



# Metro Skywarn



**Editor: Dave Johnson, NØKBD**

**Spring 1997**

## Much the Same Team Leads Metro Skywarn in 1997

The Metro Skywarn Board of Directors experienced little change from 1996. All past Board members remained in their past positions with the exception of Bob Weiler NØCZX who stepped aside for Walt Marty NØRCY to reassume his Board position from 1995. Both Bob and Walt have represented Dakota County ARES/RACES in past years on the Board

The Board decided to add two new Board positions. Doug Reed, NØNAS joins as a Director at Large. Doug has assumed the big job of maintaining the database. You can send changes of address via email to n0nas@amsat.org or to the new Metro Skywarn, Inc. address: PO Box 211, Braham, MN 55006-0211. Gene Clemens, KBØMIP joins the Board as the Bloomington Communications representative.

### The Metro Skywarn Board of Directors for 1997

|                          |            |
|--------------------------|------------|
| Lynn DeLong, NØCVI       | Chair      |
| Leland Helgerson, WBØMLL | Vice Chair |
| Paul Emeott, KØLAV       | Treasurer  |
| Dave Johnson, NØKBD      | Secretary  |
| Walt Marty, NØRCY        | At Large   |
| Bill Hughes, NØQHP       | At Large   |
| Audrey Zellman, NØOKC    | At Large   |
| Doug Reed, NØNAS         | At Large   |
| Gene Clemens, KBØMIP     | At Large   |

## Metro Skywarn Update

*Get involved in discussing the Metro Skywarn Program. Host Bill Hughes, NØQHP brings interesting topics and guests every week. It starts weekly Feb. 22nd at about 8:50pm right after This Week in Amateur Radio, on Saturday Ham Talk Net on the 145.21, 145.45, and 444.0 repeaters.*

## Metro Skywarn 1997 Spotter Training Schedule

The following is a list of 1997 spotter certification classes. If you didn't retrain last year, this year you must train to stay active in Metro Skywarn. If you have never trained, you are welcome to attend. Check with the contact person for details.

### MARCH 1997

- 13 Thursday
  - EMARC--6:30 PM
  - United Methodist Church
  - 520 East Main Street, North Branch
  - Dave R. Johnson 689-4120
- 15 Saturday
  - Twin City FM Club--8:30 AM
  - Golden Valley Safety Center
  - Winnetka Ave & Hwy 55
  - (1 blk east of Winnetka on Golden Valley Road) Gale Allen 941-3920

18 Tuesday  
Robbinsdale Repeater Club--6:30 PM  
Robbinsdale Public Safety Bldg  
(41st&Hubbard)  
Talk-in On 147.000  
Greg Carlson (NØWEM) 441-0122

20 Thursday  
Twin City Repeater Club (TCRC)--7 PM  
Hayes Community Center  
Arts and Crafts Room #1  
14603 Hayes Rd Apple Valley  
Steve Filek 891-4047

22 Saturday  
St.Croix Valley Radio Club--9 AM  
St.Croix Government Ctr. Wi.  
1101 Carmichael Rd Hudson Wi.  
Bob Emberger (715) 425-7452

27 Thursday  
Sherburne County Repeater Guild  
6:30PM Sherburne Co. Gov't Ctr  
13880 Hwy. 10 Elk River,Mn  
Talk-in 146.775 Greg Carlson 441-0122

## APRIL

01 Tuesday  
Anoka County Radio Club--7 PM  
Location to be announced  
Leland Helgerson 785-1936

02 Wednesday  
Southwest Metro Amateur Radio Trans  
mitting Society (SMARTS)--7 PM  
Carver County Courthouse  
Jury Assembly Room  
600 4th Street East Chaska  
Talk-in 147.165 PL 107.2  
Tim Fogarty 474-9232

05 Saturday  
Bloomington Amateur Radio Club--8 AM  
Bloomington City Council Chambers  
2215 West Old Shakopee Road  
SGT Charlie Kolar police non-emerg  
948-3900

17 Thursday  
Ramsey County Emergency Services-  
6:30PM  
Ramsey County Emerg Operations Center  
3383 North Rice Street (Rice&694)  
Bill Hughes 772-9159

19 Saturday  
St. Paul Radio Club  
Technical College Auditorium  
235 Marshall Ave.(across from cathedral)  
Talk-in 145.31 NØJPG Don Greenheck 483-  
1214

26 Saturday  
Ramsey County Emergency Services-9 AM  
Ramsey County Emerg Operations Center  
3383 North Rice Street (Rice&694)  
Bill Hughes 772-9159

## MAY

03 Saturday  
Southeast Metro Amateur Radio Club  
(SEMARC)--9 AM  
Cottage Grove Fire Station #2  
8641 80th Street South  
Dave Harrell 459-8678

17 Saturday  
Anoka County Radio Club  
Blaine City Hall Community Room  
91st Street(Hwy 118)& Central Ave.  
(Hwy 65)  
Leland Helgerson 785-1936

## How to Reach Us

\* By phone: Call evenings Board Chair: Lynn Delong, NØCVI at 566-1299 or Secretary: Dave Johnson, NØKBD at 434-0600.

\* By snail mail: Metro Skywarn, Inc. PO Box 211, Braham, MN 55006-0211

\* By email: Lynn Delong led@saanet.com or Dave Johnson daveej@winternet.com

\* On the World Wide Web: The Metro Skywarn Homepage,  
URL= <http://www.winternet.com/~daveej>

\* The Board always needs more help. Anyone wishing to participate in Board activities is invited to attend the meetings held the first Thursday of each month. Call Dave at 434-0600 for directions.

## **NWS Chanhassen News**

# **A New NOAA Weather Radio**

*by Jim Richardson, WMØX*

A new tone encoding procedure for warning notification has been installed nationwide (including the Twin Cities). This system is called **SAME** (specific area message encoding) and became operational the first of January. Basically, warnings can now be "tone alerted" for specific counties. For example, your radio would only turn on if a warning was issued for Anoka County, and that was the only county for which you wanted an alert.

Obviously, you will need to purchase a new radio. You can then program the specific codes for counties and types of weather alerts that you require. The radios are supposed to be available in March but will likely be more expensive. However, the old weather alert radios will still function as before.

## **WEATHER RADIO SPECIFIC AREA MESSAGE ENCODER**

*By Skip Voros, WD9HAS*

The Weather Radio Specific Area Message Encoder (WRSAME), more currently called SAME is an add-on device connected to a NOAA Weather Radio station's equipment. The SAME unit creates a special code that is transmitted just before and at the end of selected messages heard on the NOAA Weather Radio (NWR) station.

The WRSAME's most important application is to improve the dissemination of watches, warnings, and severe weather updates, especially through other communication channels such as radio, TV, or cable

systems. A companion Decoder, available to the public, can then be user programmed to activate (listen to the voice message/display or print the message/operate a warning device, etc.) when the user's pre-programmed code matches the code sent out by the NWR station. Thus as an example you can program your decoder to only activate when warnings are issued for your specific area (county). And only activate when a specific message is sent (I.E. thunderstorm warning). If you live near a lake and do not want to be awakened at 4AM with a special marine warning, program your decoder to ignore the marine warning, etc. Industrial decoders cost about \$595.00 and are highly multifunctional, while Radio Shack is now planning to produce a limited performance consumer grade unit for under \$100 sometime in 1997.

WRSAME units are operational on around 80 NOAA Weather Radio Station (NWR) locations as of the spring of 1996 with completion on all sites expected by the end of this year. One hundred and forty new systems have been shipped to various weather offices around the country, and another 140 systems are being assembled and are scheduled to be delivered by the end of July 1996. According to I.N.H Technologies in Fort Worth, Texas, a WRSAME manufacturer, there are about 900 units in use.

The program is planned to coincide with the federal Emergency Alert System (EAS) scheduled for 1997 activation. If the local NWS office in your area is sending WRSAME data on its weather radio station, you will hear buzzes, chirps, & clicking sounds just before the warning tone is sent out and at the conclusion of the voice message.

The current nationwide minimum standard weather radio alerting system has two major weaknesses. First, the warning alarm tone used on all weather radio stations is a single 1050 Hertz tone transmitted for 10 seconds. A typical weather radio transmitter is designed to cover a circular area of approximately 40 miles radius from the transmitter. This is roughly an area of 5,000 square miles and usually covers 8 to 12 average sized counties. A majority of

the serious weather events (tornadoes, flash floods, severe thunderstorms, etc.) occur or threaten the population of an area much smaller than the total coverage of the NWR station.

For example, when the NWS issues a tornado warning for a county on the extreme western edge of the coverage area, all radio receivers are activated, even those not threatened at this time. If a storm moves through the station's coverage area, the NWS will continue to issue new warnings and activate the alarm tone for each county the storm passes through. It is possible for many people to receive what might be considered as several "false alarms." The second problem with the present warning alarm system is the lack of a signal indicating to the user or a receiver that the broadcast of the initial watch or warning message is complete.

Without this feature, receivers utilized for automated second tier distribution remain active unless they are equipped with a time-out function. However a time-out function is normally impractical because of the varying length of each message. The current encoder system provides the NWS with the capability to transmit a code that can identify up to 80 separate weather related, civil emergency, test or administrative messages by specific event. It can indicate one or up to any combination of 31 counties or other defined geographical areas affected by the event or message. At the conclusion of the initial broadcasted message, a End-of-Message (EOM) code is also transmitted.

The EOM code will then cause your WRSAME decoder to deactivate and return user owned equipment to its normal mode of operation or perform some other task. (Typically the decoder will again become silent, and any warning alarm device that was activated by the decoder will then be shut off.) Most industrial grade WRSAME decoders have similar features that might include: high sensitivity 7 channel NOAA weather radio receiver, battery backup, self testing, flashing LED's for alarm activation, LCD display for viewing messages, time stamp, built in

speaker, remote alarm output for connecting external warning or alarm devices, program data retention for power failures, and a RS-232 output for connecting to a printer or computer, and the microprocessor to make the decoder programmable to a specific event and location.

Some of the more useful tasks of the decoder may include: activating a cable-TV all-channel voice override for an event in the resident county and route the audio from the weather radio to all channels, but reject the task when the same event applies to another county (not served by the cable TV system). It could also switch from the program line of a radio or TV station's audio material directly to the WRSAME decoder, and then with the EOM signal, automatically switch back to the normal sources of the stations' audio. The remote alarm output could be connected to a light for the hearing impaired, or connected to a small communities civil defense siren. Applications and potential of the WRSAME system are only limited by one's imagination.

The WRSAME data format is a nonstandard Baud rate (520), with a nonstandard logic zero and one logic condition. The Baud rate was chosen as a optimum speed to pass data through multiple voice grade communications systems (telephone lines, UHF, microwaves, etc.) and is not available on modems. Thus increasing security from hackers.

#### REFERENCES:

N.W.S Publications  
I.N.H., Nemar Mfr.  
Jeff Last, WCM, National Weather Service GRB  
Rusty Kapela, WCM and Ken Rizzo, MIC  
National Weather Service MKX.

FROM SEPTEMBER 1995 MILWAUKEE AREA  
SKYWARN ASSOCIATION NEWSLETTER.  
Copyright 1995-1996 by Skip Voros (WD9HAS),  
Email: svoros@execpc.com  
HOMEPAGE: <http://www.execpc.com/~svoros>

# METRO SKYWARN ACQUIRES OLD COLLINS DOPPLER

by *Jim Richardson, WMØX*

Metro Skywarn members dismantled the small Collins/Kavouras doppler radar that had been in use at the airport by the NWS until 1994. This radar was actually a modified aircraft unit and enhanced by Kavouras Company with software and local map backgrounds. The doppler portion of this radar would give the operator a possible indication of "turbulence" which may suggest circulation or down-burst activity. Otherwise, the radar gave a great display of reflectivity within 50 miles of the Twin Cities without ground clutter.

There is a possibility that this radar will be installed at the U of M campus with the signal transmitted by ATV. Internet access is a remote possibility. Some repairs and modifications are likely before the radar is operational again. Many things need to come together.

Stay tuned!

## Weather Training Committee Gets Organized

John Kelley, NØTGY has assumed the busy Weather Training Committee Chair. He is responsible for setting up the training schedule, coordinating with Club sponsors, and developing the Spotter Net Operations training curriculum that will be standardized for all trainers this year.

John has put together a great schedule this year. Spanning the months of March, April and May, training is scheduled for thirteen classes all over the greater Metro Area. There will be new video and slides this year as well as a redesigned weather curricula.

Trainers attend certification classes this year in mid February cosponsored by the National Weather Service and the Minnesota Department of Emergency Management. Trainers are recertified every 3 years with 8 hours of training. Trainers commit to three years of service.

Many of our most talented trainers return this year. There is addition of two Kavouris Meteorologists joining the training staff. There are several other new faces and a few long time Metro Skywarn volunteers have chosen a new way to help out.

### Metro Skywarn Trainers 1997

|                 |        |
|-----------------|--------|
| Donn Baker      | WA2VOI |
| Lynn DeLong     | NØCVI  |
| Fred Fey        | K9LQQ  |
| Bill Hughes     | NØQHP  |
| Dave Johnson    | NØKBD  |
| Rick Johnson    | KBØJXR |
| John Kelley     | NØTGY  |
| Walt Marty      | NØRCY  |
| Larry Narikawa  | NØOQA  |
| Dale Reak       | KBØVCV |
| Bob Weiler      | NØCZX  |
| Chris Orr       |        |
| Russ Banta      | KBØWRO |
| Mark Bloedow    | NØTNA  |
| Kelly Shaddrick |        |

## What's Up with All the Pager Stuff?

As you may have noticed Metro Skywarn has arraigned with local paging service carriers to offer individual paging service to our Spotters. We have done this with an ulterior motive of course. Here is the catch, along with this service you also get the extra added attraction of being placed on what the page people call a "group call number", which is a secret phone number that allows the people who know it to send pages to a large number of people with one phone call.

The "group call" phone numbers will be made available to the Metro Skywarn Emergency Operations Centers personnel and our National Weather Service operators for alerting you.

Two pager companies have agreed to participate. Both offer special prices for Metro Skywarn volunteers. You also gain the use of your own personal pager. There are advantages and disadvantages to each. Pagenet offers a Digital pager at \$5.25 and a Alphanumeric at \$8.75 per month rental operating on the 800mhz band. They are a nationwide company and can offer paging anywhere. They are adding transmitters sites monthly to solve coverage problems inside buildings. Truly a state of the art company. Contact Jay Morreale at 912-5050.

MinnComm offers a digital pager at \$9.95 and an Alpha numeric at \$19.95 per month. They also will sell you a pager and rent you air time for a price comparable to Pagenets rental price. They are a lo-

cal service, but offer 154 mhz propagation advantages and a Alphanumeric reprint of Weather Radio information so you don't have to have a Weather Radio. Call Chris Kolb at 740-6218.

If you have comments or questions about this program please contact me via: Email [n0qhp@amsat.org](mailto:n0qhp@amsat.org) Packet [NØQHP@WBØGDB](mailto:NØQHP@WBØGDB) or call me at (612) 772-9159

| <b>Metro Skywarn Pager Codes</b> |  |
|----------------------------------|--|
| 162550                           | KEC 65 Weather Radio Warning signal  |
| 999                              | MetroSkywarn nets are formally mctivated.  |
| 333                              | MetroSkywarn nets are activated for training                                     |
| 111                              | MetroSkywarn nets are in stand by (limited operation) or "informally" activated. |
| 000                              | MetroSkywarn nets are shut down.   |

***Metro Skywarn, Inc.***  
***PO Box 211***  
***Braham, MN 55006-0211***

***Address Correction Requested***  
***Please Forward***