Wisconsin EC

The Wisconsin ARES/RACES Emergency Coordinator

AMATEUR RADIO EMERGENCY SERVICE

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WISCONSIN SECTION EMERGENCY COORDINATOR CHIEF RACES RADIO OFFICER AND EDITOR:

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The WEC Newsletter is sent monthly to all American Radio Relay League Emergency Coordinators in the State of Wisconsin. It is intended to provide a forum for ECs to share ideas concerning the organization and training of their respective groups, and as a source of news concerning ARES and RACES activities in the state.

Comments, suggestions and articles (finished or in rough form) are solicited from the readers.

This newsletter and other important documents are posted on the Wisconsin ARES/RACES web page at:

http://wi-aresraces.org

in PDF format, shortly after each issue is published.

Deadlines: The newsletter is mailed on or about the 15th of the month preceding the date shown on the issue. Thus, the February issue is mailed on or about the 15th of January. Articles and notices must reach the editor no later than the 1st of January to be considered for the February issue.

The Roll-Up Emergency 2-meter J-Pole Antenna

The following is a tried and true design. It has appeared here before, but your editor has had a couple of requests to print it again.

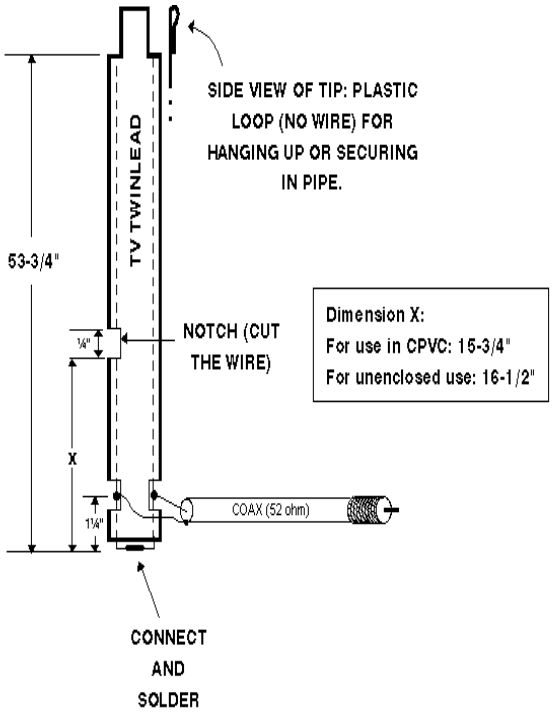
This is one of the most useful, versatile emergency antennas ever devised. It is based on a design first described WD4JNS in the 1984 ARRL Emergency Coordinator's Manual. Back in the early 1990s, WB9RQR did extensive testing of the antenna and revised the measurements somewhat. Since then, Ozaukee County ARES members have well over ten years of experience with the antenna and have found it to be a real performer. There are now six of these mounted in CPVC pipe on the roof of the Justice Center in Ozaukee County, and your editor has personally built at least 25. I carry one rolled up in my briefcase at all times, housed in a 4½ inch square by 5/8-inch thick plastic box, as do many other OZARES members. My home 2-meter station talks to the world through one of these, mounted in CPVC pipe on my balcony. Another is mounted inside my office closet for my personal packet station. The antenna is far superior to a rubber ducky on an HT, and should be used whenever an ARES member is stationed at a shelter, command post or other semi-permanent location. It will get your signal out when the rubber ducky fails, and it costs next to nothing to build. It rolls up when not in use and hangs up almost anywhere. Here are the detailed instructions. We will assume first that you want to build a roll-up, hang-up model.

Obtain a supply of cheap 300-ohm TV twinlead. Be sure to use the ordinary, flat type, not the more expensive (and less effective) foam filled twinlead. Cut a piece about 60 inches long or a little more.

At one end, strip off about ½ inch of the plastic insulation covering both conductors, including the flat plastic between the wires. Do not cut the wires. Twist the bare wires together and solder them. You have now defined and completed the bottom of the antenna.

Use a ballpoint or very fine-tipped marking pen to mark a line exactly 1¼ inches from the antenna bottom. Bare the wires about ¼ inch on each side of the mark. This is best done with a snap-blade razor knife. Use care to avoid nicking the wires while stripping the plastic that covers them. Do it slowly and carefully, and don't cut yourself! This will leave about ½ inch of bare wire on both sides of the twinlead. Do not remove the flat plastic between the two wires. Look at the diagram; your antenna should look exactly as shown down where the coax is connected. You will solder the coax at this site later.

Make another mark exactly 16½ inches from the antenna bottom, or 15¼ inches from the previous mark. Now make another mark exactly ¼ inch closer to the top of the antenna. Next, construct the notch shown in the drawing, by making two horizontal cuts with nippers, followed by a careful vertical cut with your razor knife. Remove and discard the plastic and wire in the notch. When making those hori-



zontal cuts with the nippers, be sure you cut through all strands of the wire, but don't go beyond that. The remaining plastic serves to give the antenna mechanical strength.

Now measure and mark a line exactly 53¾ inches from the antenna bottom. Make a horizontal cut that severs both twin-lead conductors, but not the plastic between them. Slit the plastic vertically from the cuts to the end, using your razor knife. When finished, the wires will end at 53¾ inches, but the plastic between the wires will continue for 6 inches or so. Bend the plastic over to make a loop and tape it securely in place with electrical tape. You are almost done.

Prepare your coax - it should be at least 6 feet long but may be longer if you desire. Strip about 3 inches of insulation off of the end. Unravel the outer conductor all the way back to the insulation. Strip the center conductor's insulation back to within 1/16th inch of the outer insulation. Twist the inner conductor strands (if stranded) and tin. Twist the braid tightly but do not tin. Now attach the coax center conductor to the UNNOTCHED side and the braid to the NOTCHED side, as shown in the diagram (yes, it most certainly does make a difference). Solder both. Make your solder flow, but do not overheat the connections or you will melt the insulation of the coax, the antenna, or both. Put a connector (style of your choice) on the other end of the coax. Just about finished.

Steal a bottle of fingernail polish from your mother/sister/wife/girlfriend (or find a bottle of your own, if you use it). The color doesn't matter, but clear is always aesthetically pleasing. Try to avoid metallic colors; they might contain metallic powder that can conduct or absorb RF. Put a TINY dab on the cut ends of the wires at the antenna's top and notch, and a light coat on all exposed wire at the bottom and where the coax is soldered. When the fingernail polish is completely dry (several hours or overnight), arrange the coax along the bottom of the antenna (parallel to its axis); and use electrical tape to hold the two together. When finished, the antenna and coax run along the same axis, unlike the drawing, which was arranged for clarity. Your antenna is now complete and water-resistant.

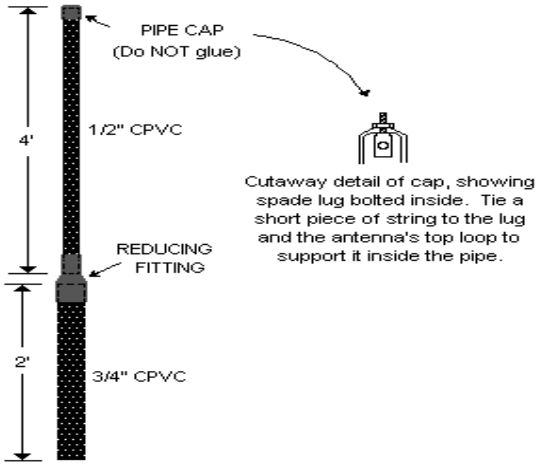
Final checks and some tips: Measure everything again. If any measurement does not check within 1/8 inch, throw the antenna out and start again. Twinlead is cheap and you want an antenna that works properly. Also, make that coax-to-antenna connection SHORT – as short as is practical. Satisfied with your work? Good, now, go try it!

Careful measurements have shown that this design will result in a 1:1 SWR at 146.0 MHz, with close to a 1.5:1 SWR at the band edges. In other words, your HT or higher-powered rigs will like it fine. Also, it is far superior to a rubber ducky in radiating your signal.

The bottom of the notch is 16½ inches from the bottom end of the antenna, as shown in the diagram. If you intend to build a permanent version (enclosed in plastic pipe), this dimension must be changed to 15¾ inches. While this adjustment is less than an inch, it is important in order to keep the SWR down when surrounded by the plastic pipe. Don't use the design for an enclosed antenna in a roll-up application, or vice versa.

One more note. If you make one for enclosure in plastic pipe, use CPVC pipe, not ordinary PVC. CPVC is the cream-colored pipe used by plumbers for either cold or hot water applications. PVC (also called Schedule 40 PVC) is white, and designed for cold water applications only. Extensive testing shows the RF-characteristics of these two plastics are quite different, and it turns out the CPVC will work best and yield the best SWR. A suggested approach for the enclosure is shown below. You can see these sticking up in the air like porcupine quills on our Justice Center roof.

Finally, your editor has built several of these using 75-ohm TV coax in place of the usual RG-58 stuff that we hams use. No degradation in SWR or performance was noted. The message is: use whatever coax you have lying around, so long as it is in good condition. But do keep the dimensions exact.



Website Hits

Your SEC accumulates records on website usage, and every now and then makes a summary. Between 14 May 2000 and 20 Jan 2002, we had 41,100 hits on the site, with an average of 652 per week and nearly 90 daily. The low during this period was 307 hits in a week (14-20 Aug 2000), and the all-time high was 1,884 (2-9 Dec 2001). The latter was right after the EC Conference on 1 Dec. Since 11 September 2001, we have had nearly 17,000 hits, for an average of over 1,000 per week.

Aside from the US hits and unspecified COM, ORG, EDU, MIL, NET domains, there have been many visits from other countries:

1. Argentina
2. Australia
3. Austria
4. Belgium
5. Brazil
6. Brunei Darussalam
7. Bulgaria
8. Canada
9. Christmas Island
10. Czech Republic
11. Croatia
12. Denmark
13. Estonia
14. Finland
15. France
16. Germany
17. Greece
18. Indonesia
19. Ivory Coast
20. Italy
21. Israel
22. Japan
23. Luxembourg
24. Malaysia
25. Mexico
26. Netherlands
27. New Zealand
28. Norway
29. Poland
30. Portugal
31. Romania
32. Saudi Arabia
33. Singapore
34. Slovenia
35. South Africa
36. Spain
37. Taiwan
38. United Arab Emirates
39. United Kingdom

Ray Meyer, N9PBY, has done a terrific job of designing and maintaining the site, for which we all owe him thanks. Judging from the number of hits, it looks like the site is of use to many non-Wisconsin and non-USA folks, as well as to us. Thanks, Ray!

Discussion Group: HF Digital Communications

By Richard E. Polivka, N6NKO
ARRL WI Section TS, OES, OO
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To facilitate continued discussions we started at the EC Conference in Plover, I have started a group at yahoogroups.com. The focus is HF digital communications in Wisconsin – both emergency and normal communications.

To join the group, just send an email to:

wi-hf-subscribe@yahoogroups.com

with the single word **subscribe** in the subject line.

WFO MKX

by Tom Kucharski, KA9EWJ
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The Sullivan Weather Amateur Radio Association (SWARA) was chartered in the fall of 1998 for the purpose of supporting the National Weather Service Forecast Office at Milwaukee/Sullivan (NWS Location Code: MKX.) The Milwaukee/Sullivan Weather Forecast Office (WFO MKX) is responsible for weather related public safety concerns for 20 counties in Southern Wisconsin.

SWARA is responsible for all amateur radio operations within WFO MKX. SWARA is part of a consortium called the Sullivan Committee (SC) who governs the multi-organization amateur radio program for severe weather data collection efforts in support of WFO MKX. SWARA is registered with the Wisconsin Section ARRL SEC as an ARES/RACES organization. An amateur radio station is located at WFO MKX and carries the call sign of WX9MKX.

In the weather program, SWARA staff manages the observed field data collected via Amateur Radio for verification of severe weather events. SWARA staff also distributes information to the field on conditions as they occur or as time permits. Applicants are required to participate in a two session training program (six hours total), held in February, before being placed on the staff list for the weather program. SWARA staff members are scheduled for on-call availability on a 24 hour/day, 7-day/week basis from March 15 through September 30 of each calendar year in support of this program.

Other service requirements not related to severe weather data collection are also part of SWARA's purpose. Beginning in 2002 SWARA will be holding monthly meetings for the purpose of planning and educating the operators in a more comprehensive support program for WFO MKX. SWARA is always looking for people with excellent character, who want to exercise their current skills and who want to de-

velop new skills in amateur radio operations. However, this service is not for everyone. SWARA operations are fast-paced, highly visible and require a very high level of commitment on behalf of the operator staff.

If you want to enhance your training and serve your community, consider joining SWARA. If you would like additional information on SWARA and its role in support of the National Weather Service, please contact me. Training sessions will be in February on dates yet to be determined, but I can promise that they will be on Saturday afternoons.

Weather Radio Ashland

by Tim Willoughby, KB9TJI
EC, Ashland and Bayfield Counties
kb9tji@yahoo.com

For your information, the National Weather Service transmitter in Ashland (KZZ-78) is now on the air on 162.525 MHz. The first test of the emergency alert (SAME) system worked perfectly, at least with my weather radio.

WI Section Changes

By Donald E. Michalski, W9IXG, Section Manager
dem@sal.wisc.edu

I want to welcome Patrick Moretti, W9UQ, as our new Public Information Coordinator (PIC). I am very happy to have a man of his abilities on the section staff:

Patrick Moretti, W9UQ
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Dousman, WI 53118-9786
(262) 965-3860
w9uq@arrl.net

With regret, I reluctantly accepted the resignation of Roy Petersen, K9FHI, as our Associated Club Coordinator (ACC). He, also, resigned as NCS for 9th Region Net. He will, however, continue as WSBN manager. We appreciate all he has done for the Wisconsin section and certainly wish him well.

If anyone knows of someone willing to be ACC, please let me know. This person is the primary contact and resource person for each ARC in the section and specializes in motivating, providing assistance and coordinating joint activities of clubs.

New Email Address

for John Elliott, Jackson County EC:

johnelliott@co.jackson.wi.us

Please correct your EC Roster.

By the way, folks, **now is the time to check your entries in the EC Roster**. Let your SEC/Editor know of any changes that are necessary. A new one is in the works for publication and distribution in March. Is your telephone area code correct?

Governor's Conference Invitations

By Mack Brophy, N9NTB
WI State Hamshack Manager
brophm@dma.state.wi.us

Wisconsin Emergency Management will be sending invitations to ARES/RACES ECs, MARS Chiefs, CAP and some other key hams to attend the Governor's Conference, April 9th and 10th, in Appleton at the Paper Valley Hotel. The invitation packet will include reservation instructions, costs, an agenda and other information.

As an EC, you will receive a packet. However, there may be others in your groups who wish to attend and will need a packet as well. If you know of such individuals, please send me their name, call and mailing address as soon as possible. An email message will be fine – the address is listed above.

It Is Roster Time!

ECs, now is the time to check your roster. Look at the last printout you received from Stan from the RACES database, and make sure your county's list is up to date. Check the names, addresses, phone numbers and class of license. Surely, some hams in your group have upgraded, and the roster needs to be changed to reflect that. Is anyone on it that should be deleted? Are there hams that should be added? Make your edits on the copy and send it to Stan. Alternatively, send him the edits (only) by email. No edits to make? Let Stan know that, too!

Can't find your last printout? An email, or snailmail note to Stan will get you one. Stan will mail you a printed copy, or if you prefer, it can be sent via email in just about any format you wish. Just let him know your needs. It is important that Stan (and WEM) have an accurate copy of your participants.