

Meeting: Fri 28th at the MCL Cafeteria in Kettering

Sept 2012

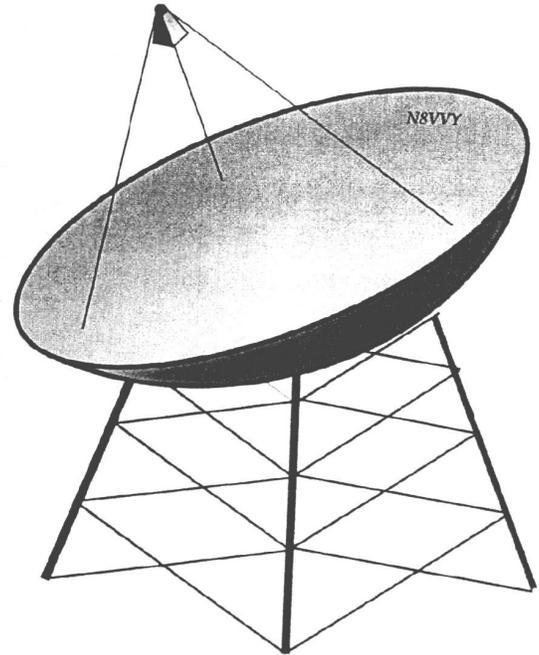
ANOMALOUS PROPAGATION

Newsletter: *The Midwest VHF/UHF Society*

Editors:

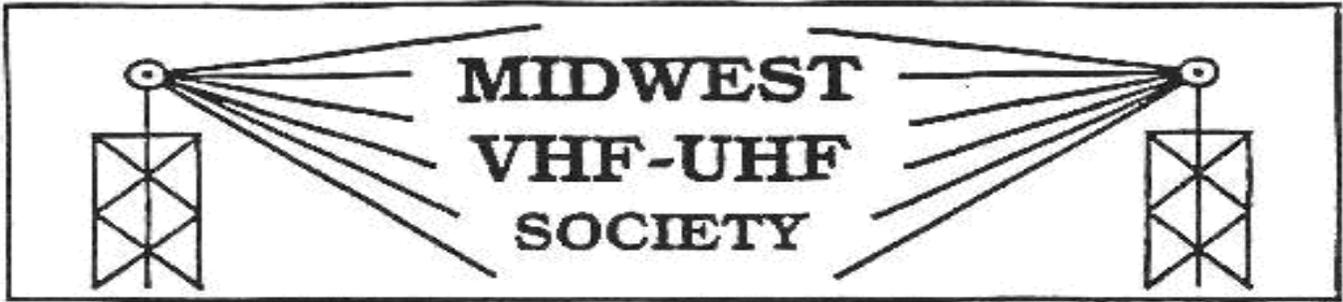
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Annual Society membership is \$ 12.00. Please
make checks payable to Gerd Schrick



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Web Master: Dave Lundy

**Regular Meeting Fri 28 Sept. at 6:30 PM at the
MCL Cafeteria in Kettering**

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Upcoming Events

Microwave Update 2012

October 18 to 21 in Santa Clara, CA, (near San Jose and San Francisco).

AMSAT Space Symposium Oct 26-28, 2012 Orlando, FL.

Ft Wayne, Ind. Ham Fest 17-18 Nov.

Welcome New Members!

Ty Hughes, KE4JG, won a 2-year membership for MVUS at the Hamvention!

Chet Latawiec, W2NHA / VE3CKF signed up at the picnic 18 August, 2012

Officers re-elected for another year at the picnic:

Tom Holmes, N8ZM, President
Steve Coy, K8UD, Secretary
Gerd Schrick, WB8IFM, Treasurer

DE N8ZM: It's that time again when Gerd calls to remind me that he needs my monthly column and maybe an article or two. So after procrastinating for a couple of days (OK, my excuse is that I HAVE been busy with work and attending the TAPR DCC), here goes...

In August we had our annual picnic at the Yeagley's (Many thanks to Daun and Karen for once again hosting us) and the turnout was one of the best in years. I counted over 20 people including a couple of spouses. As always, we had a measurement session, mostly checking amplifiers, but an antenna slipped in there as well. Elsewhere in this issue there should be some pictures and screen shots. And it wouldn't have been an MVUS picnic without plenty of food and burnt offerings served up by yours truly. Thanks to everyone who stopped by for making it a great day!

As I write this I am in Atlanta attending the TAPR Digital Communications Conference, having trekked down here with Joe, N8QOD. We spent the first night visiting John, N8UR, at his new digs Northeast of town and got a tour of his new basement laboratory. I say a tour because it is huge and occupies several rooms! Breadcrumb trail required if you want to find your way back out! But he now has a lot of space for his test equipment, stands and storage space for all the parts and testgear he has acquired over the years, and that is a lot! As he started out with a mostly unfinished basement, he was able to design the rooms, lighting, wiring, work spaces and such to suit his needs. I should have taken pictures to bring back. Maybe John will send me some for the next issue.

Coming up soon is the Fall FMT (HF), and Mike, W8RKO, assures me that he once again plans to pull it all together to put MVUS on the air as W8KSE. I did not see anything about it in the October QST, but there should be something in the November issue.

By the way, I will miss the meeting on the 28th due to a work trip, so you'll have to just muddle through without me. I'm sure that won't be too hard. Have fun and don't forget about tipping the server, and I don't mean that in the sense of cow tipping.

Good Shake Out Test 1-2 Sept 2012 Mad

By Lloyd, NE8i

Soon as I left the drive, there was K8TQK. Then WA8RJF. Band was open on 2M. 2M has been open most mornings of late. With Isaac, just like Katrina 7 years ago. Same path OBTW.??North, stopped here, and then turned East. Same propagation conditions. Hurricane as atmospheric mixer. Listened to a whole bunch of activity driving down to EN73ra.? K8MD, WA8RJF, K8GDT, K8JA, WA8VPD, WB8TGY. Some scattered rain to the south.?Set up at St Johns. EN73ra pool car parking lot on US127. Exit 96. My usual rover spot for EN73. Southern central location from the EN73 grid square. Once set up, made several contacts, 903, 1296 and 2304. Tryout of my rebuilt rover set. Needs more work. Always needs testing, everything.

Well, my 1296 set up, I kluged quickly together the last minute. Still cannot find my DEMI xvtr unit. Well, one of the untested jumpers, on the rx line proved to be a 15dB attenuator. Lost several contacts. Several heard my one watt on 1296. Then WB8TGY showed up, and we ran some 24 GHz with his new station. Using my Sackridder Hill set up. Bare 24 GHz DB6NT mixer. 200 uW. and an open waveguide for antenna. Had strong signals at 1.8 Km. Should work well for much longer paths.

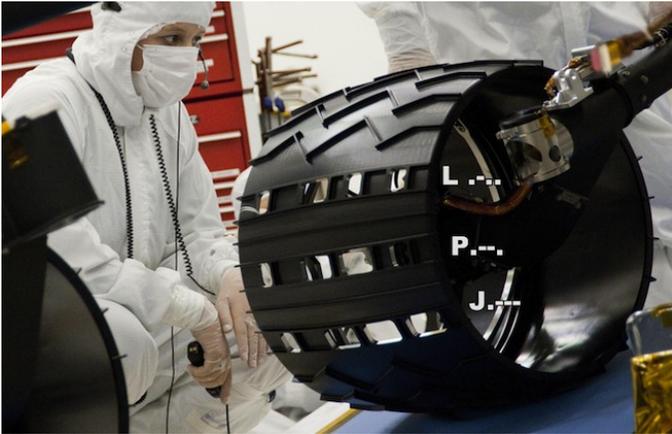
My rover route is to start at the GR swap. Then North along Lake Michigan Saturday. Sunday, head down to GP Hill. Then Home. Not a major effort this year. Very limited fuel budget. Fuel is still \$4 a gallon here.

This and That 9-12

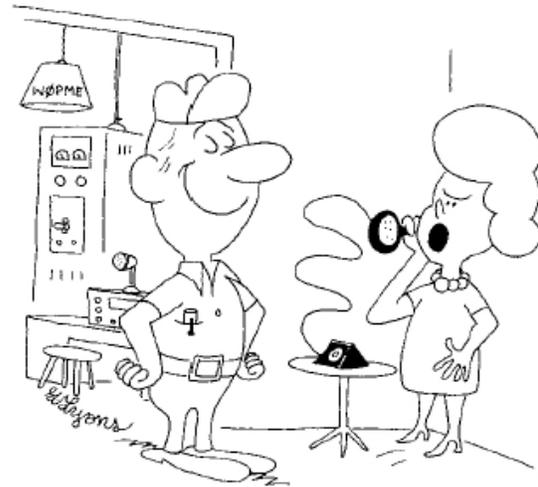
Nigerian E-mail. ...Another survey reported that, in 2010, there were 107 trillion e-mails sent, half of which probably were Nigerian scams.
[D.L.Stewart]

Bummer "They think of a car as a giant bumper," said Mr. Martin. "Think about your dashboard. It's filled with nothing but bad news."
[Ross Martin, 37, Mr. Martin is the executive vice president of [MTV Scratch](#), a unit of the giant media company Viacom that consults with brands about connecting with consumers.]

Decimal System for the \$. "...in all cases where we are free to choose between easy and difficult modes of operation, it is most rational to choose the easy!"
[Thomas Jefferson]



Nice Footprint for a wheel of the Curiosity robot.
It spells: **JPL** (Jet Propulsion Laboratory)
in Morse Code



"Right now he's out of this world . . .
He just bounced a signal off of the moon!"

All about Lightbulbs. This year's LFI, Lightfair International, in Las Vegas broke all previous records with an attendance of 24,000 from 73 different countries and 505 exhibitors. GE announced a 100W-incandescent equivalent LED bulb for next year.

[Richard Comerford, Electronic Products Mag.]

Hindsight. History is the sum total of the things that could have been avoided.

[Konrad Adenauer]

Ignorence.....more frequently begets confidence than does knowledge.

[Charles Darwin]

Big Brother. "Streetlight processors" (what a name!) can store and analyze data including soundtracks, announcements, commercials, and video files, as well as offering a patented full range speaker system." "It is capable of being incorporated at intersections and other areas such as sport venues, retail malls, college campuses and many others..." [Pressrelease by Amerlux]

Super Salesman. Steve Jobs, was a man who, as one associate explained it, became a legend by constantly addressing the question: "What will people want?" Even when they didn't know they wanted it.
[D.L. Stewart]

Sign-in-sheet

For the 18 August, 2012 MVUS picnic and measurement session

Call	Name	ETC
W8RKO	Mike Suhar	
W9NBS	Tom Stauffer	
WA8HNS	Mike Gray	
N8ZM	Tom Holmes	
N8QOD	Joe Muchnij	
KE8BV	Jim Dalley	
WB8US	Jim Bacher	
WB8IFM	Gerd Schrick	
K8UD	Steve Coy	
K8TKQ	Bob Mathews	Xyl Carolyn...N8JQR
KB8ZR	Mark Tessneer	
KB1SF / VA3KSF	Keith Baker	
W2NHA / VE3CFK	Chet Latawec	
VA3RD	Bob Thompson	
N8SPY	Gary Turner	
K8GKH	Greg Jump	
N8ASB	Daun Yeagley	Xyl Karen
W8ULC	Red Dakin	Xyl Marilyn



Welcome sign^^ made long ago by Donna, the xyl of Mark, KB8ZR.

Afternoon Picture: heavy, threatening clouds, but the weather held.^^

Long Yagi for 2.4 GHz at 11 feet>>
and 10 el Yagi for 435 MHz at 7 feet>>

Trying to communicate with our transponder back in Dayton 21 miles away

We were using a DrakeTV-converter*, modified for 2.4 GHz use followed by a Yaesu 736 or a Kenwood TS 2000 satellite transceiver.

Transmitting was from both rigs on 434.7 with approx. 10, resp 50W SSB.

No return signal was heard.

There are dense woods in the direction of Dayton, which might explain these negative results.^

*) The converter received the signal on 2.4203MHz and provided output in the 2m band: 147.03 MHz. This was received by the 2 satellite transceivers.



Gerd, WB8IFM and Steve, K8UD

Photos by Keith Baker, KB1SF/VA3KSF

2012 MVUS Picnic and Measurements

Measurements at Daun's, N8ASB 18 Aug. 2012



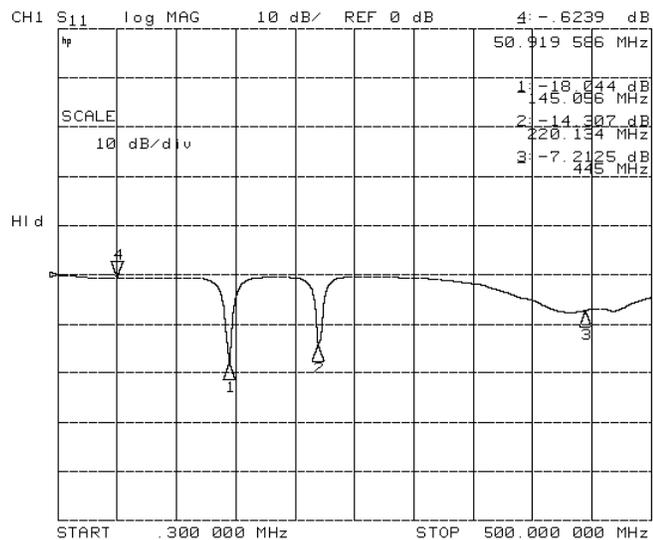
Tom, N8ZM, with Daun's network analyzer --- an HP-8753C, for frequencies of 300kHz to 3 GHz. you got to know, how to push the right buttons. Equipment to-day is so complex, you have to go to school to figure out how to use it! Tom and Daun know how to handle this. Here Tom is measuring amplifiers and antenna matches. In the background Joe, N8QOD and Jim, KE8BV Later they were also practicing with an HP 8920A, a transceiver test set; Tom, W9NBS, learned how to set markers.

Photography by Keith Baker
KB1SF / VA3KSF



Daun's work bench,
Steve, K8UD, looking at a solder job.

Later, using this above network analyzer, his pride, he measured return loss of a rubber ducky with a short or longer extension tip, displaying resonances at 50, 145, 220 and 435 MHz.



The antenna that comes with the Yeasu VX-7R radio has two tips to set the antenna length for different radio bands.

The differences in return loss are minor, the resonances shift some however. But for 50MHz, even with the long tip the return loss is only around 4db (in SWR, 4.4:1) For 70cm the return loss is around 7dB or an SWR of 2.6:1.

The 145 and 220 MHz bands seem to be ok, at least for portions of the bands. 145 at 21dB = 1.195:1 and 220 at 25Db = 1.12:1.

[Jim, KE8BV]

A couple of things.

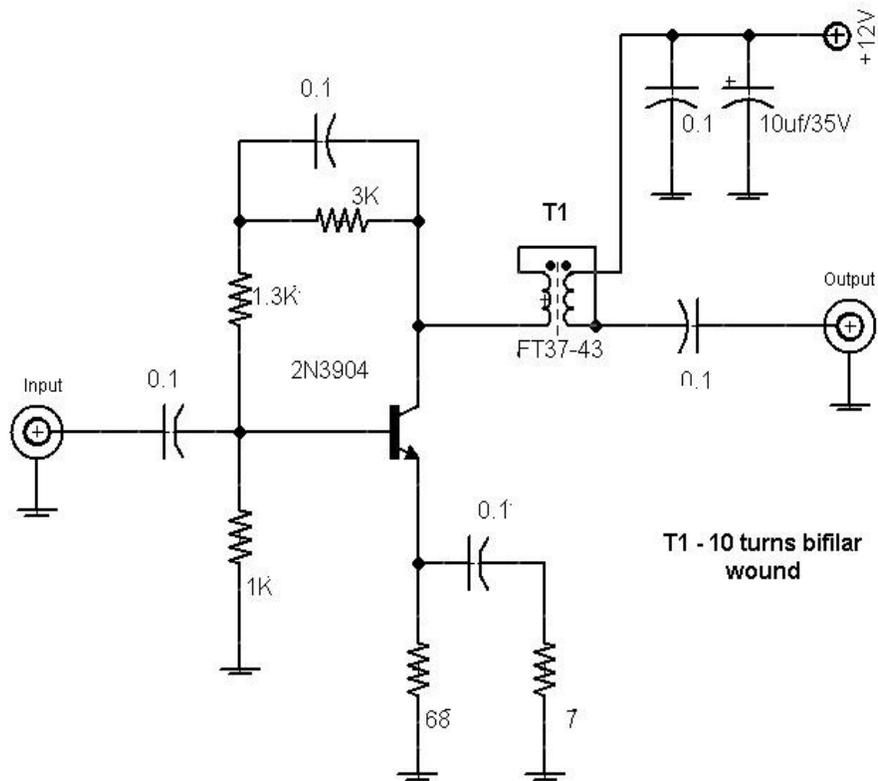
By Mike, W8RK0

1) I built an HF amplifier that has a 50-ohm input and output. This amp was published in *Experimental Methods*. The amp I built had a maximum input of -10dBm before compression. The gain is 20 db. Upper 3-db limit is around 60 MHz. The operation of the amp is given in a video demonstration using the LTSPICE simulation program to evaluate the input and output impedance.

You can see this video at <http://www.soldersmoke.com/kl7r/returnloss2.htm>

The video is worth watching just for a demo of LTSPICE. LTSPICE is a free circuit analysis program.

The schematic for the amp.



2) There is a website... www.SpaceWeatherLive.com ...with a lot of information on the activity of the sun. The site is available in multiple languages. You need to select English in the upper right of the main page. English is not the default language. You can sign up for email alerts.

Another site with sun and radio propagation information is hfradio.org. They have also have a a Facebook page "Space Weather and Radio Resources at HFRadio.org".

Anybody Listening?

This Is About Beacons.

By Bob, K8TKQ and Gerd, WB8IFM

I sat down with Bob, K8TKQ, EM89JE, at the picnic to talk about one of his daily routines, namely listening and checking on the VHF/UHF and microwave beacons that he usually picks up from his location at Bainbridge in southern Ohio. He made a brief comment on the beacons that are detectable in our area at our last meeting in July which got me interested.

Also, we have put up a 1296 beacon (on a local TV tower) just recently, and the way it looks now we might go this route with a bunch of more beacons for the higher microwave frequencies. It would provide guys like Bob with a meaningful daily task, checking on them at certain hours. If you listen to beacons on a regular basis, you get a pretty good feel for propagation, and that is part of being a ham and knowing what can be expected and done on the higher frequencies. And it is certainly a great help for new and old hams to find something on the bands they can look for and get a warm feeling for their equipment when suddenly there is a signal popping out of the noise. It also makes you appreciate (what I call) the Japanese tuning ratio, like 1 kHz per turn. Bob thinks this is definitely not too slow!

Bob is a blind ham, but with the help of his xyl, modern technology and some friendly hams, he has managed to be regularly on the air on quite a few VHF and microwave bands, and can be regularly counted on during activity days, contests and so on.

Here now a run down on the beacons on his list: the above mentioned MVUS beacon on 1296 is S9 or above in the morning and drops to a still healthy S5 in the afternoon.

The WA3TTS 6m beacon, 1W at 1100' from Pittsburgh is S5 in the morning and S1-2 in the afternoon. It is audible at all times.

The 70cm beacon on 432.321 also from Pittsburgh (EN93) is similarly S5 in the morning and S1 in the afternoon.

There are some 8 beacons from EN93, near Toronto. He listens to those but not on a regular basis. He picks up the 222.055 at S2 in the morning and just above the noise (S zero-1) in the afternoon. The rest of the VHF beacons behave the same.

A big jump to Virginia and Fmzero7. (Bob has a grip on these grid squares). He picks up 432.302, call: WA4PGI, at S4/5 in the morning but just detectable above the noise in the evening. The 1296.2 is S6 -9 in the morning and 3db above the noise afternoons.

Tennessee, EM86, WD4GSM, 2m, 144.285 is S9 in the morning and S2 in the afternoon. From the same location the 222.057 beacon is only S2 in the morning and not detectable in the evening. The 432.345 is S5 in the morning and 4-5dB above the noise in the afternoon.

Tennessee, EM76, 144.282 : mornings S4-5, afternoon, maybe S2.

Bob no longer hears Chicago or Michigan beacons, since they primarily beam north.

Finally, the 432.297 beacon in EN63, just at the Michigan Wisconsin border comes in at S2 in the morning and is not detectable at night.

Bob feels a need for more beacons, in particular he mentions 902; 2.3; 3.4 and 5.6. BTW all frequencies are in either MHz or GHz.

New 10 GHz Beacon

at Mt. Horace Greely EN57vi 1600 feet elevation
End of the Keweenaw Penninsula, Lake Superior.
Keweenaw County, Michigan

Just completed the installation of a pair of beacons on 432.311Mhz and 10368.315+/- Mhz, **Any reports will be appreciated.** These beacons should illuminate Lake Superior well from this location. 73 de N8PUM Brandon

Thanks to K2YAZ Bob for supplying the beacon on 10ghz..

10368.315 Mhz , 200mW FSK to 32 slot horizontal omni antenna.

+432.311 Mhz 3 W to single turnstile antenna



Phantastic view from the antenna platform



70cm Turnstile Antenna

First Reports:

I went to a local lookout (Terry Fox) in EN58jl, your 10 ghz beacon was S-8 there, nice signal and it really surprised me! I think it will work nicely around Lake Superior. At the home qth your 432 beacon is S-4. Thanks again to you and Bob K2YAZ.

73, Fast Eddie, VE3KRP

OK Eddie, I just got home from the Keweenaw. I was hearing the 432 beacon right into Keweenaw bay, strong. Heard the 10 Ghz beacon for 10 miles or so until heavy tree cover. Then heard it strong in Baraga, Michigan across the bay, about 35 miles south of the beacon. Listen for it around 10368.315 Mhz or so. I am hearing it on 10368.318Mhz. It is the same site as the 147.315 repeater on Mt. Horace Greeley, at the old US Air force radar station. Thanks for the first report and please spread the word and send reports on the 10ghz beacon.

Thanks to the Keweenaw County Repeater Association for access.

73' de N8PUM, Brandon.

On 9/3/2012 K2yaz@aol.com wrote: Hi B, 432M S-2 into EN74av this AM 10 GHZ not heard. Bob