenna receives 25-1300 MHz, transmits 50-1300 MHz



MFJ-1868 **\$5995** wide-band Ship code C antenna receives 25-1300 MHz. Perfect for scanners. Transmit 50-1300 MHz. Handles 200 Watts. Ideal for 6/2/11/4 Meters, 70/33/23 CM ham bands. Excellent for testing various transmitters on

single coax. Includes SO-239 connector, 50 feet coax, stainless steel elements and mounting hardware.



Same as MFJ-1868, Ship code C but

transmits from 144 to 1290 MHz. Coax and hardware is not included.

MFJ-1762, \$99.95. 6 Meter Yagi quadruples vour effective radiated power over 1/2 wave

dipole. 6 foot boom, 3 elements, 2 pounds. Handles 300 Watts PEP SSB. Mounts vertically or horizontally. Great front-to-back ratio.

MFJ-1756, \$99.95. Omni-directional low-angle vertical radiator lets you work plenty of DX in all directions even with low power. 55" strong aluminum radiator. Ship code C.

#### **Base/Repeater Antenna Series** MFJ *Pulsar*™

MFJ's Pulsar™ Base/Repeater Antenna series is built to last! Heavy duty fiberglass radomes and overlapping shells add strength and stability. Stainless steel hardware and waterproof joints elliminate moisture and pollution. Super high wind load resistance.

MFJ-1526 - \$149.95. Pulsar ULTRA MightyGainTM. Dual Band 144/440 MHz Base/Repeater Antenna. Our highest gain *Pulsar*<sup>TM</sup> antenna. Great 8.3 dB on 2 Meters and 11.7 dB on 440 MHz. 17 ft., shipped in two sections. SO-239 Connector, handles 200W.

MFJ-1526N - \$149.95. Same as MFJ-1526. has "N" connector.

MFJ-1524 - \$119.95. Pulsar Hyper MightyGain<sup>TM</sup>. Dual Band 144/440 MHz Base/Repeater Antenna. You get high gain with little weight. Just 10 feet

tall. Features 6.5 dB gain on 2 Meters and 9 dB gain on 440 MHz. Shipped in two sections. SO-239 connector, handles 200 Watts. All are ship code C.

MFJ-1522 - \$79.95. Pulsar Economy Priced Dual Bander<sup>TM</sup> Base/Repeater Antenna. Only 5.5 ft. tall, but big on gain. Get 4.5 dB gain on 2 Meters and 7.2 dB gain on 440 MHz. Great for antenna restricted households and apartments. Easy to hide on Balcony or backyard. Great Price! SO-239 Connector. Handles 200 Watts.

MFJ-1516 - \$99.95. Pulsar VHF Base Station TM. The ultimate 2 Meter Base/Repeater Station Antenna! Great 7.8 dB gain is perfect for dedicated repeater or home use. 15ft. shipped in three sections. SO-239 Connector. Handles 200 Watts.

MFJ-1536 - \$119.95. Pulsar VHF *TriBander*<sup>TM</sup>. The Perfect Base/Repeater Antenna for VHF work, Covers 2 Meters, 6 Meters, and 440 MHz. You get 2 dB on 6 Meters, 6 dB gain on 2 Meters, and 8 dB gain on 440 MHz. Only 8.2 ft., shipped in two sections. SO-239 Connector. Handles 200Watts. Ouadbander covers 220 MHz

MFJ-1538 - \$119.95. Pulsar VHF Ouad-Bander<sup>TM</sup>. Like MFJ-1536, but covers 6M/144/220/440 MHz.

MFJ-1532N - \$99.95. Pulsar VHF/UHF and 1.2 GHz TriBander $^{TM}$ Base /Repeater Antenna. VHF operation plus exciting 1.2 GHz!! 4.5 dB gain on 2 Meters, 8.3 on 440 MHz, and a whopping  $11.7~dB~1.2~GHz.~5^{1/2}~ft.~Type$  "N" connector. Handles 200 Watts.

## HF Mobile *HamTenna*™

**Your Choice: Each** is ruggedly constructed. MFJ-1620T - 20 Meters A heavy MFJ-1617T - 17 Meters duty 4 MFJ-1615T - 15 Meters foot, 3/8 inch MFJ-1610T - 10 Meters diameter \*1995 Each fiberglass rod; a nea

rod; a nearly indestructi-

Ship Code B ble .125 inch diameter PH-17-7 stainless steel whip and chrome plated brass fittings will give you years

of dependable service.

It's sleek, low profile construction has low wind loading and its semi-rigid fiberglass eliminates the need for springs or guys.

Black anti-static jacket protects the loading coil and blends with any vehicle. Stainless steel whip is adjustable for lowest SWR.

**Includes** allen wrench and complete tuning and matching instructions. Handles 250 Watts PEP.

**These** whips are about 7 feet tall fully extended, and they collapse to about 4 feet for easy storage.

Simply screws into any 3/8x24 female mount for quick band-changing.

## Thin, sleek base-loaded 41/2 ft Mobile HF whips

(20 Meters) \$29<sup>95</sup>

Efficient, base-loaded MFJ-2620T 41/2 foot HF Whip Antenna is thin, sleek, and low profile with very MFJ-2640T low wind resistance. (40 Meters) Lightweight. A 3/8x24 trunk lip or 5-inch magnet mount holds it tight and secure. Handles 125 Watts. Enjoy your road trip on HF!

Whip collapses to 22 inches for easy parking or storage in trunk. Easy-on, easy-off 3/8x24 stud. Use as center loaded antenna with bottom mast to improve efficiency.

## HF mini-Bugcatcher

MFJ-1624 Ship Code C

Become an "HF Mobileer" \$8995 almost instantly with almost no effort! Have tons of fun rag-chewing and DXing on the HF bands. Turn boring drives into fun-filled ham adventures.

It only takes minutes to attach a trunk lip mount (MFJ-345T, \$39.95), mirror or luggage mount (MFJ-342, \$9.95) or tri-magnet mount (MFJ-336T, \$34.95).

Screw in your MFJ-1624 mini bugcatcher HF mobile antenna.

**Throw** your rig into your car, plug it in the cigarette lighter and turn the power down to 20 Watts or so (to avoid overloading your cigarette lighter; handles 300 Watts PEP).

**Operate** HF mobile and enjoy DXing!

Bugcatcher design uses large highly-efficient air-wound inductor --it will far out perform other compact HF mobile antennas.

Exclusive built-in inductive matching network keeps SWR low.  $5^{1/2}$  foot whip collapses to  $2^{1/2}$  feet for easy storage and garages. Base loaded for minimum wind load and stress. Change bands by moving "wander lead". 3/8 by 24 inch

## *HF/VHF/UHF Mobile*

MFJ-1456 Ship Code C

MFJ-1456

Coils

This new mobile 14995 antenna lets you operate all of your favorite HF/VHF/UHF bands as a base station antenna

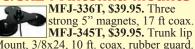
or great as a mobile. Covers 40/20/ 15/ 10/6/2 HF Loading Meters/440 MHz with automatic bandswitching! Now you can DX and rag-chew just like the big boys with their fancy screwdriver antennas at almost three times less the cost! Use one or up to four loading coils for ultra low profile.

Adjustable whip for tuning. Handles 100 Watts. SO-239 connector quickly screws onto mirror, luggage or tri-magnet. Antenna is 75" with the tallest coil mounted vertically. Great for Icom-706 series. Tri-mag recommended.

3/8-24 Mount Dual Band Whip **MFJ-1414** is a tall  $58^{1/2}$ **New!** MFJ-1414 in. It's a 3/8-24 Stud-\$19<sup>95</sup> Mount Dual Band Whip antenna with 2.15 dB gain Ship Code C

on 2-Meters (1/2 wave) and 3.5 dB gain on 440 MHz. Handles 200 Watts. Sleek, stainless steel, heavy duty construction (no plastic coils to break). Lets you use just one mount for all of your HF/VHF/UHF antennas.

#### 3/8x24 Antenna Mounts



Mount, 3/8x24, 10 ft. coax, rubber guard. **MFJ-348T, \$42.95.** 3/8x24 deluxe trunk lip mount with extra-wide 3.3" lip, 17'coax. MFJ-342, \$9.95. Vertical 3/8x24 pipe mount for mirror or luggage rack. MFJ-344, \$9.95. Horizontal 3/8x 24 pipe mount for mirror or luggage rack. MFJ-343, \$9.95. Through-hole bumper, trunk mount, rubber seal, lock washer. See page 51 for more mount info

## Replacement HF Radio Handheld Microphones

MFJ now offers dynamic HF Radio replacement handheld microphones! Replace your old, beat-up Icom, Kenwood, Yaesu, Alinco, or TenTec microphones. Gives PTT and quality mic audio. Heavy-duty construction, extra long cord. Specify MFJ-290K/Y/I/T for 8-pin round mic connector. Select MFJ-290MI for Icom modu-MFJ-290K/Y/I/T MFJ-290MK/MI/MY lar, MFJ-290MK for

MFJ-290MY for Yaesu

modular. Choose MFJ-

290K4/Y4/I4/T4 for 4-

pin round mic connector.

Kenwood modular and MFJ-290K4/Y4/I4/T4 \$19<sup>95</sup> Ship Code A

## HF Portable/Mobile Manual Screwdriver Antennas

MFJ's new Manually Tuned Screwdriver Antennas lets you operate all bands between 80 and 6 Meters continuously including all WARC bands and the new 60 Meter bands (depends on model). It far outperforms other HF compact antennas.

MFJ's new Manually Tuned Screwdriver Antennas let you operate all bands 80-6 Meters *continuously* including all WARC bands and the new 60 Meter bands (depends on model). It far outperforms other HF compact antennas.

An extra long 10 foot (19" collapsed) telescoping whip lets you really get out and work rare DX! A 4½ foot (23" collapsed) telescoping stainless steel whip is included for mobile and limited space operation.

It has a highly efficient loading inductor. For highest Q, the coil is wound with heavy gauge wire with wide spaced turns on a

core that is mostly air.

A tuning sleeve electrically removes turns to eliminate detrimental self-resonance effects that "wander leads" cause. The tuning sleeve is on the low impedance side of the coil to minimize power robbing stray capacitance and detuning hand

capacitance effects. Tuning is smooth, easy and sure -- the frequency stays put after you tune it. No tedious back & forth trial & error tuning procedure.

Extremely rugged -- the whole coil assembly is one unit and does not move. A separate movable sleeve adjusts fre-

> quency. A nylon-tipped thumb-screw locks sleeve. Wing nut lets you connect a matching capacitor or inductor for 1:1 SWR. 3/8x24 mounting hardware is used for loading coil and both whips. Use any 3/8x24 mount. Works great in/ outdoors. Handles 200Watts PEP. Add coax, connect ground/counterpoise and you're ready!

## 12/10/4.5 feet telescoping whips

12 and 10 Foot whips are durable 1/2 inch diameter plated brass. Standard 3/8 inch by 24 threaded stud for all standard mounts.

Replace screwdriver antenna whip for highly efficient *fixed* mobile operation.

**Telescopes** for full 1/4 wave operation 2 to 12/15 Meters. Cover 17, 20, 30, 40, 60, 80, 160 Meters with loading coil. Use two for multi-band dipoles.

**A.** MFJ-1956, \$34.95. Telescopic, 12 feet fully extended, 22.5 inches collapsed.

**B. MFJ-1954, \$29.95.** Telescopic, 10 feet fully extended, 19 inches collapsed.

C. MFJ-1953, \$24.95. Telescopic, 8 feet fully extended, 2 feet collapsed.

D. MFJ-1952, \$14.95. Telescopic,

4.5 feet extended stainless steel whip. 22 inches collapsed. 3/8x24 threaded stud. Super durable for mobile/base operation.

### 108 and 72 inches stainless steel whips

**Solid** stainless steel 108 inch and 72 inch whips with corona discharge caps. Super durable whips for mobile screwdriver antennas. 3/8x24 threaded stud. E. MFJ-1966, \$26.95. 108 inches. F. MFJ-1964, \$21.95. 72 inches.

**Portable Manual Screwdriver Antennas** 

Covers 40-2 whip. Covers

MFJ-1661 Meters with 10 foot \$13995 Ship Code C 6-20 Meters with 4 ½ foot whip. 12 inches long by 2 inches in diameter. Weighs one pound.

**PortableVersions** Uses longer 10 ft. whip for full frequency coverage.

Ship Code C

Covers 80-6 \$169<sup>95</sup> Meters with 10 foot whip. Covers (4) Meters 4½ ft. whip. 24" long by 2 inches in diameter. Weighs just 1.8 pounds.

MFJ-22, \$4.95. Shunt matching coil with solder lugs. For use at base of mobile/screwdriver antennas with high SWR.

**Mobile Manual Screwdrivers** 

95 40-2 Meters Ship Code C foot mobile or 10 foot fixed operation telescoping whip. Continuously adjustable loading coil is 15 inches long by 2 inches in diameter and weighs **Mobile Versions** 

Covers 80-6

Get full frequency coverage with short 4.5 ft. whip. Meters with  $4\frac{1}{2}$  foot *mobile* or 10 foot *fixed operation* telescoping whip. Continuously adjustable loading coil is 36 inches

long by 2 inches in diameter and weighs \$17995 2.6 pounds.

MFJ-1668 Ship Code D

## "Shorty"

**MFJ's** *shorty* Automatic MFJ-1672 Screwdriver Antenna provides continuous coverage from 3.5 to 54 MHz with supplied whip. Handles 200 Watts PEP. 16" base, 32" whip. Weighs only 1.9 lbs.

Don't let the small size fool you because we designed this antenna to be mounted higher on the vehicle, and when mounted higher on the vehicle the MFJ-1672 will have less ground losses which means better HF performance.

**Its** smaller size lets you use a more common type of mount like the MFJ-336T, \$39.95, MFJ tri-magnet (not included). Built-to-last with Dupont Imron 5000 color system and the *Lexan*™ Weather Shield. It also uses a commercial 12 volt gear motor. Black only.

**Included** standard with the screwdriver antenna is the 32" stainless steel whip, 20 feet of plug-n-play control cable, manual control box, ferrite decoupling core and a 3/8-24 threaded stud.

## MFJ Portable Antenna Tripods

MFJ-1918 **\$49**95

Ship Code C

MFJ-1919 **\$89**95 Ship Code D

Each have black *steel* base forms with strong braced equilateral triangles on a side. They have non-skid feet and strong base and mast locks. You can easily add a mount or mast extension for even greater heights.

MFJ-1918, \$49.95, holds 66 pounds of antenna steady and extends up to 6 feet. One inch diameter steel mast extends height to six feet. Strong base and mast locks. Collapses to 38 inches by 4 inch diameter. Weighs just 6<sup>3</sup>/<sub>4</sub> pounds.

#### **HEAVY DUTY TRIPOD!**

**New!** MFJ-1919, \$89.95, holds 100 pounds of antenna steady and extends to a *whopping* 7.8 feet. Base extends to 693 inches squared. 1.4 inch diameter mast easily accepts most U-bolt antenna applications. Collapses to 38 inches by 4

Ultimate Portable *HF Vertical* Antenna

MFI-1964K \$**54**<sup>95</sup>

You get Phil Salas, AD5X "Ultimate Portable Antenna" article, from QST, 2005; a 2.5" diameter, 5inch length coil; a ten foot telescopic whip antenna; six special silver plated tap clips for the coil, and a chassis mount SO-239 connector to build the

antenna. The rest of

the parts needed to

build the antenn are described in AD5X' article. The antenna is a full quarter-wave on 20-10 Meters, and

also works 60, 40 and 30 Meters.

www.mfjenterprises.com • Toll-free 1-800-647-1800

inch diameter. 93/4 pounds.

## MFJ Telescopic Fiberglass & Aluminum Masts

Fiberglass pole extends to Super-Strong Fiberglass Mast MFJ-1910 33 ft... weighs 3.3 lbs. -- Select 10, 22, 33 or 43 Feet!

Just pull out each section and twist to lock. Ship Code D It extends to a whopping 33 feet - - a full quarter wave on 40 Meters! It collapses to just 3.8 feet and weighs a light 3.3 pounds for true portability. Bottom section is large 1<sup>3</sup>/<sub>4</sub>-inch diameter. Super

Great for portable, temporary use and semi-permanent use -- traveling, camping, from hotels, hamfests, field day, DX-peditions.

Put up a full size inverted Vee, dipole or vertical antenna in minutes and get full size performance.

Use to construct other types of antennas like loops, quads, rotatable dipoles even beams.

## 65 Feet, 11-Section Telescopic *Aluminum Mast*

MFJ-1965 This 11-section multi-purpose alu-\$1995 minum telescopic pole can be used for vertical antennas or as a mast, pictured left. Great for portable, temporary use and permanent use -- traveling, camping, etc.

**Includes** one size of each slitted tube listed above and

ten hose clamps. MFJ-1965 is 65 feet fully extended and 6 feet collapsed without clamps.

Guying is required if mast is extended beyond 30 feet. Top section is .625" OD. Bottom section is 2 inches OD x .120 wall.

#### **Base Mount for Fiberglas** and Aluminum Masts

MFJ-1900, \$69.95. Complete base assembly kit with mounting plate, insulators, hardware, etc. for fiberglass and aluminum masts. Fit up to 2.0" OD masts.

MFJ-1902H 10 Feet \$119<sup>95</sup> MFJ-1904H

MFJ-1906 33 Feet

Ship Code E

MFJ-1908 43 Feet Ship Code E

Ship Code B Ship Code C This is a superstrong heavy duty tele-

scoping MAST, not a flimsy pole!

These super-strong masts are made of .125 inch thick wall fiberglass tubing.

Each has a 2-inch

Left: Stainless Steel Hose Clamps (use nut/screwdriver) Fiberglass is slot-ted. **Right:** Military quality UV protected QuickClamps. Guy 2 levels fully extended.



O.D. bottom section and a 3/4 inch O.D. top section. These masts support "real" weight including small yagis, verticals, loops, full-size dipoles, G5RVs, and more.

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-1906/MFJ-1908 have stainless steel hose clamps (use nut/screwdriver).

MFJ-1906H/MFJ-1908H have military quality UV protected *QuickClamps*. Must guy two levels minimum when fully extended.

MFJ-1904H, \$159.95. 22 feet extended, 5 feet collapsed, 9 lbs. With military quality QuickClamps.

MFJ-1902H, \$119.95. 10 feet super-strong fiberglass mast, perfect for traveling. True portability -- will fit in your suitcase! 38" collapsed, ten feet extended. Six 2 feet sections with *QuickClamps*, weighs just 5 lbs.

MFJ-1900, \$69.95. Mast base mount. See left. MFJ-14, \$59.95. Extra set of 5 Military quality UV protected QuickClamps.

#### Antenna Balun/Unun, **Center Insulators & RF Isolators** MFJ-915 RF Isolator

## *True 1:1* Current Balun/Center Insulator

True 1:1 Current Balun/ Center Insulator MFJ-918 forces equal \$2495 antenna cur-Ship Code A rents in dipoles for superior performance. Reduces coax feedline radiation and field pattern distor-

tion -- your signal goes where you want it. Reduces TVI, RFI and RF hot spots in your shack. Don't build a dipole without one! 50 hi-permeability ferrite beads on high quality RG-303 Teflon<sup>(R)</sup> coax and Teflon<sup>(R)</sup> coax connector. Handles full 1.5kW 1.8-30 MHz. Stainless steel hardware with *direct* 14 gauge stranded copper wire connection to antenna. 5x2 inch heavy duty weather protected PVC housing.

#### MFJ W9INN Balun Box

Converts unbalanced coax line to balanced ladder transmission line. Giant 2core 4:1 balun wound with Teflon(R) wire.  $3^{1/4}x2^{1/4}x7$  in. Heavy duty ceramic feedthru insulators. 1500

Ground post, mounting holes.

ΛFJ

Watts full legal limit. SO-239. \$**69**<sup>95</sup>



Ship Code B

Stops RF from traveling on coax lines MFJ-915 RF MFJ-915

\$2995 Isolator prevents Ship Code A unwanted RF from traveling on the outside of your coax shield into your transceiver. This unwanted stray RF can cause painful RF "bites" when you touch your microphone or volume

control, cause your display or settings to go crazy, lock up your transceiver or turn off your power supply. In mobile installations, stray RF can be even more drastic -- it could cause your car to do funny things or even blow your automobile's computer. Clear up these problems, plug an MFJ-915 between your antenna and transceiver and relax. 5x2 inches heavy duty weather protected PVC housing.

Handles 1.5 kW. Covers 1.8-30 MHz. Switchable 1:1 or 4:1 **Current Balun/Unun** Switchable. 1:1 or MFJ-911H

4:1 current balun/unun. **\$3495** Transmission line Ship Code A transformer uses lowpermeability ferrite cores to give

amazingly flat response 1.8-30 MHz. Transforms 200 or 50 ohm balanced or unbalanced loads to 50 ohms. Change balanced to unbalanced with ground post. 300 Watts. 2<sup>1</sup>/<sub>2</sub>Wx4<sup>3</sup>/<sub>4</sub>Hx1D inches.

#### True 4:1 Current **Balun/Center Insulators**

MFJ-913/MFJ-919 are true current baluns/ antenna center insulators that transform 200 ohms to 50 ohms. Transmission Line Transformer construction using 100 ohm characteristic impedance transmission line gives flat 160-10 Meter response. Low permeability ferrite cores, SO-239, stain-

Ship Code A less steel hardware with direct 14 gauge stranded copper wire connection to antenna. Heavy duty weather housing.

MFJ-913 handles 300 Watts and is 41/2"Hx2" diameter. MFJ-919 handles 1500 Watts. Sturdy cube \$5995 shape housing, 3½W Ship Code A x3<sup>1</sup>/<sub>2</sub>H x2<sup>1</sup>/<sub>2</sub>D in.

### True 4:1 Current Balun/Unun

True 4:1 current balun/unun transforms 200 ohm balanced and unbalanced loads to 50 ohms. True transmission line transformer gives an amazingly flat response 1.8-30 MHz. Two low-permeability ferrite cores easily handles 300 Ship watts. Change balanced to unbalanced with

ground post. 21/2Wx43/4Hx1D inches.



## **MFJ Antennas for Restricted Areas**

## MFJ's Super High-Q Loop™ Antennas



MFJ's tiny 36 inch diameter loop antenna lets you operate 10 through 30 MHz continuously --

including the WARC bands!

Ideal for limited space -- apartments, small lots, motor homes, attics, or mobile homes. Enjoy both DX and local contacts mounted vertically. Get both low angle radiation for excellent DX and high angle radiation for local, close-in contacts. Handles 150 watts.

Super easy-to-use! Only MFJ's super remote control has *Auto Band Selection*™. It auto tunes to desired band, then beeps to let you know. No control cable is needed. Fast/slow tune buttons and built-in two range Cross-Needle SWR/Wattmeter lets you quick-

ly tune to your exact frequency.

All welded construction, no mechanical joints, welded butterfly capacitor with no rotating contacts, large 1.050 inch diameter round radiator -- not a lossy thin flat-strip -- gives you highest possible efficiency.

Each plate in MFJ's tuning capacitor is welded for low loss and polished to prevent high voltage arcing, welded to the radiator, has nylon bearing, antibacklash mechanism, limit switches, continuous no-step DC motor -- gives smooth precision tuning.

Heavy duty thick ABS plastic housing has ultraviolet inhibitor protection.

MFJ-1788, \$469.95. Same as MFJ-1786 but covers 40 - 15 Meters continuous. Includes super remote control.

MFJ-1782, \$379.95. Like MFJ-1786 but fast, slow tune button control.



MFJ-1780, \$299.95. This Box Fan Portable Loop is about the same size (2x2 foot) as a box fan, complete with handle. Covers 14-30 MHz. Remote Control box has fast/slow tunes.

## MFJ Apartment Antenna

Covers 40 thru 2 Meters ... Mounts outdoor to windows, balconies, railings ... works great indoors mounted to desks, tables, bookshelves



MFJ-1622 Apartment Antenna lets you operate 40 through 10 Meters on HF and 6/2 Meters on VHF with a single antenna!

Its universal mount/clamp lets you easily

attach it to window frames, balconies and railings. It also works great indoors mounted to a desk, table or bookshelf. It's not a 5-element yagi, but you'll work your share of exciting DX!

**Highly** efficient air wound "bug catcher" loading coil and telescoping 5½ foot radiator lets you really get out! Radiator collapses to 2½ feet for easy storage and carrying.

It includes coax RF choke balun, coax feed line, counterpoise wire and safety rope.

The operating frequency is adjusted by moving the "wander lead" on the coil and adjusting the counterpoise for best SWR.

# MFJ Vertical for Antenna Restricted Areas

40, 20, 15, 10 Meters, Automatic BandSwitching

**Perfect** for permanent or portable operation in antenna restricted areas.

Hi fer in to (ac D) dir 15

MFJ-1795 **\*169**95 Ship Code E

Hide behind trees, fences, buildings, in bushes -- only 7 to 10 feet tall (adjustable).

Low angle of radiation for DXing, omnidirectional, handles 1500 watts PEP.

**Highly** efficient end-loading. Entire length radiates. Low SWR.

Ground mounts with suitable ground such as MFJ-1904 Ground-Coupled Antenna Base, radials or ground rods. Roof mount with radials.

**MFJ-1795W, \$169.95.** WARC band version for 12, 17, 30, 60 Meters only.

MFJ-1901 P95, \$239.00. MFJ-1901 with MFJ-1795 Combination. *Saves \$30.90!* MFJ-1901HG18, \$194.90. MFJ-1901 with AV-18VS. *Saves \$15!* See page 67.

## **Portable Antenna Base**



The MFJ Ground-Coupled Portable Antenna Base™ gives you a stable way to mount your vertical antenna and provides an effective ground by just plopping down the base and standing on it to push the legs firmly into the ground. It'll support many multiband verticals.

It's perfect for traveling or for semi-permanent summer/winter homes. You can easily set it up and take down your vertical antenna for stealth operation if you live in an antenna-restricted area.

The MFJ-1901 Ground-Coupled Portable Antenna Base<sup>TM</sup> is a 2x2 foot stainless steel square with reinforcing bends that greatly strengthens it. There is a folded and tapered six-inch stainless steel leg on each corner.

**Two** antenna mounts let you use a variety of vertical antennas.

Two handles make carrying and removing

## 80-6 Meter Window/Balcony Antenna, built-in *Tuner*

Complete antenna MFJ-1625 system mounts on window frames, bal-Ship Code C conies, and railings. Perfect for apartment dwellers. Covers 80-6 Meters. Includes universal mount/clamp, built-in antenna tuner with RF isolator, long 12 foot telescoping whip (22.5 inches collapsed), high efficiency loading coil for 40/80 Meters, counterpoise wires, and safety rope. Handles 200 Watts. MFJ-1623, \$179.95. Like MFJ-1625, but covers 6 through 30 Meters.

MFJ-63, \$39.95. *High-efficiency* air-wound 80/40 Meter loading coil with 3/8x24 male and female connectors. For whips and verticals.

the base fast and easy. You can also attach radials for improved performance.

**Stainless** steel construction means you'll get trouble-free service for years.

The base is anchored into the ground by stepping on each corner and forcing each leg into the ground. Each *stainless steel* leg is designed to keep the base from tilting.

The base can support a lightweight multiband vertical antenna -- like the all band Hy-Gain 18AVS and the bandswitching MFJ-1795 -- and provide a semi-permanent installation. Hide the base by covering it with dirt.

**Built-in** antenna mount with SO-239 coax connector and two U-bolts lets you mount most standard and homebrew vertical antennas.

**Standard** 3/8-inch x 24 mobile antenna mount built-in for MFJ Mobile Whips, bug catchers, *Hustlers* and screwdriver antennas.

## MFJ All-Band G5RV Antennas

Operate all bands through 10 Meters, even 160 Meters, with a single wire antenna!



MFJ-1778 \$4495 Ine famous Ship Code B G5RVantenna is the most popular ham radio antenna in the world! You hear strong signals from G5RVs day and night, 24/7.

And it's no wonder . . . it's an efficient, all band antenna that's only 102 feet long -- shorter than an 80 Meter dipole. Has 32.5 foot ladder line matching section ending in

SO-239 connector for your coax feedline.

Use as Inverted Vee or Sloper, and it's even more compact and needs just one support.

With an antenna tuner, you can operate all bands 80 Meters through 10 Meters and even 160 Meters with an antenna tuner and a ground.

MFJ's fully assembled G5RV handles 1500 Watts.  $\check{H}$ ang and  $Play^{TM}$  -- add coax, some rope to hang and you're on the air!

MFJ-1778M, \$39.95. Half-size, 52 foot G5RV JUNIOR covers 40-10 Meters with tuner. Handles 1500 Watts.

#### MFJ All Band Doublet

MFJ-1777 is a 102 foot all band doublet antenna that covers 160 through 6 Meters with a balanced line tuner. Super strong custom fiberglass center insulator pro-



vides stress relief for ladder line (100 ft. included). Authentic glazed ceramic end insulators. Handles 1500 Watts.

#### MFJ Single Band Dipole Antennas



Ultra high quality center fed dipoles will give you trouble-free operation for years. Custom injectionmolded UV-resistant center insulator has built-in coax connector and hanging hole. Heavy duty 7-strand, 14gauge hard copper antenna wire. Extremely strong solderless crimped construction. Authentic glazed ceramic end insulators. Use as horizontal or sloping dipole or inverted vee. Handles full 1500 Watts. Simply cut to length for your favorite frequency with cutting chart.

#### Dual Band 80/40 Meter and 40/20 Meter Dipole Antennas



40/20 Meter Dipole Antenna

line directly, no tuner needed.

**MFJ-17754, \$59.95.** Short coax fed 42 foot long *dual band* 40/20 Meter dipole antenna. Full-size on 20 Meters, ultra-efficient end-loading on 40 Meters. Same construction as MFJ-17758. Coax not included.

## 80 Meter End-Fed Zepp

MFJ-1748 High performance, **\$79**95 no com-Ship Code B promise End-fed Zepp. Use when center feed is not possible or desirable. 125 feet long, includes 100 feet ladder line. Strong fiberglass insulator provides ladder line stress relief. Glazed ceramic end insulator. 1500 Watts. Requires balanced line antenna tuner or tuner/balun.

## **20 Meter** Extended Double Zepp

90 foot long, 20 Meter Extended Double Zepp. Whopping 3 dB gain doubles your power! 80-10 Meters with tuner. 100 feet ladder line, glazed ceramic end insulators, ladder line stress relieving fiberglass center insulator, 7-strand,

#14 gauge hard copper wire. 1500 Watts. Requires balanced line tuner or tuner/balun.

#### Folded Dipole Antennas for Your Portable Station

Single band, lightweight, folded dipoles. Low SWR, direct coax feed, 200 Watts. MFJ-1774 (40 Meters), MFJ-1773 (30M),

MFJ-1772 (20M), Ship Code B MFJ-1771 (17M),

MFJ-1770 (15M), MFJ-1770A (10M). Perfect for MFJ Rigs!

each!

MFJ-1644 \$159<sup>95</sup> Ship Code B

## Whip Tuner/Artificial Ground gives *instant* 80-10M, 150 Watt Antenna

MFJ-1742

**\$79**95

Just add short whip and counterpoise wire and instantly get an effective portable

150 Watt all band 3.5-30 MHz antenna. It's effective, compact and simple to use

for portable, fixed station and emergencies. **High** power, hi-Q 3-core variable loading coil efficiently resonates short whip or random wire. Identical inductor tunes counterpoise. Operates 30-10 Meters

with included 4½ foot telescoping whip

antenna and counterpoise assembly. Add longer whip/random wire and external loading coil for more efficient operation especially on 80-30M. 12 foot whip, hamstick, Hustler antennas all work great.

Tune for low SWR with built-in reversible L-network. Current balun decouples radiating elements.

**Tune** for maximum current on RF Current Meter to give you maximum radiated power and minimum SWR. Sensitivity control lets you use QRP to 150W QRO.

Ultra low capacitance fiberglass antenna/counterpoise insulator minimizes shunting antenna current to ground for maximum radiated power.

Standard 3/8x24 female connector for whip antennas and wing-nut for counterpoise. SO-239. 7<sup>1</sup>/<sub>4</sub>Wx2<sup>1</sup>/<sub>4</sub>HX2<sup>1</sup>/<sub>2</sub>D inches. MFJ-1642, \$129.95.

Like MFJ-1644 but less RF



DXCC, WAZ, WAC, WAS won with MFJ-1621! MFJ-1621 lets you operate anywhere -- apartment, campsite, resort hotel, even at the beach. Work 40-10 Meters using included 54-inch telescoping whip. The antenna is mounted on a sturdy, 6x3x6 inch cabinet. Features a built-in antenna tuner, field strength meter, 50' RG-58

coax. Handles 200W PEP SSB. It's a complete portable multi-band antenna system - use it in any location. 3/8x24 threaded connec-

\$995 tor disengages easily and collaps-Ship Code B es to 22" for easy portability. Just place in any electrically clear location, set the bandswitch, tune the capacitor for maximum field strength and operate!

MFJ-1621

## MFJ Hang & Play M Collinear Array Antennas

2-elements, 2 dB gain . . . 4-elements, 4.5 dB gain . . . Handle 1500 Watts . . . Very Quiet . . .

When Radio was King . . .

MFJ reached back into time when radio was king and brought back to life some of the most popular, classic antennas that gave the most powerful signals.

These classic high-performance antennas give you a powerful, booming signal and needs just two trees to hang and play!

We have updated them with stronger, more durable modern materials, adapted some to simple, direct coax feed and made them hang and play.

#### Two and Four Element Arrays

These MFJ-62XX single band two halfwave element collinear array gives you nearly 2 dB gain -- about 150% power gain -- and twice the receiving capture area of a half-wave dipole. They have direct coax feed and low SWR across the entire band.

**The** MFJ-64XX *four* half-wave element collinear array gives you a whopping 4.5 dB gain -- about 300% power gain. You get four times the receiving capture area of a half-wave dipole -- you'll hear DX you've never heard before! They require a balanced line tuner or a tuner with balun. Hang and Play $^{TM}$ !

You can virtually hang and play™ when you receive them. No cutting, soldering, tuning, or trimming is required. Just follow the easy installation instructions and you'll be up and running in no time!

They are completely assembled and include super strong custom fiberglass center insulators, authentic glazed ceramic end insulators, heavy duty 7-strand, 14 gauge hard copper element wire and extremely strong, solderless, crimped construction.

#### DX the World!

With larger capture area and power gain, you'll hear & work more DX than ever before! Worldwide Coverage

A pair of these antennas at right angles can provide worldwide coverage. These arrays radiate bi-directional perpendicular

to the wire and handle full 1500 Watts.

Several single band antennas can provide excellent frequency coverage and gain without towers and rotary beams.

These Antennas are Quiet!

Their directional properties and polarization reduce noise up to two to three Sunits below verticals and inverted vees.

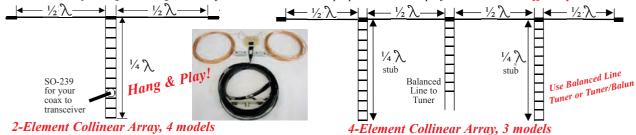
#### Simple Installation

**These** antennas work well even at a 1/4 wavelength above ground, but perform best at 1/2 to 3/4 wavelength above ground. They should be mounted horizontally and pulled tight. Lengths are 55 to 136 feet horizontally.

The feedline and stub simply hangs from the antenna and can be bent at the bottom or pulled away at an angle to make installation convenient. Some twisting of the feedline or stub is okay.

#### Free Manuals

**Download** free instruction manuals and see how easy it is to use these hang and play antennas! www.mfjenterprises.com



#### 2-Element Collinear Array, 4 models

MFJ-6215, \$44.95. 15 Meter, 46' hor., 10' vert. stub. MFJ-6217, \$49.95. 17-Meter, 54' hor., 12' vert. stub. MFJ-6220, \$49.95. 20-Meter, 70' hor., 16' vert. stub. MFJ-6230, \$54.95. 30-Meter, 96' hor., 22' vert. stub. MFJ-6240, \$64.95. 40-Meter, 136' hor., 30' vert. stub. Coax feedline is not included. All are Ship Code B.

**MFJ-6415**, **\$99.95**. *15-Meter*, 92 feet horizontal, 10 feet vertical stub. **MFJ-6417**, \$104.95. *17-Meter*, 108 feet horizontal, 12 feet vertical stub. **MFJ-6420**, \$114.95. *20-Meter*, 140 feet horizontal, 16 feet vertical stub. Each includes 100 feet of 450 Ohm ladder line for connection to your

tuner. All are Ship Code B.

## MFJ Hang & Play TM End-Fed Zepp Antenr Direct coax feed... Handles 1500 Watts... Low SWR... Heavy Duty construction **End-Fed Zepp Antennas**

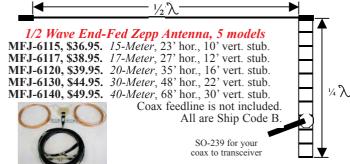
When an end-fed antenna is desirable or when a center-fed

antenna is not possible or convenient, these hang and play<sup>TM</sup> endfed Zepp antennas provide excellent no-compromise performance.

The MFJ end-fed Zepp is a *completely assembled* single band half-wave antenna. It's designed for direct coax feed and handles a full 1500 Watts legal limit with low SWR.

**Hang and Play!** Just follow the easy installation instructions -- no cutting, soldering, tuning, or trimming.

They radiate in a wide broadside pattern. Feedline/stub can be "bent" at the bottom, pulled away at an angle. Super-strong fiberglass feed point insulator, glazed ceramic insulator, heavyduty 7-strand, 14 gauge hard copper wire, extremely strong solderless crimped-construction. Super-strong custom fiberglass SO-239 mount provides stress-relief for the ladder line.



## I-1785 80/40/20 Meter Rotatable Dipole

A full legal limit efficient 80, 40, and 20-meter antenna that is shorter than a 20-meter dipole...

MFJ-1785

**Now** you can operate the *low bands* on 80, 40, and 20 Meters with a true rotatable dipole that'll blend in with the sky!

Take advantage of the excellent propa-

gation of the low bands during the \$36995 low sunspot cycle.

This rotatable dipole lets you focus your signal in the direction you want so you can work some real DX!

Small, low profile, inconspicuous. The entire antenna length is used on all three bands. The MFJ-1785 is constructed of 6063 T-6 aircraft strength aluminum

tubing with a solid center fiberglass insulator and handles 1500 Watts SSB/CW.

The 80 and 40 meter end-loading coils are wound on fiberglass forms with Teflon<sup>TM</sup> wire, and resonated with capacitance hats to ensure an extremely low-loss structure.

**Balun** included! 33 feet wide. Requires a medium-duty rotator such as Hy-gain's AR-40 -- See page 69 for more details.

## $rac{1}{2}$ Wave, 6-Band Rotatable Mini-Dipole

Low profile 14 feet . . . 7 ft. turning radius . . . 40, 20, 15, 10, 6, 2 Meters ... 1500 Watts... Directivity focuses signal, reduces QRM/noise...



foot rotatable dipole across the street! Its tiny 7-foot turning radius fits on the smallest roof -- it's perfect for

town houses, apartments and condos. The MFJ-1775 is inconspicuous and low profile -- not much bigger than a TV antenna and can easily be turned by a lightweight TV rotator

(see AR-35, page 63). It's no Wimp! Its directivity reduces QRM/noise and lets you *focus* your signal in the direction that you want -- so you can work some real DX.

You can operate 6 bands -- 40, 20 15, 10, 6 and 2 meters -- and run *full* 1500 Watts SSB/CW on all HF bands!

custom injection molded, hang hole for

MFJ-16B01, \$19.95.

MFJ-16D01, \$8.95.

inverted vees, wire tie points, light-weight.

Ladder Line Center Insulator

wire tie points. Hang hole for inverted vees.

Ladder Line *Feedpoint End* Insulator

relief. Built-in SO-239 con-

nector. MFJ-16E01, \$9.95.

.adder Line *Feedpoint* 

Middle Insulator

239 connector, quadruple weave-through lad-

der line stress relief. MFJ-16F01, \$8.95.

weave ladder line stress

Super-strong fiberglass ladder

line *middle* insulator. High-strength

coax connection at midpoint. Has SO-

Super strong fiberglass, 450 Ohm

ladder line end insulator. Double

Coax Center Insulator

Built-in SO-239 connector,

super strong, UV resistant,

Super strong fiberglass, 450

Ohm ladder line center insu-

lator. Double weave ladder

line stress-relief. Strong



Insulator

MFJ-16C01 79¢

little effect on other bands.

most versatile rotatable dipole!

*length* halfwave dipoles.

**Each** HF band uses a separate,

efficient end-loading coil wound on

fiberglass forms with Teflon™ wire,

and capacitance hats at each end (no

lossy traps). 6 and 2 meters are *full*-

**Built-to-last** -- incredibly strong

minum tubing radiator. Assembles in

an afternoon. Adjusting one band has

solid rod fiberglass center insulator

and 6063 T-6 aircraft strength alu-

MFJ-16C06 **\$∡**156 **6-Pack** Ship Code A

MFJ-1775

\$249<sup>95</sup>

Ship Code D

each Ship Code A Authentic

glazed ceramic antenna insulator. Extra-strong -will not break with long antennas and will not arc over or melt even under full

Molded ridges give extra-long path to prevent high-voltage breakdown.

legal power.

**Smooth** wire holes prevent wire damage.

Use as center or end insulator for dipoles, doublets, G5RVs, guy wires, vees.

## Antenna Feedthrough Panel

Weather-proof window feedtrhough panel brings three coax-fed HF/VHF/ UHF antennas, balanced line, random wire and ground into your hamshack without drilling through walls . . .



Stainless Steel Bonding Plate **MFJ's** Weather-proof *Antenna Feedthrough Panel* mounts in your window sill. Lets you feed three coaxfed antennas, balanced line, random wire and ground without drilling through walls.

**Simply** place in window sill and close window. One cut customizes it for any window up to 48 inches. Use horizontally or vertically. High-quality pressure-treated wood with excellent 3/4 inch thick insulating properties is painted with a heavy coat of white outdoor enamel paint. Edges sealed by weather-stripping. Seals and insulates against all weather conditions. Gives years of trouble-free service. 3/4Dx31/2Hx48W inches.

Inside/outside stainless steel plates bond all coax shields to ground. Stainless steel ground post brings outside ground connection inside. Three  $Teflon^{(R)}$  SO-239 coax connectors, ceramic balanced line/randomwire feedthru insulators.

## *"HF Stick"* mini-Dipole Mount

\$1995 Build your own 80-6 Meter *mini*-dipole using Ship Code A two HF mobile whips! Mounts on mast up to  $1^{1/4}$ " OD. Super heavy-duty solid aluminum construction. Only MFJ has exclusive, isolated dipole elements that let you

insert balun or coil up coax to isolate feedline. Gives you a true balanced dipole that

prevents RF on coax shield, eliminates pattern distortion, reduces noise pickup and RFI radiation from coax and provides deep dipole end-nulls for nulling out interference.

## Single-band Rotatable mini-Dipoles Use these inex-

Your Choice: MFJ-2275 - 75M MFJ-2240 - 40M MFJ-2230 - 30M MFJ-2220 - 20M MFJ-2217 - 17M MFJ-2215 - 15M MFJ-2210 - 10M MFJ-2206 - 6M Ship \$4995 Code C per band

pensive, lightweight, isolated minidipoles when space is limited for tem-



Ship Code D

porary or permanent installations. Rotate to null QRM/noise and to focus your signal. Includes two HF sticks of your choice and MFJ-347 mini-dipole mount.

## Compression



Model	Wire	Hole	Length	Diam.
17AO1	3/16"	5/16"	2-5/16"	1-3/8"
17B01	1/4"	5/8"	31/2"	2-1/2"
17C01	5/16"	3/4"	41/2"	2-7/8"

## Ladder Line, Twin Lead, Copper Wire, Rope

A. 450 Ohm ladder line. Two 18 gauge solid copper covered steel. Insulated and spaced by heavy duty black polyethylene. Uniform spacing between conductors insures proper balance, ideal for balanced line and dipole antenna projects.

MFJ-18H050, 50 Ft., \$19.95. MFJ-18H100, 100 Ft., \$34.95. MFJ-18H250, 250 Ft., \$89.95.



B. 300 Ohm TV twin-lead. Two 20 gauge stranded copper wire. Insulated and spaced by black polyethylene. Best for dipole, j-pole and for most other low power uses.

MFJ-18T050, 50 Ft., \$22.95. MFJ-18T100, 100 Ft., \$44.95. MFJ-18T250, 250 Ft., \$99.95.

C. Copper Antenna wire. Flexible, 7-strand, 14

gauge, hard solid-copper wire. Strong/long-lasting. MFJ-18G100, 100 Ft., \$24.95. MFJ-18G250, 250 Ft., \$59.95.



webbed into Dacron rope. Makes it extremely flexible but super strong/light. Ideal for wire/dipoles. MFJ-18D120, 120 Ft., \$39.95.



E. Wire Antenna Installation Rope. Select MFJ Nylon or Polyester dacron rope for your wire antenna installations. Black, UV resistant. MFJ-19A100, \$9.95. 100 feet, 3/32" nylon rope. MFJ-19A250, \$18.95. 250 feet, 3/32" nylon rope. **MFJ-19C100**, \$12.95. 100 ft, <sup>3</sup>/<sub>16</sub>" polyester rope. **MFJ-19C250**, \$29.95. 250 ft., <sup>3</sup>/<sub>16</sub>" polyester rope.

## 10 Bands -- *One MFJ Antenna!*

## Full size performance . . . No ground system or radials

Operate 10 bands: 75/80, 40, 30, 20, 17, 15, 12, 10, 6 and 2 Meters with one antenna Separate full size radiators . . . End loading . . . Elevated top feed . . . Low Radiation Angle . . . Very wide bandwidth . . . Highest performance no ground vertical ever . . .

Operate 10 bands -- 75/80, 40, 30, 20, 17, 15, 12, 10, 6 and 2 Meters with this MFJ-1798 vertical antenna and get full size performance with no ground or radials!

Full size performance gives high efficiency for more power radiated. Results? Stronger signals and more Q-5 QSOs.

Full size performance also gives you exceptionally wide bandwidths so you can use more of your hard earned frequencies.

Full size performance is achieved using separate full size radiators for 2-20 Meters and highly efficient end loading for 30, 40, 75/80 Meters.

#### Handles full 1500 watts PEP

Get very low radiation angle for exciting DX, automatic bandswitching, omni-directional coverage, low SWR. Handles 1500 Watts PEP SSB.

MFJ's unique *Elevated Top Feed™* elevates the feedpoint all the way to the top of the antenna. It puts the maximum radiation point high up in the clear where it does the most good -- your signal gets out even if you're ground mounted.

It's easy to tune because adjusting one band has minimum effect on the resonant frequencies of

**Self-supporting** and just 20 feet tall, the MFJ-1798 mounts easily from ground level to tower top -- small lots, backyards, apartments, condos, roofs, tower mounts.

#### **Separate Full Size Radiators**

**Separate** full size quarter wave radiators are used on 20, 17, 15, 12, 10 and 2 Meters. On 6 Meters, the 17 Meter radiator becomes a 3/4 wave radiator.

The active radiator works as a stub to decouple every-



MFJ-1798

Ship Code F

thing beyond it. In phase antenna current flows in all parallel radiators.

This forms a very large equivalent radiator and gives you incredible bandwidths.

Radiator stubs provide automatic bandswitching -- absolutely no loss due to loading coils or traps.

**End Loading** 

**On** 30, 40, 75/80 Meters, end loading -- the most efficient form of loading -- gives you highly efficient performance, excellent bandwidth, low angle radiation and automatic bandswitching.

MFJ's unique Frequency Adaptive L-Network™ provides automatic impedance matching for lowest SWR on these low bands.

**Tuning** to your favorite part of these bands is simple and is done at the bottom of the antenna.

#### No Ground or Radials Needed

You don't need a ground or radials because an effective counterpoise that's 12 feet across gives you excellent ground isolation.

You can mount it from ground level to roof top and get awesome performance.

The feedline is decoupled and isolated from the antenna with MFJ's exclusive AirCore™ high power current balun. It's wound with TeflonR coax and can't saturate, no matter how high your

#### **Built to Last**

Incredibly strong solid fiberglass rod and large diameter 6063 T-6 aircraft strength aluminum tubing is in the main structure.

**Efficient** high-Q coils are wound on tough low loss fiberglass forms using highly weather resistant Teflon<sup>R</sup> cov-

## 1/2-wave, 6-Band No-radials Vertical

## 12 feet tall, Mounts Anywhere, 40 to 6 Meters



\$229<sup>95</sup>

Only 12 feet high with a tiny 24 inch footprint! Ship Code F Mount anywhere -- ground level to tower top -apartments, small lots, trailers.

Perfect for vacations, field day, DXpeditions, camping. **Efficient** end-loading, no lossy traps. Entire length always radiating. Full size halfwave on 2/6 Meters.

High power air-wound choke balun eliminates feedline radiation. Adjusting one band has minimum effect on others. For 40-20-15, 10, 6, 2 Meters.

Automatic bandswitching, low radiation angle, omni-directional, handles 1500 watts PEP.

Goes together in an afternoon.

New! MFJ-1796W, \$229.95. WARC band version for 12, 17, 30, 60 Meters only.

In November 1994 *QST* magazine, Top of the DXCC Honor Roll member and Top 10 contester James D. Cain, K1TN, wrote

"This antenna turned out to be a good performer on all bands...a \$200 ground-independent vertical that will get you on segments of four HF bands when there's room for nothing else except a small transmitting loop antenna.'

#### Verticals for 80/40/20 Meters 80/40 Meter Vertical

MFJ-**1792** is a high-performance

80/40 Meter vertical. Full size quarter wave radiator for 40 Meters -- that's 33 feet of radiating power.

End loading, unique builtin L-network for lowest SWR. low-loss fiberglass form, high strength 6061-T6 aluminum tubing, handles 1500 watts

Requires guying and radials, counterpoise, or ground screen.

#### 80/40/20 Meter Vertical

MFJ-1793, \$209.95, like MFJ-1792 but has full size 20 Meter 1/4 wave radiator also.



## MFJ QuickStudy<sup>TM</sup> Ham Radio License Guide

New Question Pools! MFJ Publishing guarantees that you'll pass your written exam on your first try . . . if you don't pass we'll refund your money

in full\*... you can't lose! \*Send copy of receipt, proof of failure to MFJ within 30 days of failing and we will refund the purchase price of your MFJ QuickStudy™. Limit 1 per license class



#### MFJ-3213-General

#### MFJ-3215-Extra

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above. MFJ ENTERPRISES, INC.

MFJ-3213 MFJ's QuickStudy<sup>TM</sup> MFJ-3215 License **95** Guide and MFJ guaraneach tees that Technician, you'll pass General, or the written exam on your Extra Class very first try Ship Code A or you get your money back\*. See

MFJ-3211

What is MFJ's QuickStudy™ concept? The objective is to pass the exam and get your license with a minimum amount of study time so you can start enjoying the hobby right away.

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MFJ-3211, Technician, MFJ-3213 General Class, MFJ-3215 Extra Class, \$12.95 each.



MFJ-3507. **\$19.95.** The DeMaw, W1FB, gives a wealth of info on circuits, including transmitter and receiver fundamentals. mixers, more.

Ferromagnetic- \$19.95. Core Design & Application Handbook

MFJ-3506. Legendary textbook from the late Doug DeMaw, W1FB, emphasizes the practical aspect of ferromagnetic core material.

Code: proficiency.

MFJ-3400. \$19.95. By siast David Finley, N1IRZ. First book to detail the Koch method and training techniques for fastest code

#### MORE GREAT MFJ SELECTIONS MFJ-3302, \$14.95. 73 Dipole &

avid CW enthu- Long Wire Antennas. By Ed Noll, W3FQJ. Classic antenna projects for a weekend! MFJ-3502, \$14.95. Solid State QRP Projects. By Ed Noll,W3FQJ. MFJ-36, \$12.95. Shortwave Listener's Guide for Apt./Condo dwellers. Receivers, antennas, other equipment.

> MFJ-3301, \$14.95. Troubleshooting Antennas and Feedlines. Search it out! By Ralph Tyrell, W1TF. MFJ-3504, \$19.95. FET Principles, Experiments and Projects. By Ed Noll, W3FQJ. MFJ-3510, \$19.95. QRP Projects from Down Under. Paddyboard circuit construction, air wound coils.

MFJ-3508, 17.95. Radio Components Handbook. Life's work of Guido Silva, I2EO. 416 ages of circuits, graphs, and theory radio components. Buku schematics!

MFJ-37, \$12.95. Ham Radio Communications Circuit Files. By Ed Noll, W3FQJ. Many fun items! MFJ-3036, \$14.95. PROH: Packet Radio Operators Handbook. By Buck Rogers, K4ABT.

MFJ-30, \$14.95. Golden Classics of Yesteryear. By Dave Ingram, K4TWJ. Collins, Heathkit, more! MFJ-35, \$9.95. Wonderful World of Ham Radio! An excellent

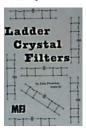
introduction to ham radio for kids, classrooms. Great start! MFJ-32, \$12.95. Packet Radio is Made Easy. By Buck Rogers, K4ABT. Packet radio for beginners!

MFJ-31, \$9.95. Oscar Satellite Review. By Dave Ingram, K4TWJ. An anthology of CQ articles about oscar stations.

MFJ-3101, \$9.95. Fox Hunt Adventure. Relive a sense of mystery as young Ben discovers amateur radio and emergency services.

ANTENNAS

MFJ-3306, **\$19.95.** Volume 1 is a practical level antenna from the ground up book by L.B. Cebik, W4RNL. Concise, clear chapters.



MFJ-3509, \$19.95. Ladder Crystal Filters. Generous references. John Pivnichny, N2DCH. Ed Noll, W3FQJ.



MFJ-3307, **\$19.95.** Volume 2 of L.B. Cebik's Antennas from the Ground Up picks up where volume 1 left off. All new antenna projects!



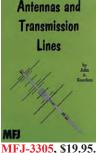
MFJ-3303, \$14.95. "73 Verticals, Beams, Triangle Antennas". By



MFJ-38, \$19.95. Easy-Up Antennas by Ed Ñoll, W3FOJ. For hams and SWL. How to build and how to put up. Fully tested designs.



MFJ-33, \$14.95.



MFJ-3305, \$19.95. 320 pages, 37 short concise chapters. Underlying theory, powerful antennamaking techniques, special antenna projects and more!



MFJ-3501, \$19.95. Everything you need to 30 different electronic kit know about mobile! By projects, schematics, part Dave Ingram, K4TWJ. placement. ham toys, etc. Great gift for a young lad.

## Select MFJ hard-to-find Components for your Homebrew Projects

## Power Supply, Amplifier Transformers Ameritron sells Eimac<sup>(R)</sup> Tubes

These transformers are for building power supplies and amplifiers. 406-3800 is designed for linear power supplies, that is capable of delivering current up to 30 Amps at 13.6 VDC. 1109-2C is designed for a single 3-500Z tube, 1000 Watts HF Amplifier. Has buck/boost winding. Can be used as a replacement transformer for Heathkit SB-1000, AL-80A.



					Α.			1111
F	ig.	Part No. #	Price	Pri. Voltage	SEC Voltg		Dimensions	
	A	406-3800	\$34.95	120V	18V	30A	4Wx4Lx33/4H"	11 lbs.
	В	406-1109-	\$129.00	90-140, 205-	1. 1047Vac	.1 Adc	6Wx6Lx51/4H"	26 lbs.
		2C		250 w/buck	2. 22 Vac CT	1.5 Adc		
L				boost winding	3. 5.2 Vac C I	15 Aac		

### Amplifier Power & Filament Transformers

Specially designed for our most popular HF amplifiers. Has unique buck-boost winding to adapt to low or high line voltage conditions.

Use of electrical silicone steel lamination makes these transformers highly efficient,

resulting in low loss and producing less heat. Well constructed for low noise and coated with varnish. 110/220 VAC. Usable for 50 or 60 Hz.

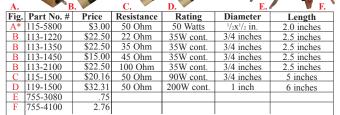






Α.		В.	<u> </u>		D	
Fig.	Part No. #	Price	Pri. (Volt)	Sec. (Volt)	Dim./Applications	Weight
A	406-1532	\$80.00	110/220 w/	1500V@.5A	5Wx4 <sup>1</sup> / <sub>4</sub> Hx6 <sup>1</sup> / <sub>4</sub> D	17 lbs.
			buck-boost	12V@1A	811A 4-tube	
				6.5V@16A	amplifier	
Α	406-1529	\$46.56	110/220 V	800V@.5A	3 <sup>3</sup> / <sub>4</sub> Wx4 <sup>3</sup> / <sub>4</sub> Hx4 <sup>1</sup> / <sub>2</sub> D	14 lbs.
				12V@1A	6MJ6 or Equiv.	
В	406-1572	\$112.50	10/220 w/	900V@.5A	6Wx5 <sup>1</sup> / <sub>4</sub> Hx5 <sup>1</sup> / <sub>4</sub> D	23 lbs.
			buck-boost	12V CT@1A	572B,4-tube amp	
В	406-1248-1	\$116.50	10/220 w/	2250V@.5A	6Wx7 <sup>1</sup> / <sub>2</sub> Hx5 <sup>1</sup> / <sub>4</sub> D	33 lbs.
			buck-boost	22VCT@1.5A	3CX800A7	
				12.8V@5A	2-tube amp	
C	406-1418-1D	\$403.00	110/220 V	2570 Vac@.8A	8Wx7Hx7D	32 lbs.
					3CX1500A7	
					3CX1200A7	
					2x3-500G amps	
D	406-1419-1J	\$74.00	110/220 V	5.6V@30A	21/2Wx3Hx33/4D	5 lbs.
				14V@2A	3-500Z filament	
D	406-1419-2J	\$74.00	110/220 V	7.7V@21A	21/2Wx3Hx33/4D	5 lbs.
				14V@2A	3CX1200A7 Filam	
D	406-1419-3J	\$74.00	110/220 V	5.6V@15A	2 <sup>1</sup> / <sub>2</sub> Wx3Hx3 <sup>3</sup> / <sub>4</sub> D	5 lbs.
				14V@2A	3CX1500A7 Filam	

## Non-Inductive Resistors



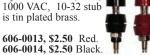
resistor. Terminal clip for 1" dummy load re \*Item A is an RCD 620, wire wound. Solder terminals attached,2 mounting holes.

#### Feedthru Insulators

606-1006, \$3.95 Ceramic Feedthrough insulator comes complete with hardware. 3/4" diameter x1<sup>1</sup>/<sub>4</sub>". Fits <sup>7</sup>/<sub>16</sub>" dia. chassis hole.

## 5-way Binding Post

Nylon Insulation, 30A, 1000 VAC, 10-32 stub is tin plated brass.



#### Ceramic Spacers

Ceramic spacers are used to properly isolate your dummy load resistor from the chassis.

Withstands high power and high frequencies.

A. 719C-0500C, \$0.50 1/4" diameter by 1/2" long, 6-32 threaded holes on

both ends. B. 719D-1000C, \$1.00

#### 1/2" diameter by 1" long, 8-32 threaded holes on both ends.

Ameritron sells *Eimac*<sup>(R)</sup> tubes for amateur radio, broadcast and industrial uses. Call for a quote!

A. 3CX800A7

B. 3CX1200A7

C. 3CX1500A7

## 811A, 572B, 3-500Zs .

Don't just buy any untested tube that can damage your amp. Buy Ameritron fully tested and

3-500ZG tube

Match pairs are





#### Tube Sockets











11	. —	ъ,		- 1	11.0
	Part No. #				Manufacturer PN/Description
	625-8500	\$14.95	3-500Z, 3CX1200A7	5	custom made glass epoxy socket
	625-8199		6LQ6 or equivalent	9	PCB mount pins
С	625-8731-1	\$35.00	3CX1500A7/8877	7	Ceramic
	625-8800	\$50.40		11	EF Johnson 124-0311-100
Е	625-8811	\$3.20	811A, 572B or equiv.	4	4-pin ceramic









A.		В.	C. D.
	Part No. #		Description
A	750-1800		Plate cap for 3-500Ztubes. Finned aluminum heat sink
			with set screw. 3/4" dia. by 9/16" thick.
В	750-0323		Plate cap for 3-500Z tubes. Finned aluminum heat sink
			with set screw. 11/4" dia. by 5/16" thick.
	755-3626		Plate clip for 3CX1500A7/8877 tube.
D	755-6811	\$2.50	Ceramic plate cap for 811A, 572B tubes.

## Tube Glass Chimneys

A. 391-1500, \$23.67 Chimney for 3CX1500A7/8877 tube **B.** 391-3500, \$30.60 Chimney for 3CX1200A7 and 3-500Z tubes.





## AmplifierPlates and Filament Chokes



	D. —		E.
Fig.	Part No. #		Description
A	10-15197	\$20.00	Complete plate choke covers 1.8-30 MHz, includes WARC bands, 225 uH, handles 1.5A, 4 kV. Wound on 1"dia. x 55/s" long glazed ceramic form. Used in Ameritron amps.
В	10-15144	,,,,,,	Plate choke covers 1.8 to 30 MHz, 1.5A, 2kV, wound on 1/2" dia. by 4" long ceramic form. Used in most sweep tube amps.
C	719-7380C	\$7.95	Glazed ceramic plate choke form. 1" dia. by 5" long. Both ends tap for 1/4"-20 screw.
D	10-15115-1	,	Complete broadband filament choke. Use for 3-500Z, 3CX800A7, 3CX1200A7 and 3CX1500A7 tubes. Handles 30A, covers 1.8-30 MHz. 12 gauge enamel wire, bifilar wound on .5" dia. by 6" long ferrite rod.
Е	412-0109	\$9.00	Filament choke ferrite rod. 5" dia. by 6" long. Used in 10-15115-1.

## Cooling Fans

High output box fans and blowers are ideal for cooling amplifiers.
A. 410-3583, \$18.85. 80x80x38.5 mm, 1800 RPM, 28 CFM, 30 dBA noise

level, sleeve bearing, 120 VAC, 60 Hz, w/ 14" wire lead.

B. 410-4584, \$.90. Fan guide. C. 410-3138, \$43.06, high quality box fan by EBM, metal housing with metal impeller. extremely quite 120x120x38.5 mm, 61 CFM, 28 dBA

noise level, sleeve bearing, 120 VAC, 60 Hz, wire terminals. D. 410-4600, \$3.34,



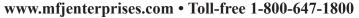
## and Blowers





A. 410-1200, \$64.95. EBM Blower, G2S097-DB61-08, 110 VAC, 5<sup>1</sup>/<sub>2</sub>Wx5<sup>1</sup>/<sub>2</sub>Hx1<sup>1</sup>/<sub>2</sub>D inches. 37 CFM, 45 dBA noise level. Wire leads.

B. 410-1100, \$39.95. Interfan Blower, PMB24-115-4B, 110 VAC, 43/4Wx43/4Hx11/4D inches.



## Select MFJ hard-to-find Components for your Homebrew Projects

## Air Variable Capacitors







_	A.	ь.	_			· ·	D. 1
	Part No. #	Price	Cap. pF	VRMS	Gap	Plates	Dimensions
A	282-2005	\$23.85	16-208	1000	.032"	50	1.4Wx1Hx3D in.
A	282-8700	\$14.95	10-26	1500	.080"	18	1.4Wx1Hx2.8D in.
В	282-2010	\$17.25	2-10	640	.016"	2	1.4Wx1Hx1.7D in.
В	282-2012	\$16.02	5-51	1000	.032"	13	1.4Wx1Hx1.1D in.
В	282-2150	\$18.90	6-154	640	.016"	20	1.4Wx1Hx1.3D in.
C	282-2006	\$18.51	12-313	640	.016"	40	1.4Wx1Hx1.7D in.
D*	282-5050-1	\$19.62	5-67	1200	.045"	15	1.2Wx1.3Hx1.3D in.
D*	282-5160	\$17.97	6-180	350	.010"	15	1.2Wx1.3Hx1.3D in.

<sup>\*</sup> Items D are broadcast style variables and are used in MFJ Analyzers and Transceivers. A 8:1 Vernier drive is built into the capacitor.

## High Voltage Air Variable Capacitors



Figure	Part No. #		Cap. pF	VRMS	Gap	Plates	Dimensions
A	282-2007-1	\$30.94		3.5 kV	.120"	27	2.5Wx3.6Hx6D"
A	282-2018-1	\$35.68	10-250	1.5 kV	.045"	37	2.5Wx3.6Hx6D"
A	282-2008-1	\$53.68	10-250	3 kV	.120"	53	2.5wx3.6hx10.8d"
В	282-2009-1	\$61.64	12-500	1.5 kV	.045"	112	2.5wx2.6hx10.8d"
C*	282-2015	\$53.52	10-300	3.5 kV	.120"	79	2.5wx2.6hx10.8d"
D*	282-2020	\$70.56	40-493	1.5 kV	.045"	35	3.5Wx4.5Hx6D"
D*	282-2028	\$100.08	50-996	1.5 kV	.045"	72	3.5Wx4.5Hx9.6D"
E*	282-2016	\$69.95	12-67	1.5 kV	.045"	56	2.5wx3.5hx6D"
E*	282-2017	\$89.95	18-136	1.5 kV	.045"	112	2.5wx3.5hx10.8d"
D*	282-2026	\$100.08	50-916	1.5 kV	.045"	72	insulated rotor sections

Item C is a differential capacitor, as used in the MFJ-986 antenna tuner. Items D are dual-gang capacitors, capacitance specified is total capacitance. Items E are butterfly tuning capacitors. Used in MFJ loop tuners, have no rotating contacts, super low losses.

## nplifier high-voltage Variable

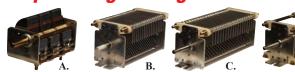


Figure	Part No. #	Price	Cap. pF	VRMS	Gap	Plates	Dimensions
Α	282-2113	\$26.19	20-823	800 V	.017"	23 x 3	1.8Wx1.8Hx3.3D"
В	282-2112-1	\$36.52	20-250	2.5 kV	.075"	37	2.8Wx2.6Hx5D"
В	282-2572-1	\$46.18	20-405	1.5 kV	.045"	37	2.8Wx2.6Hx4D"
В	282-2573-1	\$57.34	25-800	1.1 kV	.030"	53	2.8Wx2.6Hx4.5D"
С	282-2571	\$44.95	20-920	1.1 kV	.030"	49	2.8Wx2.6Hx4.3D"
С	282-2570	\$51.68	20-171	3.5 kV	.120"	37	2.8Wx2.6Hx7D"
С	282-5200	\$44.95	20-801	1.3 kV	.037"	59	2.8Wx2.6Hx4.5D"
D	282-3700	\$39.95	15-176	2.5 kV	.075"	31	2.8Wx2.6Hx6D"
			7-23				

Used in Ameritron high power linear amplifiers. Items B have delrin insulated shaft. Item D has two capacitance sections

## Ameritron Edge-wound AirRoller Inductor

404-1032, \$140.00. Flat wire, edge-wound, high power air roller inductor. Silver plated Cu coil, silver plate contact discs and contact shaft. Heavy duty 1/4" thick fiberglass frame. 16 uH, 31 turns, 2½" coil dia., 1/4" round shaft, 3" shaft length. 23/4Wx31/8Hx8D" Used by Ameritron ATR-30, 3kW PEP SSB.



## MFJ AirCore™ Roller Inductors

MFJ's exclusive *super heavy duty AirCore*™ Roller Inductor has an air core that can't burn up! You get ultra high-Q, the lowest loss, highest efficiency and highest power handling of any roller inductor in ham radio. MFJ's exclusive *Self-Resonance Killer*™ keeps potentially damaging selfresonances away from your operating frequency. Large, self-cleaning wiping contact gives excellent low-resistance connection without contact arcing or burning. A solid 1/4 inch brass shaft with self-align bearings gives smooth non-binding rotation. 12 gauge tin-plated copper wire. Silver plated contact wheels and shaft. Fiberglass frame.

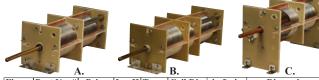


Figure	Part No. #	Price	L. uH	Turns	Coil Dia.	shaft size	Dimensions
A	404-1052	\$59.00	33	43	2"	31/2"	3Wx3Hx7 <sup>1</sup> / <sub>2</sub> D"
В	404-1056	\$62.65	44	57	2"	3"	3Wx3Hx9 <sup>1</sup> / <sub>4</sub> D"
C*	404-1060	\$53.60	22	31	2"	21/2"	3Wx4 <sup>1</sup> / <sub>2</sub> Hx7 <sup>1</sup> / <sub>2</sub> D"

\*C item has 1/4" round phenolic tuning shaft, has no "self-resonancekiller". A and B have 1/4" round brass tuning shaft.

#### MFJ Air-Wound Coils

MFJ air-wound coils are constructed with a solid rigid round acrylic rod and tinplated solid copper wires embedded into the



acrylic rod. They are super strong and superbly crafted. MFJ winds them tough so they stay wound. Select a special MFJ air-wound coil for your mobile and portable antennas, antenna tuners, amplifiers and other projects.

Part No.	Price:	Inductance	Coil length	Coil Diameter	Turns per Inch	Wire size (AWG)
404-0811	\$22.95	70 uH	91/2 in.	13/4 in.	10	14
404-1610	\$37.95	92 uH	10 in.	13/4 in.	10	16
404-0600	\$37.95	44 uH	12 in.	2 in.	6	10
404-0669	\$37.95	79 uH	12 in.	2 in.	8	12
404-0700	\$37.95	77 uH	12 in.	2 in.	8	10
404-0008	\$22.95	159 uH	10 in.	21/2 in.	10	16
404-0024	\$37.95	35 uH	11 in.	3 in.	4	10
404-0009	\$22.95	230 uH	10.5 in.	3 in.	10	16
755-4001	\$3.00	Designed to clip on air-wound coil for wire size u to AWG 12. 1/4" wide silver plated contact has se screw to secure. Contact socket for banana plug.				

## MFJ high power RF

Fig.	Part No. #	Price	Pointer/skirt diam.	Knob dia.	Height
Α	760-0035	\$1.25	1 inch	11/16 inch	9/16 inches
В	760-0125	\$2.80	11/2 inches	11/4 inches	3/4 inches
С	760-2281-1	\$3.50	2 inches	15/8 inches	7/8 inches
D	760-0550	\$3.00	1 <sup>1</sup> / <sub>2</sub> inches	1 inch	3/4 inches
Е	760-0275B	\$9.95	21/8 inches	17/8 inches	13/8 inches
F	760-0277	\$2.35	17/8 inches	11/16 inches	1 inch
G	760-0278	\$1.95	<sup>7</sup> / <sub>8</sub> inches	3/4 inches	11/16 inches
Н	760-0276	\$1.95	7/8 inches	13/16 inches	5/8 inches
I	760-2409	\$4.95	13/4 inches	3/4 inches	11/2 inches
J	760-0176	\$1.95	1 <sup>1</sup> / <sub>4</sub> inches	11/16 inches	3/4 inches
K	760-0177A	\$1.78	13/8 inches	11/4 inches	7/8 inches

MFJ Knobs are made of the highest quality heat and impact-resistant phenolic resin. Shaft holes fit 1/4" round shaft. Knobs have metal inserts. Supplied with set screws.



1 MFJ high-voltage switches have 3/8-32 bushing and 1/4 inch round shaft. \*D, E, and F are switches that are specially designed for amplifier band switching.

30

9 Amps

#### **Vernier Reduction** 729-0142-1, \$11.92 6:1 Tuning Ratio. Used in

500-2017 \$61.95

Ameritron amplifiers and tuners. Dial plate mounting flange. Two pre-tap pointer mounting holes, mates with 1/4" shaft, has pre-tap set screw holes. 1/4" shaft, 31/4" Length.

**Knob Pointers** 726-0227R, \$1.55 Red, 11/4" Length, matches 2" tuning

2

6

726-0230R, \$1.25 Red 1" Length, matches 11/2" tuning knob. Both pointers are made to fit 729-0142, 6:1 reduction drive

#### **Turn Counter Set** MFJ-TC11,

\$14.95 Set includes counter module, 2 gears and mounting bracket.

2000

Driving gear fits 1/4" round shaft. Counter ratio is 3:1. Reset button, 3digits, counts up to 333 turns.

D.

## Select MFJ hard-to-find Components for Repair/Homebrew Projects

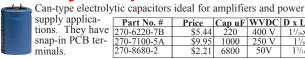
### Amplifier Power Supply Electrolytic Caps



High capacitance, computer grade aluminum can electrolytic capacitors. Long life, low ESR and can handle high ripple currents. Themal-Pak extended cathode foil construction assures cool operation. Great choice for high-capacitor amplfiier, power supply and energy storage application. 10-32 screw terminals

			WVDC	Ripple (I)	Size (DxL) inches
270-6210-7	\$13.53	270 uF	450V	1.5A	$1^{3}/8x2^{1}/8$
270-6380-7	\$21.60	470 uF	450V	2.4A	1 <sup>3</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub>
270-8270-2	\$33.50	27000 uF	75V	9.0A	2x4 <sup>5</sup> / <sub>8</sub>

#### Electrolytic Capacitors



		-		
Part No. #	Price	Cap uF	WVDC	D x L (in.)
270-6220-7B	\$5.44	220	400 V	13/16X 15/8
270-7100-5A	\$9.95	1000	250 V	$1^{3}/8x2$
270-8680-2	\$2.21	6800	50V	13/16x2

### RF Ceramic Doorknob Capacitors



RF Ceramic Doorknob Capacitors are manufactured by High Energy. These RF transmitting capacitors are ideal for use in RF amplifiers. Threaded 6-32 ends for easy connec-

	Part No. #	Price	Description
	290-0150-5		HH58, 150 pF, 20%, 5 kV
	290-0400-5	\$14.95	HH58, 400 pF, 20%, 5 kV
	290-0500-7	\$17.25	HT50, 500 pF, 20%, 7.5kV
,	290-1100-5	\$12.95	HH58, 1000 pF, 20%, 5 kV

### High-Voltage Vacuum Relays

These vacuum relays are ideal for amplifier QSK switches. Contacts are capable of carrying 10 Amps and break down voltage is 5 kV.





. 408-8100, \$35.00. Kilovac S05FJA238, DPST-NO, contact form, 2A, 5kV rating between contacts, current is 10A DC or 5A RF, 12 VDC coil voltage and 500 Ohm coil resistance.

**B.** 408-8500, \$14.95. Wabash 1017-20-1, DPST, one pole normally open, one pole normally closed. 12 VDC coil voltage

#### Power Relavs

Special relays designed for amplifier TR switching, in-rush current protection and other high current applications.







	Part No. #			Contacts/Rating	
Α	408-6140	\$20.34	12 VDC	3PDT 10A	PCB terminals, 80B/600/500 T/R
A	408-6148	\$15.30	12 VAC	5PDT 10A	Solder lugs, In-Rush, 80B/600
A	408-6240		240 VDC	SPST 10A	PCB terminals, amplifier in-rush
	408-6145		120 VDC		PCB terminals, amplifier in-rush
A	408-6139-1	\$54.21	12 VDC	3PDT 10A	Solder lugs, stub mnt, T/R relay
					P&B KA-14DG-12
A	408-6077	\$15.99	120 VAC	SPDT 10A	Solder lugs, stub mount, general
					purposes P&B KA5AG
В	408-4700	\$17.64	12 VDC	SPDT 15A	Chassis mount, QC terminals, in-rush
C	408-7110	\$15.75	12 VDC	DPDT 20A	QC Terminals, dust cover, flange
					mount, Sigma 45R2C112-12 VDC
C	408-6230	\$12.95	24 VDC	3 PDT 10A	Midtex relays 157-33C200, silver con-
					tacts, .187" quick connect terminals

#### Precision mechanical Deluxe Turns Counter



MFJ-TC12, \$69.95. This Precision designed mechanical deluxe turns counter is for use with roller inductors, vacuum capacitors, air variable capacitors, etc.

Precision 5-digit counter is enclosed in a dust-free plastic casing. Counts to 9999.9 turns. Counter is coupled to a 1/4" shaft at right angles with bevel gears.

1/8 inch thick aluminum mounting plate is coated with texture powder paint.

Has #4 counter sink mounting holes. Mount in 1x3" cutout hole. Unit is

 $2^{1}/4Wx3^{1}/2H$  inches. Assembly includes 1/4 inch shaft coupler and a  $1^{3}/4$  inch fast-turned crank knob

#### re-wound 200 Watts and 1.5kW Baluns

A. 10-10002B, \$9.95. Bifiliar wound balun, 1" diameter, ferrite toroid core, 200 Watts, 1.8-30 MHz. Used in 200/300 Watts antenna tuners.

B. 10-10989D, \$29.95. Bifiliar wound balun, 2-stack 21/2" ferrite toroid cores wound with high-voltage wire. 1.5 kW, 1.8-30 MHz. Used in MFJ-989D tuner.



## **Precision DC Cross-Needle Meters**

Unique, two-meters-in-one Cross-Needle design makes these meters ideal for use in amplifiers and SWR/Wattmeters. Rugged construction with removeable clear plastic cover. Has plug-in 12 VDC meter lamp, front panel "zero" adjustment. Raised window for recessed front panel mounting. Solder lug terminals for meter movement and lamp. Linear moving coil movement.









	Α.		B. C.	D. E.
	Part No. #		Sens./Resist./Size	Scale Description
A	400-3580			10-250 mA grid current & 0-
			2.8Wx2.8Hx1.4D"	750 mA plate current
В	400-3581	\$21.60	1mA/120 Ohm	0-2.0 KW Fwd power, 0-500W
			2.8Wx2.8Hx1.4D"	ref power, 0-35 ALC/ HV, SWR
С	400-3084A	\$21.60	200uA/750 Ohm	0-300W fwd power, 0-60W ref
				power, SWR curves
D	400-3083A	\$17.82	200uA/750 Ohm	0-300 fwd power, 0-60 ref
				power, SWR curves
Е	355-2299	\$1.80	Replacement bulb for 40	00-3XXX meters, above.

#### Precision DC Panel Meters

Rugged construction with removeable clear plastic cover. Built-in 12 VDC lamp, front panel "zero" adjustment. Raised window for recessed front panel mounting. Solder lug terminals for meter movement/lamp. Linear moving coil movement. 2.7Wx2.7Hx1.4D"









	A.		ь.	С. D.
			Sensitivity/Resistance	Scale Description
A	400-2600A			0-200 mA Grid Current
В	400-2601A			0-2.0 kV plate V, 0-750 mA plate I
C	400-2026			0-100 general purpose scale
D	355-0320	\$1.80	Replacement bulb for	400-2XXX meters, above.

#### Miniature DC Panel Meters

Quality, compact and inexpensive panel meters. Clear, removeable cover, raised window for recessed mounting. Solder lug terminals, moving coil movement. 100 uA movement, 750 Ohm resistance. Size is 1.6Wx1.6Hx1D inches.













Α.	B.		C.	D.	Е.	F.
Figure		Price	Scale Description			
A	400-0014A	\$9.39			WR, red/black	dual color
			scale, use	d in tuners an	d wattmeters	
В	400-0035	\$6.84	SWR, red	l/black scale t	ised in analyze	rs
C	400-0047	\$6.84	0-400 Oh	m resistance,	red/black scale us	sed in analyzers
D	400-0027	\$7.92	-20+3dB,	0-100% VU	modulation sca	ale, red/black
			dual color	r for line audi	o monitor	
Е	400-0090	\$7.92	0-25 DC	Volts, red/black	ck scale for DO	volt monitors
F	400-0026A	\$7.92	0-100 ger	neral purpose	scale	

#### Slug Core Tuning

965-6204, \$3.00. Plastic tuning stick for adjusting slug cores. Has .1 inch hex end, 7<sup>1</sup>/<sub>4</sub>" long. Fits all Ameritron tube amplifier input coils.

#### Ferrite and Iron Powder Toroidal Cores

Get RFI out of television, telephone and other electronic devices. Use for baluns, chokes, RF coils, transformers, filters and more.



,			
Part No. #	Price	Size: ODxIDxTH inches	Description
420-6102	.33		#61 Ferrite
420-6103	.72	.500x.281x.188	#61 Ferrite
420-6114	\$1.08	1.00x.610x.320	#61 Ferrite
420-7510	\$2.80	1.00x.610x.320	#75 Ferrite
420-6138	\$10.23	2.40x1.40x.500	#61 Ferrite
421-02037	.40	.375x.205x.128	T-37-2 Iron Powder Mix 2
421-02050	.80	.5x.303x.90	T-50-2 Iron Powder Mix 2
421-02068	.98	.69x.370x.190	T-68-2 Iron Powder Mix 2
421-02094	\$1.08	.942x.560x.312	T-94-2 Iron Powder Mix 2
421-02106	\$1.36	1.00x.57x.437	T-106-2 Iron Powder Mix 2
421-02157	\$3.32	1.57x.950x.570	T-157-2 Iron Powder Mix 2
421-02200	\$6.96	2x1.25x.530	T-200-2 Iron Powder Mix 2
420-7800	\$1.86	1.00x.50x.410	Iron Powder Mix 2

## Select MFJ hard-to-find Connectors, Plugs, Adaptors . . .



Fig.	Part No.	Price	Description
A	MFJ-7705	\$5.95 ea.	N-Male to SO-239 Adaptor
В	MFJ-7730	\$5.95 ea.	N-Male to SMA Female Adaptor
С	MFJ-7731	\$5.95 ea.	N-Male to BNC Female Adaptor
D	MFJ-7702	\$3.95 ea.	PL-259 to PL-259 Adaptor
Е	MFJ-7703	\$7.95 ea	PL-259 to BNC Female, Right Angle Adaptor
F	MFJ-7732	\$3.95 ea.	PL-259 to RCA Phono Jack
G	MFJ-7727	\$5.95 ea.	PL-259 to SMA Female Adaptor
Н	MFJ-7717	\$5.95 ea.	PL-259 to SMA Male Adaptor
I	MFJ-7737	\$5.95 ea.	PL-259 to BNC Female Adaptor

J	TX.			
Fig.	Part No.	Price	Description	
J	MFJ-7701	\$4.95 ea.	SO-239 to SO-239 Adaptor, 13/4" long	
K	MFJ-7719	\$4.95 ea.	SO-239 to SMA Male Adaptor	
L	MFJ-7729	\$4.95 ea.	SO-239 to SMA Female Adaptor	
M	MFJ-7708	\$3.95 ea.	SO-239 to BNC Male Adaptor	
N	MFJ-7716	\$4.95 ea.	BNC Male to SMA Female Adaptor	
О	MFJ-7736	\$4.95 ea.	BNC Male to SMA Male Adaptor	
P	MFJ-7718	\$4.95 ea.	BNC Female to SMA Male Adaptor	
Q	MFJ-7728	\$4.95 ea.	BNC Female to SMA Female Adaptor	
R	MFJ-7706	\$10.95 ea.	NMO to SO-239 Adaptor	
	Fig. J K L M N O P	Fig. Part No.  J MFJ-7701  K MFJ-7719  L MFJ-7729  M MFJ-7708  N MFJ-7716  O MFJ-7736  P MFJ-7718  Q MFJ-7728	Fig.         Part No.         Price           J         MFJ-7701         \$4.95 ea.           K         MFJ-7719         \$4.95 ea.           L         MFJ-7729         \$4.95 ea.           M         MFJ-7708         \$3.95 ea.           N         MFJ-7716         \$4.95 ea.           O         MFJ-7736         \$4.95 ea.           Q         MFJ-7728         \$4.95 ea.	



Fig.	Part No.	Price	Description
1	MFJ-7707	\$8.95 ea.	NMO to 3/8x24 threaded Adaptor
2	MFJ-7725	\$6.95 ea.	3/8x24 Antenna Mount Quick Connect Adaptor
3	MFJ-7735	\$11.95 ea.	3/8x24 Antenna Mount Fold-Over Adaptor
4	MFJ-7714	\$4.95 ea.	3/8x24 Chassis Mount with insulating washer
5	MFJ-7748	\$5.95 ea.	SO-239 to 3/8x24 adaptor
6	MFJ-7712	\$4.95 ea.	3/8x24 to .10 inch hole whip ferrules
7	MFJ-7715	\$4.95 ea.	3/8x24 to .20 inch hole whip ferrules
8	MFJ-7720	\$1.50 ea.	SO-239 screw-on Protector cover
9	MFJ-7721	\$1.49 ea.	SO-239 4-hole Chassis Mount <i>Teflon</i> ™
10	MFJ-7722		SO-239 Single Hole Mount, <i>Teflon</i> ™
11	MFJ-7723	\$1.95 ea.	N-Female 4-Hole Chassis Mount, <i>Teflon</i> ™

14	10	10	17 10 19 20 21 22
Fig.	Part No.	Price	Description
12	MFJ-7724	\$2.49 ea.	N-Female Single hole Mount, <i>Teflon</i> ™
13	MFJ-7726	\$1.49 ea.	BNC Female, Chassis Mount
14	MFJ-7704	\$7.95 ea.	BNC to dual Binding Posts
15	MFJ-7709	\$6.95 ea.	Dual Banana Plugs, High Current
16	MFJ-7713	\$5.95 ea.	1 Red, 1 Black High Current Banana Plugs
17	MFJ-7700P	\$6.95 pk.	6 Red, 6 Black Banana Plugs / Pack
18	606-0013	\$2.50 ea.	5-Way Binding Post, Red, 30 Amps, insulated
19	606-0014	\$2.50 ea.	5-Way Binding Post, Black, 30A, insulated
20	606-0003	.85 ea.	5-Way Binding Post, Red
21	606-0004	.85 ea.	5-Way Binding Post, Black
22	606-1006	\$3.95 ea.	Feed-through Ceramic Insulator with hardware

### **PAYMENT INFORMATION / SALES TAX**

Personal checks will be held 10 working days upon receipt of order. FOREIGN ORDERS: US Funds ONLY. See ship chart for details. Write for quote. Credit Cards: We accept Mastercard, Visa, American Express and Discover, government and debit cards. Please write your CC#, expiration date, three-digit security CVV2 code on the back of your card and other information clearly or call 1-800-647-1800; advise if billing address for said card is different than address above. C.O.D. Fee: Add additional \$7.50 for sending products C.O.D., above and beyond normal shipping charges. Bank Transfer: Wire transfers should be directed to: Amsouth Bank, Birmingham, Alabama, ABA: 062000019, SWIFT: SANBUS4N; For further credit to: Amsouth Bank, Starkville, Mississippi; For Account of: MFJ Enterprises, Inc., Account Number: 2300236034. Add bank fee of \$25.00 for each \$500 amount. Sales Tax: Mississippi and Ohio must add sales tax from county rate they reside in.

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WARRANTY INFORMATION: All MFJ products (except as noted) come with MFJ's famous *No Matter What*<sup>™</sup> one year limited warranty. The warranty does not include kits, books or software. **MFJ** will repair or replace (*at our option*) your MFJ product *No Matter What*<sup>™</sup> for one complete year. **Customer MUST** retain dated proof-of-purchase.

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C	16.00	25.00	35.00	200.00	
D	18.00	30.00	40.00	250.00	
E	21.00	35.00	50.00	300.00	
F	30.00	*	55.00	*	

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## **NFJ 2.4 GHz WiFi Ante**

MFJ 2.4 GHz, 15 dBi, 16-element WiFi Yagi Antenna

MFJ-1800 15 dB, 16-\$2995 element WiFi Ship Code A Yagi antenna greatly extends range of 802.11b/g WiFi signals 32 times over an

isotopic radiator. **Turns** unusable or slow WiFi into solid, fast connection. Highly directional -minimizes interfering signals. Works with any 802.11b/g or 2.4 GHz device.

Unique mount has builtin standard N-type female connector and screw mount for standard tripod.

Has rear holes for wall mounting and bottom holes for desk or shelf mounting.

Use it vertically or horizontally. Precision punched aluminum antenna measures just 18Wx 2<sup>3</sup>/<sub>4</sub>H x1<sup>1</sup>/<sub>4</sub>D inches, weighs only 2.9 ounces.

High gain, Wide Area 2.4 GHz WiFi Antennas



MFJ-1802 \$49<sup>95</sup> Ship Code A

**Extends** range and coverage of wireless routers and access points

by providing focused signals.

Place one of these high gain, wide coverage directional antennas in an upper corner of a large area or on the ceiling and drive strong signals into distant corners and hard-to-reach places -- large rooms, houses, offices, stores, warehouses.

Gives faster speed by reducing

MFJ-1804 \$**59**<sup>95</sup> Ship Code A

re-transmissions due to weaksignals.

Swivel

mount. Female N-connector.

MFJ-1802 full-size air dielectric patch antenna provides 8 dBi gain. Extra-wide 150 degree beamwidth, just point in general direction.

MFJ-1804 bi-quad antenna gives you 12 dBi gain and 45 degree beamwidth when you need extra high gain and a more focused signal.

Covered by MFJ Warranty.

## Weather-proof 2.4 GHz, 15 dBi Yagi



\$**69**<sup>95</sup> Ship Code A

MFJ-1800 (see above) 2.4 GHz, 15 dBi, 16 element WiFi Yagi antenna is housed in a good looking, ruggedi-

zed weather-proofed enclosure.

MFJ-1801 withstands harsh weather -- wind, thunderstorms, ice, sleet, snow, high heat and humidity.

**Mounts** indoor or outdoor on any mast up to 1<sup>1</sup>/<sub>4</sub>" OD. N connector. Compact 20Wx3<sup>1</sup>/<sub>2</sub>Dx3<sup>1</sup>/<sub>2</sub>H inches, weighs just 21/2 lbs.

Callsign: \_

## Desktop WiFi Antenna 2.4 GHz, 2 dBi gain

MFJ-1805

\$14<sup>95</sup>

Replace your back-ofthe com-puter antenna with this omni-directional desktop antenna. Place it in a clear, open environment for a line-of-

sight view to your access 2 dBi Dipole Antenna MFJ-1823, \$12.95.

> Replacement for wireless access points, routers, adapters. Mount on base and place high in open for extended range. Swivels for maximum signal pickup. 5<sup>1</sup>/<sub>2</sub> in.

Reverse SMA male connector. Ship Code A.

Ship to:

Name:

point -- this greatly extends your range and coverage and gives you fast, solid connec-Ship Code A tions. Has 31/2 feet coax with reverse SMA male connector, 31/8 inch antenna, 2 inch diameter base.

WiFi Antenna-to-**Computer Cable** MFJ-5606SR, \$24.95.

Connects MFJ-1800 and other WiFi antennas to computer, reverse SMA male to N-

male, 6 ft. RG-174. MFJ-5606TR, \$24.95. Same as MFJ-5606SR but reverse TNC male to N-male. Ship A



V	FJ	0	rd	er	Fo	rm

Mail order to: MFJ Enterprises, Inc., 300 Industrial Park Road, Starkville, MS 39759 USA Phone: 662-323-5869 Fax: 662-323-6551 Email: mfjoffice@mfjenterprises.com Web: www.mfjenterprises.com

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# hy-gain. ROTATORS

## the first choice of hams around the world!

The most popular HAM-IV rotator in the world! \$55995 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 2<sup>1</sup>/<sub>16</sub> inches.

HAM IV and HAM V Rotator Specifications		
Wind Load capacity (inside tower)	15 square feet	
Wind Load (w/mast adapter)		
Turning Power	800 inlbs.	
Brake Power	5000 inlbs.	
Brake Construction	Electric Wedge	
Bearing Assembly	dual race/98 ball bearings	
Mounting Hardware	Clamp plate/steel U-bolts	
Control Cable Conductors	8	
Shipping Weight	26 lbs.	
Effective Moment (in tower)	2800 ftlbs.	

HAM-V

with DCU-1

#### HAM-V

For medium anten- \$99995 na arrays up to 15 square feet wind load area. Similar to the HAM IV, but includes DCU-1 Pathfinder digital control unit with gas plasma display.



#### **ROTATOR OPTIONS**

MSHD, \$99.95. Heavy duty mast support for T2X, HAM-IV and HAM-V. MSLD, \$39.95. Light duty mast support for CD-45II and AR-40.

TSP-1, \$34.95. Lower spacer plate for HAM-IV and HAM-V.

## **ROTATOR CABLE**

879-1608, \$1.10 per foot. 8 conductors PVC cable, 6-18 AWG + 2 -16 AWG, 200V for Hy-Gain<sup>(R)</sup> rotators.

#### **ROTATOR POTENTIOMETER**

RPM-1, \$34.95. Rotator replacement pot for HAM II, III, IV, V, T2X. 500 Ohm. Same as p/n 5023100.

#### **Rotator Auto Brake Delay**

RBD-5, \$29.95, allows a automatic 5 second brake delay for your *Hy-Gain* rotator. This delay insures that the rotator is fully stopped before the brake is engaged.

No more accidentally engaging brake while the rotator is in movement. Use with HAM II, III, IV, V, T2Xs. Easy-to-install. Includes pre-assembled PCB and hardware.

#### TAILTWISTER SERIES II

For large medium antenna arrays up to 20 sq. ft. wind load. Available with *DCU-1 Pathfinder* digital control (T2XD) or standard analog control box (T2X) with new 5-second brake delay and new Test/Calibrate function. Low temperature grease. alloy ring gear, indicator potentiometer, ferrite beads on potentiometer wires, new weatherproof AMP connectors plus T-2X 8-pin plug at control box, triple bearing race with 138

ball bearings for large load T-2XD bearing strength, electric lock- \$107995 ing steel wedge brake, North with DCU-1 or South center of rotation

scale on meter, low voltage control, 21/16 inch max, mast.

TAILTWISTER Rotator Specifications		
Wind load capacity (inside tower)		
Wind Load (w/ mast adapter)		
Turning Power	1000 inlbs.	
Brake Power	9000 inlbs.	
Brake Construction	Electric Wedge	
Bearing Assembly	Triple race/138 ball brngs	
Mounting Hardware	Clamp plate/steel U-bolts	
Control Cable Conductors	8	
Shipping Weight	31 lbs.	
Effective Moment (in tower)	3400 ftlbs.	

#### AR-40

AR-40 For compact antenna arrays and large FM/TV up to 3.0 square feet wind load area. Dual 12 ball bearing race. Automatic position sensor never needs resetting. Fully automatic control -- just dial and touch for any desired location. Solid state, low voltage control, safe and silent operation. 21/16 inch max mast size. MSLD light duty lower mast support included.

AR-40 Rotator Specifications		
Wind load capacity (inside tower)	3.0 square feet	
Wind Load (w/ mast adapter)	1.5 square feet	
Turning Power	350 inlbs.	
Brake Power	450 inlbs.	
Brake Construction	Disc Brake	
Bearing Assembly	Dual race/12 ball bearings	
Mounting Hardware	Clamp plate/steel bolts	
Control Cable Conductors	5	
Shipping Weight	14 lbs.	
Effective Moment (in tower)	300 ftlbs.	

#### **Digital Automatic Controller**



\$**6**9995 Controls T2X, HAM IV

and HAM V. Auto operation of brake/ rotor, computer control with

RS232 pass-through, compatible with many logging/contest programs, 6 presets for favorite beam headings, 1 degree heading accuracy, Auto 8-sec. brake delay, 360 degree choice for center of rotation!

#### **CD-4511**

For antenna arrays up to 8.5 sq. feet CD-45II mounted inside tower or 5 sq. ft. with mast adapter. Low temperature grease good to -30 F degrees. New Test/Calibrate function. Bell rotator design gives total weather protection, dual 58

ball bearing race gives proven support. Diecast ring gear, stamped steel gear drive, heavy duty, trouble free gear train, North center scale, lighted directional indicator, 8-pin plug/socket on control unit, snapaction control switches, low voltage control, safe operation, takes maximum mast size to 21/16 inches. MSLD light duty lower mast support included.

CD-45II Rotator Sp	pecifications
Wind load capacity (inside tower)	8.5 square feet
Wind Load (w/ mast adapter)	5.0 square feet
Turning Power	600 inlbs.
Brake Power	800 inlbs.
Brake Construction	Disc Brake
Bearing Assembly	Dual race/48 ball brings
Mounting Hardware	Clamp plate/steel U-bolts
Control Cable Conductors	8
Shipping Weight	22 lbs.
Effective Moment (in tower)	1200 ftlbs.

#### **HDR-300A**

HDR-300A For *king-sized* antenna arrays up to 25 sq.ft. wind load area. Control cable connector, new hardened stainless steel output shaft, new North or South centered calibration, new ferrite beads on potentiometer wires reduce RF susceptibility, new longer output shaft keyway adds

reliability. Self-centering steel clamp/hardware. Display accurate to 1°. Machined steel output.

•
pecifications
25 square fee
not applicable
5000 inlbs
7500 inlbs
solenoid operated locking
bronze sleeve w/rollers
stainless steel bolts
7
61 lbs
5000 ftlbs

#### **UHF/VHF/6M Rotator/Controller**

Designed for the use of small UHF, VHF, 6-Meter, TV and FM antennas. Has automatic controller, rotator, mount clamps and hardware. Use 110 VAC. Specify "X" for 220V. AR-38, like AR-35, but has a programmable

AR-35/X antenna controller with remote **7995** control. 12 memories, digital displays for location chosen and relative position.



Hy-Gain . . . Antennas, Towers and Rotators

# hy-gain. HF BEAMS...

## . . . are stronger, lighter, have less wind surface and last years longer.



#### TH-11DX, \$1159.95. 11-element, 4.0 kW PEP, 10,12,15,17,20M

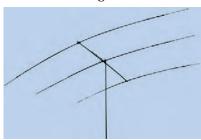
**The** choice of top DXers. With 11-elements, excellent gain and 5-bands, the super rugged TH-11DX is the "Big Daddy" of all HF beams! Handles 2000 Watts continuous, 4000 Watts PEP.

**Every** part is selected for durability and ruggedness for years of trouble-free service. Features a low loss log-periodic driven array on all bands with monoband reflectors, BN-4000 high power balun, corrosion resistant wire boom support, hot dipped gal-vanized and stainless steel parts.

Stainless steel hardware and clamps are used on all electrical connections.

## **Compact** 3-element 10, 15, 20 Meter Tri-Bander

For limited space . . . Installs anywhere . . . 14.75 ft turning radius . . . weighs 21 lbs . . . Rotate with CD-45II, HAM-IV



Fits on light tower, suitable guyed TV pole, or roof tri-pod.

#### TH-3JRS, \$359.95.

**Hy-Gain's** *most popular* 3-element 10, 15, 20 Meter tri-bander fits on most lots!

**Same** top performance as the full power TH3MK4 in a compact 600 watt PEP design.

**Excellent** gain and F/B ratio let *you* compete with the "big guns".

**Tooled** manufacturing gives you *Hy-Gain* durability with 80 MPH wind survival.

#### TH-7DX, \$869.95. 7-element, 1.5 kW PEP, 10,15,20 Meters

**7-Elements** gives you the *highest average gain* of any Hy-Gain tri-bander! Dual driven for broadband operation without compromising gain. SWR less than 2:1 on *all* bands. Combined monoband and trapped parasitic elements give you an excellent F/B ratio. *Hy-Gain's* diecast aluminum, rugged boom-to-mast clamp, heavy gauge element-to-boom brackets, BN-86 balun. For high power, use BN-4000.

#### TH-5MK2, \$759.95. 5-element, 1.5 kW PEP, 10,15,20 Meters

The broadband *five element* TH5-MK2 gives you outstanding gain. Separate air dielectric *Hy-Q* traps let you adjust for maximum F/B ratio on each band. Has *Hy-Gain*'s exclusive *BetaMATCH*™, stainless steel hardware and compression clamps and BN-86 balun.

#### TH-3MK4, \$469.95. 3-element, 1.5 kW PEP, 10,15,20 Meters

The super popular TH-3MK4 gives you the *most gain for your money* in a full-power, full-size durable Hy-Gain tri-bander! Impressive average gain and whopping average front-to-back ratio. Handles 1.5 kW PEP. 95 MPH wind survival. Fits on average lot -- turning radius is just 15.3 feet. 4-piece boom is ideal for DXpeditions. Choose CD-45II or HAM-IV rotator. *Hy-Gain BetaMatch*<sup>TM</sup> for DC ground, full power  $Hy-Q^{TM}$  traps, rugged boom-to-mast bracket and mounts on standard 2"O.D. mast. Stainless steel hardware. BN-86 balun recommended.

#### TH-2MK3, \$369.95. 2-element, 1.5 kW PEP, 10,15,20 Meters

The 2-element TH-2MK3 is Hy-Gain's most economical full power (1.5kW PEP) full size tri-bander. Increase your effective radiated power and hear far better! Ruggedly constructed, top-performing, compact 6 foot boom, tight 14.3 foot turning radius. Installs almost anywhere. Rotate with CD-45II or HAM-IV. Use BN-86 balun.

#### EXP-14, \$599.95. 4-element, 1.5 kW PEP, 10,15,20 Meters

Revolutionary 4-element compact tri-bander *can add* 40 or 30 Meters! 14 foot boom and tight 17.25 feet turning radius. Fits on roof tri-pod, mast or medium duty tower. Hy-Gain's *patented* broadbanding *ParaSleeve* gives you less than 2:1 VSWR. 1.5kW PEP. *BetaMATCH*™ provides DC ground to eliminate static. Has BN-86 balun. QK-710, \$169.95. 30/40 Meter option kit for EXP-14.

#### DB-1015, \$449.95. 7-element, 1.5 kW PEP, 10 & 15 Meters

**This** dual band beam for 10 and 15 Meters incorporates *Hy-Gain's* superior mechanical design and has been computer optimized and range-tested for max performance. **DB-1015** features a 14 foot boom in 4 sections. Handles full legal power and has *Hy-Gain's* rugged boom-to-mast clamp. **DB-1217**, \$449.95. Similar to DB-1015, but is dual band coverage for 12 and 17 Meters.

Model No.	No. of elements	avg gain dBi		MaxPwr watts PEP		Wind sq.ft. area	Wind (mph) Survival	Boom (feet)	Longest Elem. (ft)		Weight (lbs.)	Mast dia O.D.(in.)	Recom. Rotator	Retail Price
TH-11DX	11	8.4	22	4000	10,12,15,17,20	12.5	100	24	37	22	88	1.9-2.5	T2X	\$1159.95
TH-7DX	7	8.77	21	1500	10, 15, 20	9.4	100	24	31	20	75	1.5-2.5	HAM-IV	\$869.95
TH-5MK2	5	8.3	20	1500	10, 15, 20	7.4	100	19	31.5	18.42	57	1.5-2.5	HAM-IV	\$759.95
TH-3MK4	3	8.0	25	1500	10, 15, 20	4.6	95	14	27.42	15.33	35	1.9-2.5	CD-45II	\$469.95
TH-3JRS	3	8.0	25	600	10, 15, 20	3.35	80	12	27.25	14.75	21	1.25-2.0	CD-45II	\$359.95
TH-2MK3	2	5.6	15-20	1500	10, 15, 20	3.25	80	6	27.3	14.25	20	1.9-2.5	CD-45II	\$359.95
EXP-14	4	8.1	25	1500	10,15,20 opt. 30/40	7.5	100	14	31.5	17.25	45	1.9-2.5	HAM IV	\$599.95
DB-1015	7	9.8	22	1500	10, 15	6.7	115	14	29.5	16.3	40	1.5-2.5	HAM IV	\$449.95
DB-1217	7	9.8	22	1500	12, 17	6.7	115	14	29.5	16.3	40	1.5-2.5	HAM IV	\$449.95

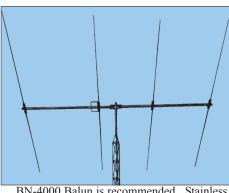
## **Hy-Gain Long Johns HF Monobanders**

**LJ-105CA**, \$289.95.10 Meters, 5 elements, Exclusive 50 Ohm BetaMatch™. Excellent DC Ground. Stainless steel hardware and clamps. BN-4000 Balun recommended. **LJ-155CA**, \$429.95. 15/12 Meters, Five Elements, Exclusive 50 Ohm *BetaMatch*™. Excellent DC Ground. Stainless steel hardware and clamps. Includes 12 Meter setting. BN-4000 Balun recommended. LJ-205CA, \$769.95. 20/17 Meters, Five Elements. Exclusive 50 Ohm *BetaMatch*™ Excellent DC Ground. Stainless steel hardware and clamps. BN-4000 Balun recommended. Manual has setting for both bands. **LJ-204BA**, \$539.95. 20/17 Meters, Four Elements. Exclusive 50 Ohm BetaMatch™. The LJ-204BA has a tiltable cast aluminum boom-to-mast clamp, heavy gauge

machine-formed element-to-boom brackets and stainless steel hardware and clamps. BN-4000 Balun is recommended. Manual has setting for both bands.

**LJ-103BA**, \$159.95. 10 Meters, Three Elements. Feeds with 50 Ohm coax, comes factory pre-tuned with Hy-Gain's exclusive *BetaMatch*™. BN-86 balun recommended. Includes stainless steel hardware and clamps.

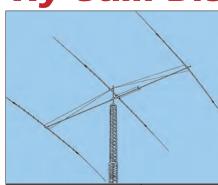
**LJ-153BA**, \$209.95. 15 Meters, 3 elements. Feeds with 50 Ohm coax, *BetaMatch*<sup>™</sup>, 5.7 dBd gain. BN-4000 Balun recommended. Stainless steel hardware and clamps. **LJ-203BA**, \$329.95. 20 Meters, Three elements on a 16 foot boom. The LJ-203BA feeds with 50 Ohm coax, factory pre-tuned with Hy-Gain's exclusive *BetaMatch*<sup>™</sup>.



BN-4000 Balun is recommended. Stainless steel hardware and clamps. Tiltable, cast aluminum boom-to-mast bracket.

Model #	Gain (dBi)	F/B Max	Max Power	Boom Size	element size	turn Radius	Mast diam.	Surface	Wind
LJ-105CA	10.8 dBi	36 dB	1500 W PEP	24 feet	18 feet	15 feet	1.9-2.5 in.	3.9 sq. feet	100 m.p.h.
LJ-155CA	9.8 dBi	25 dB	1500 W PEP	26 feet	25 feet	17 feet, 6 in.	1.9-2.5 in.	5.2 sq. feet	88 m.p.h.
LJ-205CA	8.7 dBi	30 dB	1500 W PEP	34 feet	36 feet	25 feet	1.9-2.5 in.	9.0 sq. feet	99 m.p.h.
LJ-204BA	8.2 dBi	28 dB	1500 W PEP	26 feet	36 feet, 6 in.	22 feet, 6 in.	1.9-2.5 in.	7.3 sq. feet	100 m.p.h.
LJ-103BA	7.9 dBi	24 dB	1500 W PEP	8 feet	18 feet, 7 in.	10 feet, 2 in.	1.625-2.0 in.	2 sq. feet	107 m.p.h.
LJ-153BA	7.9 dBi	25 dB	1500 W PEP	12 feet	24 feet, 11"	14 feet, 3 in.	1.9-2.5 in.	3 sq. feet	80 m.p.h.
LJ-203BA	7.3 dBi	23 dB	1500 W PEP	16 feet, 6 in.	37 feet	20 feet	1.9-2.5 in.	5.4 sq. feet	80 m.p.h.

## **Hy-Gain Discoverer Series Antennas**



DISCOVERER 71, \$289.95. Covers 40/30 Meters.

This rotatable dipole of low weight and wind surface area so easily fits most existing beam installations. Tuned to 30 or 40 Meters with a front-to-side ratio of 30 dB for a fast, expansion of band capability. Feeds with 50 Ohm coax. Pre-formed mast clamp. DISCOVERER 72, \$649.95.

Covers 40 Meters.

**This** two-element 40 Meter beam has a unique hairpin loading system. It delivers superior performance. Feeds with 50 Ohm coax and comes factory pre-tuned with Hy-

Gain's exclusive *BetaMatch*™. Tiltable boom-to-mast bracket and stainless steel hardware is included. Hy-Gain high power BN-4000 balun is recommended.

DIR-73K, \$409.95.

Add-On 30/40 Meter Director Kit

Converts the Discoverer 72 into a three-element beam. Amazingly, it's all on a 35 foot boom, outperforming the other brands that are much larger. Discoverer 72 with director Kit fits on medium duty towers such asHG-52SS, saving both cost and space. HyGain offers wide bandwidth and Hy-Q efficiency without coils. Handle legal power limits.

Model #	Gain (dBi)	F/B Max	Max Power	Boom size	elment size	turn Radius	Mast diam.	Surface	Wind
DIS-71	6.5 dBi	35 dB	1500 W PEP	2.7 feet	45 feet	22.5 feet	1.9-2.5 in.	2.7 sq. feet	100 m.p.h.
DIS-72	6.5 dBi	15 dB	1500 W PEP	22.6 feet	44.8 feet	25 feet	1.9-2.5 in.	6.0 sq. feet	80 m.p.h.
DIR-73K	7.5 dBi	26 dB	1500 W PEP	35 feet	45.7 feet	28.9 feet	1.9-2.5 in.	9.0 sq. feet	80 m.p.h.

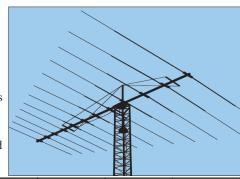
## Hy-Gain HF Log Periodic Antennas

LP-1009A, \$1429.95. LP-1009A for UHF connector. LP-1009AN for "N" connector. Covers 10/12/15/17/20 Meters Covers the complete 13-30 MHz HF spectrum under a 2:1 VSWR. Built to commercial specifications, it is used by MARS, monitoring stations, marine and government radio stations around the world and now it's available to Hy-Gain amateur customers. The discerning ham operator will appreciate its performance and ease of use. Just imagine all that spectrum coverage and only one feedline. Exclusive 2KW BN-4000 current type

balun included. Use T2X Tailtwister or HDR-300A rotators.

LP-1010A, \$1799.95. LP-1010A for UHF connector. LP-1010AN for "N" connector. Covers10-30 MHz (10, 12, 15, 17, 20, and 30 Meters)

There are only a few antennas that offer as much HF frequency coverage as the LP-1010A. Like the LP-1009A, this antenna is built to commercial standards using stainless steel hardware and having a wind survivability of 93 mph. Rotatable with use of T2X or HDR-300A rotators.



Model #	Gain (dBi)	F/B Max	Max Power	Boom size	element	turn Radius	Mast diam.	Surface	Wind
LP-1009A/N	7.3 dBi	22 dB	1500 W PEP	27 feet	39 feet	22.5 feet	1.9-2.5 in.	12.5 sq. feet	103 m.p.h.
LP-1010A/N	7.0 dBi	22 dB	1500 W PEP	36 feet	48 feet	28.5	1.9-2.5 in.	16 sq. feet	93 m.p.h.

## **Hy-Gain VHF Vertical Antennas**

V-4R

Covers

400-475 MHz

V-3R

Covers

216-225 MHz

Watts, 4 foot.

V-6R

Covers 51-54

MHz

\$10995 cal with 5.2

\$1 1 995 antenna

1<sup>1</sup>/<sub>4</sub> Meter vertical w/5.2

design. SO-239, handles

**\$204**95 na is based

tors. 500 Watt enclosed

coil and 2 sets of 1/4 wave

radials provide complete

mum pattern and gain.

mast decoupling and opti-

Rugged design for severe

weather, also DC ground

lightning protector. 25 ft.,

3 in., UHF female con-

dBi gain, double zepp

500 Watts. 6ft., 9 in.

UHF verti-

dBi gain

from dou-

ble zepp

design.

Type N,

handles 500

V-6R anten-

wave radia-

on 2 coll-

inear 5/8

derived

**95** vertical with 5.2 Covers dBi gain 138-175 MHz derived from the famous extended double zepp antenna design. Radiating elements are two collinear 5/8 waves fed in phase. 2 sets of 1/4 wave radials properly decouple lower radiator from the mast. SO-239. handles 500 Watts. 9 ft.

V-42R V-42R is \$16995 independently tun-Covers 143able at 153, and 436-144 and 455 MHz 440 MHz. Fed through one coax cable, it has sets of 1/4 wave radials which properly decouple 5/8 wave radiators from the mast. Gives 5 dBd gain UHF and 3 dBd gain on VHF. Type N, handles

1	200 watt	s. 9 ft.			ieci, nano	lies 500	watts.
lodel#	Frequenc	Gain dBi	Pwr Input	Wind	Max Mast	Height	Weight
V-2R	138-175	5.2 dBi	500 Watts	105 mph	2 in. OD	9 foot	6 pounds
V-42R	143-153, 436-455	7.2 UHF 5.2 VHF	200 Watts	100 mph	2 in. OD	9 foot	6 pounds
V-4R	400-475	5,2 dBi	500 Watts	230 mph	2 in. OD	4 foot	4 pounds
V-3R	216-225	5.2 dBi	500 Watts	100 mph	2 in. OD	6 ft. 9 in.	5 pounds
V-6R	51-54	5.2 dBi	500 Watts	80 mph	1.5-2.25	25 ft. 3 in.	15 pounds

## Hy-Gain VHF Ground Planes

GPG-2B Covers GPG-1B

GPG-2B is a 5/8 Wavelength \$4995 Ground Plane for two meters is omni-directional and tunable from 142-185 MHz. It delivers an omni-142-185 MHz directional gain of 3.2 dBi. Handles 100 Watts. Measures 4 feet, max

mast mount accepted is 1.625 in O.D. Wind area is .30 sq. ft.

\$39<sup>95</sup> Covers 144-148 MHz

**GPG-1B** is a 1/4 Wavelength ground plane similar to the GPG-2B. It has unity gain, covers 144-148 MHz.

GPG-1, \$39.95, is similar to GPG-1B, but covers162-174 MHz.

## Oscar Link 435 MHz • 145.9 MHz



UB-7030SAT \$229<sup>95</sup> \$229<sup>95</sup> Assembly only tected for long life. The fiber-

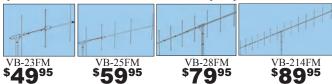
**Hv-Gain's** Oscar Link antennas are complete with the necessary phasing lines, relays and hardware. Left and right circularity switching reduces fading. True RF switching elements are rated at 200 Watts and improved VSWR \$11995 for higher efficiency. Feed points Crossboom are encapsulated, weather pro-

glass crossboom maintains the integrity of the circularity pattern. DB-218SAT, \$559.95. The complete 2 Meter/ 440 MHz Oscar *Link* antenna system with crossboom assembly with necessary phasing lines, relays and hardware.

Model#	F/B ratio	Gain dBi	Pwr Input	# Element	Boom	Wind	Weight
VB-216SAT	25 dB	13.7 dBi	200 W PEP	16	168.75 in.	1.1 sq. ft.	7 lbs.
VB-7030SAT	25 dB	16.2 dBi	200 W PEP	30	134 inches	.7 sq. ft.	4 lbs.
73					1	•	

### VHF-FM Beam Antennas

These 2 Meter FM beam antennas include Hy-Gain's exclusive Beta Match™ to provide exceptional Front-to-Back ratio and maximum obtainable gains. The VB-23FM (8.3 dBi gain), VB-25FM (11.2 dBi gain), VB-28FM (14 dBi gain), and the VB-214FM (15.2 dBi gain) gives you a wide choice of 2 Meter Beam performance from which to choose. Accepts up to 2 inch mast.



2 Meter FM Beam

2 Meter FM Beam

2 Meter FM Beam

2 Meter FM Beam

## *New!* Dual Band Yagi Antenna

DB-2345

**DB-2345** gives a whopping 8 dBi gain on 2-Meters and 6 dBi gain on 440 2 Meter/440 MHz. Has 3-elements on two meets Dual Band Yagi and 5-elements on 440 MHz. Requires only one feedline for true dual band performance. Point in direction of your QSO for more direction of output power. This redcuces interference and increases signal strength.

## TriBand 2M/440MHz/6M Yaqi



VHB-246 Tri-beam has 3 elements on 6M/2M and 5 elements on 440 MHz.

2 Meter/440/6M 144/440 MHz are mounted at right Tri-Band Yagi angles to the 6M beam -- lets antenna be oriented for optimum 6M SSB/CW and 2M/440 MHz. Coax feed points for 6M and 2M/440 MHz.

Model#	F/B MAX	Gain dBi	Pwr Input	Long el	Boom	Mast dia.	Weight
VB-23FM	20 dB	8.3 dBi	500 Watts	40.25 in.	43.5 in.	2.0 in.	2 pounds
VB-25FM	20 dB	11.2 dBi	500 Watts	39.625 in.	75 in.	2.0 in.	3 pounds
VB-28FM	20 dB	14 dBi	500 Watts	40.25 in.	148.75 in.	2.0 in.	4 pounds
VB-214FM	20 dB	15.2 dBi	500 Watts	39.5 in.	15 ft. 6 in.	2.0 in.	6 pounds
DB-2345 - 2M VHB-246 - 2M	17 dB	8 dBi	500 Watts	40.5 in.	45 in.	1.5 in.	2 pounds
DB-2345 - 440 VHB-246 - 440	10 dB	6 dBi	500 Watts	40.5 in.	45 in.	1.5 in.	2 pounds
VHB-246-6M	20 dB	8 dBi	500 Watts	119 in.	144 in.	2.0 in.	28 pounds

## **6-Meter DX Beam Antennas**



VB-66DX 264<sup>95</sup>

The VB-64DX and VB-66DX feature a concept in beam construction

that provides actual delivered performance equalling maximum theoretical gain. The 4-element VB-64DX generates an impressive 10.4 dBi gain and the 6-element VB-66DX increases the gain to an unprecedented 12.5 dBi.

Model#	Frequenc		Pwr Input		#Element	Boom	Weight
UB-7031DX	420-438	19.8 dBi	2 kW PEP	1.9 sq. ft.	31	24.06 ft.	9.25 lbs.
VB-215DX	144-146	16.4 dBi	2 kW PEP	2.75 sq. ft.	15	27.88 ft.	13.56 lbs.
VB-64DX	50-54	10.4 dBi	500 Watts	1.1 sq. ft.	4	12 ft.	10 lbs.
VB-66DX	50-54	12.5 dBi	1.5kWPEP	1.8 sq. ft.	6	24.575 ft.	17 lbs.

## VHF/UHF DX Beam Antennas



VB-215DX Hy-Gain's DX-Series 22995 VHF/UHF Beams are based on the DL6WU Covers

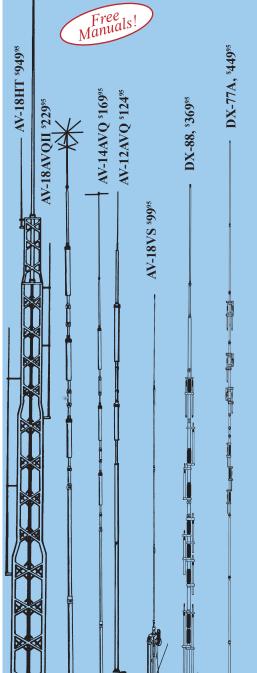
element length and spac-144-146 MHz ing and were further refined on Hy-Gain's antenna test range

and by computer modeling. Both beams feature encapsulated weatherproof feedpoints with type N connectors for excellent VSWR and power handling. High quality mechanical construction is assured by heavy wall booms and boom supports made of 6063-T832 aluminum tubing, stainless steel hardware, UV stabilized thick-shoulder element insulators and PTFE coaxial baluns.

www.hy-gain.com

# hy-gain HF VERTICALS

Self-supporting -- no guys required . . . remarkable DX performance -- low angle radiation, omnidirectional . . . 1500 Watts . . . Low SWR . . . . 2 year limited warranty



**All hy-gain** multi-band vertical antennas are entirely self supporting -- no guys required. They offer remarkable DX performance with their extremely low angle of radiation and omnidirectional pattern.

All hy-gain vertical antennas handle 1500 Watts PEP SSB, have low SWR, automatic band-switching (except AV-18VS) and include a 12-inch heavy duty mast support bracket (except AV-18HT). Heavy duty, slotted, tapered swaged, aircraft quality aluminum tubing with full circumference compression clamps is used for radiators. Includes all stainless steel hardware. Recessed SO-239 prevents moisture damage.

**Hy-gain** verticals go up easily with just hand tools and their cost is surprisingly low. All hy-gain Verticals feature a two year limited warranty.

#### AV-18HT, \$949.95. 10/12/15/20/40/80 M

10/12/15/20/40/80 M 17 & 160 Meters optional

Standing 53 feet tall, the famous Hy-Gain HyTower is the world's best performing vertical! The AV-18HT features automatic band selection achieved through a unique stub-decoupling system which effectively isolates various sections of the antenna so that an electrical 1/4 wavelength (or odd multiple of a 1/4 wavelength) exists on all bands. Approximately 250 kHz bandwidth at 2:1 VSWR on 80 Meters. With the addition of a base loading coil LC-160Q or MK-160A, it also provides exceptional 160 Meter performance. The 24 foot tower is all rugged, hot-dip galvanized steel and all hardware is iridited for corrosion resistance. Special tilt-over hinged base for easy raising and lowering. 53 feet, 114 lbs. MK-17, \$89.95. 17M add-on Kit. LC-160Q, \$109.95. 160 M loading coil. MK-160A, \$119.95. 160M 1500W kit.

#### DX-88, \$369.95. 10/12/15/17/20/30/40/80M 160 Meters optional.

All bands are *easily* tuned with the DX-88's *exclusive* adjustable capacitors. 80 and 40 Meters can even be tuned from the ground without having to lower the antenna. Super heavy-duty construction. 25 feet, 18 pounds. DX-88 OPTIONS: KIT-160-88, \$199.95. 160 M add-on kit. GRK-88, \$99.95. Ground Radial System. RRK-88, \$99.95. Roof Radial System.

#### DX-77A, \$449.95. 10/12/15/17/20/30/40 M

No ground radials required! Off-center-fed Windom has 55% greater bandwidth than competitive verticals. Heavy-duty tiltable base. Each band independently tunable. 29 feet, 25 pounds.

# AV-18AVQII, \$229.95.

10/15/20/40/80 Meters

New! The classic is back with improved design including three separate air dielectric Hy-Q™ traps for 10 through 80 Meters --1.5 kW PEP. A loading coil and an effective radiator is used for 80 Meters --1kW PEP.

# AV-14AVQ, \$169.95. 10/15/20/40 Meters

The Hy-Gain AV-14AVQ uses the same trap design as the famous Hy-Gain Thunderbird beams. Three separate air dielectric Hy-Q traps with oversize coils give superb stability and 1/4 wave resonance on all bands. 18 feet, 9 pounds.

**New!MK-80, \$79.95.** 80 Meter add-on kit for AV-14AVQ. Easy to install. Includes pre-wound loading coil, hardware.

#### AV-18VS, \$99.95. 10/12/15/17/20/30/40/80 M

**High** quality construction and low cost make the AV-18VS an exceptional value. Easily tuned to any band by adjusting feed point at the base loading coil. Roof mount with Hy-Gain AV-14RMQ kit, \$89.95. 18 feet, 4 pounds.

#### AV-12AVQ, \$124.95. 10, 15, 20 Meters The AV-12AVQ also uses Thunderbird

The AV-12AVQ also uses Thunderbird beam design air dielectric traps for extremely Hy-Q performance. This is the way to go for inexpensive tri-band performance in limited space. 13 ft., 9 lbs. Roof mount with AV-14RMQ kit, \$89.95.

# AV-14RMQ, \$89.95

Roof Mounting Kit
The AV-14RMQ roof mounting kit
provides rugged support for Hy-gain
models AV-18VS, AV-14AVQ and AV12AVQ. Kit includes base plate, mast,
radial/guy wires and mounting hardware.

#### Hy-Gain<sup>(R)</sup> Guy-Wire Gripper

Hy-gain's Guy-Wire Gripper turns the horrendous job of tightening guy wires into a easy one man operation. This wonder tool works together with a "come-a-long" cable puller to hold/stretch guy wire or cable. Spring loaded for easy operation. Use for guy wire or cable up to 1/4" diameter.

Model #	Price	Bands	Max Power	Height	Weight	Wind Surv.	Rec. Mast
AV-18HT	\$949.95	10,15,20,40,80	1500 W PEP	53 feet	114 pounds	75 MPH	
AV-14AVQ	\$169.95	10,15,20,40	1500 W PEP	18 feet	9 pounds	80 MPH	1.5-1.625"
AV-12AVQ	\$124.95	10/15/20 M	1500 W PEP	13 feet	9 pounds	80 MPH	1.5-1.625"
AV-18VS	\$99.95	10 - 80 M	1500 W PEP	18 feet	4 pounds	80 MPH	1.5-1.625"
DX-88	\$369.95	10 - 80 M	1500 W PEP	25 feet	18 pounds	75 mph no guy	1.5-1.625"
DX-77A	\$449.95	10 - 40 M	1500 W PEP	29 feet	25 pounds	60 mph no guy	1.5-1.625"
AV-18AVQII	\$229.95	10,15,20,40,80	1500WPEP	18 feet	12 pounds	70 mph guy	1.5-1.625"

# Hy-Gain(R) Multi-Band PATRIOT Vertical Antennas 8-band vertical covers 40/30/20/17/15/12/10/6 Meters

 No radials
 No traps
 No ground
 No tuning
 Handles
 1500 Watts hy-gain<sup>R</sup> AV-640

8 Bands: 40, 30, 20, 17, 15, 12, 10, 6 M

Suggested Retail

Call your dealer for

your best price!

hv-gain's new PATRIOT HF verticals are the best built, best performing and best priced multiband verticals available today.

Make full use of your sunspot cycle with the PATRIOT's low angle signal.

AV-640, \$399.95, uses quarter wave stubs on 6, 10, 12 and 17 meters and efficient end loading coil and capacity hats on 15, 20, 30 and 40 meters.

**Instead** of typical traps, the AV-640 resonators are placed in parallel not in series.

**End** loading of the lower HF bands allows efficient operation with a manageable antenna height.

No ground or radials needed -- Effective counterpoise replaces radials, end fed with broadband matching unit.

Automatic bandswitching -- Single coax cable feed, each band is individually tunable, wide VSWR bandwidth.

Sleek and low-profile -- Low wind surface area, small area required for mounting, mounts easily on decks, roofs and patios.

Built-to-last -- Hy-gain's Patriot series antennas boast a high wind survival due to its sleek, but sturdy frame. The matching unit is made from all Teflon<sup>R</sup> insulated wire.

Hy-gain<sup>R</sup> warranty -- Two year limited warranty, all replacement parts in stock. AV-620, \$299.95. Covers all bands 6 through 20 Meters with no traps, no coils, no radials yielding an uncompromised signal across all bands.

Model #	Bands	Max Pwr	Height	Weight	wind surv
AV-620	6B, 6-20	1500W	22.5 feet	10.5 lbs.	80 MPH
AV-640	8B, 6-40	1500W	25.5 feet	17.5 lbs.	80 MPH

## **FAMOUS Heavy Duty HY-GAIN BALUNS**



1500W BN-86, \$79.95. Broadband 50 Ohm ferrite balun. Useable from 3-30 MHz. Rated at 1500 W. Rec-ommended for all HF Yagi antennas. It provides improved

front-to-back ratio. Comes w/clamp to bolt to boom, SO-239 connector.



BN-4000B, \$109.95. Broadband 50 Ohm Beam current balun is potted to seal out moisture. Rated at 4000 Watts for increased power handling capabilities.

Range is 1 MHz to 54 MHz. SO-239

connector. BN-4000D, \$109.95. dipoles. BN-4000N, \$119.95. "N" connector.

## Hy-gain Antenna Feedpoint Pig Tail Cable



APT-2, \$12.95. **Hy-gain's** Antenna Feedpoint *Pig Tail* cable has 2-foot length for connecting between antenna and your coaxial feedline.

Has SO-239 connector on one end and 2 (#10) ring terminals on the other end. Provides an easy and reliable connection for your feedline with PL-259 connector to your antenna feed point.

Use this for Hy-gain VB series beams and other antennas without an SO-239 connector feed point.

#### HF Multiband Hy-Q trap DOUBLETS

**DP-2BDQ**, \$139.95. 40/80 Meters, 101 feet maximum length of dipole.

**DP-5BDQ**, \$259.95. 10-80 Meters, 94 ft. max length. DP-2BDQ and DP-5BDQ are designed for horizontal or inverted "V" rated at legal power. Each individually pretuned matched traps for each band. 50-Ohm feed, cable not incl.

#### ADJUSTABLE HF DIPOLE ANTENNA



**DP-19PD**, \$279.95. 1.8-30 MHz, 160-10 Meters. Great for field day, camping or anytime. Braided nylon wire rope with conductors woven in. *Pre-marked* frequencies for easy installation. Includes 100 foot support rope on each end and SO-239 (UHF) connector is on center insulator.



#### **HY-GAIN INSULATORS FOR** LTIBAND DIPOLE ANTENNA



E-1, \$6.95.

End Insulator

C-1, \$29.95. Center Insulator for multiband dipole antenna.

C-1C, \$29.95 Similar to C-1, but has SO-239 antenna connector.

for Multiband doublet antenna. Set of 2.

#### 4 Foot **Ground Rod**

Durable GR-1 \$895 four foot cop-Ship per bonded Code B steel earth ground rod is a tough 3/8 in. diameter. Sharp point makes it easy to insert ground. Helps bleed off static, RFI and prevent RF hot spots. Use several to form a good RF ground for long wires.

#### Hy-Gain Glazed Ceramic Insulator

E-2 79¢

E-26 **\$4**56 6-Pack

Ship Code A Ship Code A

Extra-strong -will not break, arc over or melt even under full legal power. Molded

ridges give extra-long path to prevent highvoltage breakdown.

www.hy-gain.com • Toll-free 1-800-973-6572

*Hy-Gain* HyTower-Jr™ Stands 39 feet tall . . . Full 1/4 Wave on 40, 20, 15, 10 Meters . . . Cage loading on 80 Meters . . . World's Second Best Vertical Antenna . . .

> **Standing** a tall 39 feet with *full-size* elements and rated at 5 KW, the AV-18JR Hygain HyTower-Jr.™ is the world's second

AV-18HTJr. \$349<sup>95</sup> UPS Shippable best\* performing vertical! **Stub-decoupling** is used to give full-size quarter wave radiators on 40, 20, 15, 10 Meters with super efficient cage loading on

80 Meters.

The HyTower-Jr<sup>TM</sup> has almost no losses -your ground system determines your efficiency.

It is automatic bandswitching, fed with 50 Ohm coax and has low SWR over an exceptionally wide bandwidth with SWR less than 1.2 at resonance.

The main radiator is aircraft highstrength, heavy walled, 2-inch aluminum tubing swedged at the top. Self-supporting in winds up to 40 MPH.

**Mounts** on 1<sup>1</sup>/<sub>4</sub> inch plumber's pipe. Heavy duty components will give you years of trouble-free operating pleasure.

Requires good ground system for optimum performance. UPS Shippable.

\*The famous 53 foot *Hy-gain HyTower*™ is legendary. It's the premier, best performing vertical in the world -- bar none!

At less than half the price with nearly the same performance and based on the same principles, the  $HyTowerJr^{TM}$  is the poor man's version of its father HyTower.

Of course, Junior doesn't have its father's rugged hot-dipped galvanized steel tower and construction!

#### *Hy-gain* Aluminum Tubing

**6063 T832** round, drawn aluminum tubing sold in 2 styles: 6' standard or 6' slitted one end, (.083" gaps, 1-2" slit lengths). **Tubings** are sized to allow telescoping into one another from .625 OD to 2 inches OD. Select slitted tubing for tele-

scoping. Use Hy-gain Stainless Steel hose clamps to secure.

OD x Wall-Th x ID	6'stnrd; p/n, price/ea	6'slitd; p/n, price/ea.	Ad'l/ft.
.625"x.035"x.555"	810-0625C-6U, \$5.70	810-0625C-6S, \$6.90	\$1.00
.750"x.058"x.634"	810-0750E-6U, \$10.55	810-0750E-6S, \$12.66	\$1.85
.875"x.058"x.759"	810-0875E-6U, \$8.72	810-0875E-6S, \$9.92	\$1.53
1.000"x.058"x.884"	810-1000E-6U, \$11.46	810-1000E-6S, \$12.66	\$2.01
1.125"x.058"x1.009"	810-1125E-6U, \$10.03	810-1125E-6S, \$11.23	\$1.76
1.250"x.058"x1.134"	810-1250E-6U, \$11.57	810-1250E-6S, \$12.77	\$2.03
1.375"x.058"x1.259"	810-1375E-6U, \$13.17	810-1375E-6S, \$14.37	\$2.31
1.500"x.058"x1.384"	810-1500E-6U, \$17.95	810-1500E-6S, \$19.16	\$3.15
1.625"x.058"x1.509"	810-1625E-6U, \$21.32	810-1625E-6S, \$22.52	\$3.74
1.750"x.058"x1.634"	810-1750G-6U, \$27.86	810-1750G-6S, \$29.62	\$4.88
2.000'x.120"x1.760"	810-2000I-6U, \$38.93	810-2000I-6S, \$41.03	\$6.83

#### **Hy-gain Stainless Steel Hose Clamps**

		Description
745-3106S	\$1.00	#6 Clamp for .75" OD to .875" OD tubing
745-3110S	\$1.00	#10 Clamp for 1" OD to 1.125" OD tubing
745-3116S	\$1.25	#16 Clamp for 1.25" OD to 1.50" OD tubing
745-3128S	\$2.84	#28 Clamp for 1.75" OD to 2" OD tubing



ATM-65, \$199.95. 11-section *multi-purpose* aluminum telescopic pole can be used for vertical antennas or as a mast, pictured left. Great for portable, temporary use and permanent use -- traveling, camping, etc. Includes one size of each slitted tube listed above and ten hose clamps. 65 ft. fully extended, 6 ft. collapsed without clamps. Guying required if mast is extended beyond 30 feet. Top section is .625" OD. Bottom section is 2 inches OD x .120 wall.

**Hy-gain Base Mount Assembly Kit** ATB-65, \$69.95. New! Complete base assembly kit with

mounting plate, insulators, hardware, etc. for ATM-65.



810-2000I-6W, \$44.95 each. Unique tubing has one end slitted and one end swaged to make it stackable. Join one end to other to make a longer pole. Secure with standard host clamp. Strong, 2"OD x .120" wall. Good for base sections of vertical antennas. Standard 6-ft. length, longer sections, to 20 ft. available. Add \$6.83 each add'l foot. 6 ft. lengths ship by UPS, longer units must ship UPS oversize/truck.

#### Hy-gain Custom Made Element to Boom Clamps



BMC-249, \$79.95. Boom to Mast Clamp Heavy duty 11/4" OD thick aluminum die casted boom to mast clamp designed specifically for securing heavy antennas. It is capable of supporting 2" boom antennas, such as the TH-11DX, Long John Monobanders and other beams with a 2" boom. The BMC-249 allows mast to extend past the top of the clamp. This feature allows

stacking of several antennas on one mast. Clamp is adjustable for mast sizes from " to 2<sup>3</sup>/<sub>4</sub>" OD. The tilt-over feature permits easy assembly of the elements and simplifies maintenance of the antenna. 4Wx4Hx11/4" thick. Kit comes complete with stainless steel hardware. **Element Insulators** These element insulators are made to fit the

element bracket (right). Precision injection molded with black UV resisted ABS plastic.

Part No.	Price	Fits these	Insulator	Fits Element to
		Element sizes	Size	boom clamp
465216	\$3.42	<sup>7</sup> / <sub>16</sub> " OD	<sup>7</sup> / <sub>8</sub> "OD x 2 <sup>3</sup> / <sub>4</sub> "	163409
461057	\$4.40	5/8" OD	11/4" OD x 3"	165919
463767	\$4.40	7/8" OD	11/4" OD x 3"	165919
465833	\$4.80	11/4" OD	11/2" OD x 4"	165920

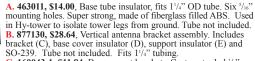
Hy-gain TH-series HF Beam Trap Caps . 464723, \$.75 ea. Trap caps, for large Hy-gain TH-series traps. 3. 466221, \$1.59 ea. Trap caps for Hy-gain TH-3Jr. traps.





Part#	Price	Boom	Element OD		Description	Insulator			
		OD"	w/o insulator	w/insulator	_				
161409			5/8"		21/2x7"x.08 Thick, #12	None			
163764			7/8"		23/8x71/8"x.08 Thick, #4	465216			
165919	\$5.32	2"	11/4"	5/8", 7/8"	3 <sup>1</sup> / <sub>4</sub> x7 <sup>1</sup> / <sub>4</sub> "x.125 Thick, #13	463767, 461057			
165920			11/2"	11/4"	3 <sup>1</sup> / <sub>4</sub> x9 <sup>1</sup> / <sub>2</sub> "x.125 Thick, #14	465833			
160055	\$1.22	11/4"	7/16"		3/4x5"x.063 Thick, #0	None			
161422			5/8"		21/2x61/2"x.08 Thick, #11	None			
165141			7/8"	7/16"	25/16x65/8"x.08 Thick, #12	465216			
165138	\$5.20	11/4"	11/4"	5/8", 7/8"	23/4x65/8"x.08 Thick, #1	463767, 461057			
872223	\$6.60	Stainle	Stainless steel screws, nuts and washers for 1 set of element-to-boom clamp						

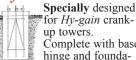
#### Hy-gain Vertical Antenna Mounting Hardware



C. 160043-1, \$11.84, Base mount bracket. Custom-tooled 1/8" thick x 12 inch length aluminum bracket with vertical ridges for super strength. Pre-punched holes for SO-239 or N-connector. D. 863427, \$6.90, Base cover insulator. Allows attachment of base tube. Has hollow center for antenna connector. Mold-in pin connects base tubing to connector.

E. 463056, \$3.12, Base antenna support insulator. Made to fit top support of antenna bracket (C). Hole fits 11/4" OD tubing. F. 460316, \$12.96, Tubing coupler/insulator. Used to couple/ insulate 1" tube to 7/8" tubing. Made of fiberglass filled ABS, 5" long.

#### Hy-Gain Tower Bases



up towers. Complete with base hinge and founda-

tion welded steel-cage. Specify tower model. \*Must be shipped by truck, call for quote.

Model#	Tower	Price	Weight
TB-37	HG-37SS	\$299.95	50 lbs.*
TB-52	HG-52SS	\$299.95	80 lbs.*
TB-54	HG-54HD	\$299.95	90 lbs.*
TB-70	HG-70HD	\$349.95	102 lbs.*

#### Arrowpoint Anchor

Made from high tensile strength aluminum alloy.

Custom die is used to stamp these clamps. No miss-drilled holes. They fit perfect everytime. Required 2 clamps per element. Element Insulators available (left).

**APA-3**, \$14.95. Hygain's Arrow Point Anchor is made of high quality 13 gauge steel. This 3" Arrow Point anchor has 36" integral swiveling 1/8' steel cable. Superior



pullout resistance, up to 2000 lbs. Use this ArrowPoint anchor to secure antennas, towers, tarps, trees, carports, flagpoles and much more. Easy to install with optional drive rod, DR-3, \$29.95.

#### MIRAGE 160 Watts on 2 Meters!

MIRAGE'S Most Popular amplifier gives you 160 Watts of output power for just 25W in from your base/mobile rig!

The B-2518-G is ideal for your 20-60 Watt 2 Meter mobile or base station. You'll talk further, longer, clearer on all modes -- FM, SSB, CW -- hear weak signals better than you've ever before! You get low noise 20 dB GaAsFET pre-amp with an excellent 0.6 dB noise figure for pulling out weak signals.

**B-2518-G** is *fully protected* with features found in expensive commercial amplifiers. High SWR or excessive input power can damage your amplifier. Protection circuits automatically bypass your amplifier to prevent damage and LED lights to warn you.

#### Active-Bias<sup>TM</sup> System gives crisp, clear voice in SSB mode!

An Active-Bias™ System keeps SSB voice crisp and clear for fantastic operation.

Other amplifiers using conventional bias methods tend to produce splatter and distortion as power level changes. This amp with Active-Bias™ doesn't exhibit the problem.

The B-2518-G knows when you are

B-2518-G 29<sup>95</sup> Suggested Retail

> transmitting and kicks in 160 Watts of power. Adjustable time delay give you smooth transmit/receive switching. Remote external keying. You can remotely control your B-2518-G and place it out of the way. An RC-2, \$49.95, Remote Control turns Power On/Off and select SSB/FM. Extra heavy duty custom heatsink spans the

entire cabinet. Draws 16-20A from 13.8 VDC. Compact 12x3x5.5 inches.

More 160 Watt 2 Meter Amps B-5018-G, \$329.95. Like B-2518-G, but for 10-50 Watt mobile/base. 160 Watts out for 50 W in.

B-1018-G, \$409.95. MIRAGE'S most popular dual purpose HT or mobile/base 2 Meter amp. Get 160 Watts out for 10 W in. For 0.2 to 15 Watt rigs Use RC-2, \$45, Remote Control.

#### Remote Control Head for Amps RC-1/RC-2,

**\$49.95.** Remote controls most MIRAGE amps. Power On/Off,



preamp On/Off, switch for SSB/FM. 25 ft. cable (longer available with special order).  $1^{3}/4x \ 3^{3}/4x \ 2^{1}/2$ ". 5018/2518/1018 use RC-2. Others use RC-1, call mirage to verify.

MIRAGE

B-5030-G

Suggested Retail

'**39**<sup>95</sup>

Power Curve Typical Output Power in Watts								Amps				
B-1018-G	25	50	140	150	160	160						19
B-2518-G	5	7	40	60	80	100	125	160	160	160		16
B-5018-G		2	15	25	40	50	70	100	130	160	160	16
Watts In	0.25	0.5	3	5	8	10	15	20	25	35	50	

#### Mirage 150 Watts 6-Meter Amplifier

**FCC Type Accepted** The **A-1015-G** is ideal for a 1-15 Watt Mobile or Base Station Rig.

A built-in low noise GaAsFET receive preamp gives you 20 dB gain -- lets you dig out weak signals and score exotic DX on sporadic E!

You'll talk further, longer, and clearer on all modes -- FM. SSB, CW. Hear weak signals

A-1015-G 3**89**95 Suggested Retail

better than ever

before! Extra heavy-duty heatsink spans entire length of cabinet. Draws 18-22 amps at 13.8VDC. Just 5 pounds, measures 12Dx3Hx5<sup>1</sup>/<sub>2</sub>W inches.

#### Mirage 2-Meter 300 Watt Amplifiers

Get 300 Watts of brute power for 50 Watts input on all modes -FM/SSB/CW. Ideal for 20-60 watt 2-Meter mobile or base rigs. Hear weak signals -- low noise GaAs-FET preamp gives excellent 0.6 dB noise figure. Select 15/20 dB

gain. Heavy heatsink spans entire length of cabinet -prevents overheating. Power transistors are protected by our *Therm-O-Guard*™. Fully protected from high

SWR and excessive input power. Has warning LED, smooth adjustable

keying. Draws 48A@13.8 VDC. 12x12x5". RC-1, Remote Control Head, \$49.95.

transmit/	transmit/receive switching with remote external										
Power Curve Typical Output Power in Watts											
B-5030-G	\$739 <sup>95</sup>			55	150	220	300				
B-2530-G	\$739 <sup>95</sup>	30	95	140	250	300					
B-1030-G \$75995 80 225 270 300											
337 44 T		- 1	2	-	1.0	2.5	50				

#### Power Curve -- Typical A-1015-G Output Power in Watts. Watts Out 22 42 63 84 98 122 142 150 Watts In 5

## 223-225 MHz Amplifiers



Choose from 9 different models -- 20 to 220 Watts out for 2 to 50 Watts in, \$169 to \$739. Extra heavy

duty heatsink spans the entire length of cabinet. Protection circuits automatically bypass your amplifier to prevent damage and an LED lights to warn you. Your expensive power transistors are protected from overheating by Mirage's exclusive Therm-O-Guard Automatically shuts down and bypasses your amp if needed. All Mirage C-Series have a 20 dB GaAsFET preamp.

MIRAGE C-Series Specifications									
Model #	Price	Input	Output	Current					
C-22-G	\$169.95	.1-5 W	3-36 W	5 amps					
C-211-G	\$369.95	.3-5 W	50-126W	25 amps					
C-106-G	\$269.95	.3-15 W	3-60 W	12 amps					
C-1012-G	\$369.95	.3-15 W	6-120 W	20 amps					
C-2512-G	\$345.95	.3-40 W	.5-120 W	18 amps					
C-5012-G	\$365.95	.35-55 W	3-120 W	18 amps					
C-1022-G	\$759.95	.25-10 W	40-220W	48 amps					
C-2522-G	\$759.95	.25-30 W	1.5-220w	48 amps					
C-5022-G	\$739.95	.35-55 W	5-220 W	48 amps					

#### MHz Amplifiers



All UHF models feature all modes: FM, SSB, CW, adjustable delay for SSB and remote control outlet. They also have a heavy duty heatsink that spans

entire length of cabinet, 50 Ohm impedance input and output, 13.8 VDC voltage. **D-3010-N** -- 100 W out/30W in. For 5 to 45 Watt mobile/base. **D**-1010-N -- 100 Watt/10W in. For handhelds or mobile/base. D-26-N -- 60 W out/2W in, for HTs.

#### Amateur TV Amps

Industry standard ATV amps available. D-1010-ATVN, \$449.95. 82 W PEP out /10W in. D-100-ATVN, \$414.95. 82 Watts PEP out/2W in.

MIRAGE D-Series Specifications									
Model #	Price	Input	Output	Current					
D-15-N	\$199.95	.25-2 W	3-18 W	3 amps					
D-26-N	\$299.95	.4-5 W	17-60 W	12 amps					
D-100ATVN	\$449.95	0.5-5 W	15-52 W	20 amps					
D-1010-N	\$419.95	.30-15 W	5-110 W	20 amps					
D-1010ATVN	\$439.95	1-15 W	5-100 W	20 amps					
D-3010-N	\$389.95	5-45 W	7-100 W	20 amps					

#### Commercial Grade Amplifier

PAC-30-130B Suggested Retail



Commercial Amplifiers are available for 150-174, 450-470 MHz and VHF marine bands, 70-100 Watts out. Most feature overtemperature sensing that bypasses amplifier when safe operating temperatures are exceeded; heavy duty heatsinks finned on 3 sides; and wide input power range. These amps were designed for two-way radio signal commercial, mobile, or fixed location use. All are FCC type accepted.

MIRAGE Commercial Amplifier Specifications										
Model	Price	Input	Output	Preamp	Range					
B34GC	\$159.95	.5-3 W	10-30 W	Yes	150-162					
Pac1070B	\$299.95	10-30 W	5-70 W	No	150-174					
Pac15100C	\$429.95	5-25 W	5-100 W	No	450-475					
Pac30130B	\$329.95	10-30 W	1-100W	No	150-174					
M120G	\$199.95	.1-3 W	10-25 W	Yes	156-158.5					

# Mirage 2-Meter/440 MHz Amplifiers for HTs!

# Mirage BD-35 Handheld Dual Band Amplifier



• 35 Watts Output

- All modes: FM, SSB, CW
- Reverse Polarity Protection
- Free Mobile Bracket
- Works with all HTs up to 8 Watts
- Auto RF sense T/R switch

Add this MIRAGE BD-35 dual band amp and boost your handheld to a much

Matts on 2 Meters or 35 Watts on 440 MHz! Get 35 Watts out with just 4 Watts in!

MIRAGE's exclusive FullDuplex Amp™ lets you talk on a band and listen on another band at the same time -- just like a phone conversation (requires compatible HT).

Features auto band selection, reverse polarity protection, on-air leds, single connector for dual band radios/antennas, free mobile bracket and more! Works with HTs to 7 Watts. Super compact 5Wx1<sup>1</sup>/<sub>2</sub>Hx5D inches. Draws 7 Amps at 13.8 VDC.

## Mirage B-310-G . . . 100 Watts on 2 Meters

**Reach** distant repeaters . . . Log onto faraway packet bulletin boards.

This rugged Mirage B-310-G amplifier operates all modes: FM, SSB and CW. Perfect for all HTs up to 8 Watts and multi-mode SSB/CW/FM 2 Meter rigs.

**Built-in** low noise GaAsFET receive preamp gives you 15 dB gain -- lets you dig out weak signals. SWR and Reverse Polarity Protection.

**Mirage's** integrated  $HeatsinkCabinet^{TM}$  and whisper quiet fan gets heat out fast!

**The results?** An ultra-compact  $4^{3/4}x 1^{3/4}x 7^{3/4}$  inch  $2^{1/2}$  pound amplifier that delivers a super powerful 100 Watts.

Free 3 foot handheld to B-310-G coax

B-310-G **\$229**95 Suggested Retail



cable and mobile bracket!

Automatic RF sense Transmit/Receive switch. Remote keying jack. LEDs monitor "On-Air", high SWR, pre-amp, power. Push buttons select SSB/FM, pre-amp, power. Draws 15 Amps at 12-15 VDC.

Full one year MİRAGE warranty With MIRAGE's legendary ruggedness, you may never need our superb warranty.

#### 200 Watts on 2 Meters

\$499<sup>5</sup> Suggested Retail MIRACIF STORY, SEPTION

Add this amp to your 2 Meter

HT or mobile radio and get 200 Watts brutal output. Talk further, longer, clearer!

Has 15 dB GaAsFET preamp, works all modes FM/SSB/ CW. Fully protected by high SWR protection. Includes mobile mounting bracket. An input level switch selects proper input power from your HT or mobile radio. Low power input for handheld radios, 250 mW to 10 Watts. 25 Watts in gives 132 Watts output. 3 Watts input from your HT gives full power output.

**High** power input for mobile radios, 10 Watts to 50 Watts. 10 Watts input gives 95 Watts output. 50 Watts input gives full power output. Custom wrap-around heatsink gives excellent heat dissipation.

## **HT Docking Booster**

Two Meter docking booster gives 50 Watts out with just 8 Watts in! 18 dB GaAsFET preamp, on/off switch, On-air, preamp and Xmit LEDs. 31/4x31/4x41/4". Requires

B-24-G
\$11495
Suggested
Retail
mp,
air, pre-Os.
uires

13.8 VDC. Reverse Polarity protection.

Choose an adapter to fit your HT, \$9.95

Manufacturer/Handheld Type

# MIRAGE 2-Meter Amplifiers for HTs B-34-G Custom wrap around heat



MIRAGE

noise GaAsFET preamps for receiving weak signals. Select-

than 0.8 dB noise figure,

Frequency

(MHz)

28-30

able gain prevents receiver intermod. 15-22 dB gain. Less

auto RF switching to 160W. Choose

In-shack or Mast-Mount models below

\$119<sup>95</sup>
Suggested

Suggested Retail B-34

\$99<sup>5</sup> Suggested Retail

Mast Mount

\$199.95 KP-2/10M

Add this MIRAGE amp to your 2 Meter handheld and get 35 Watts output . . . talk further, longer, clearer . . . It's the best HT amplifier \$109.95 can buy! Here's why:

**First-class** strip-line techniques and modular construction gives superb RF performance and unsurpassed reliablity.

Low Noise GaAsFET preamps

High gain

ultra low

Custom wrap around heatsink provides excellent heat distribution -- runs cool for extra long life. Reverse polarity protection can save your amp and your pride if you connect power backward.

Automatic RF sense transmit/ receive switch makes operation super easy. Low input SWR keeps your handheld safe from overheating. Individual pushbutton switches lets you select FM/SSB operation, receive preamp on/off and power on/off.

**LED**s show On-Air, receive preamp on and power on. 5<sup>1</sup>/<sub>4</sub>x1<sup>3</sup>/<sub>4</sub>x4<sup>3</sup>/<sub>4</sub>". Free mobile mount bracket, hardware. **B-34**, \$99.95. Like B-34-G but FM only, less preamp, mobile bracket. Super tiny 3<sup>1</sup>/<sub>8</sub>x1<sup>3</sup>/<sub>4</sub>x4<sup>1</sup>/<sub>4</sub> in.

# 

MFJ-7716, \$4.95 each. SMA female to BNC male. MFJ-7718, \$4.95 each. SMA male to BNC female.



#### Precision SWR/Wattmeters



Read SWR directly and forward, Reverse, Peak/Average power. Remote coupler. 1.8-30, 50-200, 420-450, 1260-1300 MHz models.

MODEL	PRICE	F (MHz)	SWR sens	Power
MP-1	\$235.95	1.8-30 MHz	1-2 Watts	2000 W
MP-2	\$235.95	50-200	1-2 Watts	1500W
MP-3	\$265.95	420-450	5 Watts	150 W
MP-4	\$279.95	1260-1300	1 Watt	1/10/100

#### MIRAGE Repeater Amplifiers



11 models to choose from -- continuous duty all mode FM/SSB/CW repeater amplifiers for 6, 2, 220 MHz, 450 MHz, and ATV service.

#### MIRAGE Repeater Amp Specifications

	Model#	Price	Input	Max Out	MHz
	A-1015-R	\$579.95	.25-5 W	98 W	50-52
ı	B-1016-R	\$629.95	.25-3 W	130 W	145-148
ı	B-2516-R	\$579.95	.5-10 W	111 W	145-148
i	C-211-R	\$659.95	.255 W	80 W	223-225
ı	C-1012-R	\$659.95	.25-6 W	96 W	223-225
l	C-2512-R	\$625.95	.05-15 W	90 W	223-225
i	D-1010-NR	\$689.95	.25-4 W	80 W	440-450
İ	D-3010-NR	\$659.95	1-15 W	75 W	440-450
ĺ	D-100-ATVN-R	\$689.95	.25-1 W	52 W	420-450
Ī	D.1010.ATVN.R	\$689.95	25-4 W	80 W	420-450

#### MP-13 SWR/Wattmeter



MP-13, \$124.95. Compact meter features peak and average, forward and reflected power reading

and SWR. Covers 125-525 MHz, 200 Watts, selectable ranges: 5, 20, 200 Watts. Large 25/8x11/4" illuminated meter (requires 12 VDC). SO-239, 6W2½Hx4D in.

In Shack

\$149.95

KP-1/10M

# Vectronics high-performance electronic kits . . . fun to build and use!



Comprehensive Soldering Course Kit. Designed for schools and

theory, quizzes, PC board and components for soldering practice. Used & endorsed by universities, vo-techs, businesses and others. Order VEC-1500K, \$29.95.



in the boy scout badge handbook, this is a great evening project for your boy scout troop and a great way to introduce them to ham radio and basic electronics. Order VEC-5100K, \$12.95.



Crystal radio set Kit lets vou relive the experience of early radio pioneers. This baby really works! Wind your own inductor, wire up the earliest radio circuit without solder-

ing a thing and listen to the magic of radio that needs no power. Put up an antenna, connect a ground. Stations will come in amazingly loud and clear. 1<sup>3</sup>/<sub>4</sub>x5x6<sup>1</sup>/<sub>2</sub>". Has antenna wire, earphone. Simple level. Order VEC-121K, \$19.95.



dash memory forgive timing errors. Front panel volume/speed (3-65 wpm) controls. Weight adjusts 25-75%. Sidetone (300 -1000Hz) has LM386 audio amp for external speaker. Iambic A or B, fully auto or semi-auto "bug" mode. Sleep Mode battery saver. Use 9V battery. 13/4x4x 31/2 in. Simple skill level. Order VEC-201K, \$24.95.



CW Memory Keyer Kit stores 512 characters in four 128 character non-volatile EEPROM message memories. Carry on entire QSOs by just pressing memory message but-

tons. True sinewave sidetone with soft rise and fall time eliminates harsh keyclicks. Has all features of VEC-201K CW Keyer Kit. 13/4x 63/4 x51/4 in. Simple. Order VEC-221K, \$69.95.

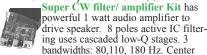


Tunable SSB/CW Audio Filter Kit has sharp four pole peak and notch filters. Zero in with frequency control & adjust bandwidth for best response. Tune fre-

quency from 300-3000 Hz. Notch is an outjacks. 12 VDC at 300 mA. 13/4x43/4x51/4 in. Intermediate skill level. VEC-841K, \$34.95.



terrible QRM! Plugs into phone jack to drive phones. QRM down 60 dB one octave from center frequency (750 Hz) for 80 Hz bandwidth. Improves S/N ratio 15 dB. Use 9V battery. 1<sup>3</sup>/<sub>4</sub>x4x 3<sup>1</sup>/<sub>2</sub> in. Simple. VEC-820K, \$19.95.



frequency: 750 Hz. Up to 15 dB. Use 9-18VDC, 300 mA max.  $1^{3}/_{4}x4 \times 3^{1}/_{2}$  in. Simple skill level. Order VEC-821K, \$29.95.

Super SSB Audio Filter Kit improves readability with 8 poles, optimizes audio bandwidth, reduces SSB splatter, low, hi-pitched interference, hiss, static crashes, background noise. Use 9 Volt battery. 13/4x4x 31/2 inches. Simple skill level. Order

VEC-830K, \$19.95.

Ni-Cad/Ni-MH Battery Charger Kit safely quick charges expensive batteries -- no overcharging -- many in less than an hour. HTs, cell phones, camcorders, lap top 1<sup>3</sup>/<sub>4</sub>x4<sup>3</sup>/<sub>4</sub>x5<sup>1</sup>/<sub>4</sub> in. *Moderate*. **VEC-412K**, \$49.95.





VECTRONICS\* Shortwave Receiver Kit lets you listen to the world! Covers 75/80, 49 40, 30, 31, 20, 25, 22, 19,

**Blinking Tower LED** 

proud of who you are! Listed

17, 16, 15 and 13 Meter bands. Explore AM, SSB, CW, WWV, RTTY and Packet signals. Vernier reduction drive, smooth regeneration control, RF stage. Includes all metal cabinet. 2 earphone jacks. Use 9V battery. 21/2x7x6 in. Intermediate skill level. VEC-102K, \$79.95.



2 Meter Monitor Kit receives 144-148 MHz. Low noise, high gain RF preamp gives you excel-

lent 0.1 uV sensitivity. Air variable tuning capacitor has 8:1 reduction. Dual conversion superhet provides selectivity and stability. Automatically eliminates squelch tails. Built-in speaker, squelch, tone, volume controls. 191/4 antenna. 9V battery. 2x4<sup>1</sup>/<sub>4</sub>x4". Intermediate skill level. Order VEC-104K, \$99.95.

Aircraft Receiver Kit tunes entire voice aircraft band 118-136 MHz. Picks up air traffic 100 miles away. Track progress of incoming/outgoing traffic in your area, gain advanced weather information, and discover how the National Air Traffic System really works. Great way to learn about aviation. Use 9V battery. Drives external speaker/phones.

1<sup>3</sup>/<sub>4</sub>x4x3<sup>1</sup>/<sub>2</sub> in. *Intermediate*. **VEC-131K**, \$29.95.

Shortwave Converter Kit converts AM or AM/FM radios to shortwave receivers at a push of a button. Choose 2 1 MHz bands between 3 and 22 MHz. Popular 13,16,19, 25, 31, 41, 49 and 60 Meters internastanding 50 dB. 1 Watt amplifier. Speaker/Phone tional bands. On/off bypass, NE-602/612 mixeroscillator IC and tuned input circuit. 9 V battery. 1<sup>3</sup>/<sub>4</sub>x4x3<sup>1</sup>/<sub>2</sub>". Intermediate. VEC-101K, \$27.95.



49 MHz Wireless Band Monitor Receiver kit lets you explore weak wireless signals from miles around. Baby monitors, cordless phones, walkie-talkies, wireless intercoms and more! Electronic

tuning covers just the 49 MHz band. Intermediate skill level. Order VEC-1016K, \$34.95.



**Emergency and Business Band** Receiver lets you gather news first hand -- tune in local fire. police, ambulance, business, etc. Master 2-way radio lingo, operating procedures and police 10codes as you find the "real story"!

9V battery. Intermediate. VEC-1012K, \$34.95.

**Voice Activated Recorder Switch** Q. Kit can remotely and auto record conversations, speeches. Don't waste tape by not recording silence. Plug in remote recorder jack and it activates

when it hears speech. Built-in mic, on/off. Use 9V battery. Simple. VEC-483K, \$19.95.

Counter Surveillance Monitor Kit lets you search out and remove electronic detector. Higher pitch audio occurs when bug is near. 9 V batt. Moderate. VEC-8218K, \$39.95.

The GIANT Book of Electronic Projects | VEC-1901, \$19.95. Includes 19 kits on this page. Building tips, comboard layouts, test/alignment, more. power supply. Moderate. VEC-1680K, \$99.95.



QRP Transceiver Kits for 80/40/30/20 Meters give you VXO frequency control, broadbanded transmitter circuitry, solid one Watt plus output, shaped keying, .3 uV sensitivity, direct conversion receiver. In-

cludes crystal for popular QRP frequency. 13/4x 43/4 x51/4". Intermediate skill level. Order VEC-1380K (80 Meters), VEC-1340K(40 Meters), VEC-1330K (30 Meters), VEC-1320K(20 Meters), \$59.95 each.



20/30/40/80 Meter Receiver Kits give high performance! Covers entire band or tailor to cover desired portion. Copy CW/SSB/AM. NE602/612 mixeroscillator, LM386 high gain audio amplifier.  $1^{3}/4x4^{3}/4x$   $5^{1}/4$  in.

Moderate skill level. Order VEC-1120K (20 Meters), VEC-1130K(30 Meters), VEC-1140K (40 Meters), VEC-1180K (80 Meters), \$29.95 ea.



20/30/40/80 Meter ORP CW transmitter Kits have variable crystal oscillator tuning, front panel switch selects 1 of 2 crystals. 1 crystal included. Transmit and Receive switch. Connect receiver. 13/4 x4x31/2 in. Intermediate skill

level. Order VEC-1220K (20 Meters), VEC-1230K (30 Meters), VEC-1240K (40 Meters), VEC-1280K (80 Meters), \$29.95 each.



2/6/10 Meter FM Receiver Kits let you tune in the world of amateur radio repeater action with these superb educational kits. Each covers the entire FM sub-band and runs off your 9V battery. Experience what it's like for ham radio operators in your area.

Plug in speaker or headphones for clear reception. 1<sup>3</sup>/<sub>4</sub>x4x3<sup>3</sup>/<sub>2</sub>... Intermediate. VEC-1002K (2 Meters), VEC-1006K (6M), VEC-1010K (10M), \$34.95 each.



AM Radio Transmitter Kit lets you set up your own AM station and broadcast crystal clear programming from your studio with you as the disc jockey. Choose clear frequency from 530-1750 KHz. Standard line level or microphone input.

Easy connection. Audio level adjustment. 1<sup>3</sup>/<sub>4</sub>x4x3<sup>1</sup>/<sub>2</sub> inches. Simple skill level. Order VEC-1290K, \$29.95.



FM Stereo Transmitter Kit lets you connect your CD player, tape or other source and broadcast clear stereo programming on the FM band! Realistic grand movie theater sound! Use to assist hard-of-hearing. Frequency adjusts 88-108 MHz. 9V battery or 5-

15 VDC. Moderate. VEC-1292K, \$34.95.

5 Watt 2 Meter FM transmitter Kit lets you transmit voice and data -- AFSK data (up to 1200 baud) and FSK data (to 9600 baud). Jumper select reactance or direct FM modula-

tors. Reliable Motorola NBFM Xmitter IC/PA transistor. Crystal controlled (x8 frequency multiply). -60 dBc spurs, harmonics. 12-14 VDC, 1.5A. 5-pin DIN mic jack. 1³/4x4³/xx 5¹/4". *Difficult*. VEC-1202K, \$99.95.



144/220/440 MHz Low-Noise Preamp Kits soup up your antenna system, pull in weak signals. Great low-noise performance, immunity from damaging electrostatic dis-

charge. 1x1<sup>1</sup>/<sub>2</sub>". *Simple*. **VEC-1402K** (144 MHz), **VEC-1422K** (220 MHz), **VEC-1444K** (440 MHz), **\$17.95**.

High-performance 2 Meter Preamp Kit pulls weak signals out of noise. Boosts bugs! Highly sensitive wideband receiver signals, provides razor-sharp bandpass filtering, eliminates electrical noises w/built-in balun. 9-14 VDC. 1<sup>1</sup>/<sub>2</sub>x3x1". *Intermediate*. **VEC-1402DK**, \$59.95.



Cases available for most kits listed above, \$14.95. Add "C". Example: VEC-201KC, \$14.95.

# Vectronics 2 kW Roller Inductor Antenna Tuner



HFT-1500

The Vectronics HFT-7995 1500 Roller Inductor Tuner has three continuously variable compo-

nents -- two 4.5 kV capacitors and a roller inductor controlled by a precision crafted

crank handle and a gear driven 5digit counter.

The HFT-1500 will tune ANY real antenna . . . verticals, dipoles, inverted vees, beams, long wires, SWL antennas . . . ANYTHING! And its huge components make the tuning ARC-FREÉ!

You can tune your SWR down to the absolute minimum from 1.8 to 30 MHz, including MARS and the WARC bands. Handles 2 kW

SSB PEP amplifier input power.

The bargraph is a 21 segment display that makes analyzing SSB power amazingly easy. This LED meter shows your peak reading and has fully adjustable level and

delay controls.

A lighted dual movement D'Arsonval Cross-Needle SWR/Wattmeter displays SWR, forward and reflected power simultaneously at a glance. RF directional coupler is fully shielded for even greater accuracy.

The meter measures peak and average power in the 300/3000 Watt scales. Bargraph display and meter lamp require 12 VDC adapter, included.

The antenna selector switch is a six position ceramic. Coax 1 is for tuned and tuner byass; Coax 2 is for tuned and tuner bypass, bypass and balanced antenna.

The HFT-1500 measures 5.5Hx12W x12.5D inches and is housed in a beautiful RF-tight aluminum cabinet. Weighs 10 lbs.

#### VC-300DLP . . . World's most versatile HF Antenna Tuner

VC-300DLP \$179<sup>95</sup> Ship Code B Get

everything



you've ever wanted . . . precise inductance control that rivals roller inductors, the ability to match any real ant-enna, full 1.8-30 MHz coverage, peak reading backlit Cross-Needle Meter, 8 pos. antenna switch, built-in 50 Ohm dummy load, finest components and world class quality.

**VECTRONICS'** exclusive *Multi48*<sup>TM</sup> inductor gives you forty-eight inductance values -- you'll get precision tuning that rivals the most expensive roller inductors.

Tune any real antenna 1.8-30 MHz, including all MARS/WARC bands. Verticals, dipoles, yagis, quads, long-wires, G5RVs...

**Has** 4:1 balun for balanced line antennas. Handles up to 300 Watts SSB PEP, 200W continuous (150W, 1.8 MHz).

A backlit Cross-Needle Meter displays SWR, forward and reflected power simultaneously. Reads both peak and average power on 30/300 Watt scales. Lamp has front panel switch and uses 12 VDC or 110 VAC with AC-12 \$15.95.

An 8-position antenna switch selects 2 coax fed antennas, random wire/balanced line or built-in dummy load for use through your tuner or direct to your transceiver. Bypass position keeps SWR meter in line.

Use the built-in dummy load for testing and repairing your rig, setting power level, adjusting your mic gain and more.

Chemically treated aluminum case has durable baked-on paint and scratch-proof color Lexan front panel. 10Wx9.5Dx3.5H".

**300 Watt Antenna Tuner** 

#### Vectronics 300 Watt Mobile Tuner





The VC-300M Mobile Antenna Tuner is compact, lightweight, easy-to-operate and is our most economical tuner.

It's compatible with any mobile antenna and any mobile HF transceiver and is compact enough to fit the most compact car. It can also be used at home with dipoles, vees, verticals, beams or quads fed by coax.

Backlit dual movement meter simultaneously monitors power and SWR. Covers 18 to 30 MHz. Handles 300 Watts SSB PEP, 200 Watts continuous, (150 Watts on 1.8 MHz). Measures 7.25x8.75x3.6 inches. Weighs just 3.4 pounds.

# Dry Dummy Loads

1500 Watt dry Dummy Load

DL-650M, \$79.95. Handles 100 Watts continuous, 1500 Watts for 10 seconds to 650 MHz. Ceramic resistor. SWR< 1.3. SO-239. **DL-650MN**, **\$84.95** has N





DL-300M, \$49.95. 300 Watt dry dummy load. DL-300MN, \$54.95 with N connector.

DL-2500, \$219.95. 2500 Watts dry dummy load is fan cooled. DC to 150 MHz. DL-2500N, \$229.95 with N connector.

#### Tuned Active SWL Antenna AT-100, \$99.95.

This portable compact antenna is perfect for indoor use by itself or

with an external antenna. Tunes from 300 KHz to 30 MHz including VLF, AM broadcast, all shortwave and ham radio bands.

> Great for SWL!

#### Low Pass

1500 Watts Low Pass TVI Filter

with 21 Segment SSB Bargraph

VC-300D, \$219.95. Similar to VC-300DLP, but has deluxe 21

segment SSB bargraph feature.

LP-30, \$89.95.

Eliminates TVI by attenuating harmonics at the source

Plugs between transmitter and antenna or tuner. Features nine pole Chebyshev design. Insertion loss is only 0.25 dB at 30 MHz. 52 Ohm impedance. Handles 1500 Watts.

2500 Watts Low Pass TVI Filter



LP-2500, **\$139.95.** Handles up to 2500 Watts key down. SO-239 connectors.

#### Deluxe Iambic CW Kever

CK-200, \$99.95. Speed, weight, tone, volume controls, tune, iambic A/B switch

for 3 types of keying output, speed control 6-50 wpm, self-complete dots/dashes. Use 9V battery/110 VAC

**KP-200, \$79.95.** Iambic Key Paddles complete with 1/4" plug and cable. KP-

200, chrome base or KP-200B, black base.

#### WR/Power Meters





PM-30, \$89.95, for 1.8 to 60 MHz. Displays forward and reflected power and SWR simultaneously on dual movement Cross-Needle Meter.

**True** shielded directional coupler assures accuracy. Backlit meter displays peak or average power in 300/3000W ranges. 5.3x5.75x3.5 inches. SO-239 connectors.

PM-30UV, \$99.95. Covers 144/220/ 440 MHz. 30/300 Watt ranges. SO-239.

PM-30UVN, \$99.95. Type N. PM-30UVB, \$99.95. BNC connector.

#### High Pass TVI Filters

HPF-2, \$34.95. Installs between VCR and TV and cable TV or antenna lead-in cable. Eliminates or reduces interference caused by nearby HF transmitters. 6 meter notch. Type "F" connectors.

HPF-1, \$29.95. Same as HPF-2, no 6 meter notch. Low loss in TV passband 52-550 MHz.





# AMERITRON Doubles Average SSB Power

AL-80B kilowatt output desktop linear can double your average SSB power output with high-level RF processing...runs cooler because its 3-500 tube completely turns off between words

Ameritron's AL-80B kilowatt output desktop linear can double your average SSB power output with high-level RF processing using

AL-80B \$1399 Suggested Retail

Ameritron's exclusive *Dynamic ALC*™ You get cooler operation because the

AL-80B's exclusive Instantaneous RF Bias™ completely turns off the classic 3-500 tube between words. It saves hundreds of watts wasted as heat.

You get a full kilowatt PEP output from a whisper quiet desktop linear. It's a compact 8<sup>1</sup>/<sub>2</sub>Hx14Dx15<sup>1</sup>/<sub>2</sub> inches and plugs into your nearest 120 VAC outlet. Covers all bands 160-15 Meters, including WARC and MARS (10/12 Meters modifiable;

FCC license required).

You get 800 watts output on CW, 500 watts output on RTTY, an extra heavy duty power supply, genuine 3-500 tube, nearly 70% efficiency, tuned input, Pi/Pi-L output, inrush current protection, multi-voltage transformer, dual cross-needle meters, QSK compatability, twoyear warranty, made in the USA, plus much more!

Dynamic ALC<sup>TM</sup> doubles average SSB power

The AL-80B's exclusive *Dynamic ALC*™ gives you high-level low-distortion RF processing. It can more than double your average SSB power for up to 6 dB improvement in intelligibility, maximizing talk power without distortion/splatter.

A convenient front panel control lets you

adjust output power level.

The AL-80B's exclusive Instantaneous RF Bias<sup>™</sup> turns off the classic 3-500 tube (except filaments) between words and dots and dashes,



elininating hundreds of watts wasted as heat cooler operation and longer component life.

The guts of the AL-80B is its heavy duty power supply. A 26 pound transformer using a high silicone steel core, computer grade capacitors, heavy duty bleeders and ten 3 amp, 1000 volt power rectifiers give you a stiff 2700 volts fully loaded. Many amps using two 3-500s use such small power supplies they don't deliver much more power output than the AL-80B.

The AL-80B is built on a rugged steel chassis with a separate fully-shielded RF compartment to minimize RFI and TVI.

A whisper quiet internal fan draws in cool air over power supply components and pressurizes the classic 3-500 tube compartment to remove heat for longest life.

Tuned input lets your rig deliver full output 50 Ohm broadband Pi-Network tuned input is used. Even fussy solid state transmitters will deliver full power!

A carefully designed Pi/Pi-L output network using the optimum Q for each band gives exceptionally smooth tuning, extremely wide matching range, full band coverage, and peak performance at all power lev-

**Step-Start** Inrush Protection™ stops damaging inrush current with a start up sequence that's easy on your tube and power supply components.

Our exclusive Multi-Voltage Power *Transformer*™ lets you optimize for 14 different primary line voltages. The high voltage secondary can be wired to reduce plate voltage for efficient operation below 400 watts for use outside the USA

AMERITRON's dual illuminated cross-needle meters give you four sepa-

rate meters to monitor your operating conditions -- you can tell right away if something is wrong. Grid and plate current and forward output power are monitored for improper loading and abnormal conditions.

The fourth meter can be switched to monitor your 3-500 tube DC plate voltage, reflected PEP power, antenna system SWR, ALC voltage to your rig, and the grid current that starts ALC action -- get a clear picture of your AL-

The T/R (transmit/ receive) relay in the AL-80B switches nearly as fast as some vacuum relay QSK T/R switches.

Operate/Standby switch lets you run barefoot, but can instantly switch to full power if needed.

Has transmit LED; 12 VDC, 200 mA accessory jack; 12 VDC keying relay for solid state and tube rigs; tough Lexan over-aluminum front panel. Two-year waranty.

Weighs 48 lb. Power required: 120 VAC, 12A. Made in the U.S.A.

# AL-572 Offers 1300 Watts PEP SSB on HF at Low Cost

The AMERITRON AL-572 gives you 1300 Watts PEP SSB nominal power output on 160 through 15 Meters, using four rugged 572B tubes with 3 second warm-up time. This whisper quiet, desktop linear plugs into your 120 VAC outlet - no special wiring needed.

You get heavy duty power supply; fully neutralized tubes; pressurized ventilation; multi-voltage power transformer; front panel ALC control; 6:1 vernier drives ... and more!

You'll typically get 1300 Watts PEP SSB, 1000 Watts CW continuous, on all amateur bands from 160 through 15 Meters

AMERITRON's exclusive Instantaneous RF Bias completely turns off the 572B tubes between words and dots and dashes, for cooler operation and longer component life, while Dynamic ALC can more than double your

average SSB power.
AMERITRON's Step-Start \$1495 Inrush Protection limits inrush current, greatly extending tube life.

Retail A Pi-Network tuned input using slug tuned coils provides a good 50 ohm load for your rig. A quiet internal fan draws in cool air over power supply components and pressurizes the tube compartment.

Grid current, plate current and for-ward PEP output power are continuously monitored by dual, lighted cross-needle

A fourth scale switches among peak reflected power (and SWR), high voltage, ALC threshold, and ALC output voltage.



For lightning fast QSK operation use the optional Ameritron electronic PIN diode OSK switch. Shipped wired for 120 VAC. Weighs 40 lb.Power required: 120 VAC, 16 amps.

#### *Eimac*™ 3CX800A7 AMERITRON HF Linear Amplifiers with

AL-800F \$1825 Single Import tube AL-800

\$1995 One Eimac<sup>(R)</sup>tube

AL-800HF \$2695 Two Import tubes

AL-800H



Output power: 1250 \*2995 watts PEP, single 3CX800A7. 1500 W plus,

two 3CX800A7s. 160-15 Meters including WARC bands. 12/10 Meters modifiable, FCC license required.

Genuine Eimac<sup>TM</sup> tube(s):

Suggested

AL-800 has a single Eimac 3CX800A7; AL-800H has 2 Eimac 3CX800A7s, adjustable slug-tuned input circuit.

Output network: Pi/Pi-L gives you smooth tuning and wide matching range. Vernier reduction drives make tuning

and loading adjustments smooth and easy. Tube protection: Grid current limiting cir-

cuit protects your tubes. Quiet pressurized ventilation keeps tubes safely cooled.

ALC control: Front panel adjustable, true ALC control.

Hefty power supply: 32 lb. grain orientated, silicone steel core transformer.

Step-Start Inrush Protection: Stops damaging inrush current.

Multi-voltage operation: 14 user-selectable C line voltage from 90-140; 200-250 VAC.

**Dual illuminated cross-needle meters:** Read peak forward, reflected, SWR high-voltage, grid/plate current.

Compact 81/2Hx161/2Dx141/4W in. 52 lb. (AL-800H), 240 VAC, 14 amps.

# AL-811 . . . 600 WATTS . . . \$749!

More hams use Ameritron AL-811 amplifiers than any other amplifier in the world ... The AL-811 has earned a worldwide reputation for legendary quality, flawless performance, proven reliability and superb customer service . . .



Ameritron's AL-811 linear amplifier gives you plenty of power to bust through QRM!

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 three tough 811A transmitting tubes, extra heavy duty power supply, all HF band coverage, pressurized ventilation, tuned input, dual illuminated meters, adjustable ALC and much more for an incredible \$749!

#### The First 600 Watts makes the difference

The AL-811 gives you 600 Watts PEP output -- that's nearly 2 full S-units over your barefoot rig. That could mean the difference between hearing, "You're Q-5 armchair copy" and "Sorry, can't copy you, too much QRM."

Now you won't have to stand aside while the big guns steal your DX. You'll log some of those stations first.

#### All band, all mode Coverage

AL-811 covers all HF bands. No compromise on WARC and most MARS bands -- you get a 100% rated output.

Operate AL-811 on all modes. Get 600 Watts output PEP SSB and 500 Watts output CW. You even get 300 Watts on continuous carrier modes like RTTY, SSTV, and FM.

The low cost 811A tubes resists failure because . . First, they're constructed with widely spaced elements that minimize the chance of elements touching and causing a short -- even if the plate gets hot enough to melt.

Second, they use a directly

riated tungsten filament cathode that prevents the electron emitting layer from instantly stripping off -- even if mistuning

tors) produces 1500 Volts under full load and 1700 Volts no load. That's excellent high voltage regulation!

Rectifier diodes are rated for a massive surge current of 200 amps-- won't blow even if you accidentally short the high voltage supply.

Wire wound, 7 Watt, 50 K Ohm equalizing resistors safely protect each filter capacitor -- not 2 Watt, 100 K Ohm carbon composition resistors that can open and cause filter capacitors to explode or fail. Ameritron's AL-811 power supply is built tough so you get peak performance year after

#### Tuned input provides excellent load for any rig

A Pi-Network tuned input provides a 50 Ohm load for your rig. Even fussy solid state

Quiet, power-

draws in plenty of

surizes the cabinet

cool air. it pres-

and efficiently

tubes. Our air

you'll hardly

flow is so quiet,

know it's there --

cools your 811A

ful computer

grade blower

Even a 3:1 SWR load won't damage tubes/tank components.

A ball bearing vernier reduction drive makes plate tuning safe, precise and easy.

A quiet blower pressurizes the cabinet with a large volume of air flow. It keeps the 811A tube temperature well below the tube manufacturer's rating -even with a key down carrier at 400 Watts output -- without the overwhelming noise of oversized fans.

#### Two illuminated meters

Two illuminated meters give you a clear picture of your AL-811 operating conditions so you can tell right away if something is wrong.

The Grid Current meter continuously checks for improper loading. The other meter switches be-tween high voltage and plate current to warn of abnormal conditions.

#### Exclusive Adapt-A-Volt<sup>TM</sup> power transformer

**Too** high of line voltage stresses components and causes them to wear out and fail. Too low line voltage causes a "soft tube" effect -- low output and signal distortion.

Ameritron's exclusive Adapt-A-Volt<sup>TM</sup> power transformer has a special buck-boost winding that lets you compensate for stressful high line voltage and performance robbing low line voltage. Your components last longer and gives you peak performance -- regardless of your line voltage.

#### Plus much, much more...

An Operate/Standby switch lets you run barefoot, but you can in-stantly switch to full power if needed. A transmit LED tells you when your rig is keying your AL-811. A 12 VDC keying relay makes it compatible with all solid state and tube rigs.

Back-pulse cancelling diode protects the rig keying circuit. Shielded RF compartment. One year limited warranty.

Compact 16Dx13<sup>3</sup>/<sub>4</sub>Wx8 H". 30 lbs. UPS shippable, has transformer installed and wired for 120 VAC. Draws 8 amps at 120 VAC. Export model is AL-811X wired for 240 VAC

**AMERITRON** 116 Willow Road, Starkville, MS 39759

Tech: 662-323-8211 • Fax: 662-323-6551 www.ameritron.com

Only Ameritron's AL-811H gives you four fully neutralized 811A transmitting tubes. You get absolute stability and superb performance on higher bands that can't be

heated tho-



Ameritron mounts the 811A tubes vertically -- not horizontally -to prevent hot tube elements from sagging and shorting out. Potentially damaging horizontal tube mounting requires special 811A tubes to retard

sagging and shorting.

causes a sudden, severe current overload.

The Ameritron AL-811 is excellent for the newcomer because it's tough enough to withstand momentary mistuning. And the tubes are so inexpensive that you can replace one for mere pocket change. Extra heavy duty power supply

gives you peak performance year after year

The heart of the AL-811 power supply is its heavy duty power transformer with a high silicon steel core weighing a hefty 17 pounds.

A full wave bridge using 67.5 mfd of total capacitance (four 270 ufd, 450 volt capacirigs can deliver their full drive to the AL-811.

Efficient, full size heavy duty

tank coils, computer grade capacitors,

heavy duty silicon power transformer,

slug tuned input coils, operate/stand-by switch, transmit LED, ALC, dual

meters, QSK compatibility with

Ameritron's QSK-5 plus more!

Low loss slug tuned coils -tunable from the rear panel -let you optimize performance. High quality low drift silver mica capacitors maintain proper

#### Output tank: Optimum Q on each band

The low loss pi-network output tank has been carefully designed for optimum Q on each band and built with top quality RF components.

The result is peak performance over each band, wide impedance matching range and exceptionally smooth tuning with efficiencies close to 70%.

AMERITRON...the world's high power leader!

# AMERITRON super legal limit amplifiers These three rugged linears all use a super heavy duty Hypersil<sup>(R)</sup> power supply capable of 2500 Watts!

# Ameritron's AL-1500 Amplifier with Eimac<sup>(R)</sup> 3CX1500A7



AL-1500 3495 Eimac<sup>(R)</sup> tube AL-1500

Import tube

Feel the need for maximum legal HF output power? AMERITRON's Suggested Retail AL-1500 will give it to you.

Using the *Herculean* 3CX1500A/8877 ceramic \$3095 tube with its high power gain, the AL-1500 needs

only 65 watts of drive from your exciter to deliver the goods-- transceivers and other exciters just loaf at 1500 watts out.

**Cool**, efficient operation is provided by a forced-air system with tube chimney, using a commercial grade die-cast ball bearing blower for maximum tube life. The tube is further protected by time delay starting and automatic over-current shutoff to remove drive power if the amplifier is mis-tuned.

You get full legal power output from a whisper quiet desktop linear. Measures 18<sup>1</sup>/2D x17Wx10H inches, and covers all bands, 160-15 Meters, including WARC and MARS (80% of full output set to nearest

amateur band). 10/12 Meters modifiable. You get 1500 watts output (1/2 hour continuous

(30 second continuous carrier and 2500 watts- plus 30 minute PEP twotone test). You get

carrier) and 2500 watts

all this power, plus, 65% efficiency, pi-network tuned input, Pi/Pi-L output, inrush current protection, multi-voltage transformer, QSK compatability, and a one-year warranty.

The guts of the AL-1500 is its heavy duty power supply, with a 32 lb. Hypersil<sup>(R)</sup> transformer using a high silicone steel core, computer grade capacitors (33 mfd total), heavy duty bleeders and twenty 3 amp, 1000 volt power rectifiers give you a stiff 3300 volts fully loaded.

The AL-1500 is built on a rugged steel chassis with a separate RF compartment fully shielded to keep RF from leaking out, keeping RFI and TVI to a minimum.



An inside look at the AMERITRON AL-1500

Superb RF design and layout, Hi-Q tank circuit and commercially rated RF power components give you 65% plate efficiency over the entire operating range. Power goes into the antenna instead of into heat.

50-ohm broadband Pi-Network tuned input with slug-tuned coils is used. Even fussy solid state transmitters deliver full power!

A carefully designed Pi/Pi-L output network using the optimum Q for each band with vernier ball drives gives smooth tuning, wide matching range, full band coverage, and peak performance at all power levels.

**The** AL-1500's grid overload circuit pro-

tects the tube from excessive grid current; if 175 mA of peak gric current is reached, the "OPR" LED will no longer light and the amplifier will go into a bypass condition until reset by the operator.

Transformer provides many options

**Since** excessive line voltage stresses components (low line voltage causes a "soft tube" effect, for example), Ameritron's exclusive Multi-Voltage Power Transformer<sup>™</sup> lets you optimize for different line voltages. Select from 4 different primary voltage ranges, from 205-219 VAC to 252 to 265 VAC. The amplifier comes wired from the factory for 240 VAC.

The AL-1500 has two *illuminated* panel meters. Grid Current meter provides continuous reading of the critical grid current and indicates proper, safe amplifier operation.

The other meter can be selected to read Plate Voltage, Plate Current, Peak RF Watts, or ALC. A SSB/CW selector switch chooses bias voltage for best linearity on SSB or lowest dissipation on CW.

The Operate/Standby switch, in Standby, maintains the tube's filament and plate voltages while allowing "barefoot" operation.

Includes 12 volt DC auxiliary jack and an "XMT" LED to provide indication of proper amplifier keying by the exciter. **Power required:** 240 VAC, 15 amps.

Frequency coverage: 1.8,3.5,7,14, 21 MHz & Warc bands. Usermodifiable for 28 MHz (FCC license required). Size:18<sup>1</sup>/<sub>2</sub>Dx17Wx10H''. 77 pounds. UPS shippable, 3 boxes.



Hypersil<sup>(R)</sup> Transformer weighs 32 lbs.

Slug Core Tuning Tool 965-6204, \$3.00. Plastic tuning stick for adjusting slug cores. .1 inch hex end, 7<sup>1</sup>/<sub>4</sub>" long. Fits Ameritron tube amplifier input coils.

#### Ameritron's 3CX1200A7 Amplifier Ameritron's Dual 3-500Z Amplifier



AL-1200

in our AL-1500 amplifier Suggested Retail that loafs at full power. A 3CX1200A7 has the low-

est quantity history of field replacement of any modern transmitting tube that we use. It has the ruggedness and power handling of ceramic tubes combined with the long-life of thoriated tungsten filaments.

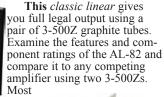
Ham Radio's toughest tube -- the Eimac(R) 3CX1200A7 is in ham radio's toughest amplifier! It has a 50-Watt control grid dissipation. It also has the same super heavy duty power sup-



**\$2645** 

peting amplifiers using 3-500Zs can't give you 1500 Suggested Retail Watts because their lightweight power supplies can't

use these tubes to their full potential. Our AL-82 amplifier uses the same Hypersil<sup>(R)</sup> power transformer and used in the AL-1500 and AL-1200 amplifiers -- powerful stuff, just loafs at full power!





ply

# AMERITRON *no tune* Solid State FET Amplifier

No tuning, no fuss, no worries -- just turn on and operate . . . Incredibly low \$1299 includes AC power supply, 600 Watts output, continuous 1.5-22 MHz coverage, instant bandswitching, no warm-up, no tubes to baby, fully SWR protected, extremely quiet, very compact . . .



ALS-600

Suggested Retail (Includes AC Power Supply, ALS-600PS)

AMERITRON's revolutionary ALS-600 is amateur radio's only linear amplifier that uses four rugged TMOS RF power FETs -gives unequaled no tune solid state performance.

**\$1299** includes Ameritron's no tune FET Amplifier and a 120/220 VAĈ, 50/60 Hz AC power supply for home operation. You get instant

bandswitching, no tuning, no warm-up, no fuss! ALS-600 gives 600 Watts PEP Output power and 500 Watts CW with continuous coverage 1.5 to 22 MHz; 10/12 Meters with easy-to-install optional kit, \$29.95 plus shipping. Must present FCC license at time of sale.

SWR Protection prevents amplifier damage if you switch to the wrong band, use the wrong antenna or have a high SWR. Overpower protection enables if output forward power or reflected power exceeds a safe level. Output power is automatically reduced to prevent amplifier damage by controlling ALC to exciter.

The ALS-600 is extremely quiet. A low speed, low volume fan is so quiet you'll hardly know it's there, unlike noisey blowers used in other amplifiers. The ALS-600 is a compact 6x9<sup>1</sup>/<sub>2</sub>x12 inches -- takes up less space than your rig! Weighs just 12<sup>1</sup>/<sub>2</sub> lbs.

An illuminated Cross-Needle SWR/Wattmeter lets you read SWR, forward and reflected peak power simultaneously. An Operate/Standby switch lets you run "barefoot", but you can instantly switch to full power if you need it.

You get a front-panel ALC control! This exclusive AMER-ITRON feature lets you adjust your output power on the convenient front panel display. You also get front panel Transmit, ALC. and SWR LED indicators. A 12 VDC output jack lets you power low current accessories. Enjoy 600 Watts of no tune Solid State power. Call your favorite dealer for your best price.

#### **ALS-600PS Heavy Duty Power Supply**

•Massive choke input filter greatly improves voltage regulation and reduces peak AC line current • AMERITRON's exclusive Multi-Voltage Power Transformer lets you compensate for stressful high line voltage and performance robbing low line voltage • Step-Start Inrush Protection™ stops damaging inrush currents and extends the life of your power supply components • Illuminated Cross-Needle Meter monitors voltage and current of 50 VDC line

• Extremely quiet fan • Very compact  $6x9^{1/2}x12$  inches -- can be placed conveniently out of the way • Wired for 120 VAC, supplies 50 VDC at 25 Amps to ALS-600 amplifier • Also use on 100-130 VAC and 220-250 VAC, 50/60 Hz • Draws less than 12 Amps at 100 VAC and less than 6 Amps at 230 VAC • Includes prewired cable to plug into ALS-600 amplifier • Made in U.S.A.

# Switching Power Supply Works with all ALS-600 ampli-

fiers. Extremely lightweight, just 10 lbs. Superb regulation, very low radiated noise. 9Wx6Hx14<sup>1</sup>/<sub>2</sub>D inches.

629 Suggested



#### From QST Magazine, March, 2005

. the ampifier faulted only when it was supposed to. It protected itself from our boneheaded, sleep-deprived band changing manuevers . . .

"I found myself not worrying about damaging this amplifier. It seems quite capable of looking out for itself. . . . Kudos to Ameritron.'

"I couldn't hear any noise at all from the SPS (switching power supply) on the vertical or quad ...

'I came to greatly appreciate the size, weight, reliability and simplicity of this amplifier."

"The ALS-600S makes it possible to pack a transceiver and a 600 Watt amplifier, that together weigh less than 30 pounds.'

ALS-600S Amplifier with Switching Power Supply ALS-600S, \$1428. ALS-600 amplifier with 10 lb. ALS-600SPS switching power supply combo.

# AMERITRON has the best selection of high power accessories!

#### QSK-5 Pin Diode Transmit ATP-100 Amplifier Tuning **Receive Switch**

QSK-5 \$359<sup>95</sup> Suggested Retail



World's most

advanced Transmit and Receive Switch. Gives high power QSK operation from your linear amplifier. Self-contained, connects externally to most HF amps. Handles 2500 Watts PEP SSB, 2000 Watts CW. Ameritron's QSK-5 is six times faster than a vacuum relay. Internal QSK boards installed by Ameritron. Call for details.

#### ARF-1000 RF Filter reduces harmonics

Use with transceivers or amplifiers that are producing unwant-

ARF-1000 \$159<sup>95</sup> Suggested Retail

ed harmonics. Frequency select switches to one of

six different ranges from 1.5 to 30 MHz. When the filter is selected it reduces harmonics above cut-off frequency. Handles 1000 Watts SSB input power, 600 Watts CW or 400 Watts RTTY. SWR is less than 1.3:1 on all ham bands. Has SO-239 input and output connectors. 51/2Wx31/2Hx91/2D in.

## Pulser for safer tune-ups ATP-100

Pulse tuning safely tunes up your amplifier for full power output and best linearity. ATP-

\$69<sup>95</sup> Suggested Retail 100 keeps your average power to a low safe level to

prevent overheating, tube damage, power supply stress and premature component failure



ATP-102, \$7995, similar, but adds variable pulser and delay.

#### **Add-on Electronic Bias** for AL-80A/82/1200/1500

This EBS-1 EBS-1 pc board \$39<sup>95</sup> reduces Suggested heat by Retail

reducing quiescent current to low values during periods when exciter output falls below 100 mW.

Features remote detector board. EBS-1H, \$49.95, for other amplifiers. Call 662-323-8211 for more details.

#### ICP-120 Inrush **Current Protector**

Stops power-up inrush current and absorbs momentary high voltage spikes to protect amp, tubes and power components. By starting the



amplifier through a high power current limiting resistor and then shorting the resistor with a relay, the start-up sequence is easier on your tube and power components. Avoids replacing expensive tubes/parts. Works

with nearly all linear amps. Limits current to 12 Amperes during heavy draw inrush period, 20A during continuous operating current. For 120 Volt wired amps. ICP-240, \$79.95, 240V amps.

# Ameritron Amplifier Extended Warranties

Get Ameritron's extended protection olan while you still can -- before your warranty runs out! It's the same as your original warranty, just extended for the number of months you choose to purchase.

If the product should fail during the agreed term, Ameritron has the option to repair/replace part(s) (except tube and output transistors) and provide necessary labor free at Ameritron. Ameritron is not responsible for shipping loss or damage. Call 1-662-323-8211 to discuss which plan is best for you.



AMERITRON mobile no tune Solid State Amp 500 Watts, Instant bandswitching, no tuning, no warm-up, SWR protected, 1.5-22 MHz... NEW! ARI-500 Amplifier Radio Interface reads transceiver band data -- automatically bandswitches ALS-500M amp . . . NEW! ALS-500RC Remote Head gives total remote control!



ALS-500M Suggested Retail

Just turn on and operate -- no warm-up, no tuning, instant bandswitching. Compact.

Ameritron's ALS-500M solid state mobile amp gives you 500 Watts PEP SSB or

400 Watts CW output! Covers 1.5-22 MHz, (10/12 Meters with MOD-10M, \$29.95 kit, requires FCC license). Mail with order to Ameritron.

Virtually indestructible! Load Fault Protection eliminates amplifier damage due to operator error, antenna hitting tree branches, 18-wheeler passing by. Thermal Overload Protection disables/bypasses amp if temperature is excessively high. Auto resets.

Typically 60-70 watts in gives full output. ON/OFF switch bypasses amplifier for "barefoot" operation. Extremely quiet fan comes on as needed. Excellent harmonic suppression, push-pull output, DC current meter. 13.8 VDC/80 Amps. Super-compact  $3^{1/2}x9x15$  inches. 7 pounds.

**ALS-500M, \$849**, 500 Watt mobile amp.

ALS-500MR, \$879, ALS-500M mobile amp plus ALS-500RC Remote Head for full manual remote control.

AŘF-500K, \$179.95, Remote kit for older ALS- 500M mobile amps with serial # below 13049. Includes filter/relay board for ALS-500M, AL-500RC Remote Head, cables, hardware, instructions.

ARF-500K2, \$289.95. Includes ARF-500K Remote kit for older ALS-500Ms plus ARI-500 Amplifier Radio Interface below.

New ARI-500, \$119.95, Amplifier Radio Interface reads band data from your transceiver so you can automatically bandswitch your ALS-500M amplifier. See below left.

Choose ARI-500 for fully automatic bandswitching or ALS-500RC for manual remote control.

> Suggested Retail

ALS-500RC New ALS-500RC, \$49.95, Remote Head lets \$49.95 you place your ALS-500M or ALS-600 amplifier out-of-the-way and gives your S. " remote control. Select desired band, turn on/off and monitor current draw on its DC Current

Meter. Power, transmit and overload LEDs. RJ-45 cables plug into Amplifier/ Remote Head. Works with serial numbers above 13049 (below 13049 requires the ARF-500K, above).  $4Wx2^{3/4}Hx1D$  in.

# Let your rig auto bandswitch your ALS-500M Amplifier

Ameritron ARI-500 **Amplifier** Radio Interface reads band data from

RADIO NeW

\$**59**<sup>95</sup>

ARB-704I2 for IC-706s

ARI-500

your Icom, Yaesu, Kenwood or Alinco transceiver so they can remotely and automatically bandswitch your ALS-500M amp. Now you can mount your ALS-500M out-of-the-way in your

trunk, at the back of your motorhome or elsewhere and operate with just this tiny metal box at your station control.

Works with serial numbers above 13049 (below 13049) requires the ARF-500K, see above). You can add the ALS-500RC for manual bandswitching and data monitoring, etc, see above right for description.

# 75 Amp Switching Power Supply

Suggested Retail

SPS-75 is perfect for Ameritron's ÂLS-500M, 500 Watt solid state amplifier, it gives 75 Amps output contin-

uously! Its tiny size  $(6^{1/2}Wx3^{1/2}Hx10D in.)$ and lightweightedness (just 7.8 lbs.) makes it perfect for portable or base station use. No more picking up and hauling around heavy, bulky power supplies causes hernias. Not too big, not too small, just the right size! Less than 100 mV peak-to-peak ripple under 75 Amp full load. Load regulation is better than 1.5% under full load. Has reverse polarity protection, brown out input protection, over-current and over-temperature

protection systems. Whisper quiet internal fan. A thermal fan control varies fan speed as heat increases. Fan turns on slowly to minimize unwanted fan start-up noise. SPS-75 has a unique *Output Boost* that steps up the output from 13.8 to 14.2 VDC to help compensate the voltage drop to the amplfier and give you more output power. Input 108-132 VAC, 50/60 Hz. Draws 11 Amps. Can also be used to charge your car battery.

# MERITRON *Amplifier-to-Transceiver* Interface



Amplifiers can damage radios if the amplifier has too much relay control voltage, voltage spikes, or excessive current on the relay control line.

The ARB-704 advanced interface is compatible with all common radios and amplifiers even though radios and amplifiers do not have standardized voltages,

accessory plugs, or wiring.

The ARB-704 is designed to work with any amplifier and transceiver combination. Most cables are included with the ARB-704 package. A few transceivers require an additional cable. See chart right.

The input is designed to be compatible with any transmitter or transceiver, and the output is compatible with AC or DC positive or negative amplifier control lines having up to 200 Volts peak open circuit voltage and 300 mA of current.

**Operates** with rigs that pull amplifier control lines to ground, or output a wide range of positive or negative control voltages. Don't take a chance! Get the ARB-704 now! 4<sup>1</sup>/<sub>4</sub>Wx1<sup>3</sup>/<sub>4</sub>Hx2<sup>3</sup>/<sub>4</sub>D". Power cord, 3 phono cords for relay/ALC/control included.

#### Extra cable, \$17.95 for following rigs:

A plug-and-play cable is not needed if your radio is not listed.

\* Note: The PNP-13D prewired cable comes with the ARB-704Î2.

Model#	Transceivers	
PNP-8D	<b>8D</b> FT-1000, (MP), 900, 767GX, 920, 990, 747GX	
PNP-8M	<b>-8M</b> FT-890, 840, 817, 857, 897	
PNP-35	NP-35 FT-100, (D)	
PNP-5M	FT-847	
PNP-7D	TS-440, 690, 450, 180, 140, 950, 130, 870, 2000,	
	50, 120, 530, 430, 830, 940, 570, 850	
PNP-13D	NP-13D All models of the IC-706 series	
PNP-7DK	NP-7DK TS-930	
PNP-7DK2	NP-7DK2 TS-520	
PNP-8MK	NP-8MK TS-480	
PNP-5D	FT-980	
PNP-8DI	ICOM ACC JACK	

#### AMERITRON HF Mobile "Screwdriver" Antenna

#### 1.2 kW... 3.5-30 MHz continuous ...1.5:1 VSWR...more!



AMERITRON's SDA-100 is the best built, best looking, best performing HF mobile screwdriver antenna in the world! Properly installed on your vehicle this antenna covers 80-10 Meters with a 6 foot whip. Remove the whip for 40-6 Meters.

What makes our antennas stand above all the rest is that our CNC machined components are from aircraft aluminum or stainless steel and blueprinted, meaning you can take the antennas apart and mix them up, then reassemble and they work the same.

Our fiberglass coil form is approximately 2 inches in diameter. Other antenna builders know fiberglass is better but they choose not to use it because of the expense and difficulty in machining. We use 14 gauge wire for high power capability, wound at eight turns an inch for maximum efficiency. We machine groove our coils so they will not loosen up or jam -- they won't wear out, for years of trouble free service!

New Lexan cover is super durable and protects your Ameritron screwdriver for years of trouble-free service.

The decoupler we use is CNC machined for tight tolerances with custom fingerstock designed to contact 3 turns of coil all the time with over 25 pounds of combined contact pressure. With this design you can run up to 1.2 kilowatts PEP, trouble free. It's so superior to anything else on the market that we put our outstanding AMER-ITRON warranty behind it.

We use a new heavy duty Pittman commercial 12 volt gear motor, which is very durable and quiet while receive tuning. This motor is super heavy duty for years of trouble-free service. Antennas come with sensors already installed so if you add an auto controller, everything is ready.

The AMERITRON SDA-100 includes: Up/Down switch; 5 feet of motor DC cable with detachable weather sealed con-

nector; decoupling toroid matching coils. SDA-100 comes in a handsome black, using Dupont Basecoat/Clearcoat system.

#### **Optional accessories:**

**SDM-100, \$99.95.** Stainless steel flange mount base bracket, with multiple pre-punched holes. The SDA-100 mounting rod is a 1-in. pipe thread

14-inches long. Ship Code B. SWP-100, \$24.95. 6-ft stain-

less steel whip.

SMC-100, \$4.95. Shunt matching coil with solder lugs. For use at base of mobile/screwdriver antennas with high SWR.

Combination Prices SDA-110, \$509.95. Combination of SDA-100 mobile screwdriver antenna, SDC-100 auto-controller, and SWP-100 whip.

SDA-112, \$539.95. Combination of SDA-100, SDC-102 and SWP-100.

SDA-113, \$559.95. Combination of SDA-100 screwdriver antenna, SDC-103 autocontroller, and SWP-100 whip.

#### Ameritron Mobile Installation Accessories

ALS-500M DC Power Wire Harness



10-22500, \$49.95. Get an extra DC power harness for ALS-500M amplifier. Saves you from the hassle of moving your

amp cable assembly. Fully assembled. Fuse holders and fuses included.

#### In-Line Fuse Holder/Distribution Block



MIA-1, \$6.95. AGU in-line fuse holder; heavy duty, waterproof, handles to 80A, 4-10 gauge wire,

built-in mounting bracket. MIA-2.

\$14.95. AGU in-line fused power distribution block; 1 input for 4

gauge wire, 2 outputs for up to 8-gauge wire, plastic cover with mounting ears.

Remote Power ON/OFF for Amplifier MIA-3, \$59.95. 12

VDC Bosch relay. Turns amplifier high current DC supply line ON/OFF remotely with vehicle ignition switch. SPST,

heavy duty dual contacts. Handles 75 Amps.

#### Battery Post Break-out Block



AWG terminal for your auto battery and two 8 AWG connections for your amplifier.

#### **Braided Ground Strips**



copper braid. Extremely flexible. 7/8-inch width, 13" long. 3/8" holes on each end.

#### Programmable 10-Memory Screwdriver Controller

The SDC-102 lets you save 10 screwdriver antenna positions in memory. With a push of a button, you can quickly return to any saved position.

Up/Down buttons let you manually move the antenna to any desired position. A 4-digit turns counter with bright see-in-the-sun



LEDs gives you precise antenna position.

The antenna always moves to its desired position from the bottom, insuring that the motor is always loaded the same.

Ameritron's AutoPark™ feature automatically bottoms your antenna for parking in your garage and resets and calibrates your counter each time to eliminate antenna slippage and turns count errors.

Ameritron's Dead-OnSTOP™ feature eliminates overshoot for dead-on stops.

Ameritron's StallProtector™ feature shuts off stalled motors to prevent motor burnout.

**Motor** current can be monitored for signs of trouble and to determine stall current.

**Motor** direction can be reversed so the UP button is always up. Compatible with single/ dual magnetic sensors.  $3^{1/2}Wx3^{1/4}Hx1^{1/4}D$  in.

#### **Automatic Screwdriver Antenna** Controller for Icom Transceivers

Ameritron's SDC-103 is perfect for your Icom radio equipped with a CI-V interface. Connect the controller to your Icom rig and the SDC-103 receives the frequency data and will automatically tune your screwdriver antenna. Has all features of the SDC-102. 3<sup>1</sup>/<sub>2</sub>Wx3<sup>1</sup>/<sub>4</sub>Hx1<sup>1</sup>/<sub>4</sub>D inches.

Ship Code A

SRS-100, \$29.95. Magnetic sensor kit for High Sierra antennas to use SDC-102.

SRS-1001, \$9.95. Magnetic sensor kit for Hi-Q Antennas to use SDC-102.

#### SDC-100 Digital Screwdriver \$99<sup>95</sup> Controller

4-digit Ship Code A super bright LEDs tell you exactly

where your antenna is positioned! Re-tune exactly -- fast, no guessing. Digital count range



-999 to +999. On/off/reset switch for easy calibration. 4Wx1<sup>1</sup>/<sub>2</sub>H x2D". Use 13.8VDC.

SRS-100, \$29.95. Magnetic sensor kit for High Sierra antennas. SRS-1001, \$9.95. Magnetic sensor kit for Hi-Q Antennas.

#### High Current Amplifier Power Cable

Highly flexible, 105 degrees celsius, 600 Volts, tinned

copper PVC cable. PVC jacket is resistant to oil, fuel, acids, grease and abrasion. Intended for mobile installation.

Part# Red	Part# Blk	Cost/Ft	Description
871-1022	871-1000	.49	10AWG, 19/23, .176" OD
871-0822	871-0800	\$1.32	8 AWG, 19/21, .217" OD
871-0622	871-0600	\$1.84	6AWG, 49/22.5, .330" OD
871-0422	871-0400	\$2.36	4AWG, 70/22.5, .380" OD

#### **AMERITRON** Automatic Remote Antenna Coax Switch

Automatically switches and selects 8 pre-programmed antennas using 3/4 line BCD or 1 of 8 outputs

The RCS-12 is an automatic control box used for switching remote antenna relays. Ameritron's new antenna switch works with most Icom, Yaesu, Kenwood and other rigs that have a band data output line.

It will work with any relay box with up to eight positions with voltages from 12 to 30 Volts DC. RCS-12 relay control has an output of 1 of 8; 3 line BCD or 4 line BCD.

The switch reads information from the transceiver and selects pre-programmed antennas automatically. Programming is as easy as a push of a button.

#### **FEATURES:**

RCS-12 can remember multiple antennas for one band, but selects the last antenna used for that band.



Suggested Retail

It has a manual/automatic switch that will allow manual selection of antennas as well. It has eight LEDs to indicate which antenna is selected.

RCS-12 will not allow antennas to switch while transmitting. A user programmable delay is used to give the relays enough time to switch to protect the transceiver from "Hot switching".

RCS-12C features a linear amplifier buffered relay line that prevents the amplifier from operating during an antenna changeover; an auxiliary input port that allows the switch box to be operated from a remote location; an auxiliary output for controlling other devices in 1 of 8 format; and auto, manual, and transmit indicator LEDs. 8<sup>1</sup>/<sub>4</sub>Wx2<sup>3</sup>/<sub>4</sub>Hx7D in., weighs 1.5 lbs. RCS-12, \$309.95, auto controller with 8 coax relay box, to 100 MHz.

RCS-12L, \$349.95, auto controller with 8 coax relay box, to 100 MHz, w/lightning arrestors. RCS-12C, \$239.95, Automatic Remote Antenna Switch Controller only. Compatible with RCS-8V/RCS-10 outdoor relay boxes.

#### True Legal Limit ™ Antenna AMERITRON ATR-30

**AMERITRON's** True Legal Limit™ roller inductor antenna tuner is ham radio's toughest! Handles 3KW PEP or

ATR-30

Suggested Retail 1500 Watts continuous carrier output on all modes and all HF bands -- even on 160 Meters where most antenna tuners fail.

It's perfect for Ameritron's most powerful amplifiers where the ATR-30 just loafs.

All band coverage lets you operate 1.8-30 MHz including all MARS and WARC bands.

Ameritron's super high current air core roller inductor is *edge wound* from a thick solid copper strip and silver plated. This produces a large surface area and a massive conductor. It can carry huge circulating RF currents and withstand tremendous heat that'll melt or burn ordinary roller inductors.

A gear driven turns counter and crank

knob gives you precise inductance control.

**Two** 500 pf -- the highest of any antenna tuner -- variable transmitting capacitors give you no-arc wide range impedance matching for true high power performance.

**6:1** vernier reduction drives makes capacitor tuning smooth and easy.

**Super** heavy duty three core choke balun lets you match virtually any balanced feedline antenna without core saturation.

A 6 position antenna switch lets you

select your desired operating antenna.

Ameritron's active electronic *true* peak reading meter accurately reads forward and reflected power and SWR simultaneously on a lighted Cross-Needle meter.

Roomy extra-strong .080 inch thick aluminum cabinet gives highest efficiency and lowest loss. 13<sup>1</sup>/<sub>4</sub>Wx5<sup>5</sup>/<sub>8</sub>Hx17<sup>1</sup>/<sub>2</sub>D inches.

ATR-20 Antenna Tuner . . . §45995 Handles 1.2 kW

PEP SSB. Slightly less on 160 Meters.  $13^{1/2}Wx5^{1/2}H$ 



x13<sup>1</sup>/<sub>4</sub>D inches. Roller inductor T-network, peak reading SWR/Wattmeter, covers 1.8-30 MHz, 6 position antenna switch, balun. Great for Ameritron's 1kW AL-80B Amp!

# AMERITRON precision peak-reading SWR Wattmeters

#### Flat Mount Mobile SWR/Wattmeter



AWM-35/H 995 - easily mounts on Just 15/8" thick your dashboard for Suggested Retail easy viewing. Flat mount on wall or shelf in your ham shack for best viewing angle. Remote sensor with 25 feet thin, flexible cable lets you place sensor and coax out-of-

the-way. Handles full 1500 Watts, 1.8-30 MHz. Lighted Cross-Needle meter. Active electronics lets you read *true* peak or average power in two power ranges. Has "High SWR" LED. Flat-Mount watt-meter measures 5Wx3<sup>1</sup>/<sub>4</sub>H x1<sup>5</sup>/<sub>8</sub>D"; remote sensor is tiny  $\frac{1}{4}$  AWM-35/H  $\frac{3^{1}}{2}$  Wx2<sup>3</sup>/<sub>4</sub>H x2<sup>3</sup>/<sub>4</sub>D". Use 9V battery or 12 VDC.

Remote sensor AWM-35 has 300 Watt low, 3 kW high meter scale. AWM-35H has 100W low, 1000W high meter scale.

#### Base Station 1500 Watt SWR/Wattmeter

AWM-30

We painstakingly designed the AWM- 30 to make accurate, \$ precise power measurements.

Designed-in-accuracy is the Suggested Retail result of a carefully designed

directional coupler, an accurate active peak reading circuit and a precision d'Arsonval meter movement. Ameritron's AWM-30 reads true-peak

or average power on a large illuminated three inch Cross-Needle meter. Handles 1500 Watts, 1.8 to 30 MHz. Has 3000/300 Watt ranges. Reads forward and reflected power and SWR on highly visible dual cross-needle meter movement.

**Remote** sensor with cable lets you conveniently place sensor. Battery saver turns unit off with no RF applied. Uses 12 VDC or 9 volt battery (not included). Beautiful wrap-around custom metal cabinet looks great in your shack. Compact 41/2Wx41/2Hx51/2D in.

## **Precision Single Needle SWR/Wattmeters**

These precision, compact meters feature peak and average, forward and reflected power reading and

SWR. Selectable power ranges. Large 25/8x11/4' lighted meter (requires 12 VDC). SO-239, 6Wx2<sup>1</sup>/<sub>2</sub>Hx4D inches. Choose from 4 models.

AWM-20 **\$14495** Suggested Retail



Model		Frequency	Power	Pwr Ranges
AWM-20	\$144 <sup>95</sup>	1.6-60 MHz	3 kW	20, 300, 3000W
AWM-22	\$10495	1.8-200 MHz	200 W	5, 20, 200 W
AWM-23	\$124 <sup>95</sup>	125-525 MHz	200 W	5, 20, 200 W
AWM-24	\$179 <sup>95</sup>	1.8-525 MHz	200 W	5, 20, 200 W

ADL-1500 Dummy Load with industrial grade transformer oil

Oil cooled 50 Ohm dummy load handles ADL-1500X 1500 Watts for 5 minutes. SWR under 1.2 \$54<sup>95</sup> to 30 MHz. Low SWR to 400 MHz. Suggested

Industrial grade transformer oil (no PCB). Retail ADL-1500, \$74.95. Load with oil.



Fan cooled 2500 Watt dry dummy load ADL-2500 Whisper quiet. Handles 2500 Watts **219**<sup>95</sup> average power for 1 min. on, ten off. Suggested 300 Watts continuous. SWR below 1.25 Retail to 30 MHz and below 1.4 to 60 MHz.

# RCS-8V HF to VHF/UHF Remote Coax Switch

Ameritron's Remote Coax \$16995 Switch lets you remotely switch up to five separate antennas using one Suggested inexpensive small control line (like Retail standard telephone wire) -- Eliminate a tangle of troublesome coax and

have a simple and neat installation -- with just a single coax feedline.

The RCS-8V consists of two units -the weatherproof switching box that mounts on your tower or mast and the control unit has N- type connectors instead of SO-239. that's placed at your operating station.

VSWR is less than 1.2 from DC to 250 MHz and less than 0.1 dB loss at 150 MHz great for the HF/VHF/UHF operator.

It handles over 5 kW below 30 MHz and 1 kW at 150 MHz. You can ground unused positions or leave them open.

The indoor control unit is all metal to prevent RFI and TVI. It also has LEDs to indicate the antenna you've selected.

A Lexan scratch proof front panel has a markable surface for labeling your antenna Switch Box: 53/8Dx7Wx3H inches.

Lightning Protected model RCS-8VL, \$20995

positions.

RCS-8V operates from a 120 VAC power source or RCS-8VX for 220/240 VAC. Use any 6 conductor control line (not supplied) and allows safe operation with 14V control

RCS-8VN, \$169.95. Same as RCS-8V but

#### **SPECIFICATIONS:**

Number of antenna positions: 5. Loss at 150 MHz: less than 0.1 dB. VSWR: under 1.2:1 from DC to 250 MHz. Impedance: 50 Ohms. Power Capability: >5 kW below 30 MHz, 1 kW at 150 MHz. Power requirements: 12 VDC @ 100 mA. AC adapter supplied. Connectors: Teflon<sup>(R)</sup> SO-239 for RCS-8V; "N" for RCS-8VN. Control Box: 6Dx6<sup>1</sup>/<sub>8</sub>W x2<sup>1</sup>/<sub>4</sub>H inches.

# RCS-10 Remote Coax Switch with 8 positions



Ameritron's RCS-10 remote coax switch selects one of eight antennas using an inexpensive three or four conductor control line (such as standard telephone wire). Eliminate a tangle of troublesome coax

RCS-10

and have a simple and neat \$17995 installation -- with just a single coax feedline.

Suggested The RCS-10 consists of two Retail units -- the weatherproof

switching box that mounts on your tower or mast and the control unit that's placed at your operating station.

**Outdoor Unit Features:** 

**Inexpensive and simple wiring:** selects up to eight antennas using one four conductor telephone type control line.

High Power Capability: The RCS-10 relay box will handle over 5 kW into matched loads below 30 MHz.

#### **SPECIFICATIONS:**

Long Relay Life: UL/CSA/VDE approved sealed relays with 16 ampere switching current rating. Tested to withstand 1200V RMS. Flexible Mounting: RCS-10 hardware accepts mast sizes from 1 inch to 2 inches. Reliable Connectors: Teflon UHF-style SO-239 females, internal barrier strip for control lines. Low Voltage: Requires 10-15 Volts at less than 300 mA. **Number of Antenna Positions: 8.** 

**Lightning Protected** model RCS-10L, \$219.95

Frequency Coverage: DC to 100 MHz. VSWR: Under 1.25:1 below 30 MHz; Under 1.3:1 below 60 MHz; Under 1.8:1 below 150 MHz.

Impedance: 50 Ohms.

Power Capability: >5 kW into 50 Ohms

below 30 MHz.

Power Requirement: RCS-10, 10-15 VDC or 120 VAC with AC adaptor supplied. RCS-10X, 10-15 VDC or 230 VAC with AC adaptor supplied. Relay Switch **Control Line:** 4 conductors telephone-type cable, not supplied. Relay Control Line Voltage: 10-15 VDC at less than 300 mA. Flexible Control Box with External Interface: Accepts and outputs one-ofeight and outputs three-line BCD data to remote relay unit. Highly Weather Resistant: Sealed relays, stainless hardware, and U-V resistant cover. Easy-to-Read Antenna Indicators: Eight widespaced LED's indicate the selected antenna. **Size:** Control Box: 6<sup>1</sup>/<sub>4</sub>Wx3<sup>1</sup>/<sub>4</sub>Hx4<sup>5</sup>/<sub>8</sub>D in.

# RCS-4 Remote Coax Switch with four postitions



RCS-4 **59**<sup>95</sup> Suggested Retail

Ameritron RCS-4 is a remote controlled coax switch that selects 1 of 4 outputs by supplying all control voltages through the coax.

Elimination of control cables gives you a fast, neat and inexpensive installation -only 1 coax line for 4 antennas.

You get two units -- the switching box (5<sup>3</sup>/<sub>8</sub>Dx7Wx3H inches.) that can be tower, mast or wall mounted and the control console (61/8Dx51/4Wx 33/8H inches.) that is located at your operating station.

The attractive indoor console has bright LED antenna selector indicators.

A steel enclosure provides 100% shielding to prevent RFI and TVI.

**Switching** time is 50 milliseconds.

Covers 6 Meters . . . Has improved relays . . . Greater Power Handling! Lightning Protected

model RCS-4L, \$19995

Teflon<sup>(R)</sup> SO-239 connectors provide reliable connections.

The weatherproof switching box uses three heavy duty 16 ampere hermetically sealed relays on a rugged G-10 fiberglass circuit board. Quality components used throughout the entire unit ensure maximum life for the difficult-to-reach switching box.

RCS-4 operates 120 VAC. RCS-4X for 220/240 VAC. RCS-4 allows safe operation with 14 Volts control voltage. Covers 1.5 -60 MHz, handles 2.5 kW. Loss at 30 MHz less than 0.1 dB; VSWR is under 1.25:1, 1.5-60 MHz; 50 Ohms.

# MFJ *IntelliTuner*™ Automatic Tuner

Automatically tunes unbalanced/balanced antennas...Ultra fast... New 20,000 memories...

Antenna Switch... Efficient L-network... Select 300 Watts (6-1600 Ohms) or 150 Watts (6-3200 Ohms)... 1.8-30 MHz... 4:1 current balun... Cross-Needle and Digital SWR/Wattmeter... Audio SWR meter... Backlit LCD... Remote control port... Radio interface...

World's First dual power level 300/150 Watts SSB/CW Tuner --

**Select 300 Watt** SSB/CW power level and match 6-1600 Ohm antennas *Or...* select **150 Watt** SSB/CW power level and match *extra wide-range* 6-3200 Ohms!

The MFJ-993B IntelliTuner<sup>TM</sup> lets you tune any antenna automatically balanced or unbalanced -- ultra fast.

It's a comprehensive automatic *antenna tuning center* complete with SWR/Wattmeter, antenna switch for two antennas and 4:1 current balun for balanced lines.

**MFJs** exclusive *IntelliTuner*<sup>™</sup>, *Adaptive Search*<sup>™</sup> and *InstantRecall*<sup>™</sup> algorithms give you *ultra fast* automatic tuning with over 20,000 *VirtualAntenna*<sup>™</sup> Memories.

You get a highly efficient L-network, 6-1600 ohm matching at 300 Watts SSB/CW or *extra-wide* 6-3200 Ohm matching at 150 Watts SSB/CW, 1.8-30 MHz coverage, Cross-Needle *and* digital meters, audio SWR meter, *backlit* LCD, remote control port, radio interface, heavy-duty 16 amp/1000V relays.

It learns while you're having fun As you're ragchewing, contesting or DXing, your MFJ-993B is learning!

When you transmit, the MFJ-993B automatically tunes for minimum SWR and remembers your frequency and tuner settings. The next time you operate on that frequency and antenna, these tuner settings are instantly restored and you're ready to operate in milliseconds!

MFJ new VirtualAntenna™ Memory system gives you 4 antenna memory banks for each of 2 antenna connectors. Select up to 4 antennas on each antenna connector. Each antenna has 2500 memories, 20,000 total.

*Intelligent ultra fast tuning* **MFJs** *InstantRecall*™ first checks its

#### 600 Watt MFJ Automatic Tuner



MFJ-994B **359**95 Ship Code C

MFJ-994B, 600 Watt Intelli-Tuner™ automatic antenna tuner with new 10,000 VirtualAntenna™ Memories. Like MFJ-993B but handles 600 Watts SSB/CW, matches 12-800 Ohms. Does not have digital SWR/Wattmeter/LCD display, audio SWR meter/audio feedback, antenna switch or 4:1 current balun. Tuning must be done at low transceiver power with amplifier bypassed.

\$259<sup>95</sup>

memory to see if you have operated this frequency before. If so, tuning is instantaneous and you're ready to operate.

If not, MFJs

IntelliTuner™ algorithm - - based on
MFJ s famous SWR
Analyzer technology - - kicks in. It

measures the com-

plex impedance of your antenna. Next, it *calculates* the components it needs and instantly *snaps* them in. Then, it fine tunes to minimize SWR -- you're ready to operate. It's all done in a *fraction* of a second.

When the impedance is within its measurement range, the MFJ-993B is the *fastest* automatic antenna tuner in the world.

If it can't accurately determine impedance, MFJ's *AdaptiveSearch*™ algorithm goes into action. Frequency is measured and relevant components values are determined. Only those values are searched for ultra-fast tuning.

**For** even faster searches, you can set the target SWR to 2 (settable 1.0-2.0).

You can manually tune when you can't transmit (for listening out of ham bands).

# Cross Needle and Digital SWR/Watt Meters

**Lighted** Cross-Needle and *digital* meters lets you accurately read SWR, forward and reflected power at a glance.

An audio SWR meter lets you hear the tuned SWR when you can't see/read meters.

**Turn** on a highly visible, instant response SWR LCD bargraph when you need it.

Backlit LCD Display

An easy-to-read *backlit* LĈD displays SWR, forward/reflected power, frequency, antenna 1 or 2, L/C tuner values, on/off indicators and other information.

The MFJ-993B is a compact 10Wx2<sup>3</sup>/<sub>4</sub> Hx9D inches. Use 12 –15 VDC/1 amp or 110 VAC with **MFJ-1316**, **\$21.95**.

#### Tune any Antenna

You can tune any antenna — dipoles, verticals, beams, phased arrays, inverted vees, quads, random wires, mobile antennas,

compact limited space antennas.

A 4:1 true current balun lets you tune any balanced antenna - - horizontal loops, vertical loops, multi-band doublets, quads, folded dipoles, Zepps.

Remote Control

Plug in the MFJ-993RC, \$39.95, remote control and use your tuner elsewhere remotely.

MFJ-993B Interface Pre-wired Cables
Allows automatic tuning of your MFJ-

991B/993B/994B *IntelliTimer*™ through radio. **MFJ-5124I**, **\$19.95**, *ICOM*. Supports IC-706, 707, 718, 725, 728, 736, 746, 756, 765, 775, others that support AH-3 or AH-4

765, 775, others that support AH-3 or AH-4. **MFJ-5124A**, \$19.95, *ALINCO*.

Supports DV 70, DV 77 and others

Supports DX-70, DX-77 and others. MFJ-5124K, \$59.95, KENWOOD. Supports TS-50S, 450S, 570S, 690S, 850S,

870S, 2000 and others that support AT-300. **MFJ-5124Y**, **\$59.95**, *YAESU*. Supports FT-100D, FT-857, FT-897, others.

MFJ-5124Y2, \$59.95, *YAESU* FT-847. MFJ-5124Y3, \$19.95, Supports YAESU FT-1000MP and compatibles.

#### Dual 300/150 Watt Auto Tuner

MFJ-991B **\$219**95 Ship Code C



World's First dual power level Tuner
-- Select 300 Watt SSB/CW and match 61600 Ohm antennas Or select 150 Watt
SSB/CW and match extra wide-range 6-3200
Ohms. New 10,000 VirtualAntenna™ Memories.
Like MFJ-993B, less digital SWR/Wattmeter/
LCD display, audio SWR meter/audio feedback, antenna switch or 4:1 current balun.



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