



The Wisconsin Emergency Coordinator



VOLUME 1 NUMBER 2

FEBRUARY 1999

WISCONSIN SECTION EMERGENCY COORDINATOR AND EDITOR:

Stanley Kaplan, WB9RQR
105 Martin Drive
Port Washington, WI 53074-9654
(414) 284-9346
skaplan@mcw.edu
WB9RQR@N9PBY.EN63BI.
WI.USA.NA

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 activities in the state.

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

Permission is granted to reprint articles from this newsletter provided credit is given as follows: "Reprinted from The Wisconsin Emergency Coordinator Newsletter, WB9RQR, Editor".

Op-Ed

-by John Leekley, WB9SMM, Southeastern WI DEC; Milwaukee and Waukesha County EC

Stan has asked me to contribute to his newsletter, and I told him that I would like to not only do something for just one issue, but rather to contribute on a regular basis in the form of a "op-ed" piece. I have been at this ARES stuff now for about ten years as SEC and over twenty as EC and during that time I have developed some opinions that I would like to share in the hopes of generating some thoughtful debate.

But, first, I would again like to thank the Wisconsin ARES Emergency Coordinators and their groups for their support and cooperation during my term as SEC, and ask that you give Stan your full and complete support. As you can see, with the advent of his newsletter, he has hit the deck running, and I am looking forward to seeing great things happen.

ON THE SOAP BOX

The two biggest problems facing the public service - emergency preparedness amateur radio community are (1) the lack of real emergencies, and (2) the hams' propensity for turf battles and ego problems.

LACK OF REAL EMERGENCIES.

You, of course, know the fable of the Boy Who Cried Wolf. That is a particular problem here in Wisconsin. It is very hard to generate interest in emergency preparedness and ARES activities if, in fact, there is very little in the way of "emergencies" in our actual operations. It probably would be more accurate to describe us as "amateur radio service" because there are so few emergencies that rise to the level requiring significant amateur activity. I don't propose that we manufacture any emergencies, but I do think it is important that we try to side step the problem by creative use of the facilities that we have available to us. The problem, of course, is that the other emergency and safety services (police, fire, county and state emergency management) all now have what used to be a fairly

exclusive toy: mobile and portable radios. Practically anybody can carry an HT these days and talk to a central headquarters. As a consequence, the amateur radio role is relegated to peripheral support activities (Red Cross, Salvation Army, shelters, etc.) or waiting the "big blowup", when the regular forms of communication available to the safety services is severely disrupted. In a way, I think this is good because if we were regularly called on to supply direct communications, we would be quickly burned out because our resources are not that great that we can sustain that kind of energy level for any significant period of time. I think we can do an excellent job of serving the "peripheral" areas I suggested above, being prepared for the big meltdown, and providing specialized services, which I will get to in a moment.

TURF BATTLES AND EGO PROBLEMS.

This whole area pains me a great deal, and I saw more than I cared to of it during my tenure as SEC. Logic says you cannot have two armies, two air forces, two police forces, or two fire departments. It is not only wasteful of resources, it causes all kinds of conflicts, confusion, and lessens the chance the job will get done right. The same applies to the amateur radio role as providers of emergency communications services. There needs to be one structure directed from the top, with a clear plan and clear lines of organization. The nature of the beast is that, in this country, that role is played by the Amateur

Radio Emergency Service, a service organized and sponsored by the national amateur radio organization: The American Radio Relay League. Now before you go off half-cocked, be aware of the fact that I am just as critical as you are concerning many of the ARRL's policies and methods of doing things, but you can't engineer change by dropping out. I am told that less than one-third of the licensed amateurs in the country belong to the ARRL. If more people joined and voted at director's elections, voiced their opinions and so forth, perhaps there would be a better response on the part of Newington. The point is that it is the only game in town and we should get with the program. Similarly, at the state and local level, the "game" is the Amateur Radio Emergency Service. I do not like the idea of having a separate "RACES" operation. The RACES officer should be the Emergency Coordinator for the County. The two entities should be one and the same, changing hats only when a RACES event is declared so that the participants can benefit from the legal and monetary benefits that flow from being a quasi-employee of the County or the State.

The bottom line here is that there should be one emergency preparedness entity in each jurisdiction under ARES auspices. If significant numbers of people in a jurisdiction have a problem with the current ARES operation then a discussion should be undertaken to discover exactly what the source of the differences of opinion are and steps taken to resolve it. Clearly if the ARES leadership is ineffective, out of touch, or otherwise non-productive, then steps should be taken to change that situation.

The two hurdles facing the ARES community are the lack of "real" emergencies and divisive

internecine squabbles. Creative planning and the adoption of new technologies can solve the former and serious problem-solving discussions should solve the latter. More on both of these issues in future epistles.

[Thanks, John, for what we hope is the first of many contributions to this newsletter. I feel that all your points are right on the mark, except perhaps for one. We average a real emergency in Ozaukee County about every 4 to 6 months. Part of that is because we experience a bit more exposure than most counties because of our rescue boat operations on Lake Michigan. But some emergencies are HazMat incidents, or closure of I-43 due to flooding or snow, or shelter operations due to power outages, or some such happening. I attribute our involvement in these incidents to our close association with Emergency Management. In my opinion, if all ARES units in the state were closely allied with and appropriately trained by their respective county Emergency Management units, their involvement in real emergencies would increase significantly. Thus, the problem is not lack of emergencies, but rather our lack of involvement with those who respond to the incidents. Ed.]

The Emergency 2-meter J-Pole Antenna

Good construction or technical articles will appear in this newsletter from time to time - anything that can enhance the ability of your group to communicate. The following is a tried and true design. It has got to be one of the most useful, versatile emergency antennas ever devised. It was originally described by 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 had nearly 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 the 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 personal packet station talks to the world through one of these, mounted in CPVC pipe on my balcony. It 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. 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.

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 1/2 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.

severs both wires, but not the plastic between. Slit the plastic vertically from the cuts to the end, using your razor knife. When finished, the wires will end at 54 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 in place with electrical tape. You are almost done.

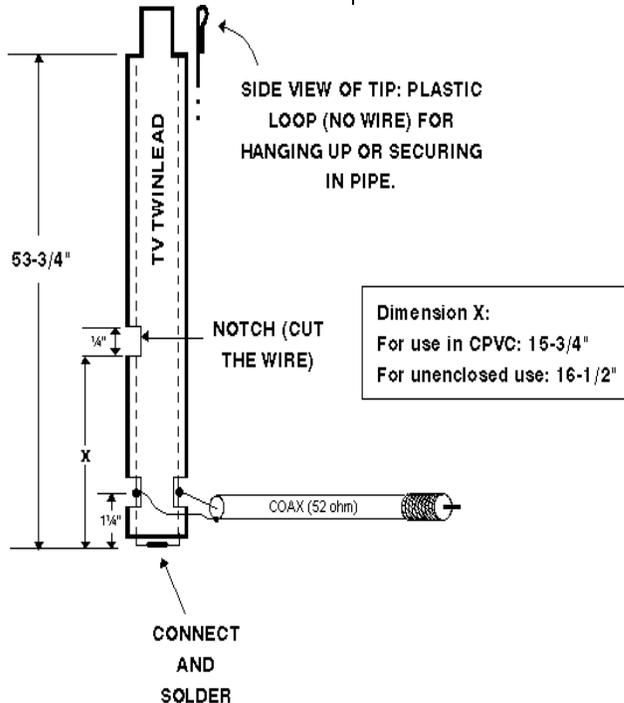
the antenna, or both. Put a connector (style of your choice) on the other end of the coax. Just about finished.

Steal a bottle of fingernail polish from your mother/sister/wife or 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 dry, lay the coax along the antenna's bottom and parallel with it; and tape it in place with electrical tape. 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, keep the coax-to-antenna connection SHORT. Make the solder joint as short as is practical. Satisfied with your work? Good, now, go try it!

Careful measurements here 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 even 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 16 1/2 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 15 3/4 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



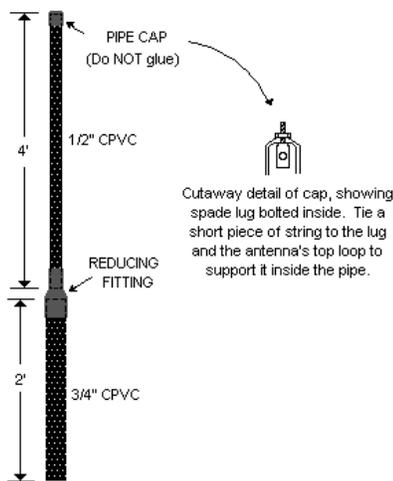
Make another mark exactly 16 1/2 inches from the antenna bottom, or 15 1/4 inches from the previous mark. Now make another mark exactly 1/4 inch closer to the top of the antenna. Now construct the notch shown in the drawing, by making two horizontal cuts with nippers, followed by a careful vertical cut with your razor knife. Remove and discard the plastic and wire in the notch. When making those horizontal cuts with the nippers be sure you cut through all strands of the wire, but don't go beyond that. The remaining plastic serves for mechanical strength.

Now measure and mark a line exactly 54 inches from the antenna bottom. Make a horizontal cut that

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 inner conductor to the UNNOTCHED side and the braid to the NOTCHED side, as shown in the diagram (yes, it 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,

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 different, and it turns out the CPVC will work best and yield the best SWR. Here is a suggested approach for the enclosure. You can see these sticking up in the air like porcupine quills on our Justice Center roof.

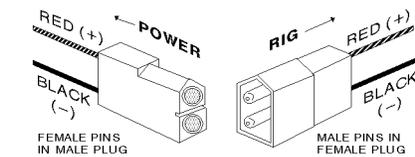


Finally, your editor has built several of these using 75-ohm TV coax in place of the usual RG-58 stuff that we hams use. No degradation in SWR or performance was noted. The message is use whatever coax you have lying around, so long as it is in good condition.

Molex 1545 Power Connector

Here is that device shown in last month's issue. Back in 1990, the ARRL's Volunteer Resources

Committee completed a study commissioned by the League to come up with a standard power connector. The aim was to find a connector whose use would promote compatibility and interchangeability for VHF/UHF equipment used in disaster and



public event sites. The connector chosen was the Molex 1545, and it is available at Radio Shack as their part number 274-222, a molded nylon connector pair.

The diagram shows the connector after assembly, but you need to use great care when preparing it. The pins (male and female) come unassembled and not mounted in the nylon blocks. First, solder the four pins (two males, two females) on the four wires (two red, two black). Be sure you end up with one red male, one red female, one black male and one black female.

Once the soldering is done, there is a critical step! The danger lies in the fact that any type pin will fit in either of the two connectors. *Moreover, once you push a pin in the wrong connector, it is almost impossible to get it back out!* Therefore, make sure you are putting the correct connector in the correct nylon shell. As shown in the diagram, the male red pin goes in the top of the female connector, and the black male goes in the bottom. Also be sure you are mounting the female nylon plug on the RIG wires, not the power supply wires. Be very sure you get it right, or you will have defeated the whole purpose of this standard connection scheme.

Thanks for the Updates

Many DEC's and EC's have sent in their data sheets with updated addresses, phone numbers, email addresses and so on. Thanks for taking the time to do so. That will allow your SEC to have accurate data for mailing of this newsletter, for other routine leadership communications, and, most important, for coordinating ARES participation in communications for wide-area emergencies, should it become necessary.

A new statewide ARES roster will be constructed from the updated data. I expect to mail a copy in March to each DEC and EC on the roster. A copy will also go to our SM and to the Division of Emergency Management in Madison. From time to time, your SEC will release data from it for bona fide requests (such as the name and phone number of an EC for a ham who wants to join ARES), but otherwise, the data is confidential and not to be released to members of the public. Please observe your colleague's privacy by keeping the data on our roster secure. Of course, this does not preclude sharing of the data on a need-to-know basis.

Next Month:

How To Organize And Run Communications For A Public Service Event

Public service events are training grounds for ARES communicators. This article will show you how to painlessly plan for these events, to make them fun and good training for your folks.