

Annual Picnic, Saturday 28 August

August 2004

# ANOMALOUS PROPAGATION

Newsletter: **The Midwest VHF / UHF Society**

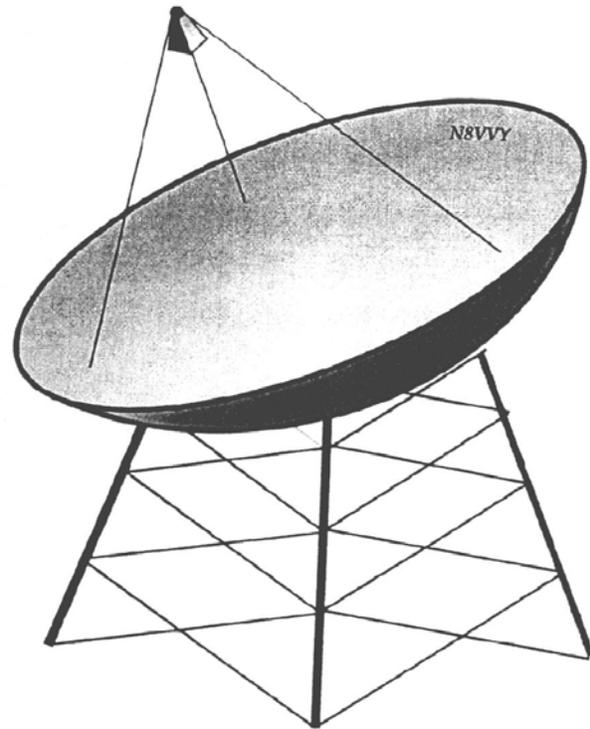
**Editors:**

Gerd Schrick, WB8IFM  
4741 Harlou Drive  
Dayton, OH 454 32  
(937) 253-3993  
WB8IFM@AMSAT.ORG

Steve Coy, K8UD  
3350 Maplewood Dr.  
Beavercreek, OH 45434  
(937) 426-6085  
K8UD@ARRL.NET

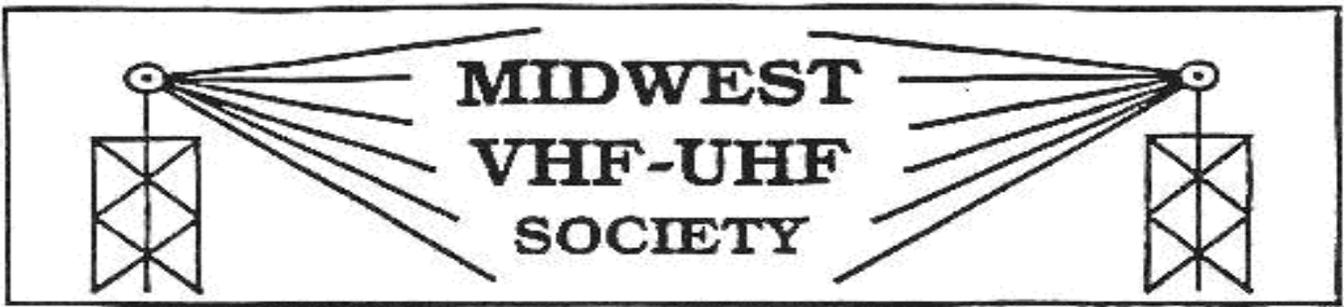
Material from this publication may be copied  
with due credit to the source

**Gerd Schrick**  
4741 Harlou Dr.  
Dayton, OH 454 32-1618



Annual Society membership is \$ 10.00. Please make  
checks payable to Gerd Schrick

**First Class**



Vol. 18 No. 6

www.mvus.org

August 2004

**Club Memorial Call W8KSE**

Sunday Morning net on 28.960 MHz starting around 10:30 EDT. 144.280 MHz is also monitored, so look for WG9F or KA8ABR on either or both frequencies

10 GHZ Beacon: 10368.750 KA8EDE EM89ap Xenia, OH, 50 mW, 16 slot wave guide at 89feet

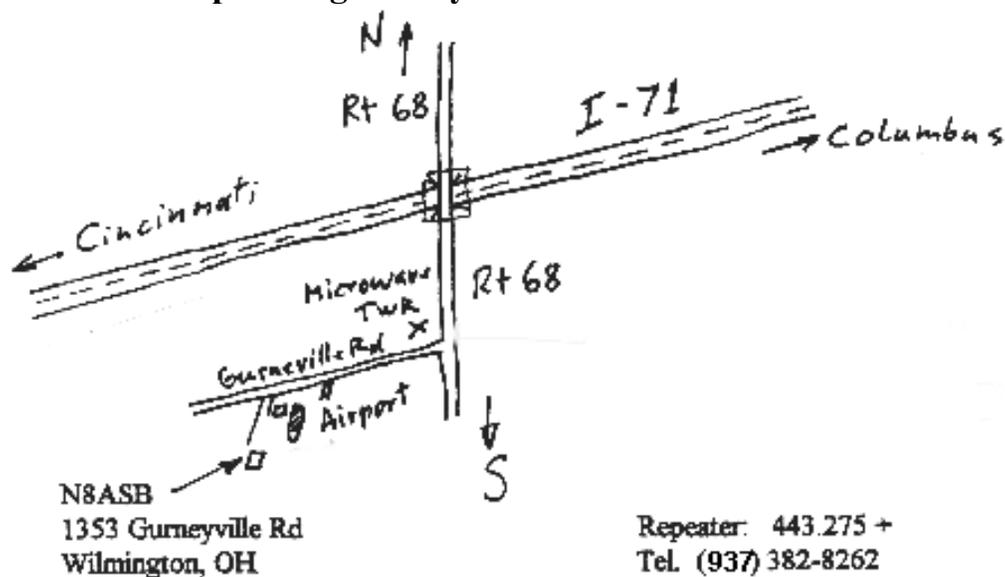
**Annual Picnic & measurement session, antennas etc.**

On **Saturday 28 August** at Daun's Place (N8ASB). Measurements start at 1pm, Picnic at 3:30 see also **De N8ZM** on the next page.

Contents

De N8ZM.....	3
This and That.....	4
Field Day Report.....	5
New Pictures from Saturn.....	6
First Visit to Central States .....	7
Rover Report.....	8
Noise from solar Flares.....	8
Hamradio Friedrichshafen Pictures.....	9

**Upcoming Family Picnic ETC Directions**



**Coming up: Microwave Update: 14/16 Oct. hosted by NTMS in the Dallas/Ft. Worth Area**  
[www.ntms.org](http://www.ntms.org)

## De N8ZM.

Gerd called me earlier this evening, as he does almost every month, to remind me that it is once again time for Anom Prop to be published. For some reason he believes that this column is a positive attribute of the newsletter, compared to the tech articles and other items that appear. At least I will flatter myself to believe that he thinks that, knowing full well that you didn't pay your dues for the purpose of enduring my 2 cents every month.

The main topic of our conversation was that the annual picnic is coming up very soon, on August 28<sup>th</sup>, at the home of Daun and Karen Yeagley. As we have done every year, there will be a tech session accompanied by much consumption of food and drink. The tech part will start around noon for setting up the equipment, with actual measurements starting around 1, or as soon as the gear is working! I will start the grill at 3, so we can eat shortly thereafter. As always, MVUS is buying the burgers, brats, and soft drinks. Snacks, salads, desserts, whatever are up to you folks. Typical attendance is around twenty or so, so size your item for about half that many, as we always have much more than we can eat, and I hate for food to go to waste (or waist). And remember your family is welcome to tag along, as there is plenty of room for kids to run around a bit, and the wives always seem to have a great time sharing stories about our little idiosyncracies, or running over to the outlet malls.

The tech session this year will probably include the usual antenna measurements, although Daun may have had time to add some improvements to his pattern measurement program. A couple of guys have asked about doing some sort of test on some mobile HF antennas, so we will see what we can come up with for that. Also, I will bring a spectrum analyzer, network analyzer, signal source, power meter, and whatever else amuses me so that we can check out anything else you might want to bring. Just remember to think about the connectors and cables needed, as the common ones I have are N, SMA(3.5 mm), BNC, and occasionally PL-259. If you have any questions about anything you'd like to have checked, or just want to give me fair warning, give me a call or e-mail before the 26<sup>th</sup> so I have some time to be prepared. **SEE YOU THERE!**

Several MVUS members attended the Central States VHF Conference in Toronto last month, and

reported that it was a great event, as usual. There is a report from Rod Owen elsewhere in this issue, and I expect that there will be some even more tales from others at the picnic...another reason to be there! I haven't been able to get to a CSVHFC in about 10 years, and I really want to go again, so maybe next year.

Speaking of conferences, the annual Microwave Update (sometimes referred to as MUD) is another great opportunity to meet and share ideas with folks who share our interest in the really short wavelengths. At our last meeting, there was a discussion about MVUS possibly playing host to the event a few years hence. This is not a task to be taken lightly, as these events require a lot of planning, coordination, time, and investment. There was enough support for the idea at the meeting that we are pursuing the possibility with the folks in Texas who are the overseers for the conference. I hope to have some solid info in time to share at the picnic, but I am optimistic that if we want to host it, we can get a year to call our own. I think that once we have a year confirmed, we need to form the committee and appoint a chairman to keep the ball rolling. I also believe that this requires someone who doesn't already have a lot of MVUS responsibilities (note how I slipped out of that one?). There is a lot of organizing and just plain work to do, and I think we have enough folks to split up the tasks to where no one is seriously overburdened.

Elsewhere in this issue is a report on Field Day from Rod Owen, and while we don't usually think of it as a VHF event, there is often some interesting activity and experience to be had from participating.

Since the picnic is late in the month, there won't be our usual Friday night meeting in August, so plan on getting together in September on Friday the 24<sup>th</sup>. The details will be in the next edition of Anom Prop. And please remember to keep your dues paid up so that we can continue to enjoy sharing ideas, experiences, and friendship with you.

And don't miss the Sunday Morning net on 28.960 MHz starting around 10:30 EDT. 144.280 MHz is also monitored, so look for WG9F or KA8ABR on either or both frequencies!

Tom, N8ZM.

## This and That 8-04

- **Insight.** Progress Energy Corporation of North Carolina went out of the Broadband over Power Lines (BPL) business. They announced that they will end their 6-month BPL tests by the end of August. Providing their customers with alternate broadband service they have no plans for the near future to pursue BPL. This comes after similar shut downs of tests in Pennsylvania, New York and Iowa.
- **Mercury.** The sun shines eleven times brighter on the planet mercury than it does on earth. Thus the Messenger spacecraft that is on its way to the planet needs a lot fewer solar cells than in the space around the earth. However, the heat is a big problem. The satellite wings are made up of thousands of little mirrors to reflect the intense sun radiation; only one third are solar cells. [NASA]
- **Modern Intelligence.** “We live in a society where it’s considered ok for intelligent people to be scientifically illiterate.” [Lawrence M. Krauss, physicist]
- **Climate Change.** “It has become increasingly apparent in recent years that human capacity to perturb inadvertently the global environment has outstripped our ability to anticipate the nature and extent of the impact.” [National Academy of Science, 1981]
- **Safety Advice for Pilots.** “Remember, it’s better to be on the ground wishing you were in the air than the other way around.” [Tracy Krauss]
- **Look at Titan.** (Contemplating pictures of Titan, Saturn’s largest moon} “Like a burlesque dancer finally ending her show, a once hidden moon dropped its last veil of modesty this month, exposing itself to the piercing gaze of the Cassini spacecraft.” [Alexandra Witze]
- **Left on the Moon.** At the last moon mission in 1969 a set of retroreflector mirrors (100 on a 2’x2’panel) were left on the moon.. "Using these mirrors," explains Prof. Carroll Alley, "we can 'ping' the moon with laser pulses and measure the earth-moon distance very precisely. This is a wonderful way to learn about the moon's orbit and to test theories of gravity." [NASA]
- **Shop Note.** Organized people are just too lazy to look for stuff.
- **Night Trouble.** "...because when we are sleeping, half the world is making trouble." [Helen Thomas]
- **Sunday.** “When Sunday loses its fundamental meaning and becomes merely a part of a weekend, people stay locked within a horizon so limited that they can no longer see ‘the heavens.’” [Pope John Paul 2<sup>nd</sup>]
- **Definition of a Standard.** “A standard is only a success when everybody adopts it and you no longer hear about it.” [Steve Schulz]
- **Voice Activated Controls.** “The system had difficulty interpreting all but the most carefully enunciated commands. If we wanted to be told over and over to repeat ourselves, we’d talk to dear old grandma.[Liz Kim]
- **Big Coffin.** The Remains of Napoleon Bonaparte are entombed in Paris, in six coffins that fit one inside the other. [Anne Stephenson, book review: Stories in Stone by Douglas Keister]
- **DX of the Common Man.** A lady who, after a long climb, had just arrived at the top of Mount Whitney (14,491 feet) couldn’t wait to get her cell phone out. She proceeded to make call after call, not unlike working a “pile-up” on short wave from a remote island! [source: Sean Morrissey]

**Field Day Report 2004** (26/27 June)  
By Rod Owen, WG9F, Milan IN EM79LD

MVUS members may be interested in the details of this Field Day operation as it involved **two VHF bands** and a tower that was erected on field day morning. Additionally, the effort involved **five-band HF** operation, which may be of interest to some members, so this will also be described. One VHF and one HF band could be worked simultaneously, by two operators. We could have used two more OMs for log-keeping but we could not interest anyone else in the prospect of staying up with the mosquitoes until 3:00 or 4:00 am and then resuming at 7:00 am, and subsisting on a diet of Hot-dogs, Vienna sausages, Spam sandwiches, doughnuts, beer and pop. (I wonder why?).

The 2004 field day operation was mounted by WG9F and KA8ABR at the WG9F QTH. This has been an annual event for us since about 1988, and I cannot recall missing a single year. Each year we slightly improve it and add something to the operation. Occasionally we drop something we tried the previous year, such as the 220 Mc band, on which we did not make a single contact, or storage battery power, when we wanted to add an HF linear amp. Maybe we'll try 220 again sometime if we can line up some possible QSOs ahead of time, (Any takers in MVUS for a 220 Mc FD sked next year?), but I don't think we'll be going back to DC power.

We set up quite literally in a field close by my house (about 200 yards away) but, in the spirit of field day, we do not use any pre-existing structure or facility for the RF part of the operation. We operate from two picnic tables under a large tree. We string up a large tarpaulin under the tree for a sun-shade. This will also keep off light rain, but is no good against a fierce storm. In a concession to comfort and safety, the tree is very close to a large loafing shed. In the event of a fierce storm, both picnic tables can be picked up with all the radio gear in place and carried under the shelter of the loafing shed. Operation can continue from the shelter and safety of the loafing shed, which is the only "pre-existing structure". For those who may be unaware, a loafing shed is an agricultural structure that is a flat roof over an area that is open on three sides except for support poles. On mine the support poles are spaced 8 ft on center. The fourth side is the exterior wall of an existing barn.

This year, as in the previous few years, we erected a 40' temporary Rohn 25. tower on Field Day morning so that we could operate V/UHF, in addition to HF.

This procedure may be of interest to MVUS members for their portable operations so is described in detail elsewhere. This 40 foot tower has an additional 20' of mast sticking out from the top made up from 10'(5') Radio Shack sections. At our operation we had a 4 element two meter beam at the very top and a 4 element six meter beam a few feet below this. We had planned to include a 432 beam but we ran out of time due to a late start. Our two meter beam was at an amazing and wobbly height of 61 ft above ground, and the six meter beam was about 4 ft below this height.

For HF we used a 280 ft of no 12 wire dipole fed with a 450 Ohm ladder line. The supports are tall trees, 70 ft at one end and 40 ft at the other end. The center support is formed by strings from two more trees, which gets the feed point up to about 30 ft above ground. Strings are thrown into the trees with weights, then the strings are used to pull up the wires with their end insulators. This tree-support dipole has worked very well on the HF bands each year that we have used it. The ladder line goes to the operating table where a balanced link-coupled tuner is used for the balanced to unbalanced transformation, and to provide the conjugate match to the transmitter 50 Ohm output. Please allow me to help dispel the persistent myth that a HF dipole has to be cut to a half wave at the operating frequency. A symmetrical dipole with a low loss balanced feed will work well on any frequency higher than that at which it is a half wavelength. The antenna described here worked well on all bands 80 through 10 meters during Field Day. It could have been used on 160 meters, but this would have required a tuner change, and we just didn't need that during FD.

The entire operation was generator powered this year. Storage batteries have been used in previous years and have been found adequate to run two 100 Watt transmitters (one HF and one VHF). This year we were using linear amplifiers on HF and on six meters!

So the generator was essential. I do not like the noise from the generator. It is very fatiguing. Often you will hear generator noise as soon as the OM keys the mike, often louder than his voice. This must be a terrible strain, and I imagine that they must “burn out” long before the 24 hours are over. We fabricated some 250’ long extension leads from number ten wire. These carry 220 V plus the neutral, plus ground. We run the rigs from 110 V and the amplifiers from 220 V. We have a portable distribution board at the operating position with a ground rod right below this board. The generator was positioned on the other side of a barn, and we could barely hear it.

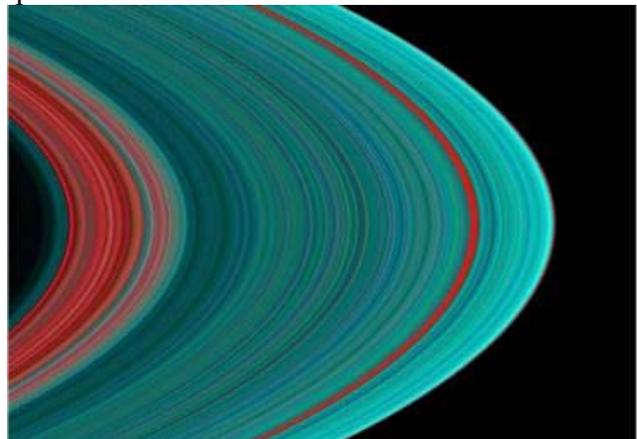
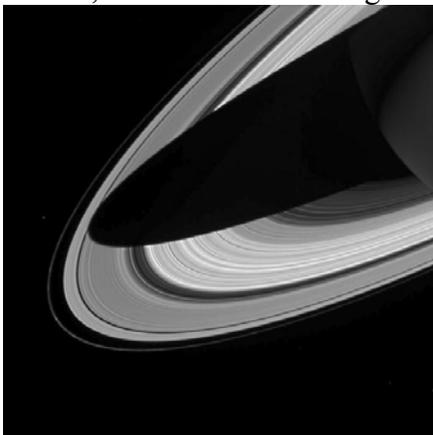
On VHF, six meters was the primary band of operation. Often we would be asked to QSY to two meters by local stations (out to about 80 miles) and we could work them with no problem. FD rules required us to then remain on two for 15 minutes. It was found that there were fairly “slim pickings” on two during these 15-minute periods. There did not seem to be any big propagation “lifts” on two, though we heard occasionally a station from beyond ground wave range. In previous years two has been better. Six had relatively few openings this year on FD, and those few were only in the Tennessee through Texas range. On one memorable FD about 3 years ago there were practically non-stop Es, mixed with some F layer conditions. That year, with the 4ele beam and 100 W, we worked most of the lower 48 states and most of the Canadian provinces with the exception of Yukon and the NWT. In the prior FD that we had a 220 Mc station, not a single contact was made on that band. When we asked all of our two-meter and local six meter contacts whether they had 220 capability, none claimed to.

As in all prior years, the HF bands provided non-stop contacts. However, we employed a casual operating style, FD is meant to be fun after all. During the day, 40 and 20 meters were worked virtually non-stop. Forays were made to other bands for interest. 15 meters yielded a respectable amount of contacts considering the poor propagation this year, and some contacts even were made on 10 meters. 80 meters came alive after dark and 40 was good also, but foreign broadcast limited the available spectrum. This year 20 meters provided plenty of action after dark, and surprisingly, propagation hung in until after midnight.

On a logistical note, the mosquitoes were so bad this year. I found citronella candles and citronella oil lamps (torches) work very well. The garden supply area of any hardware store has these. You need them on all sides of the operating position, as even a slight breeze will waft the combustion gasses away from you, and the breeze direction shifts frequently after dark. If any MVUS members would care to join us next year we would be pleased to see you for all or part of the FD period. We could then activate more V/UHF bands, maybe even get into the microwave

### New Pictures of Saturn NASA

The Cassini-Huygens spacecraft arrived to orbit Saturn after a seven year spiraling journey and is taking new stunning pictures of Saturn, its moons and its rings. Below two samples:



## Central States Conference 2004

By Rod Owen, WG9F

The 38<sup>th</sup> CSVHFS conference was held in Mississauga, Ontario, Canada on 23/24 July 2004.

Traveling up there with Mike, KA8ABR, it was a first for both of us. We met John, N8UR and Red, W8ULC up there, and a good time was had by all.

Travel was no problem. Mississauga is just West of the greater Toronto area, meaning travelers from the Midwestern US didn't have to traverse Toronto. It took us less than nine hours from Dayton to the conference traveling at a fairly leisurely pace. We crossed the border at the bridge from the Buffalo NY area to Ft Erie Ontario. There was only a two-car wait at the border checkpoint and our wheels were stopped for no more than two minutes total. Driving through the night, we arrived in time for the antenna measurements on Friday morning.

The entire function was jointly organized and hosted by the Ontario VHF Association (OVHFA) and the Toronto VHF Society. Both of these organizations had put a great amount of effort into organizing, and all visiting felt the cordial hospitality over the whole weekend. All ran smoothly and everyone was having a good time. The OVHFA and TVHFS are to be heartily thanked for their hospitality and effort.

The event took place at the Delta Meadowvale Mississauga Resort and Conference center, a very fine and luxurious hotel with many amenities for all guests, such as two heated swimming pools (indoor and outdoor), a well equipped gymnasium, a fine restaurant and of course, excellent and spacious facilities for the conference, flea market, banquet and antenna measuring activities. While it was not mandatory to stay at the hotel to attend the conference, it certainly made good sense. It was both convenient and excellent value for money. The conference organizers had negotiated a rate, that was about half of the regular hotel rate. Many attendees had brought other family members. For those the organizers had provided several enjoyable and interesting family activities

Antenna measuring activities occurred on the morning of our arrival, and were very interesting. A wide variety of homebrew and commercial antennas were brought to the conference, from 144 MHz to 24 GHz, with every band in-between. All were measured except those on 24 GHz, which were nevertheless interesting to look at.

I personally had never seen anything on that band before.

The main attraction of the conference were of course the technical papers presented. I was very pleased with the number and quality of the presentations, without exception. I was also very pleased with the wide variety of topics covered. There was truly something for everyone, covering theory, construction, operation and general news. I won't repeat the list here because most MVUS members have already seen it, and it is available on the Internet. Also, I won't single out any one or several papers for special note, because they were all interesting. (Anyone who wants to talk to me or Mike about the conference, however, can find both of us on the V/UHF net on any Sunday morning\*, where everyone talks radio! We would be quite happy to talk to you at length about the content of the conference).

I will just say one thing about the presentations however: When I first got my ticket in 1966, every-one on the air was an experimenter to some degree, and everyone was genuinely interested in radio, and talk on the air was mostly about RF. Sometimes now I get a little dispirited that this "flame" of interest and experimentation in the science and engineering of radio is dying in amateur radio. A lot of what you hear on the bands these days makes me feel that way. Well this conference shook me by the shoulders and shouted "**Amateur Radio is alive and well**"! Enough said on that score.

Another big attraction was the flea market. It was surprisingly large given the fact that it was right there inside the hotel, and it was all quality stuff. It was in a room adjacent to the conference room and it was available throughout most of the time the conference was in progress and in the evenings. I had a good time there as well.

A very enjoyable aspect of the conference was, of course, meeting people of similar interest and passion for radio. Also many of the legends of V/UHF were there, none of whom I had met in person before. All of these people were quite approachable and friendly during the breaks and during the Friday and Saturday evening hours in the hospitality suite. It was a fine and relaxed time to talk at length to other V/UHF enthusiasts

Saturday night's banquet was another highlight. I did not know that this was a formal affair. I was dressed for comfort, which for me is jeans, a flannel shirt and worn-in work boots. I did not bring anything formal for the banquet. Most of the conference participants, not first-time attendees, however, were all dressed up, and the XYLs all in their finest outfits. Not to worry, I found a table with other first-timers in the same boat, and soon felt comfortable.

The dinner was enjoyable, the speeches were short and to the point, and the after dinner presentation was very interesting. The conclusion of the banquet was the prize-draw, another tradition, with sufficient prizes for all of the OMs, with some really good prizes. And for the XYL/family there was a concurrent prize-draw with prizes coming from a separate table. After the banquet, most participants adjourned to the hospitality suite to continue the social hours.

Although that was the official end to the proceedings, I saw many of the folks I had met again, at breakfast on Sunday, and continued interesting conversations there. Finally, on Sunday afternoon, some of the participants adjourned to the nearby QTH of Peter, VE3AX and xyl Heather, VE3EMS, for a shack visit and afternoon barbecue. Peter and Heather had worked tirelessly throughout the weekend to make the conference enjoyable for everyone, and had kindly extended this invitation to all conference attendees the night before.

Would I go to another CSVHF conference ? You bet !

\* **MVUS Net** Sunday morning on 28.960 MHz starting around 10:30 EDT. 144.280 MHz is also monitored,

- look for WG9F or KA8ABR on either or both frequencies

### **CQ VHF Contest Rover Report**

By Lloyd Ellsworth NE8i

Operated rover Saturday, 17 July, stormy wx, which limited my activity. Drove North to Flint, EN83. Thunder, lightning and rains, gave up, drove home. 6M produced some sporadic e. Lots heard, but not worked. Tried out 5 different 6M rover antennas. Best performer, a basic HB dipole. Worst, a mag mount. Sunday, best wx, but no sporadic e heard. Drove 260miles, activated 5 grids, EN83, 82, 81, 71, 72. Drove South on I-75 to Toledo, then along Lake Erie, then home. Totals: 6 meters, 4 Q and 1 G. 2M 10 Q and 5 G.

Not much activity. Not a big score, but sending it in anyway.

EN82jm Beverly Hills Mi & **Rover 160M - 47GHz**     [ne8i@hotmail.com](mailto:ne8i@hotmail.com)

### **Noise from Solar Flares**

By Charles K4CSO (from Tom Shutters Newsletter)

..."To listen for additional flares just use a dipole and tune to some empty frequency in the 17-25 MHz range. The flare will sound as if the radio were turning up the volume of the noise by itself. They generally last about 30 sec to a minute"..

..."Many of us are using free software called SkyPipe <http://radiosky.com/> to graph the noise using a sound card. Anyone with a PSK31 or WSJT interface probably is all set and just has to download this new program and you're able to log the flares even when you're not there"...

For an example [http://www.pari.edu/p06\\_telescope\\_display01.asp?scope=5](http://www.pari.edu/p06_telescope_display01.asp?scope=5)  
or see the PARI web site [www.pari.edu](http://www.pari.edu) under Jupiter/Solar.

**"Ham Radio"  
in  
Friedrichshafen  
26, 27, 28 June 2004**



**Mystery Box**



**Long Lines**



**Keps a new microwave company**



**Screw Base Tower**



**Four Satellites at one time**

**"Ham Radio"  
in  
Friedrichshafen  
26, 27, 28 June 2004**



**2.4 Ghz Table Top Antenna**



**Antennas Anyone?**



**High Power Tubes**



**Long Wave Coil**



**Old time coils**