

The Art of Low-Power Hamming

Personal Portable—The Hot New Rage

The Survival Radio Aspect

In light of the September 11, 2001 terrorist attacks on our great nation, I am sure everyone will agree that emergency preparedness is more important now than ever before. Particularly attractive is “use anywhere” HF equipment and accessories as discussed in both this month’s column and coming up in our February “QRP” column. Check out our featured items, and then ask yourself if you are prepared with both stand-alone gear and operating expertise to provide emergency communications for your community—not if, but when needed. Do you know your equipment’s capabilities and limitations, what frequencies or nets to check, and which international shortwave bands to monitor during a crisis? Right now is the time to get cracking on those plans.

As you have probably heard or noticed, a captivating new trend—indeed, a sheer rage—in both QRP and “personal portable” operation is presently exploding in popularity. Inspired by the new style of “grab and go” transceivers such as the Yaesu FT-817, Elecraft K1, and SGC 2020 and supported by a rapidly growing mini-industry of mating accessories, this trend is the biggest “shot in the arm” for amateur radio in many years. In several ways it may remind you of those first days of TR-22s and handheld talkies on 2 meters, except this time it is HF, the range in worldwide communications, and it is growing faster than anyone can keep track of developments.

Imagine talking with fellow amateurs coast to coast plus working DX (on both CW and SSB no less!) with a shoulder-strapped rig while walking on a beach or having lunch at an outdoor restaurant to get the full impact of that statement. It is awesome! Yes, and every licensed HFer can join the fun. All it takes is some good amateur radio enthusiasm and QRP savvy—and you have both. Wake up! Have fun!

With respect to accessories, anything and everything oriented toward hand-



Photo 1—Maldol’s new monoband mini HF antennas utilize a pull-up whip and interchangeable base loading sections to cover 40, 20, 15, and 10 meters. They extend to approximately 50 inches for operating, retract and separate into 7 inch sections for carrying, and are very lightweight. Base sections and extendable whip may be purchased separately to fit your needs.

held HFing is hot, hot, hot—pull-up antennas, small power supplies, battery packs, tiny headsets, mics and keys, carrying cases, and more. The portable antenna scene in particular is blowing wide open with neat offerings from NCG/Maldol, Waters and Stanton/MFJ, Super Antennas/W6MMA, and probably a couple more that will join in by the time this column is printed. Most of the mini antennas target Yaesu’s FT-817, but they can also be used with most other transceivers operating at QRP power levels. Just use a counterpoise with them and remember “pocketable” HF antennas of any type are not big on performance, but they are very handy for traveling, monitoring, and medium-range communications.

Now let’s take a look at some of these delights, and watch for our February 2002 “QRP” column to continue the

story with more soon-to-be-revealed treats plus some time-proven favorites.

Maldol’s Mini Marvel

First in the spotlight are the new Maldol monoband mini antennas shown in photos 1 and 2. These little wonders are made up of two screw-together sections—an AH-R telescoping rod or whip and mating AH-C7, C14, C21, and C28 base loading coil sections for 40, 20, 15, and 10 meters, respectively. The rod and base coil sections can be purchased separately for monoband applications to fit your needs. The base sections average 6 inches in length and the rod retracts to 7 inches, making the combo perfect for carrying in a pocket. When mated together and extended for operation, overall height is 47 to 52 inches (you can vary total length or height to fine-tune SWR in a preferred CW or SSB band segment).

Generally speaking, I find performance of the Maldol mini antenna close



Photo 2—We mate a Maldol AH-14 base coil section with an AH-R whip, snap it onto an FT-817’s front BNC socket, tune in 20 meters, and we are ready for HF action from anywhere. The carrying pouch for rig and antennas is the FT-817 Power Port available from Cutting Edge Enterprises.



Photo 3— All bands right in your hand! This new MFJ-1899T “Walkabout” antenna covers 80 through 2 meters in a single “break apart and carry anywhere” package. Fully extended, it measures 63 inches in height. Retracted and separated, the helical base section is 12 inches long and the pull-up whip is 7 inches long.

to par with a base-loaded 4 foot antennas. That is, assuming a $\frac{1}{4}$ -wave counterpoise to simulate ground or a vehicle’s metal body used in conjunction with the antenna (I use a section of shield removed from a piece of old coax cable.). I also find the lower band 40 and 20 meter antennas are much more SWR-sensitive and difficult to resonate than higher band antennas (obviously because of longer wavelengths). Place one on one side of a room, and its SWR might be low; place it on the other side of the room and its SWR skyrockets.

Unseen metal frames and wires drive mini antennas crazy. My AH-14 wanted to resonate on 15 rather than 14 MHz, so I added a short (7 inch) extension wire to the AH-R rod’s tip. The idea worked, so I then used an MFJ-259B antenna analyzer with other experimental-length extension wires and

other base loading coils to “hop up” performance and add WARC band coverage (the old “more whip and less coil” trick). Next I plan to devise small add-on capacity hats to replace the extension wires.

If you like dinking with antennas and want super portability (and limit your power to 10 watts), you will like the new Maldol mini antennas. They are available from amateur radio dealers nationwide. Details are on the Comet/NCG website: <www.cometantennas.com>.

MFJ-1899T “Walkabout”

Another fascinating new mini-antenna for on-the-spot HFing is the “Walkabout” made by Waters and Stanton of the UK and imported to the US by MFJ Enterprises (photos 3 and 4). This multi-band treat is akin to a miniature Outbacker, with band taps along its lower helical winding section, a jumper lead for selecting bands, and a top-mounted pull-up whip. The base, or bottom, is fitted with a BNC connector to mate with the FT-817’s front socket. Adding a BNC-to-PL-259 plus a right-angle PL-259 adapter (called an 83-1AP) and connecting it to the (stronger) SO-239 socket of the FT-817 relieves unnecessary strain. That same idea also works for adapting the MFJ “Walkabout” to other transceivers. Just remember to hold their output below the antenna’s limit of 25 watts.

Overall length, or height, of the MFJ “Walkabout” with its whip fully extended and ready for operation is approximately 63 inches. Retracted, the whip is 7 inches long and the mating helical base section is 12 inches long. Moving the jumper lead between band taps selects “traditional” 80 through 10 meter operation. Adjusting the (pull-up) whip’s length in conjunction with tape selection brings in WARC band coverage plus 6 and 2 meters. Fine tuning the whip’s overall length also tweaks SWR for desired CW or SSB band segments.

A counterpoise or ground-simulating wire should also be used with this antenna. However, its included instruction sheet suggests it need not be $\frac{1}{4}$ wave long. In fact, the info sheet suggests using the formula $180/F(\text{in MHz}) = \text{Length (in feet)}$ of the counterpoise. Cool! Monoband versions of this antenna incidentally, are also available for budget-conscious amateurs.

Performance-wise, I find the “Walkabout” right on par with my 4 foot Outbacker mobile antenna, and I have worked the world right from my Camaro with that little antenna. When initially

checking out the “Walkabout” (and propping it against a wall, which caused wild variations in SWR), I heard a station in Curacao calling CQ. My transceiver was set at 5 watts output, so I quickly punched on its automatic tuner, called, and received a 579 from the PJ2 station. By jove, this “Walkabout” really works! It’s a gas contacting DX with such a mini antenna! You simply must experience the thrill first-hand to fully appreciate it! MFJ “Walkabouts” are available from dealers nationwide and more details are available on the web at <www.mfjenterprises.com>.

W6MMA “Super Antennas”

Taking pull-up HF antennas to the next level (or next two levels!) are the new mini-screwdriver portable and mobile antennas produced by Vern Wright, W6MMA, and shown in photos 5, 6, and 7 and fig. 1. Simply explained, these items are “break down and configure to fit your needs” versions of the popular “screwdriver” mobile antenna. They

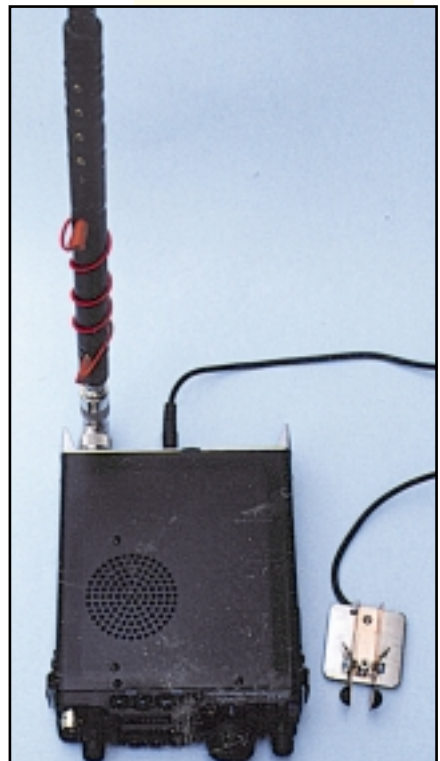


Photo 4— The MFJ-1899T “Walkabout” and Yaesu FT-817 set up for portable, on-the-spot operation. The “Walkabout” is a mite hefty, so I added a BNC-to-PL-259 right-angle adapter so it could plug into the FT-817’s stronger SO-239 socket on the rear panel and stand upright. The miniature keyer paddle beside the transceiver is a new MFJ-561 item.



Photo 5— This go-anywhere/portable version of the W6MMA “Super Antenna” consists of a 12 inch base mast, MP-1 manually adjustable coil section, and top whip that extends to 43 inches for operating or retracts to 7.5 inches for carrying. Here the antenna sits on its optional tripod mount. The antenna covers 40 through 2 meters plus 70 cm and also 80/75 meters with an optional coil. It breaks down into 12 inch long sections for traveling.

cover all HF bands and frequencies between 40 and 6 meters (plus 2 meters, 70 cm, and even 80 meters with an optional coil); stand 4, 5.5, 6, or 7 feet tall; handle 150 watts; and work out like the best center-loaded antenna you can find.

There are two basic versions of this antenna: the MP-1, which employs manual band switching (you physically move the slider on its coil), and the MP-2, which utilizes a precision servo/motor to remotely adjust the coil’s slider. Either version can be assembled as a retractable 4 foot antenna that mounts to an FT-817 case or as a taller antenna that mates with a regular mobile mount, a mini-tripod, or a universal clamp-anywhere mount. All included sections and optional base mast, coil, upper whip sections, and mounts use standard 3/8-24 threads and all pieces are interchangeable. The flexibility of these “Super Antennas” is unreal!

Either version of the W6MMA “Super Antenna” setup makes a terrific mobile antenna (especially the motorized MP-2 version, as you can change bands and

tweak SWR without even moving from your vehicle’s front seat). You can also quickly remove selected sections of the antenna (such as the coil and maybe the mast) and pack them along with optional items (such as a collapsible top whip, counterpoise wire, and tripod base stand) for portable operations. In this case, the longest antenna section to pack is only 12 inches and the reassembled-in-a-minute all-band antenna stands 5.5 feet tall (photo 5).

Tuning the W6MMA mini screwdriver antenna to a desired frequency is a cinch—especially with the motor-driven MP-2 version. You just apply 12 volts to the motor (you can even use a regular 9 volt battery when operating portable, if desired) and listen for a peak in band noise on your receiver. If you overshoot that point (as evidenced by band noise decreasing or S-meter readings dropping), just reverse voltage polarity so the slider moves in the opposite direction.

Tuning the MP-1 version follows the same general process: You just check received signal strengths after each coil movement (and step back from the antenna to avoid “body capacity” loading effects). Following that coarse tun-

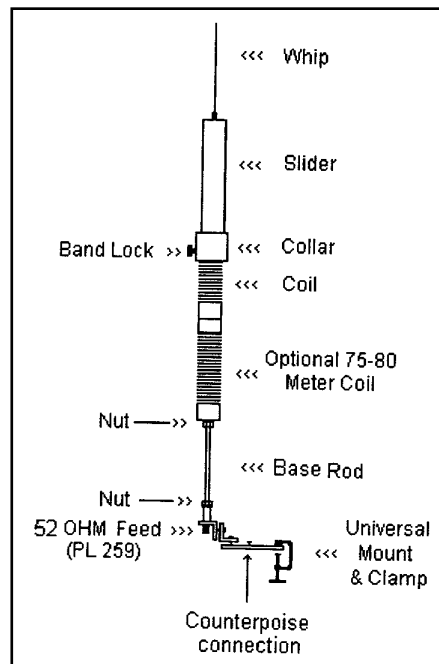


Fig. 1— General outline of the W6MMA mini screwdriver mobile/portable “Super Antenna.” The lower mast is available in 7.5, 12, 18.5, and 22 inch lengths. The coil is available in manual and motor-driven versions, and the top whip may be 18.5 or 48 inches tall. Optional 80/75 meter coil installs below the main coil. All sections utilize standard 3/8-24 threads for interchangeability.



Photo 6— The taller/mobile version of the W6MMA “Super Antenna” is configured with a 22 inch base mast, 14 inch MP-2 motor-driven coil assembly, and 48 inch top whip. Total height is 84 inches. The antenna may be scaled taller or shorter with optional mast and whip sections. (Details in text.)

ing step, you transmit a low-power signal and tweak the slider’s position for lowest SWR as read on your rig’s meter. The whole process takes less than a minute and goes incredibly smoothly.

Performance on both transmit and receive is consistently superb with either version of the W6MMA antenna, probably because it employs a highly efficient center loading design. While initially checking out the MP-1 sitting on its optional tripod mount in the middle of my room, I heard 3B8FG calling CQ via the long path on 20 meters. I reached over, quickly adjusted the coil for low SWR, called 3B8FG on my FT-817 at 5 watts, and received a 449 report. Tuning up to 20 meter SSB, I answered VK4DAN calling CQ and received a 4 by 3 report. Life doesn’t get much better than that, friends!

More details of both versions and their special mobiling accessories, incidentally, will be included in my next “Mobiling 2002 Special” column coming in a few months. Meanwhile, check with Vern Wright, W6MMA/Super Antennas, 1606 Pheasant Way, Placerville, CA 95667, telephone 530-662-6668 or <www.superantennas.com> for more

information. Also, please understand some of the supplied and optional items may change, or I accidentally may have categorized them improperly at this time when everyone is just getting started in the game.

Giga What? RT Who?

All of our previously highlighted mini antennas are available from amateur radio dealers nationwide, but since they are ultra hot items, supplies will probably run thin during the holidays. What to do? Check with a newer and consequently less-known dealer, such as GigaParts, 4925 University Drive, Suite 140, Huntsville, AL 35816 (telephone toll free 1-866-535-4442, or <www.gigaparts.com>. Manager George Howard, KW4G, is starting out the company right with good deals and outstanding customer service. (I speak from experience; he resolved my FT-817 problems like a pro!) He also handles some brand-new W4RT Electronics items you will love.

One such item is the “One Plug Power” NiMH battery pack for an FT-817 shown in photo 8. You just pop out the FT-817’s supplied alkaline battery tray, and move its power connector over to the W4RT pack and slip it right into the little rig’s battery compartment. The W4RT unit’s NiMH cells are rated at 1650 maH, which is more than double the current capacity of nickel cadmiums or alkalines, so you can operate the FT-817 at a full 5 watts output or monitor band activities for an exceptionally long time on a single charge. It is terrific, and it is also supplied with double fuses plus a new Yaesu battery door with charging socket for additional flexibility.

Another headliner item from W4RT Electronics and GigaParts is the “One

Touch Tune” module shown in photo 9. This plug-in module sidesteps multiple button fumbles in producing a key-down signal from an FT-817 when adjusting an antenna tuner. Whether operating SSB, PSK, or RTTY, you just press the module’s pushbutton to transmit a carrier. Release the pushbutton, and the rig returns to your preset operating mode. Add a W4RT Z11 compatibility kit, and all switching is handled right from an LDG Automatic Antenna Tuner’s “Tune” button. Nice!

Additional W4RT goodies for the FT-817 (such as twin filters and a pocket reference book) are also hitting the market. Check with GigaParts and <www.w4rt.com>, and watch for more details in our next (February) “QRP” column.

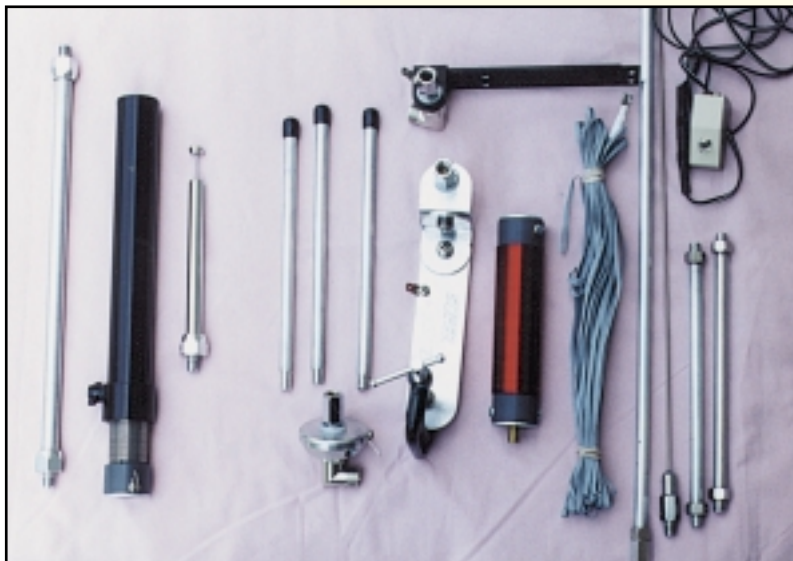


Photo 7— The W6MMA portable version MP-1 antenna separated into sections for traveling (left) and its optional masts, coil, whip, mounts, tripod, counterpoise, and motor switchbox for custom applications (right).



Photo 9— The new “One Touch Tune” module from W4RT Electronics. The unit plugs into sockets on the rear of the FT-817 and a press of its pushbutton or remote activation from an LDG Z11 tuner activate the rig to transmit a tune-up carrier.

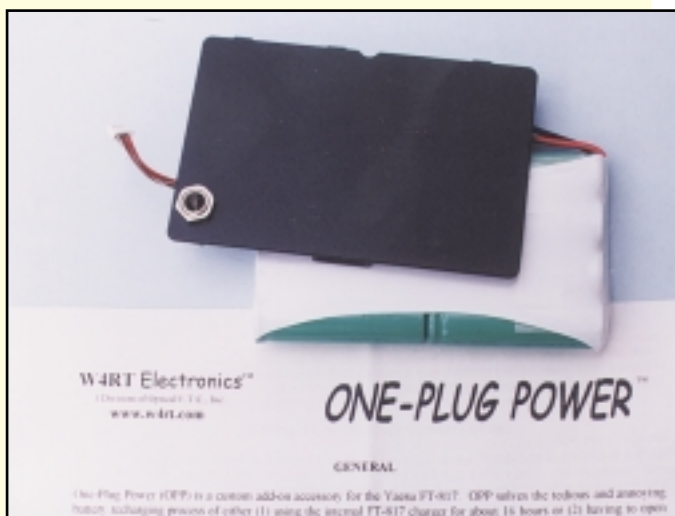


Photo 8— Want to enjoy “take it with you HF’n” until the cows come home? This new “One Plug Power” NiMH battery pack from W4RT Electronics is the answer. It directly replaces the FT-817’s alkaline battery tray and door and powers the rig for an extra long time. It is amazing!

We will also look at more portable and low-profile antennas and more new items at that time.

Finally, I ask how carefully are you reading this column. I am presently writing a new book on “HF To Go” and have allocated space in the book for some photos and info on amateurs pioneering this new trend. Here is your chance to receive some well-deserved recognition! Zip some photos and details of your activity to me, and watch for them to appear in a future “QRP” column, too.

73, Dave, K4TWJ