

Mtg. Fri 6:30 Sept 23
at the MCL Cafeteria in Kettering

Aug. 2016

ANOMALOUS PROPAGATION

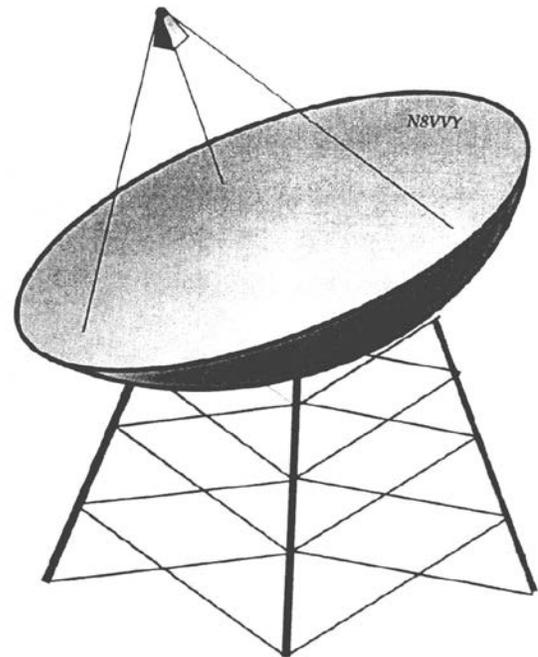
Newsletter: *The Midwest VHF/UHF
Society*

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Annual Society membership is \$ 12.00. Please
make checks payable to Joe Muchnij



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Beacons: 1296.079 **W8KSE** EM79ur Dayton, OH---- 2W to Big Wheel at 800' AGL.

Listen for the **K9AYA Beacons** at EM79qk, 2W @ 10,368.000 MHz
both are copied by K4TO daily. 1W @ 5,760.000 MHz

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UPCOMING: *Microwave Update, Oct 13-15, St. Louis, MO*

MVUS Officials:

Pres. Tom Holmes, N8ZM,
Vice Pres. Mike Suhar, W8RKO
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De N8ZM: Labor Day is here already, and we just had our annual picnic at the home of Daun and Karen Yeagley. It was a gorgeous day until the rains came around 3 PM, but at least we got to eat and work on a few things before the deluge broke things up. I don't have a headcount but I would guess about 15 members and at least 5 XYL's. There alleged to be photographic evidence of the attendees elsewhere in this issue.

Sadly, one of our favorite XYL's, Marilyn Dakin, wife of Red, passed away two weeks before the picnic. Marilyn always had a smile and as her birthday was in September, we always sang happy birthday to her. This year it seemed fitting that the picnic was actually held on her birthday, so we sang that song and had cake in her honor. We will miss her smile and her warmth.

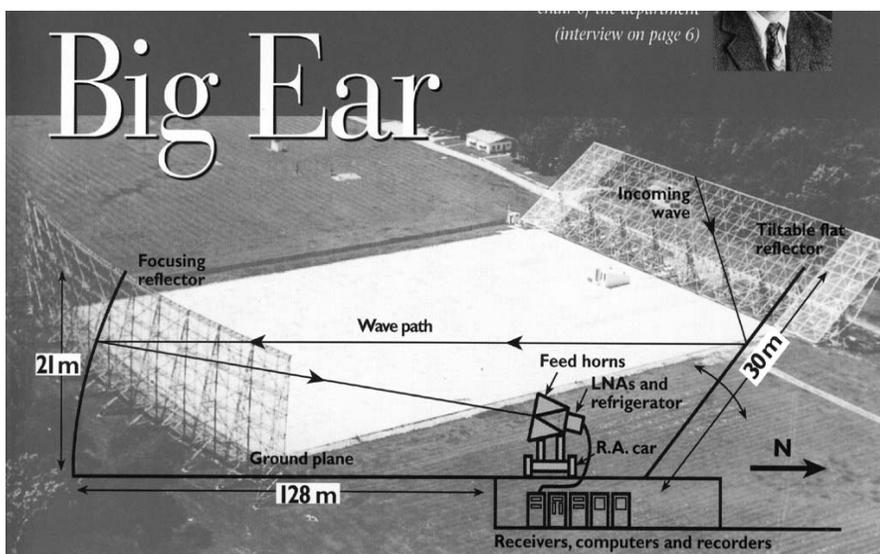
As the picnic is also the time of electing officers, we took care of that business as well. The only change is that Mike Suhar, W8RKO, has replaced Bob Mathews, K8TQK, as VP. Treasurer will continue to be Joe Muchnij, N8QOD, and Secretary will be Jim Bacher, WB8VSU. And for no apparent reason, yours truly was re-elected as President for the 25th consecutive year (at least, I've lost count). Term limits; we don't need no stinkin' term limits. Many thanks to Bob for his service as VP, and to Mike for stepping up.

With Hamvention moving out of HARA, we decided to retrieve our 2m and 432 beacons from the roof, so Mike Suhar and I trekked over there and did that. Mike has a few minor modifications he wants to make to the hardware before we put it back up. The plan is to use the Hoke road water tank in Englewood as the new site. There is a bit of engineering needed before we can do the installation but that gives Mike some time to work on his mods. I'd guess that we could have it running from there before the end of October.

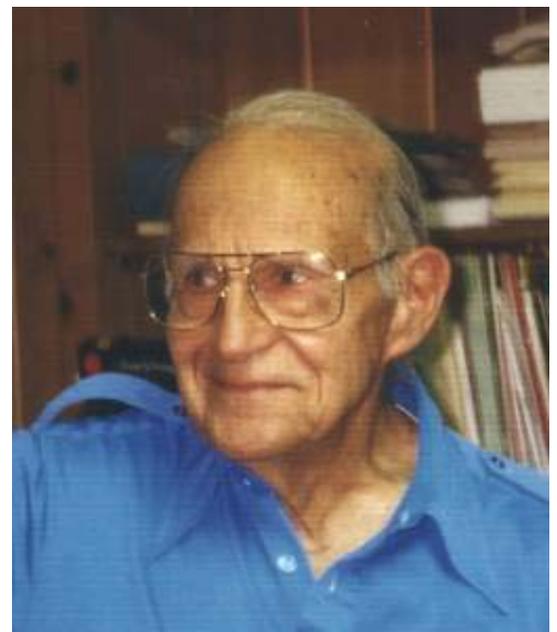
I don't know if this will get to you in time, but the September ARRL VHF contest is the weekend of the 10th and 11th. If you have gear for 6m or higher, even on FM, please get on and hand out some points. All you'll need to know is your call sign and grid square. If the latter is difficult for you to determine, contact me and I'll be happy to help you figure it out. Whether you work our team at N8ZM or not, get on and help protect our higher frequency bands from being scarfed up by commercial interests. And send in your log! That is part of the evidence needed to convince the FCC that we are using our frequencies. Even if it's just one contact, it is important.

Our next monthly meeting, always on the 4th Friday of the month, will be September 23rd. Note that this month has 5 Fridays. You've been warned.

73, de N8ZM.



John Kraus, W8JK (SK)



This and That. AP 8-16

Car Trouble. Sweet young thing to auto mechanic: “Please fix my horn. My brakes don't work.”
[Shirley Wefer from Liberty, Canada in Reader's Digest for Feb, 1965]

Food Advice. It doesn't take a rocket scientist to figure out that your body has to keep rebuilding itself from the food you eat, so it's going to last a lot longer if you provide what it needs. Meat, vegetables and fruit, not Dunkin Donuts, beer, Big Macs and fries.
[Wayne Green, W2NSD, Sept1995]

Band Opening. It was the day after x-mas. Wilbur, K8AEH, an avid ATVer from Reynoldsburg, Oh, noticed the thick layer of fog outside and after an early snack & coffee, he checked his ATV setup for band conditions on 70 cm. He was not disappointed. He logged signals from the following states: WI, IL, IN, AR, MO, Mi, PA, KY, & WV. Not bad for a late x-mas present!
[old CQ-Mag]

Outside Fun. Have some outside fun. Jump on a bike, walk in nature, paddle a canoe, do anything you like that gets your heart pumping and your juices flowing. And keep your fingers off your cell phone!
[Marilyn Preston, DCP]

Computers. I decided a long time ago, that computers exist for the sole purpose of making me feel incompetent.
[D.L. Stewart DDN]

Segal's Law. “A man with one watch knows what time it is. A man with two watches is never sure. [?]”

Belonging. Only when all people around you are different, will you belong!
[Little Man Tate]

Providing. The test of our progress is not whether we add more to the abundance of those who have more; it is whether we provide enough for those who have too little. [Pres. Franklin D. Roosevelt, 1937]

Rainbow. Patches on the worn fabric of politics are being stitched and cross-stitched with threads of venom that augur nasty months ahead and we will have nobody to blame but the Republicans, the Democrats, the splinter parties and the calender – which is to say, another presidential election is just over the rainbow.
[Carl Riblet, 1983]

Giants vs. Infants. “Ours is a world of nuclear giants and ethical infants. We know more about killing than we do about living!”
[Gen. Omar Bradley]

Japanese. Come on, you can learn Japanese. Can you say, “Ichi Oku So Hakuchi”? Good. That's what the Japanese call a “TV set.” Means “for 100 million idiots.” [?]

Edwin Hubble. “He continues to give me great faith in humanity, because he started out as a lawyer and the became an astronomer.
[Lawrence M. Krauss]

More Computers. “ The new cars are just computers on four wheels.”
[Fritz, DK8JK]

Peak Auto. According to a newspaper report we passed “peak auto” in January this year. This point can be defined as driving by car on the public road system: streets, highways and freeways, where it changes from being enjoyable to bearable into just being a hassle.
[Gerd, WB8IFM]

Radio Signal Still A Mystery

by Joe Burke, WA8OGS

Thirty-nine years ago, a loud radio signal was received by a radio telescope known as the Big Ear at The Ohio State University's Perkins Observatory. This signal did not originate from earth, but appeared to come from deep space. This mystery "Wow!" signal was recorded on August 15, 1977, and lasted 72 seconds.

The Big Ear was a huge antenna about the size of three football fields, designed and built by American physicist John D. Kraus (1910–2004), a professor at The Ohio State University. In 1973 the Big Ear radio telescope began searching space for radio signals that might come from extraterrestrial civilizations attempting to make contact with intelligent life elsewhere in the universe, and continued this search until 1995. This was part of the Search for Extraterrestrial Intelligence (SETI) project.

A 2012 National Geographic article stated "More than three decades later, the Wow Signal, as it has come to be known to SETI researchers, remains both the first and best potential evidence of communication from extraterrestrials, and one of the most perplexing mysteries in science."

On April 20, 2016, a Tech Times article headline read "Wow! Signal From Space Explained: Is It From Aliens Or Something Else?"

Antonio Paris, an astronomy professor at St. Petersburg College in Florida and former analyst for the U.S. Department of Defense, offers a possible explanation to what may have created the Wow! signal in 1977. The Tech Times article states: "In a study featured in the Journal of the Washington Academy of Sciences, Paris described how he was able to examine the area of space where the Wow! signal likely came from. While he didn't find any alien species, he did come across two comets named 335P/Gibbs and 266P/Christensen, which could be the culprits behind the powerful radio blast detected by the OSU's Big Ear radio telescope."

An article in the Journal of the Washington Academy of Sciences, Winter 2016, further explains the possible source of the Wow! signal: "Hydrogen Clouds from Comets 266/P Christensen and P/2008 Y2 (Gibbs) are Candidates for the Source of the 1977 "WOW" Signal". The article explains that comets are surrounded by a hydrogen cloud that may be over 100 million km in width. When the cloud approaches the sun, it gets larger and can emit electromagnetic radiation at a frequency of 1420.4 MHz. These comets were not discovered

until after 2006, so were unknown when the Wow! signal was recorded.

One of these two comets, Comet 266P/Christensen, will be in the same area of the "Wow" signal next year, on January 25, 2017. Radio astronomers worldwide will have their radio telescopes pointed toward the deep-space area of the Wow! signal. Will they finally solve the Wow! signal mystery? Stay tuned....

The feed horn from the Big Ear radio telescope is now part of the Voice of America Museum collection in West Chester, Oh. The West Chester Amateur Radio Association a division of the National Voice of America Museum of Broadcasting, shares the museum building and operates station WC8VOA from the Voice of America building at 8070 Tylersville Rd., in West Chester OH. Most common amateur modes, including modern digital modes of operation, are used at their operating stations, including 10 Ghz EME using a 7.2 meter dish.

References:

- The Wow! Signal - <https://www.astronomyhouston.org/newsletters/guidestar/wow-signal-0>
- About the Big Ear Radio Telescope - <http://www.bigear.org/about.htm>
- What Is The WOW! Signal - <http://channel.nationalgeographic.com/chasing-ufos/articles/what-is-the-wow-signal/>
- Journal of the Washington Academy of Sciences - This peer-reviewed Journal publishes original scientific research, critical reviews, historical articles, proceedings of scholarly meetings of its affiliated societies, reports of the Academy, and other items of interest.
- 'Wow!' Signal From Space Explained: Is It From Aliens Or Something Else? - <http://www.techtimes.com/articles/151480/20160420/wow-signal-from-space-explained-is-it-from-aliens-or-something-else.htm#sthash.EwKJafel.dpuf>
- Hydrogen Clouds from Comets 266/P Christensen and P/2008 Y2 (Gibbs) are Candidates for the Source of the 1977 "WOW" Signal http://planetary-science.org/wp-content/uploads/2016/01/Paris_Davies-H-I-Line-Signal.pdf
- West Chester Amateur Radio Association - <http://wc8voa.org>

A Twin Earth

By Aki Roberge, Astrophysicist at NASA in *Scientific American* for Sept. 2016 page 78

My money is on “Yes.” We've found planets around other stars are far more abundant and diverse than scientists imagined just a couple of decades ago. And we also found that the crucial ingredient for life on this planet-water- is common in space. I'd say, nature seemed to have stacked the deck in favor of a wide range planets, including Earth-like planets.

We just have to look for them!

European Adventures.

Following are a few stories from John Kraus' book: “Big Ear” (2nd ed.) Described are his first attempts to learn about radio when he was a boy (10y old) and they conclude with a visit to Europe in 1936 after he had completed his education. At the time he had an older brother living in Berlin who joined him on a few excursions.

1) For his first radio he used the well known oatmeal box to wind the coil, and the wire came from a Ford Model-T spark coil, which cost \$1. “A pair of earphones was more expensive so I removed the ear-piece from our household upright Bell telephone. The ear-piece was easily disconnected and a hammer hang on its place so that the operator or “central” would not be alerted. Of course, the telephone was inoperative, but this was only a slight inconvenience for a few hours each evening.”

His Dad, who was a mineralogist, gave John a few “pea-sized scraps of shiny black galena crystal. And for the “cat whisker” they went downtown to a company his dad had designed a measuring device for specific gravity or density of minerals. “After I explained my needs to Ralph Miller, the shop foreman, who soon presented me with a short length of exceedingly fine hair-like phosphor bronze wire and a small brass clip.” Now the radio was quickly assembled and attention went to putting up an antenna.

“I purchased a roll of copper wire and

several glazed ceramic insulators. I strung the wire with insulators from an electric power pole at the back fence to our house and through my window.

Finally, I connected the antenna to the receiver. Then, holding the telephone to one ear, I used my free hand to probe the galena crystal with the cat whisker. Searching for a sensitive spot was tricky and often took many minutes. ... However, the thrill of listening to the early broadcasts compensated for these frustrations.

It gave me a eerie, out of this world feeling to hear the faint, but clear voice of “Ty” Tyson announce, “This is WWJ, The Detroit News: the next selection will be, 'Your happiness lies right right under your eyes, back in your own backyard'.”

“Bob Swain, a senior in high school, had a real radio receiver, his knowledge of wireless seemed limitless. He lived a few houses from me and he let me listen on his receiver. Bob had built a multiple wire antenna stretching from a tall pole above the roof of his house to a huge guyed tower in his backyard. I was impressed and fascinated and regarded his antenna as no less impressive an engineering feat than the Brooklyn Bridge.”

2) John had just received his doctor's degree and since his brother in law had just received an “invitation to fill

the pulpit of the American Church in Berlin” he went along for a trip to Europe... From Berlin they went by train through Poland to East Prussia where they stopped in Koenigsberg (now Kaliningrad), the birthplace of Immanuel Kant, who said: “The Starry heavens above and the moral law within us inspire the greatest awe.” Knowing what we know today about the heavens and the universe, Kant's statement is even more true now then when he wrote it.

Next they went to Leningrad and then Moscow, where they met with local hams. Together in an open Lincoln touring car they went 20 miles north of the city of Mutusche located in a large flat area, the home of some impressive radio stations. There was RV49 running on almost ½ MW transmitting on 748m (401 kHz). Another was RNE, operating on 25 and 50m (12 and 6 MHz) with not quite 100 kW.

“We were escorted on a tour by Boris Vitkevitch, the engineer in charge. It was mid-afternoon and RV49 was off the air. Although it transmitted only evenings, Boris turned it on for us. The transmitter occupied one end of a large building and when it came on, it looked like Christmas. Colored lights and huge vacuum tubes glowed. Accompanying this was the sound of rushing water like a hundred toilets going all at once in a royal flush. The water was for cooling the tubes.

Galileo Prophecy

Scientist and writer **Galileo Galilei**, born in Pisa, Italy (1564), defended the scientific belief that the Earth was not the center of the universe and was tried by the Roman Inquisition for heresy. He once prophesied that, in the future, “There will be opened a gateway and a road to a large and excellent science into which minds more piercing than mine shall penetrate to recesses still deeper. And, in questions of science, the authority of a thousand is not worth the humble reasoning of a single individual.”

Explanation of Torque [Internet]

There is an obsession with Torque. Like : Torque is more important than horsepower!

It's not true, torque is never more important. In any given situation, horsepower determines how fast a car will accelerate.

Torque is only one part of the equation, in order to accelerate a car you also need RPM, and the relationship between torque and RPM is exactly what is described by horsepower.

Forgetting about gearing for now, take these scenarios:

You have a motor with 1000 lb/ft of torque but it only spins at 100 RPM
 $(1000 \times 100) / 5252 = 19$ horsepower. Not going to move very quickly.

Conversely, you have a motor that spins at 10,000 RPM but only makes 10 lb/ft torque at that speed -
 $(10,000 \times 10) / 5252 = 19$ horsepower. same problem.

Finally, taking the best of both, you have a motor which can spin 10,000 RPM and can make 1000 lb/ft of torque doing it: $(10,000 \times 1000) / 5252 = 1,904$ horsepower. now you have a fast car.

People have written pages about this but to sum it up, if you need *one number* to describe how fast a car can accelerate in a given situation, it is horsepower.

An early Ford wouldn't go up a steep hill, even in first gear. So people would put it in reverse and back it up the hill, slow but this gear has sufficient TORQUE! {Editor]

Recommended Reading of the Scientific American.

The “Scientific American” has produced another special issue: this one, for Sept. 2016, deals with: “9 Questions about our Future.” Following just two brief excerpts as examples....

Climat Change: “This is an easy call to make; it is going to happen.” [Kim Stanley Robinson, pg. 84]

Capitalism: “As we practice it now is the Chelobinsk-65 plutonium plant of contemporary technologies: dirty, brutal, destructive, stupid. [Kim Stanley Robinson, pg 85]

Chance for Survival. (No.8). Our most immediate challenges over the next century are to stabilize our population and to construct energy and agricultural systems that can provide us without wrecking natural systems...

[David Grinspoon on page 78]

An expensive watch is more accurate, right? [From: CRONOCENTRIC, on Web]

"Excellence is achievable, perfection is much more elusive."

(origin unknown).

If this is your first time buying an expensive wristwatch, there is one very important fact you need to know in advance. A \$25 Timex or Casio digital watch will keep time just as well as, and possibly better than, a \$20,000 solid gold mechanical Omega, Rolex, or other very fine watch.

If that last statement surprised you, read the rest of this section carefully.

All watches tend to gain or lose a few seconds over a period of time. These are small mechanical or electro-mechanical devices that are counting out 86,400 seconds per day. Even if a watch is 99.9% accurate, it will still be off by a minute and a half in only 24 hours! So even a mediocre wristwatch has to be well over 99.9% accurate to even begin to be useful on an ongoing basis.

So, what is a reasonable expectation of accuracy from a wristwatch?

Reasonable Accuracy Expectations by Type of Watch	Seconds gain/loss per day			Best Accuracy
	Worst	Typical	Best	
Vintage mechanical watch in good repair	+/-60	+/-15	+/-5	99.9826%
Modern mechanical watch non-certified	+/-10	+/-5	+/-2	99.9942%
Modern mechanical watch chronometer certified	+6/-4	+/-3	+/-1	99.9977%
Modern quartz watch non-certified (normal)	+/-2	+/-1	+/-0.1	99.9998%
Modern quartz watch chronometer certified (rare)	+/-0.02	+/-0.02	+/-0.0	99.9999%

While some people desire wristwatches with extremely high accuracy over long periods of time, it is seldom for any reason besides personal satisfaction. The few professions that depend on precision time synchronization (such as astronomy, global navigation, train scheduling, and broadcasting) base their operations on high precision time sources, not consumer wristwatches.

Ultimately, if you are living so close to the edge that having your watch off perfect time by less than a minute bothers you or otherwise throws your life into disarray, you probably need less caffeine and a vacation!

The Rain Came Early. By Gerd, WB8IFM

It was a hot day, and the weather report said: "5 o'clock , chance of storms". Well, there were storms alright, and they came early!

I had it easy this time. I did not have to sort through all my antenna and mast pile, since nobody had put in a request for antenna measurements. We only had to pack lawn chairs, the club's banner and the freshly baked chocolate chip cookies.

Daun's driving instructions were pretty good. The only problem we found, not having a GPS, was with the small street signs out in the country. Our slowing down, in order to be able to read them, made the 'locals" behind us obviously quite nervous. But we made it to the sign "Road closed, except for MVUS" (it actually said "Residents") and there, somewhat hidden was Daun's driveway. We posted our big MVUS banner and proceeded to the house. A few were there before us.

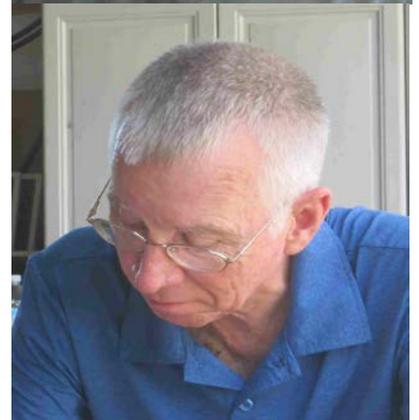
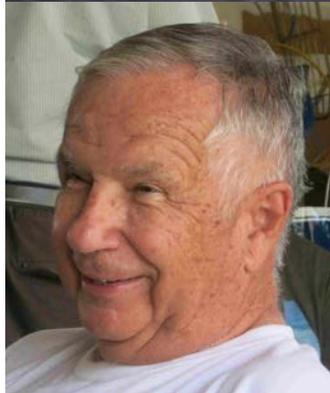
It was around 1pm and we set up three canopies to create some shade in front of the garage and on the deck where the grill was located. Tables were set up in the garage, where Tom and Daun could measure noise figures and other parameters. I did spot a few preamps and power supplies. But most of us just socialized, and enjoyed their cold drinks and snacks. The women had a good time in Karen's air conditioned kitchen and living room.

We had excellent attendance: 20 per sign-in sheet. 15 OMs and 3XYL-Hams and two just XYLs. I think there were two more xyls but we do not have their names. But was most remarkable was the amount of food and the variety. There were two birthday cakes, one brought by Red, W8ULC, who lost his wife Marilyn just 2 weeks before. She had birthday around this time and we used to celebrate with her at the previous picnics. We might just continue this custom.

Following the wx on the Internet (the next national wx radar is only a few miles away), we found a bad storm coming close much sooner than predicted, and we sped up the picnic around 2pm. By 3 pm we were just finished, when the dark clouds moved in and the wind picked up. Taking down the canopies was quick. Quite a few of us, especially the ones from out-of-the area packed up and took off, as we did. I think, we just made it to the road, when the rain came pouring down.

N8QOD	Joe Muchnij	Bellbrook OH	WB8ART	Randy Midkiff	Miamisburg OH
K8TQK	Bob Mathew	Bainbridge OH	N8JQR	Carolyn Mathew	Bainbridge OH
K8GDT	Garry&Sharon Tirsch	Brunswick OH	W9NBS	Tom Stauffer	Washington TWS OH
WA8RMC	Art Towsley	Westerville OH	WA8HNS	Mike Gray	Washington Ct H OH
WB8IFM	Gerd &Traudl Schrick	Dayton OH	WA8OGS	Joe Burke	Cincinnati OH
N8ZM	Tom Holmes	Tipp City OH	N8EYW	Barb Holmes	Tipp City
WB8VSU	Jim & Jeanne Bacher	Dayton OH	NC8D	Joe Gavin	Centerville OH
KD8RHS	Brett Scott	Germantown OH	K8GKH	Greg Jump	West Carrollton
N8ASB	Daun Yeagley	Wilmington OH	N8CSX	Karen Yeagley	Wilmington OH
W8ULC	Red Dakin	Red Lyon OH	W8RKO	Mike Suhar	Dayton OH

Attendance List, MVUS Picnic and Measurements: Sat 27 August, 2016 nr Wilmington, OH (Daun &Karen Yeagley's place)



MVUS Picnic Aug 27, 2016

Top in Daun's Garage Photo by Jim WB8VSU

other Photos by Gerd WB8IFM

Left Red W8ULC

Middle top Bob K8TQK

Middle middle Daun N8ASB

Middle bottom Joe N8QOD

Right top Tom, N8ZM

Right middle Randy WB8ART

Right bottom Joe Burke WA8OGS