The Wisconsin ARES/RACES

Emergency Coordinator

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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 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://www.execpc.com/~skaplan

in PDF format, shortly after each issue is published.

A SIMPLE COLINEAR 2-METER ANTENNA

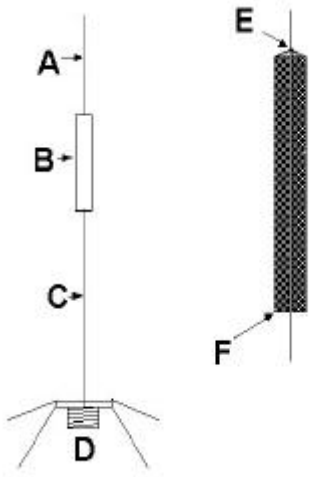
By Leon Rediske, K9GCF

[A great Winter Project for home or Emergency Management facility! Leon is President of the Ozaukee Radio Club. He presented a program on the design and construction of this antenna at the December 2000 club meeting. Thanks, Leon, for permission to publish it here for the first time.]

Here is a simple, weatherproof, 9/8 wave antenna, modified for 2 meters from a design I devised and used years ago on aircraft frequencies. The dimensions given are for 146.5 MHz, and assume the antenna will be mounted inside Schedule 40 PVC pipe. If not encapsulated in PVC, increase the dimensions of A, B and C by 3%.

A and C are #14 solid house wire, insulation left on. The top section (A) is a 3/8 wave section, 29.32 inches long. The middle section (B) is a 1/8 wave section made from RG-8 coax, 9.77 inches long. Use the kind with solid polyethylene insulation – do NOT use the foam insulation style because the velocity factor is not ideal for this design. Bottom section (C) is 48.86 inches long, 5/8 wave.

Note that A is soldered to both the center conductor AND the braid of the coax (B) at the top (shown in the detail at E). On the other hand, C is ONLY soldered to the center conductor of the coax (shown in the detail at F). D is a standard SO-239 with C soldered to the center terminal. Four ¼ wave radials, each 20.15 inches long, are soldered to the four screw holes of the SO-239 connector shell. These should be made of somewhat stiffer wire than A and C – brass welding rod, copper clad steel or even coat hanger wire will work. These should be bent down at about a 45-degree angle from the horizontal.



Parts for encapsulating the antenna:

10 foot section of 1 inch Schedule 40 PVC pipe

10 foot section of 1-1/4 inch Schedule 40 PVC pipe

1 inch pipe cap

1 inch threaded plug Menards 6887068

1 inch adapter, PVC to thread, Menards 0435-010 ADP

The SO-239 will fit nicely in the adapter. Drill 4 holes in the adapter prior to mounting the SO-239. Insert the four radials into these holes and solder them to the SO-239, using care not to melt the plas-

tic of the adapter. This will lock the fitting in place. Now you can slip the rest of the antenna (A, B and C) into the 1-inch pipe. Trim this pipe so that it is a few inches longer than the antenna that it houses. Attach the top of A by a loop in its wire to the pipe cap using a plastic tie threaded through a small eye bolt fitted to the inside of the cap. Now you can cut the 1-1/4 inch PVC to a length of your choice, and glue the adapter to one end. Thread your feedline through it, attach the PL-259 to the SO-239, then screw the fitting into the adapter and you are done. Leave the bottom of this pipe open so any moisture can drain out.

In case you wish to make this antenna for some frequency other than 146.5 MHz, here are the formulae:

Top section A, 3/8 wave: 369/f (MHz)

Mid section B, 1/8 wave: 123/f (MHz)

Bottom section C, 5/8 wave: 615/f (MHz)

Radials: 246/f (MHz)

Again, all sections except the radials are adjusted for the encapsulating plastic by a 3% reduction in length.

This antenna works very well and exhibits no precipitation static. It can be assembled in a couple of hours using parts that cost under $10 at your local hardware emporium.

Cooperation: ARES/RACES and REACT

[This piece, reprinted from the 5 Jan 2001 edition of the ARRL Letter, shows how communicators from different organizations can work together to the benefit of the public they serve. Remember, folks, we hams are not the only ones who know how to use microphones! In an emergency, REACT operators can be a valuable source of operators to plug staffing holes.]

Amateur Radio and REACT radio operators provided emergency communication service to the Schenectady, New York area after the Verizon telephone office was flooded by a water main break on December 28, 2000. Telephone service was disrupted to 60,000 customers in Schenectady, Saratoga, Fulton, and Montgomery counties in upstate eastern New York. A state of emergency was declared. ARES Schenectady County Emergency Coordinator George Chapek, N2AIG, reports that Amateur Radio operators from Schenectady ARES/RACES staffed the Schenectady Emergency Operations Center. The Schenectady County Emergency Communications Net was called up on a local repeater and remained in continuous operation for about eight hours. In addition to staffing the EOC station, Amateur Radio and REACT operators also deployed mobile stations to 14 strategic locations in Schenectady, displaying signs indicating that they had the capability to relay emergency calls for the public. Communications were carried out on amateur VHF and UHF bands plus GMRS and 11-meter CB. More than 75 hams and REACT operators volunteered time and equipment to the effort, some of them traveling from surrounding counties to help.

W9ATK – SK

Jack McLeland, W9ATK, died suddenly and unexpectedly during the first week of January. Jack was a member of Milwaukee ARES/RACES, but was very active in ARES/RACES and ARRL activities in several other counties, including Ozaukee. He was always there to help with communications, including technical expertise in setting up repeaters and especially in "getting the boxes to play" projects. Those who knew him are saddened by his death. He will be missed.

Survey Results

An ARES/RACES survey was mailed with the November 2000 newsletter to all ECs in the state. There were 27 responses. Below are selected results, along with a little data from the ARES/RACES database maintained by your SEC/Chief Radio Officer.

Does your group meet regularly? Yes: 18/27

Do you have a locally produced group handbook, manual or some other form of written policy/procedures guide? Yes: 16/27

What is the current size of your group?

SIZE	THIS SURVEY	*WI ARES/RACES
10 or under:	6	26
11-20:	7	14
21-30:	6	9
31-40:	4	4
41-50:	3	6
above 50:	1	4

*This data is from the WI ARES/RACES database, which currently has 1,230 hams in 63 units.

In the past year, has your membership:

Increased? 9
Decreased? 7
Stayed the same? 10

Are you affiliated with the local Emergency Management Department? Yes: 24/27

Does your group have access to the county's public service radio system? Yes: 12/27

If you are affiliated with EM, what services/support do they supply?

Equipment:	17	Other responses
Meeting Place:	12	included photo IDs,
Radio Room:	18	maps, repeater site,
Training:	11	insurance in emer-
Other:	6	gencies, mailing,
Nothing:	4	photocopying.

If your group has access to a centralized radio room (EM department, club station or a member's station from which you all operate), please indicate your capabilities below:

	CW	FM	RTTY	SSB	Packet
MF/HF	8	2	2	9	2
VHF		23			12
UHF		12			3

If your group does have access to a centralized radio room, does it have emergency power? Yes: 22/27

Does your group have its own repeater(s)? Yes: 22
If so, what bands? 2m: 16 440: 5 6m: 1

If so, do the repeater(s) have phone patches? Yes: 9

Does your group have portable packet equipment? Yes: 11/27

Does your group have portable repeater equipment? Yes: 6/27

Would your group be interested in multi-county SET exercises? Yes: 19 No: 4 Maybe: 1

Other equipment your group has available to it that can be useful in emergencies:

- Portable antenna, mast and tripod.
- Container with radio/speaker/power supply/ battery.
- Generator, deep cycle batteries, PCs, simplex repeater equipment.
- "Radio Communications" marked vests, magnetic signs: "Report Emergency Here".
- ARES hats, IDs, mobile command post, portable remote receive site (repeater), various VHF/UHF equipment.
- Generators (18kV trailer, 3 smaller portables), portable ATV system, 2m/440 portable station w/telescoping mast and antenna.
- Portable packet setup w/battery and solar panel.
- Commo van: 2m/440/HF/Packet/APRS/ SSTV.
- Portable HF, APRS and trackers.

Considering The Considerate Operator's Guide

-by Dennis Rybicke, Section Traffic Manager

[This little article was included in Denny's December 2000 STM Report. Thanks, Denny!]

The "Considerate Operator's Guide" published in January QST mentions use of 3.985 MHz. as a calling frequency for QRP SSB stations. While this policy has not been formally adopted, if it is common practice, it deserves our response. Here is a portion of a statement I will be submitting to ARRL HQ.

We recognize that no amateur or organization owns an amateur frequency, and we always check for a clear frequency before beginning net operation, but we strongly oppose making 3.985 exclusively a national calling frequency for QRP SSB. Doing so would seriously interfere with our section nets, part of ARRL's National Traffic System.

All of our phone section nets operate on 3.985 -- including the Badger Weather Net, which handled over 19,000 pieces of traffic in 2000, and had over 14,000 check-ins. If one listen to the upper portion of 75 meters at 1200Z, it is quickly apparent that there are already nets right next to each other all the way up and down the band. For example, there are simultaneous nets on 3.987 and 3.983 at the same time as ours on 3.985. A similar problem exists for the Wisconsin Side Band Net at 2315Z where over 6,000 check-ins passed more than 600 pieces of traffic in 2000.

The frequency 3.985 MHz has not been officially established as a calling frequency, nor does it have any special charm more than another spot on the phone portion of 80 meters. If operators would like to use the frequency as a meeting place while nets are in session, they are always welcome to check in and list the contact they are seeking. With all net members listening, it gives the weak-signal station an even better chance.

We encourage as much activity as possible on 3.985, but we are opposed to relinquishing the frequency of long-established nets for possible, infrequent use of individual amateurs. Yes, no one owns a frequency -- not even those listed in "The Considerate Operator's Frequency Guide." Let all operators be considerate. That's what will make sharing 3.985 work for us all.

Final 2000 Tornado Count

[NWS official Rusty Kapela reported via email on 9Jan that we had 18 tornadoes in the state last year. They are tabulated below. Thanks, Rusty!]

The table below lists the F-rating, county, date, time and location.

F1	Milwaukee	3/8	610-620p	MKE Airport
F0	Manitowoc	5/12	1143am	5WNW St. Nazianz
F1	Monroe	6/1	302-311p	3S Cataract
F1	Juneau	6/1	400-420p	2N New Lisbon
F1	Lafayette	6/1	602-603p	1.9NNW Calamine
F2	Dodge	6/1	606-628p	4S Horicon -
F0	Fond du Lac	6/1	615p	1.5SE Oak Center
F0	St. Croix	6/26	102p	6E Hudson
F1	Milwaukee	7/2	630-708p	5.4 SW MKE AP
F0	Burnett	7/8	700 pm	5.8SE Siren
F1	Monroe	7/9	400a	2SE Norwalk
F0	Door	7/13	355p	1.5NE Forestville
F0	Vernon	7/26	420p	2SE Chaseburg
F0	Marinette	7/27	807-810p	1.5W Harmony
F0	Marinette	7/27	830p	1.7W Peshtigo
F0	Rock	8/5	343p	3SW Evansville
F0	Oneida	8/14	810p	Lake Tomahawk
F0	Polk	8/14	835p	2ENE Luck

Wisconsin ARES/RACES Net

Don't know what to do with yourself at 8:00 a.m. on Sunday morning? (Yeah, right!) Well, if you can roust yourself that early, why not stop by the net? Tune to 3.9935 MHz and check in.

The purpose of the net is to provide information concerning current and future RACES and ARES activities in Wisconsin and elsewhere that might be of interest to operators in our state. Those who check in are encouraged to pass this information on later to local hams and in other nets. It is a directed net, but not extremely formal. Check ins are typically from all over the state. About two dozen hams are on the printed roster, but the roster changes with each printing (about every 3 months) based on who continues to check in and who does not. The NCO position for a given week is a volunteer from among the participants of the previous week.

Just to give you a preview "feel" for the net, during the 14 Jan gathering we heard about the weather around the state, a report on the ice storms in Texas, notice of a meeting in Oshkosh to debrief ham participants, responders and the public concerning their recent chemical spill emergency, and comments on the new ARRL Emergency Communications course by N9VE, Gary, the state's only known registrant. WB9RQR was NCO, though I do not like to take that spot more than a few times a year because of my non-central location. The following hams checked in on 14 Jan, though we have "regulars" in all four corners of the state:

WA2DEU	Bruce	Madison
K9FA	Dick	Oshkosh
N9FT	Fred	Oshkosh
W9IBL	Rich	Ft. Atkinson
W9IEM	Fergie	Pine River
W9IHW	Gus	Port Edwards
KB9IME	Dan	Oshkosh
N9KQV	Marcus	Beaver Dam
K9LO	Ernie	Omro
KG9NH	Sam	Madison
KN9P	Mike	Hilbert
W9RZW	Erv	Pine River
KB0UPK	Colin	Madison
N9VE	Gary	Eagle
KA9ZBI	Joe	Sauk City

We have a good source of late-breaking ham news at the local, state and national level. A number of our check ins are county ECs or District ECs, and your SEC/RO (WB9RQR) and Assistant SEC/Deputy Radio Officer (KG9NH) are regulars, as is ARRL WI Section Manager Don Michalski (W9IXG). Many others are simply interested ARES/RACES ops, and it is not at all unusual for hams in neighboring states to check in. Most times (that's good!) things are relatively quiet and the most exciting thing is a quick thumbnail sketch of Wisconsin's weather. Roust yourself out of the sack, and give it a try!

Interesting Statistics

As you know, every ARES member in our state is also a registered RACES member (and vice versa). The database with name, call, address, phone and class of license is maintained by your SEC, and shared with Wisconsin Emergency Management as necessary.

The database provides an interesting profile of registered hams in Wisconsin, available nowhere else. As mentioned in the Survey Results article in this issue, we have 1,230 hams registered. Here, for your information, is the license class distribution of the registrants, as currently reported:

Extra:	247	Tech+:	137
Advanced:	194	Tech:	432
General:	216	Novice:	4

Of course, this will change in future, as updated information is provided by ECs (the only data source).