

Meeting Fri. Sep. 23rd, 6:30, at the MCL Cafeteria in Kettering

Sept. 2011

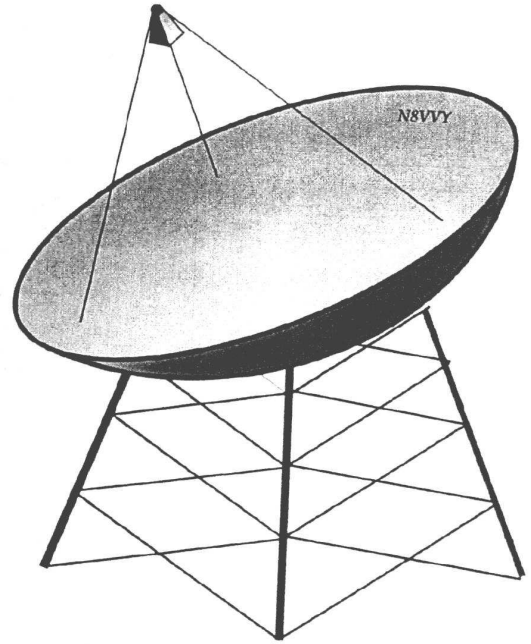
ANOMALOUS PROPAGATION

Newsletter: *The Midwest VHF/UHF Society*

Editors:

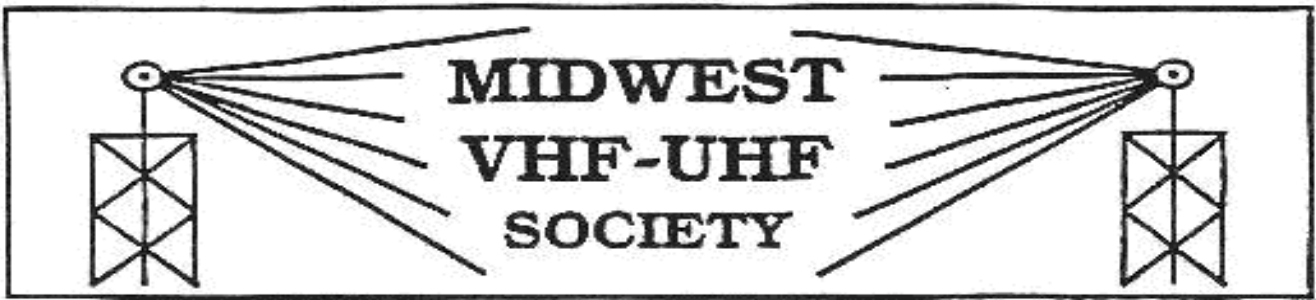
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Annual Society membership is \$ 12.00. Please
make checks payable to Gerd Schrick



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Sep 2011

Mtg Fri 22nd of April (6:30PM) MCL Cafeteria on 4485 Far Hills Av (Rt. 48) in Kettering. Going South from Dayton drive past the Town and Country Shopping Center on your left. At the next light turn right, then left into a small shopping center. MCL is at the end on the right

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Upcoming Events

Nov 4,5,6 AMSAT Symposium San Jose, CA

MVUS Mbr Steve Adams, K4RF ex WS4F, of Cornelia GA , born 3-13-49 (62 years old) became a silent key as reported in "Fists News" 20 Apr 11: **Steve K4RF #9190**

While memories are fresh.

With the 10 GHz contest weekend just over. Lots of us rovers, get asked questions from visitors. There is the usual looking for aliens? ET? Spy? But, we also get many unusual questions. Such as one we got Saturday. "Are you tracking Submarines?" OK, we were on Lake Michigan.

So this is the competition. Must be real questions, asked by visitors. No creative made up ones. Yes, I know, we can be really creative. Reply all, and keep adding them up. Along with comments. No prize, other than the usual fame that follows. Bragging rights. Then see if we can put together a proper top ten unusual questions list, and spread it around. Credit due to where it is due, and it is not limited to Micro-nuts. Please limit raspberries. FAQ Here is a competition for the group. Did I come up with the idea for this competition? No. Group effort last night.

73, Lloyd NE8I/r EN74 etc

De N8ZM.

One of the great benefits of being involved with MVUS is the opportunity to hang with some really cool people. People who know how to get things done and are willing to help each other learn more about the things that interest us. Our August picnic has always been about just that; pooling our resources and knowledge to help each other.

This year was no exception, and we made some new friends and got to see some old ones as well. New to the group is Gerry Tirsch, K8GDT, from the Cleveland area. He also qualifies as an old friend for Daun, as they worked at the same company many, many years ago, a revelation that came as a shock to Daun at the picnic. Small world.

Another 'old' friend in attendance was Randy Midkiff, WB8ART. Randy was an active VHFer back in the early days of MVUS, but moved out of the area for a while and had gotten away from active VHF work. However, thanks to possibly subtle persuasion by Bob, K8TQK, Randy is getting back into VHF and we hope he will stay active.

As I write this, I am sitting in a hotel room near Baltimore, having just spent the last few days here for the TAPR Digital Communications Conference. Also here from MVUS were Joe, N8QOD, and Bruce, ND8I. Representing MVUS-Atlanta was John, N8UR, who is a TAPR board member. As always, the DCC offered presentations on a wide range of subjects delivered by leaders in the field of amateur radio related digital communications. Topics ranged from digital TV to APRS (it wouldn't be the DCC without a talk by the energetic Bob Bruninga, WA4 APR, to hacking an Android phone to use as a camera in a high-altitude balloon. It is an international affair as it included attendees from Australia, Sweden, the UK, Canada, and even Alaska. OK, that's not international, but it is still a long way from there to Baltimore. Next year, it will be held in Atlanta, which means that N8ur has raised his hand and offered to be the local liaison for the event. So we will all have an excuse to go next year!

If you haven't already heard, the 1296 beacon antenna is not only installed but connected to a coax cable. Mike, W8RKO, was planning some tests with K8TQK a couple of weeks back to test out the coverage, but they were unable to coordinate their schedules for the try. I haven't had a chance to speak with Mike about whether they have made another attempt yet. Here's hoping! The next stage of the project is building the RF hardware. Mike is rethinking some of our earlier concepts, but we still plan to have the frequency referenced to GPS time so that it will be stable and accurate. And for fun, we hope to include a 1-second time hack, a la WWV. Because there is limited space for the equipment at the transmit site, we have to be mindful of the total space the beacon occupies in the TV stations building.

But I don't want to put all of this on Mike, so if any of you have some time to help out with putting the hardware together, I'm sure Mike would appreciate the reduced demands on him to get it all done. He does a lot for MVUS and I don't believe it is fair to ask him to do this whole project by himself.

As a reminder, our September meeting is Friday, September 23rd, at 6:30 PM at the MCL Cafeteria. I hope to see all of you there!

73, Tom, N8ZM

This and That 9-11

Law of the Result - When you try to prove to someone that a machine won't work, it will.

Law of Biomechanics - The severity of the itch is inversely proportional to the reach.

The Coffee Law - As soon as you sit down to a cup of hot coffee, your boss will ask you to do something, which will last until the coffee is cold.

It's a Ham. When someone asks for directions, you pause, wondering if long or short path would be best.

Or: When you can look at a globe and be able to point to your antipode (and you know what an antipode is).

Or: Your cell phone ring tone is a Morse code message of some kind.

Setting Up for Contest, Field Day. Why does it take so long set up my rover? I have to check every cable, connection for basic operation. Never presume that it is just OK and working right. Full contest mode takes me most of a day to get set up. I have a box full of bad cables. [Lloyd. NE8i]

Remember. ...the Hamvention flea market picture last month showing an ample supply of boxes labeled "Milwaukee". It turns out that was one of our members' spot, Jon Thuermer, KB8SRQ, Moraine Industrial Supply!!

A Fixed Point. Give me a fixed point and I shall move the world. [Archimedes]

Life's Dreams. All my life I have practiced the Western virtues of impetuosity, greed, and unquenchable curiosity. [Herman Hesse]

Dream of the Boy. "Like all boys, I loved and envied many callings: the hunter, the raftsmen, the railroad conductor, the high-wire performer, the Arctic explorer. My greatest preference by far, however, would have been to be a magician. [Herman Hesse]

Optical Illusion. An AC lightbulb turns on and off 50 to 60 times a second. If you could stretch out the off intervals, you'd save electricity. And if you could take the response of the human eye into account, the flickering would not only be imperceptible, but the light quality might improve. [George Musser/ Scientific American]

High Tech Ironing. Iron more effectively by putting a piece of aluminum foil under the ironing board cover. The foil will reflect the heat from the iron so both sides get ironed at once. [Ass. Press]

Peace and Quiet. There are people that are affected by the radiation from cell towers and the only way for those is to find a location far away from these towers. An ideal place is Greenbank, WVA. That's where the large US radio telescope is located. There it's as rf quiet as can be. Employees are not even permitted to drive their spark cars during working hours. Only Diesels are exempted. [BBC, Sept 2011]

Digging in Vegas. There are now sand boxes for adults. A fencing contractor built a five-acre theme park with bulldozers, excavators and other heavy equipment for adults to operate and experiment. (14years and older). Packages cost \$210, \$ 400, or \$ 750.

Side Effects. "There are a lot of people taking drugs to treat the side effect of drugs." [Gordon Schiff, MD Harvard Medical School]

Variation Law. If you change lines (or traffic lanes), the one you were in will always move faster than the one you are in now (works every time).

Law of the Bath - When the body is fully immersed in water, the telephone rings.

Health Books. Be careful about reading health books. You may die of a misprint. [Mark Twain]

MVUS Picnic and Measurements, 23 Aug, 2011

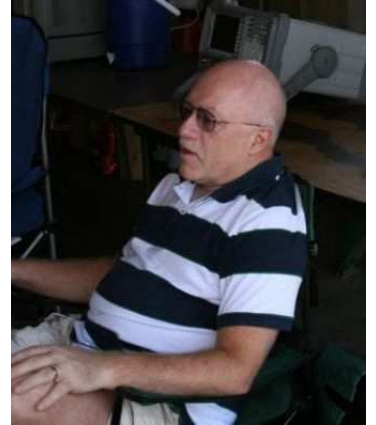
Near Wilmington at Daun, N8ASB & Karen, N8CX5, our hosts.



Perfect Match. (Daun's daughter Meredith w brandnew Jetta GTI)



Tom, N8ZM and Joe, N8QOD



Bruce, ND8i



Randy, WB8ART and Tom, N8ZM



Dick, N8AFE and Janet, W8ICQ



Joe and Gerd, WB8IFM



Gerry, K8GDT; Daun, N8ASB our host, Tom and Steve



What's wrong here? Steve, K8UD on right



Red, W8ULC



Coming in for a landing....



Getting close....



<<Steve practicing landing>
Safely touched down!!!

MVUS Picnic and Measurements 8-23-2011

By Gerd, WB8IFM

It was a perfect day: sunshine, some clouds, a slight breeze, very light wind, temperatures upper 70s to low 80s. Set up was in the garage, a custom that had developed over the last couple of years as we experienced bad weather. There were fewer antenna measurements, more equipment, mostly converters and preamps. And then our canopy was destroyed (by wind).

In the antenna department there were 4 antennas, one 2.4 Wifi contraption, a 30cm loop Yagi and two 23 cm loop Yagis. We were only checking for a good match and after it turned out **ok** for both the 2.4 GHz wifi and the 900 MHz loop Yagi we ran into trouble with the two 23 cm loop Yagis. Using a good looking low loss cable the SWR would hover around 3:1 no matter how close we inspected the feed system, lined up the loops, adjusted the connectors etc. Days later came the explanation from Tom who had taken **the cable** with him for examination:

"BTW, that cable of Ron's that was open...I got the connector apart and discovered why. It must have taken a lightning hit as the whole inside was carbonized, and the center wire was blown open. There was even solder that had bubbled out of the center pin! I think I can fix it by cleaning up the parts, although some of the plastic insulators were deformed." Tom, N8ZM.

Steve and Daun spent some effort measuring commercial S-band downconverters, like the Drake and California types. The LO of a California type that hadn't been modified measured 2139.6 MHz, which put a 2.48GHz signal at 337.5 MHz with an output of -60dBm. A modified converter with the LO at 2278MHz converted a signal at 2.4GHz to 120MHz with an output of -66 dBm. They took many measurements to get a feel for the bandwidth and it appears that changing the LO gives you a good coverage of the 2.4GHz band with the IF either in the 2m band or slightly above which most of to-days 2m FM rigs cover (on receive).

Back to the picnic. Of course, it was super, several kinds of wurst: brats, Italien etc and hamburgers. And there were the usual side dishes and for desert cookies and other sweets. Not to forget the traditional birthday cake for Marilyn's (xyl of Red) birthday.

Steve, K8UD, took a "time-out" and got in the air from the adjacent airport practicing landings to keep his pilot's license alive. (pictures previous page)



Left: Testing a Drake S-band Converter



Right. One of the new MVUS noise sources is checked out.

We hope we can start offering them for Sale next month

First Weekend, Cumulative Contest Report from EN74

by Lloyd NE8i/R

August 20/21 was quite a weekend. 10 unique callsigns, 4012 distance points. Best DX **435 KM** (10 GHz)

Saturday, W9NU and I decided to set up at **Tustin Knob EN74gc, near Cadillac Michigan**. 7:20 AM. It is a scenic overlook on top of a high hill, and it has a wooden platform with an almost 360 degree horizon.

I have had very good luck from there. It is only open from June to October. We got there early: 7:20 AM and set up our stations. 2 x 18W, 2ft dishes, DB6NT xvtrs, DL2AM amps and a loaner 3W station for N8PUM, who was coming from Ishpeming.

It started raining, so we covered everything with plastic, also used umbrellas. Forgot the Dayton Icom rain ponchos. Got wet. Operated New England style. It rained for about an hour. We called CQ. Well, tried at first. The key and keyer did not like the rain. Raindrops caused problems. Meanwhile we generated some strange CW. Took a bit to fix it. Even then, the raindrops still caused problems. Don't ask about my log and notes. One group on Lake Erie heard us, called, and we worked them.

435 KM was our best dx. The loudest rain scatter signal we heard was from K2TXB in FN02. Tried to run some FM rain scatter, but the microphone got wet and did not work right. WA3TTS was running just 250mW, and we worked him. Mike had a good rain scatter signal. Yes, power really helps, but don't ever let it be some excuse to not try. Then we ran out of refractive storm cloud.

All the contacts Saturday were CW rain scatter except one later on. Then we did talk with WA8VPD EN91kt direct, on SSB: S8. Good sigs. Found him and called him on 10 GHz. Thought he may have changed locations. Nope.

Many of the contacts (10GHz), were not pre arranged. Someone heard us, and called. We did some 2M links, but 2M was in really poor shape. In the rain, cell phones, 2M were off and under plastic. 2M was not that good Saturday, and many 10 GHz contacts, were not pre arranged. Semi random. Talking with many stations, they told us they had the same 10 GHz experience.

2 PM Saturday was it for Tustin Knob. It started raining again but we've had it and needed to dry out. 2 hour drive back plus time for lunch. Then listened on 2M and looked at the weather maps, there were no more storm cells in range. Listening we didn't hear anything, or we would have gone out again. We had also tried 24 GHz rain scatter several times and were not successful. It was a long day.

We had several visitors drop by. Had one ham, stop by. Ask if we were running Field Day.

N8PUM arrived Sunday. Neil, Brandon and I started out at AJ EN74at at 7:30AM. Worked to Chicago. Weak sigs. Rain scatter. Not much of any enhancement. All but 3 contacts were CW rain scatter on Sunday. Traveled to 3 locations. AJ EN74at, Ludington SP EN64sa. and Schoedel Rd EN64vh. Again, several of the contacts, were not arranged via cell phone, Internet or on 2M. We were heard on 10 GHz, and people called.

Quite often, people were much **stronger on 10 GHz than on 2M**. So far it has not been that good this year at Lake Michigan. Beautiful sunny August weather. Ludington SP was the busiest I have ever seen it. Propagation was poor, and strictly brute force.

Good time was had by all. Looking forward to September.

Additional: Just talking (Sep-15) with Neil W9NU. He got an SWL report on his calling CQ **last month on rain scatter** when we were at **EN74gc, Cadillac**. From a ham down around Cincinnati. Heard his CQ, but, apparently we could not hear him. So another detail to add to the report. For us, that would have been like 600 KM. Also, a couple of the VE3's on Lake Erie heard us.

Microwave Activity Day Sept 3, 2011

Report from EN74 by Lloyd, NE8I/r

Loaded rover up early, the day before. The forecast was for scattered rain. So I set it up for operating in the rain under the cap. I got up early and found it was raining with thunder and lightning too. Delayed departure, until it looked like the thunder was over. Don't need to play lightning rod.

First went to Sleeping Bear Dunes, EN64xu the Cannery. Try to work N8PUM EN66 early and direct. No luck. the 140 mile path on 2M was not working well either. Setting up and operating in the rain is "fun". But not bad from under the cap. Yes, this time I remembered my Dayton Icom rain poncho. This was my first use. Thing is, they never fold back up as nicely and compact as when you get them. Yes, I had tourists, stop by, get out of their cars, and ask me what I was doing in the rain.

Second, went to AJ EN74at. Empire, Mi, near Lake Michigan. Set up, called CQ, and worked W9ZIH EN51 5x9RS and W9SNR EN62 on rain scatter. Random. Observed their rain scatter signals for some time. Tried working any of the other 6 stations that were on. Called CQ a bunch but no luck. I was heard weakly by some. AJ, just was not working.

I should have driven to **Tustin Knob nr Cadillac. EN74gc**. That probably would have worked much better. Tried some 24 GHz rain scatter. no luck. Rained all morning. Yes, even in the rain, there were more tourists. They stopped, asked questions, took pictures.

One good suggestion, I got, was: I should have used the 17dB horn I have to illuminate the clouds better. I had the horn, but in the rain it's hard to keep the parts dry

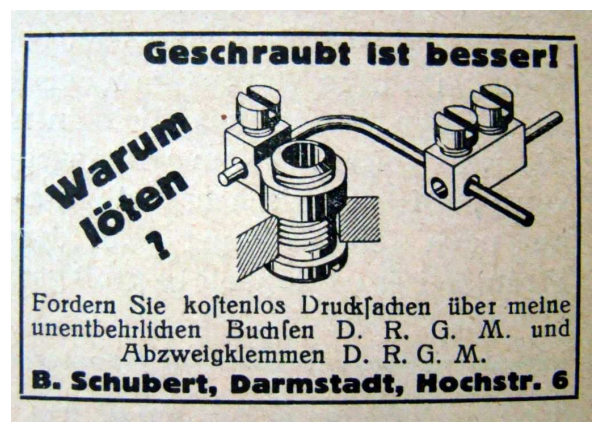
N8PUM EN66 managed to work KB8U EN82 and WA8VPD EN82. N8PUM and KB8U were running 2W, 335 miles, 24 inch satellite dishes, good sigs. Downstate, there was quite a bit of 10 GHz rain scatter activity. Add WB8TGY EN72, W9NU EN61, K2YAZ EN74. Heard many reports of contacts. Many random. Later, Bob K2YAZ Worked N0EDV in EN45 on RS. Several others.

So this weekend worked out quite well for the group. Lots of activity. Rain scatter. Many of the group is hoping for more rain scatter for the 2nd weekend of the cumulative. Like we had on the first cumulative weekend. Hey VUAC, how about a 3rd cumulative weekend in October as discussed a few years back?

Plans next week, Sept VHF. Are to operate up here. Along Lake Michigan. Same in 2 weeks with the second weekend of the 10 GHz+ cumulative. Then October 1 MAD. I am thinking of driving down to Tustin knob, EN74gc and operating from there.

Avoiding Solder.

This ad is from a 1930s German radio newsletter



2011 CQ-VHF Contest (Mid July 2011)

by Tom, N8ZM

For the first time, the **N8ZM Contest Team***, which generally consists of W8PLZ, KD8FO, KB8ZR, WB8TDG, N8IDS, N8ZM plus others on occasion, participated in the CQ-VHF contest. Held in mid-July, it is different from the ARRL VHF Contests in that it is **only for the Six and Two meter bands**. There are some other differences in the rules, but for the most part it looks and feels like the other contests that we enjoy.

This being our first venture in this contest, we had no idea what to expect or even what a respectable score would be. What we found was that there were decent band openings on both bands and plenty of stations to work. The DX on 2m was really quite impressive, as we worked many stations to the west and northwest that we usually never hear in the other contests. The 6m band was also in pretty good shape, although it did not have the terrific propagation that we saw for the June ARRL Contest. But that was not all bad, since we think it probably helped increase the activity on 2m. It is tough for a single operator station to cover both bands at one time, so less excitement on 6m meant more time to see what 2m was doing.

This contest also demands less commitment from the operators, as it runs just 24 hours, instead of the 33 hours of the ARRL tests. The downside to this is that we get to eat Rex's excellent charcoal grilled burgers and dogs for dinner only on Saturday night. Bummer!

We worked K0TPP in EM48 on both bands, and XE2O in DN45 on 6m. Also in the log on 6m are HK3DES, C6ANX, ZF2EZ, and T48K! It is very seldom that we work any of these in the other VHF contests we do. Maybe it is because the CQVHF test more strongly encourages stations outside of the US and Canada to participate.

As for the score, we managed almost 38000 points, which is not highly competitive, but respectable. As frequently happens, our good friend Bob, K8TQK, probably clobbered us, even though he works a single operator station. There is a lot to be said for experience and sharp operating skills. I am quite sure we will be back for this contest next July, and hope to hear many of you on there as well.

* The "N8ZM Contest Team works from a location near Urbana, Ohio. The QTH is located on a hill, which is on a farm. Access is by crossing a creek bed and going up a hill often only possible with 4-wheel drive. It's near the highest point in Ohio, which is at 1550 feet (472m).

We hope to bring you a detailed report about the history, location and some highlights about this station next month.

MVUS Picnic Attendance List (17)

Our Hosts: N8ASB, Daun and xyl Karen, N8CXSS, nr Wilmington

K8UD, Steve, Beaver creek

ND8I, Bruce, Beavergulch

WB8IFM, Gerd, Dayton

WB8ART, Randy, Miamisburg

N8AFE, Dick, Centerville

W8ULC, Red, Red Lion + Marilyn

W8ICQ, Janet, Centerville

K8TKQ, Bob, Bainbridge + Carol

W8RKO, Mike, Kettering

K8GDT, Gerry, Brunswick

N8ZM, Tom, Tipp City + Barbra, N8EYW

all from Ohio

N8QOD, Joe, Bellbrook

Pictures and Report on pages 5+6

Falling space debris

Nasa satellite UARS nearing Earth
'could land anywhere'

BBC 16 Sep 2011



The 'productive scientific life' of the UARS ended in 2005 when it ran out of fuel

A five ton, 20-year-old satellite has fallen out of orbit and is expected to crash somewhere on Earth on or around 24 Sept, 2011, according to Nasa.

Nasa says the risk to life from the UARS - Upper Atmosphere Research Satellite - is just 1 in 3,200.

Hurtling at 5m (8km) per second, it could land anywhere between 57 degrees north and 57 degrees south of the equator - most of the populated world.

However, most of the satellite will break or burn up before reaching Earth.



Hardware re-enters at shallow angles (<1degree)

Some 50 items weighing >1 tonne re-enter a year

Major break-up occurs about 80km altitude

10-40% of dry mass on orbit will survive

Debris spreads over long, thin "footprints"

It can be a hazard to people and property

Space Debris Illustrated: The Problem in Pictures

by Nancy Atkinson on April 11, 2008



Space junk, space debris, space waste — call it what you want, but just as junk and waste cause problems here on Earth, in space spent booster stages, nuts and bolts from ISS construction, various accidental discards such as spacesuit gloves and cameras, and fragments from exploded spacecraft could turn into a serious problem for the future of spaceflight if actions to mitigate the threat are not taken now. The European Space Operations Centre has put together some startling images highlighting this issue. Above is a depiction of the trackable objects in orbit around Earth in low Earth orbit (LEO—the fuzzy cloud around Earth), geostationary Earth orbit (GEO — farther out, approximately 35,786 km (22,240 miles) above Earth) and all points in between.

More at: <http://www.universetoday.com/13587/space-debris-illustrated-the-problem-in-pictures/>