



# The Wisconsin EC Newsletter

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The WEC Newsletter is published monthly in .pdf format to the Wisconsin ARES/RACES Web site <http://wi-aresraces.org>. 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 Wisconsin ARES and RACES. Comments, suggestions and articles (finished or in rough form) are solicited from the readers.

**Deadlines:** The newsletter is published between the 15th and the 31st of the month preceding the date shown on the issue. Thus, the February issue is published in late January. Articles and notices should reach the editor no later than January 1 to be considered for the February issue. Permission is granted to reprint articles from this newsletter provided credit is given as follows: "Reprinted from The Wisconsin Emergency Coordinator Newsletter, WD9GNK, Editor".

## **ARES Leadership Changes**

By Bill Niemuth, KB9ENO, SEC Wisconsin

**John Springer, KC9JS**, Winlink 2000 Coordinator, has decided to step down. John has brought Winlink 2000 to the forefront of WI ARES/RACES, and we are indebted to him. John will continue to be involved with Winlink 2000.

As a result of John's resignation, **Jim Darrow, KB9MMC**, Digital Communications Coordinator, assumes the Winlink 2000 responsibilities. Jim will lead all digital communications activities for our organization. He is developing a taskforce to help him.

**Ray Laverty, KB9AKM**, Iowa County, has left the leadership of WI ARES/RACES. Thanks to Ray for his contributions. We are currently searching for Ray's replacement.

**Kevin King, KB9DAC**, Shawano County, has also left the leadership of WI ARES/RACES. Thanks to Kevin for his years of service. We are currently searching for Kevin's replacement.

**Ron Eveland, WR9C**, Forest County, departs as EC. The Forest County ARES/RACES organization is dissolved, but we are working with the Forest County Emergency Management Coordinator to revitalize the group. Cross your fingers!

**Dave Voss, WB9USI**, has been appointed Racine County Emergency Coordinator. Dave is extremely well qualified to lead the group, but has a very full plate. He agreed to assume the position to keep the program alive and will immediately begin developing his replacement. Thanks Dave!

**Peter Sweeney, WD9JIB**, DEC Southwest Wisconsin, has stepped down as Sauk County EC to concentrate on his DEC responsibilities. Thanks for all your work in Sauk County, Pete!

Replacing Pete as Sauk County EC is **John Stein, N5SHF**. John has been Pete's AEC for over one year and is now ready to assume the reins. Please welcome John to WI ARES/RACES leadership when you hear him.

## **EmComm Success!**

By Bill Niemuth, KB9ENO, SEC WI

Today, I was running some numbers and discovered Wisconsin has about eight percent of the all EmComm graduates! Based upon U.S. population and state distribution, statistically we should have a bit over two percent. Our rate is four times the norm! Excellent job everyone! I know the training is paying off in our level of service!

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## **ARES/RACES Membership Registration**

By Bill Niemuth, KB9ENO, SEC WI

This is one of those articles, which needs to be written from time to time because we all become lethargic. As an EC, I was not as diligent as it as I should have been. As SEC, I now understand the value of having a central database of state registered RACES members.

If you have not updated your roster with us recently, it is time to do so. Please send your updates to me and Jeff Schmeichel, KB9BYP, ASEC for Administration.

Deletions should include:

Name  
Call sign

Additions must include:

Name  
Call sign  
License class  
Address  
Telephone number

After you send the information, Jeff will send your roster to you in .pdf format. It is an extremely efficient process and an important one!

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## **WISCONSIN 2005 STORM SPOTTER TRAINING SCHEDULES -**

### **Correction**

By Bill Niemuth, KB9ENO, SEC WI

The information contained in last month's issue was not correct. The spotter training schedule was only for southeast Wisconsin. I apologize for any inconvenience this caused.

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## **Average Monthly Check-in information**

By Bill Becks, WA8WG, DEC NEW/EC Marinette County

### **Here Is the Net Information For The Month Of February 2005**

Callsign	Name	COUNTY	FEB 7		FEB 14		FEB 21		FEB 28		CK IN	TRFK PASS
			CK IN	TRFK PASS	CK IN	TRFK PASS	CK IN	TRFK PASS	CK IN	TRFK PASS		
WA8WG	BILL	MARINETTE	✓		✓	1NCS	✓		✓			
AB9PJ	PETE	MARINETTE	✓		✓		✓	NCS	✓			
KG8CX	ED	MARINETTE	✓		✓		✓		✓			
K8IR	JIM	MARINETTE	✓		✓		✓		✓			
K0SN	TOM	MARINETTE	✓		✓		✓		✓			
KC8EDZ	SUE	MARINETTE	✓	1	✓		✓		✓			
KC8YZA	JIM	MARINETTE	✓	1NCS	✓		✓		✓			
AA9PB	JIM	MARINETTE	✓				✓		✓			
KB9TPC	MARY	MARINETTE										
KE9S	JEFF	MARINETTE	✓				✓					
KC8YZB	PAUL	MARINETTE	W	O	R	K	I	N	G			
KC8WAI	VAL	MARINETTE										
W9JTL	JASON	MARINETTE										
KA9WAR	ARDE	MARINETTE	✓		✓		✓		✓			
KB9URW	BILL	MARINETTE	✓	2	✓		✓		✓			
KG9GH	ERIC	MARINETTE	✓		✓							



Tall buildings, like the Empire State building, take direct lightning strikes most every thunderstorm. These buildings are full of people and contain radio transmitter antennas on tall masts. Commercial radio and TV transmitter towers, public safety towers and cell phone towers are required to be on the air 24 hours, 365 days a year and do not shut down when storms approach. When properly installed, they do not suffer lightning damage. Years ago when some poorly protected stations had lightning damage, they were grounded with No. 6 copper wire, which was then state-of-the-art. Power companies did significant research and found No. 6 copper wire is heavy enough to handle over 97 percent of all lightning strikes. For the most powerful three percent of strikes No. 6 copper vaporizes. It was found to be cheaper for power companies to replace and repair the damage than to install heavier ground wires on all of its equipment. If a power company substation wants nearly guaranteed protection, it uses heavy 2/0 copper wire grounding on everything and connected it to an underground grid of bonded ground wires to many ground rods.

Modern radio stations use flat copper sheet, the wider the better, run from a single-point ground panel where all coax and other wires are grounded, to the ground system. Copper sheeting can sometimes be found for a reasonable price from upscale roofing companies, which use it for roof flashing. True silver solder is the material required to make connections and bond it together. Silver solder is available at welding supply shops for about a dollar a stick. One stick will make quite a few joints. MAPP gas in a small hand held torch will supply enough heat to flow true silver solder. Do not use lead/tin solder! It turns to a white powder underground!

Once the copper sheeting is in the ground, use heavy copper wire to your closest ground rods. Ground rods should be 8 long, copper-clad 5/8" rods, which are only about \$8 new at home supply stores. Space the ground rods twice the distance apart as the depth, meaning 8-foot rods should be spaced 16 feet apart, 4-foot rods, 8 feet apart.

Consider the ground wires connecting the ground rods similar to the roots of a tree. The closest wires to the shack, like the closest roots to a tree, should be of large diameter. As the roots go away from the building, smaller and smaller gauge wire can be used. The first wire to the ground rods should be 2/0 copper, then No. 6 copper to the next rods, then No. 10 copper wire out further. Rods and radial ground wires are effective up to about 75 feet away from the tower building.

For underground use, there is no need to use new wire. Used copper wire salvaged from an old building, and stripped of all insulation will work as well as new wire and much cheaper. Ground enhancement systems can also be homemade. Old copper pipe, drilled full of holes and filled with rock salt can save significant money. Old copper automotive radiators, or anything else, which applies a lot of mass in the ground to dissipate lightning energy can be used. Installing such a system is more than a single year project for most of us. Start with a few rods, and add more as time and funds permit.

Indoors, near the point where the coax enters the building, should be your single point ground plate where all lightning arrestors and coax switches are mounted. Polyphaser and I.C.E. (Industrial Communications Engineers) have some of the best arrestors. Polyphasers are sometimes found on E-bay for far less than full retail price. Any radio equipment you intend to use during a thunderstorm should have such an arrestor inline. The cheap way to protect any equipment not used during a storm is to have a coax switch that directs all antennas to ground. I use the old B&W (Barker & Williamson) Protect series for HF use, and the Alpha-Delta strip line for VHF/UHF.

Whatever you do, do not disconnect the coax and just leave it lay! If you insist on disconnecting, which in itself is very dangerous, at least install an old SO-239 connector to a good ground connection and connect the coax to that! Leaving coax unconnected, or just as bad, inside an old glass jar, is like leaving a stick of dynamite on your floor!

There was a great series of three articles on proper lightning protection in QST magazine a few years ago. Good information on Polyphasers can be found at [http://www.polyphaser.com/ppc\\_ptd\\_home.aspx](http://www.polyphaser.com/ppc_ptd_home.aspx). The best site I have found about lightning protection in general is <http://members.cox.net/pc-usa/station/ground0.htm>.

For those of you who wish to use your radios with full safety during a severe thunderstorm, cross-band repeat is a good solution. Set up your base VHF/UHF radio to cross-band mode and use your HT to talk directly to your repeater of choice. Always also monitor your output frequency by scanning with the hand held radio to make sure all is working properly. But, save yourself and your equipment and install a proper ground system!