The Feedline

May 1999 Vol. 20, No. 5

Calendar of Club Events

Meetings

Club meetings are usually at the Red Cross building, 4860 Sheboygan Avenue, Madison. Regular meetings start with business matters at 7:30 PM, followed by the program unless otherwise noted. Programs are subject to change. Updates are posted on the FLARC2 packet station at 147.555 (1200/9600 Baud) and 446.100 (1200/9600 Baud).

Meeting dates and programs

5/4	County Hunting – Gari Berliot NG9V
5/18	Salvation Army Team Emergency Radio Network – Pat McPherson WW9E
6/8	Field Day preparations
6/22	Field Day preparations
7/6	No meeting
7/20	HDTV by Ken Dixon W9XM
8/3	No meeting
8/17	Fox Hunt with Don Michalski W9IXG, Jim Lattis KB9REO, and Tony Lattis as foxes.
9/99	Not sure of which meeting – Traffic Handling by Denny Rybicke K9LGU
10/5	Suggestions?
10/19	Antenna Modeling by Scott Ellington K9MA
11/2	Steve Dahlgren WB0YJH of the Madison Fire Department

Buck night winners

The winner on April 6 was Frank Holliday WB9NOV. The winner on April 20 was Chuck Forster WA9ACI. Not present were Dick Lindgren WB9BFV, Bill Hanold N9CHN, Larry Seidl KG9OX, and Keith Hester KS9C.

Prez Sez

Hello, Everyone!

Field Day is just around the corner: June 26 and 27, the last weekend of the month. Once again, we will be setting up at Blackhawk Ski Hill west of Middleton for all types and modes of operation. There will be plenty of time for socializing, too. Other than the impromptu eyeball QSOs, don't forget the steak feed on Saturday evening, breakfast on Sunday, and the "Beer Thing" on Sunday morning.

Although the event is better than a month away, we must begin to plan now to ensure that our operation runs as smoothly as possible. To assist with coordinating our Field Day activities, we need Band Chairpersons and a Clean-Up Committee Chair. Please contact Ted or John if you're interested.

One exciting aspect of Field Day is that we can run many types/modes of operation. We'll have several HF stations on the air. I'm hoping we'll have at least one VHF station operating, too. As usual, there will be several phone and CW operating locations, plus RTTY and hopefully packet. Field Day will afford our Novices and Techs a chance to operate while under the supervision of numerous "Elmers." What a great way to learn!

While making your band plans, remember that safety is paramount. Please read the ARRL Field Day article in this issue—it has important safety tips for even the most seasoned operators.

73 de *Dave*

FLARC nets

Sunday morning on 28.350 MHz at 9:30 AM. Warm up on 3.985 between 9-9:30 AM.

Saturday morning "Zilch" locations

The eastside Zilch (ham breakfast) is at 8:00 AM at the Green Lantern in McFarland and 8:30 AM at the Avenue Bar on East Washington Avenue in Madison. The westside Zilch is at 10:30 AM at Fitzgerald's on the Beltline in Middleton. Come join us!

Madison area info net

Thursday evenings on 147.15 at 8 PM. Backup frequency is 146.76. Traffic/check-ins are welcome.

Madison web page

Visit this address: http://members.aol.com/staskc2ak and link to the new site. Keep checking the links page for new goodies!

Upgrades

Tom Garrison KB9TPQ upgraded to tech plus.

These club members are celebrating birthdays:

W9IXG	Don Michalski	5/2
W0ROT	Peter Fribley	5/3
AA9OC	Tony Rick	5/5
KA9SSI	Jim Hill	5/5
KA9REQ	Annette Fitzpatrick	5/7
N9UDF	Larry Waefler	5/10
W9NJH	Ray Bade	5/12
N9HSL	Leo Gleissner	5/15
K9VAL	Pete Byfield	5/16
N9BAF	Richard Burton	5/17
WA9DGQ	Norbert Schmitz	5/18
N9DRA	Gary Muskat	5/21
K9KVA	Joe Turner	5/22
KG9NG	Sam Rowe	6/4

Dane County Prepares for Y2K

By Jeremy Charles, N9VHT

On Friday April 9, Dane County Emergency Management organized a Y2K communications exercise. Many agencies across Dane County participated in the drill, including amateur radio operators affiliated with RACES and Dane County ARES. The exercise was conducted to simulate the response to a potential loss of commercial utilities, including primary communications systems, due to complications with computer systems on January 1, 2000.

The Dane County Emergency Operations Center was activated with a full staffing from the Emergency Management office. The facility switched to its emergency generator early in the morning. The system performed flawlessly throughout the exercise.

The radio communications operation of the EOC was headed by Deputy Director Jim Engeseth, WA9CTW. He was accompanied by RACES/ARES operators Bob Aspinwall, WB9RND, and Joe Senulis, N9TWA. The three of them operated 2m and 70cm voice from the EOC radio room and the county's low-band and VHF Emergency Management and EMS channels. All of these systems performed flawlessly, with the exception of slightly low audio on one of the county communications consoles.

The Emergency Management Office's communications van made a round trip between the EOC and the backup 911 center in Fitchburg. Two EM staff members as well as Jeremy Charles, N9VHT, conducted the trip. They were in constant contact with the EOC via the County's VHF radio as well as 2m and 70cm amateur radio frequencies.

The Badger Chapter of the American Red Cross participated in the exercise as well. The radio room was staffed by RACES/ARES operators Bruce Micales, WA2DEU, Colin Wheatley, KB0UPK, and Bill Fletcher, AF9B. The Red Cross was active on 2m and 70cm voice as well as the County Emergency Management low-band frequency of 42.350 MHz.

Mack Brophy, N9NTB, and Peg Haese, KB9LIE, were on the air from the Wisconsin Emergency Management EOC. They were also heard up and down the 2m and 70cm ham bands as well as the County Emergency Management low-band channel.

Amateur radio performed especially well during this exercise. The Red Cross and both EOCs were able to communicate with each other and the communications van on 2m and 70cm simplex at all times. This means that these agencies will continue to function even if the area's repeater systems fail.

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In the Dane County EOC, representatives from Alliant Energy and Madison Gas and Electric were present to test their communications abilities. They had plenty of very helpful observations that will be incorporated into future operations. This may include the addition of base radios capable of operating on both companies' commercial channels because their portable radios did not work from within the EOC.

Alliant and MG&E also conducted Y2K tests of their own. This included completely cutting off the normal communications lines between their operation centers and a selection of their substations. Backup communications methods with the substations were used, including satellite telephones, to regain full control of the power and gas distribution systems. Both utilities reported successes with their tests.

During the postexercise review, only minor problems were reported. As a whole, the drill went very well. The suggestions that came from this activity will be incorporated into the facility's operations plan. A follow-up exercise may be scheduled for later in the year to see how the improvements work.

The largest setback came after the drill had officially concluded when the EOC switched from backup power back to commercial electricity. The transfer produced a power glitch that rebooted the computer used to produce the activity log. This machine will be on its own battery-powered UPS in the future.

Field Day Above 30 MHz

By Steve Ford WB8IMY, QST *Assistant Managing Editor*

When most hams think of Field Day, they automatically envision a stampede of activity on the HF bands. Although this may be true, a potential gold mine of contact points exists on the bands above 30 MHz. Unlike the HF bands, VHF and UHF are generally not at the mercy of fickle propagation conditions. And stations on these bands do not operate under the time-on-band restrictions that govern HF operators. A VHF Field Day operator, for example, can switch from one band to another without having to be concerned about spending sufficient time on each band to satisfy the rules.

Let's take a brief look at the various modes and bands:

CW/SSB

You'll find the greatest amount of CW and SSB activity on the 6- and 2-meter bands. On 6 meters, CW/SSB stations tend to gather around 50.125 MHz and above. The popular hang-out on 2 meters is centered around 144.200 MHz.

If propagation is especially good, 6 meters can burst wide open and yield contacts spanning several thousand miles. During Field Day weekend, you can usually count on average conditions with a range of up to 200 miles on 2 meters and 400–500 miles on 6 meters. However, be on the look-out for propagation "enhancements" such as sporadic E. During a good sporadic-E opening, you'll work stations 1500 miles away, if not farther. *Continued on p. 4.*

Got E-Mail? Then Get the E-Letter!

If you've got e-mail, you can now get the Feedline delivered right to your e-mailbox. You'll get it "hot off the press" several days before the hardcopy is distributed. Plus you'll get it in color! Also, FLARC saves nearly $6/year for every member who takes the e-letter.

To sign up, just send a note to Carol NS9L at: cehoke@offex.com She'll add your name to the subscription list for the very next issue.

Read what FLARC members are saying about the "e-letter":

- "The Feedline looks great in this format (PDF). Really neat in color, too! I like the idea of it arriving via e-mail instead of 'snail-mail.' Another GOOD idea saves FLARC money! Keep it up." **Chuck Hansen, AA9HS**
- "Beautiful! Downloaded with no problems." **Paul Goemans, WA9PWP**

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You'll also find some CW and SSB activity on the higher bands such as 222 and 420 MHz. If you're strapped for equipment, however, concentrate your resources on 6 and 2 meters.

For CW/SSB operating, beam antennas are your best bet — the more elements, the better. Make sure your antennas are horizontally polarized (the antenna elements must be parallel to the ground). Horizontal polarization is the CW/SSB custom. The penalty for using the wrong polarization is a tremendous loss of received signal strength.

FM

For Field Day operating, FM is probably the easiest VHF mode to implement. You'll have little trouble finding FM rigs to use; even an H-T can make a fine Field Day rig!

FM doesn't have the range of CW or SSB, but it is the most popular communications mode on the VHF and UHF bands. You'll find the greatest amount of FM simplex activity on the 2-meter band, although 6-meter FM may be worth a try as well. Remember that Field Day rules prohibit the use of repeaters. This means you'll have to hunt for contacts on the recognized simplex frequencies (such as 146.52 MHz).

Unlike CW and SSB, most FM operators use vertically-polarized antennas. To maximize your signal coverage, you'll want to use vertical polarization, too. A small beam antenna mounted in the vertical-polarity position (elements perpendicular to the ground) is one suggestion. An alternative is a simple omnidirectional antenna such as a groundplane. Because most of your contacts will be local, an omnidirectional antenna may be nearly as effective as a beam.

Packet

Depending on the packet activity in your area, this is one mode where you can really rack up the points! If you already have an FM station, all you need to add is a packet terminal node controller (TNC) and a computer running terminal software. I'll bet you know someone who has a TNC they'd allow you to borrow for the weekend. You'll probably be able to borrow or rent a computer as well.

You'll find most packet activity concentrated on the 2-meter band between 144.91 and 145.09 MHz.

Many Field Day packet stations switch on their beacon function to automatically send "CQ." Use this function with care! Limit your beacon rate to 1 transmission every five minutes. More frequent beacons cause congestion on the frequency.

Satellites

Among the most active satellites during Field Day — and among the easiest to use — are the Radio Sputnik birds: RS-12, RS-15 and, if it is available, AO-10. To make contacts through RS-15, you'll need a 2-meter CW/SSB transceiver with 20–30 W output and a 10-meter receiver. You can use a small beam antenna for the 2-meter uplink and a wire dipole for the 10-meter downlink. For RS-12, an HF rig with 10- and 15-meter capability and a crossband "split VFO" is all you need (wire dipoles are fine for RS-12).

All of these satellites will make several good passes near your location during Field Day weekend. Each pass lasts about 15 minutes. You can determine the best times in advance by using satellite-tracking software. Just write down the schedule times and you're all set!

Radio Sputnik frequencies:

	Uplink Passband	**Downlink Passband**
RS-12	21.210–21.250	29.410–29.450
RS-15	145.858–145.898	29.354–29.394

Do you have a dual-band VHF/UHF FM rig that can receive below 437 MHz? If the answer is "yes," try OSCAR 27, the FM repeater satellite. The input is 145.850 MHz, and the output is 436.800 MHz. (At the beginning of the pass, listen on 436.810, switching to 436.800 by midpass.) You can expect lots of action on this bird, so interference will be heavy. Also, remember that OSCAR 27 is active during daylight passes only.

If you can transmit SSB on 2 meters and receive on 70 cm, try OSCARs 20 and 29. Neither satellite is

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W9JZ
FOUR LAKES
AMATEUR RADIO CLUB

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particularly active, even on Field Day, but they have excellent range and solid signals.

Fuji-OSCAR 20 and Fuji-OSCAR 29: 145.900–146.000 and 435.800–435.900

Some Final Considerations

When it comes to VHF/UHF operating, antenna height is everything (the only exception is satellite operating). To make the most of your VHF/UHF capability, you'll need to mount your antennas on portable supports or select a hill or mountain for your Field Day site. Feedline loss is substantial at VHF and UHF frequencies, so use the best coaxial cable you can find. I'd recommend Belden 8214, 9913, or RG-213.

If you exploit the VHF/UHF bands to their full potential, you'll be surprised at how many points you'll add to your score. And if the HF bands are dead, VHF and UHF may save the day!

Field Day Tips

Here are some helpful hints to help you plan for your Field Day operation. Although every Field Day setup is different, and everyone has a different way of doing things, these tips should at least point you in the right direction.

Safety Tips

Safety First! Follow the ARRL safety code as you set up. Appoint one person "safety officer" and charge her/him with ensuring no accidents happen.

More people are killed by contact with regular 120-V line service than by any other voltage. The voltages in many power supplies can be lethal! Don't take any chances! Ground anything and everything. Never use "three-prong" adapters to connect your equipment to your power source.

Try to have someone always on hand who is qualified in first aid and CPR. This is a good idea for a club project to train all your members in these valuable skills before they are needed. Contact your local Red Cross chapter for more information.

Always kill all power circuits completely before opening up a piece of equipment and trying to troubleshoot it. Never allow anyone else to switch the power on and off for you while you're working on something. Never try to fix something while you're tired or sleepy. If you're working on older tube-type gear or an amplifier, always unplug the unit from the AC mains and wait at least 5 minutes before you begin. When troubleshooting this kind of equipment, always keep one hand in your pocket as a precaution against accidental shock. Never wear watches or jewelry when you're working on gear.

DO NOT climb any tower without the proper equipment (e.g., a hard hat and a climbing belt). NEVER climb an unguyed tower. NEVER work on a tower alone; always have someone on the ground to watch you. Always make certain that all the mechanical connections are tight and secure before erecting a tower or an antenna. What may be easy to fix on the ground could be dangerous in the air. When erecting a tower, take your time and be safe! It's far too easy for someone to get caught on something or have fingers or toes in the wrong place at the wrong time. Make certain any "spectators" are a safe distance away should anything untoward happen.

Alcohol and towers do not mix! If you drink, don't climb! If you climb, don't drink!

Always make sure your guys are securely anchored and that the guys themselves are sufficiently taut. Tieing flags to guy wires in strategic spots will help prevent people from walking into them (especially visitors!). Make certain that the tower bases are secure and unlikely to shift in high winds.

Watch out for overhead power lines! Make certain they are at least twice the height of any antenna's height in distance away (e.g., an antenna 50' high should be at least 100' from any overhead line).

Make certain that your group has enough fire extinguishers and that everyone knows where they are. Always keep a multipurpose fire extinguisher by the generator. Never fuel a running generator. Never smoke around a generator. Keep the fuel in a separate place. Charge one or two people with the responsibility of monitoring the generators.

As a rule, generators should always be kept outdoors in an area with good air circulation. This will prevent the possibil-

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ity of exhaust and gas fumes building up.

Check all your extension cords prior to setup for signs of wear or fraying. Discard any that show even the slightest wear. Guard all outlets from any water. Make sure the wire sizes are adequate to handle the load.

Watch out for lightning! Storms can arise and move quickly. At the first sign of a storm, disconnect all antennas from the rigs, shut down the generators, and head for shelter. You don't have to take a direct hit in order to sustain damage or electrical shock. Thunderstorms are usually accompanied by high winds and rain that can easily take down a tower or tree branches.

Setup

Check out your operating site ahead of time. Avoid confusion on Field Day by preparing a work plan. You'll want to determine where antenna, power sources, and operating positions should be placed. Coordinate in advance the order for each task. Make sure that all essential items will be on hand when they are needed. Don't forget the essential creature comforts, such as toilet paper, flash lights, bug spray, first aid kit, and so on.

Always try to have someone designated as "tour guide," that is to say, someone to guide around any visitors who happen by and show an interest in ham radio. This is also a good way to drum up interest in a license class. Besides, not only is this a chance to show off your hobby in a favorable light, but it is also worth some bonus points! Set up a table with some handouts about ham radio, your club, Field Day, whatever. Type up a sheet that describes your club, the operation, and include a person to contact for more information. When giving a tour, make sure not to lapse into "ham speak": try to explain what people are looking at in as easy-to-understand language as you can.

If the news media come by, make certain that something is going on. TV, radio, and print journalists will be much more impressed to see antennas going up and people making contacts than they will by a group of guys sitting around drinking beer.

Many clubs "turn out the operators" by combining Field Day with family activities, such as a picnic. Others send a mailing to all their area hams with a map to the FD site along with some information. Be creative! There are likely a number of hams in your community who'd love to help.

Give everyone something to do. Newer hams can do 2-meter talk-ins, or help setup a Novice/Technician station, or help assemble antennas. This is also a great chance to give some of your newer hams some practical experience.

Talk to your operators and find out who can operate what modes, who will set up, who will help tear down, who will spend the night, and so on. Make a schedule so everyone knows who is operating what and when. Some groups appoint "band captains" or "station managers" who are responsible for that area. This will help you avoid having one or more of your operating positions shut down for lack of operators, especially during the nighttime and Sunday-morning hours.

Keep a handy list of ARRL section abbreviations at every operating position. This will eliminate possible confusion later on. If everyone uses the same abbreviations, you'll save yourself some headaches when it comes time to check the logs. Make sure everyone keeps up the dupe sheets. More than one club has lost contacts by not keeping the dupe sheet up-to-date with the log at all times. If you have operators who have never used one, show them beforehand how it's done.

Operating

Keep an ever-constant eye on 10 meters. If 10 opens up, you should have lots of Novice/Technician stations to work. If the band is quiet, don't assume that it's dead—give a call or two. Everyone else could be listening, too!

Try to listen around on the bands the week before. This could give you a good idea of what to expect in the way of propagation during Field Day. Check your logs from previous years and see if you can spot any trends (e.g., hours when certain bands were open or had a high level of activity). Certain bands in certain areas can be extremely important in working up a good score. For example, 40 meters on the East coast is a bread-and-butter band for Field Day. Decide which bands are going to be the most important to your score, and try to maximize your effort on them by using the best antennas possible combined with your best gear and best operators.

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ARRL/VEC EXAMS

Exams are held in Madison on the second Saturday of the month. Location is the Madison Metropolitan Sewerage District Operations building at 1610 Moorland Rd. (the white building with the big tower). Exit the South Beltline Highway at South Towne Dr. Go south 3/4 mile and enter the gate to the right. Bring two forms of identification, one with a photo.

Exams start at 8:00 AM. sharp!

Walk-ins welcome until 9:00 AM.

FLARC Nametags – $7.50

New ham? New member? New call? Contact Marylynn K9SAM to order your personal FLARC nametag!

(608) 241-3391 Daytime

WANTED

Computer with hard drives for contest logging. Contact Peg KB9LIE (608) 325-6452.

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FLARC Supplies

RG-213 is 42 cents a foot; teflon PL-259 connectors are $1.25. Contact Peg KB9LIE days (608) 266-2233.

CWRA SWAPNET

146.88 Baraboo Repeater

10:00 A.M. Sunday mornings (unless there is a hamfest in the area)

Queries and announcements are also welcome.

Ham- and computer-related items only, please!

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The Feedline is the monthly publication of the Four Lakes Amateur Radio Club (FLARC) and is published to inform members of club meetings and other events as well as local and worldwide news affecting amateur radio. Articles in the *Feedline* may be reprinted without permission, but please give the author and the source credit.

Deadline The 20th of every month

Where to send it If you have an article you would like to publish in the *Feedline,* send it to:

Peg Haese KB9LIE
2637 Ninth Avenue
Monroe WI 53566
(608) 325-6452

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Computers

Computer logging has become the current rage and will likely continue to be. Computer logging, when it works, can make operating much more enjoyable and shrink your after-contest paperwork to virtually nothing. When it doesn't work, you can have a lynch mob out for blood. Here're some handy suggestions for making everything run more smoothly.

Check your software ahead of time. Make certain that it works on all the computers you'll be using. If you're using a software package that allows linking stations (i.e., more than one computer tied together), make sure that they can communicate with each other before Field Day starts. Have a handy sheet available with the most commonly used commands. Some clubs even hold a meeting where everyone can sit down and familiarize themselves with the computer.

Whatever software you use should have an "autosave" feature. This allows the computer to save every QSO to disk as it happens, so that nothing is lost should the power fail. Others allow you to keep a printer on-line to provide you with a running paper tally of your contacts.

Computer logging also allows you to send your log in on disk. All you need to send in is your paper summary sheet, your proof of bonus points, and a disk with your dupe sheets on it. The disk must be MS-DOS formatted, with the information in ASCII format. This can save you hours of work as well as postal expenses.

FLARC Membership

Please start/renew my FLARC membership. Enclosed is my check/money order payable to the Four Lakes Amateur Radio Club.

Check one: New Member ☐ Renewal ☐

Check one: Regular $20 ☐ Student (under 18) $10 ☐ Senior (65+) $17 ☐

Additional Family Members $14 each (one newsletter per family) ☐

Name _____

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Street Address _____

City _____ State _____ Zip _____+_____

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Telephone _____

ARRL member? ☐ Yes ☐ No

E-mail address (optional) _____

Return this form and your check to **Marylynn Franzen K9SAM, FLARC Treasurer, 2652 East Washington Avenue, Madison WI 53704.**

Four Lakes Amateur Radio Club
c/o Peg Haese KB9LIE, Editor
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