

April mtg. Fri 6:30 28 Apr. at the
MCL Cafeteria in Kettering

ANOMALOUS PROPAGATION

Newsletter: *The Midwest VHF/UHF
Society*

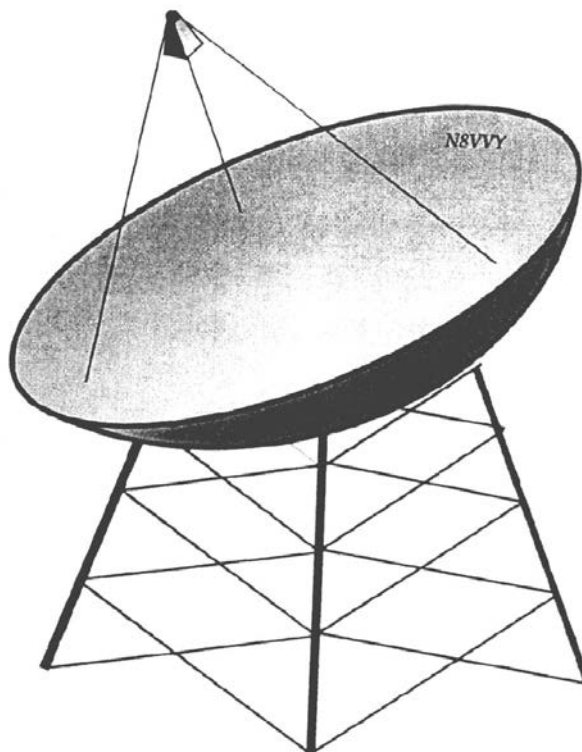
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2017

April/May



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make checks payable to Joe Muchnij



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Apr/May 2017

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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MVUS Officials:

Pres. Tom Holmes, N8ZM,
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Hamvention 2017 New Location: Fairgrounds in Xenia, OH

19,20,21 May MVUS Booth: Bldg 6 #6708

De N8ZM. Well, it is less than a month until the big show. MVUS will be there, in Booth 6708, which is in a tent ID'd as Building 6. But I told you that last month. This is just a reminder in a second location so that you will have that info if you want to find us, which I hope you will. N8QHV, N8VZW, and WA8OGS are on the hook to help out, but they can't do it all by themselves, so please plan to stop by and give them a hand, whether on Thursday for setup, during the show, or Sunday to put it all away.

On a sad note, MVUS' good friend Lloyd Ellsworth, NE8I, passed away earlier this month due to a heart attack. Lloyd was an avid VHF/microwave ham, and was well-known for roving all over Michigan to work anyone and everyone. He was always willing to help out anyone who wanted to get on the higher bands, and even trekked down to our annual picnic several years ago to help out with testing and measurements, as well as tuning up some of our rigs. So long, my friend. Your enthusiasm for ham radio will be greatly missed.

Back to more cheerful stuff, Mike, W8RKO is working hard to get the 2m and 432 beacons on the air for Hamvention, but I am probably the biggest impediment to that as I have not yet solved some of the problems at the water tank site we plan to use. Something about a hole saw for ½" steel. Might have to put the beacons up somewhere else temporarily, if Mike is willing. By the time you read this he will also have once again represented MVUS as one of the accurate frequency transmitters for the spring Frequency Measurement Test. And now that John, N8UR, is back in Dayton we should see even more activity on that front. The whole time and frequency aspect of the hobby is quite fascinating and fun. And it can get to be an obsession; just ask John!

A quick reminder about 40-fest, a day-long technical conference on amplifiers and other homebrew projects being held on Saturday, April 29th at DARA's Bellefontaine Road clubhouse. There will be a number of presentations that you might find interesting, so plan on arriving around 9:00 Am. The talks start at 9:30.

Don't miss our April meeting on the 29th; it will be the last one before Hamvention.

de Tom, N8ZM

This and That 4+5-17

Discovery. "There are three stages of scientific discovery: first people deny it is true; then they deny it is important; finally they credit the wrong person." [Alexander von Humboldt]

Daring. It may be more daring than exploring the unknown to doubt the known facts and laws of nature.
[Alexander von Humboldt]

My Jokes. "I don't make jokes! I just watch the government and report the facts."
[Will Rogers]

People and Cars. Since 1950, the number of people on earth has doubled, however, the number of cars since has increased tenfold.
[L.M. Boyd]

Environmentalists. Let me tell you about the real environmentalists of old. England passed its first smoke abatement law in 1273. Enforcers in 1306 convicted a manufacturer of burning coal, and beheaded him.
[L.M.Boyd]

Moon Benefit. If there were no Moon, Earth's winds would be so strong that humans never could have learned to walk upright. So say the scientists.
[L.M. Boyd]

Musical Glenn. Astronaut John Glenn once won \$125,000 on the TV quiz show "Name that Tune".
[L.M. Boyd]

Crime Rate. "The crime rate in Washington, DC could be cut 75% simply by moving Congress somewhere else."
[George W. Bush]

Politics. "Just because you do not take an interest in politics doesn't mean politics won't take an interest in you!"
[Pericles (430 B.C.)]

We are all Lovers. "Amateur" comes from the Latin "amator" meaning "lover".
[L.M.Boyd]

Lightning. Your chances of getting hit by lightning go up if you stand under a tree, shake your fist at the sky, and say "Storms suck!"
[Johnny Carson]

Egotists. The nice thing about egotists is that they don't talk about other people.
[Lucille S. Harper]

Kakistocracy. A country run by the worst, least qualified, or most unscrupulous citizens. The word was coined by English author [Thomas Love Peacock](#) in 1829. [Wikipedia]

Radio Signal Still A Mystery (Wow!)

by Joe Burke, WA8OGS

Almost forty 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 comments were not discovered until after 2006, so were unknown when the Wow! signal was recorded.

One of these two comments, 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>

Reading Gibberish

As it states in the sample below about half the people have no problem and can actually read this.

I've been interested in the workings of the brain for some time and got particularly jolted after I read and listened to a German scientist who studied the brain and had some pretty good data and explanations.

The human brain is truly amazing, and in the age of the computer and the robots we ought to stop and not get carried away with enthusiasms over the accomplishments of mere machines. They have been only around for a few years and already are responsible for a lot of good but also a number of bad results.

Now, when we take a closer look at the brain, we really are amazed what it can do for the owners. If we only apply the small amount, we presently know about the brain, we'd be all smarter, live healthier, avoid bad habits, in particular: addictions.

As we now know, the brain is using the matched filter approach in recognizing most of our environment. So it is well known that people have superb face recognition capability. And yet it took the computer engineers many years to find and use nature's way to recognize faces. Looking at the "gibberish", the brain searches pictures of stored words and if it finds one, even incomplete or misspelled, it recognizes it.

We all know how a regular filter works. The matched filter adds an amplitude function to a wide frequency range designating preferred frequencies. When a match is found the filter output has a peak to indicate a match. That's it in a nutshell.

A new mathematical algorithm, the fast Fourier transform, FFT, makes implementing a matched filter possible for the PC. So a lot of things, requiring the Fourier transform, are now solve-able.

Automatic tuning of an SSB signal comes to mind, Our brain in combination with our word recognition is pretty good, but, of course, especially newcomers might have a problem tuning.. Why do we not have SSB tuning in our radios? The answer is simple: there exists a patent that prevents this. So you have to build your own or depend on your ear and brain as you do now.

If you can read this, you have a strange mind, too.

Can you read this? Only 55 people out of 100 can.

I don't believe that I could actually understand what I was reading. The phenomenal power of the human mind, according to a research at Cambridge University, it doesn't matter in what order the letters in a word are, the only important thing is that the first and last letter be in the right place.

The rest can be a total mess and you can still read it without a problem. This is because the human mind does not read every letter by itself, but the word as a whole.

Azansig huh? Yeah and I always thought spelling was important!

If you can read this forward it.

Joe Muchnik

Battery Breakthrough.

Last August a new kind of lithium battery was announced where the graphite anode was replaced by a very thin sheet of lithium, thus creating a new type of battery with practically twice the capacity. You could thus run your smart phone twice as long, maybe it will now last an entire day w/o a recharge and likewise it would double the range of an electric car which now stands at approx. 200 miles. All without increasing size and weight of the present battery. The inventor estimates new Batteries for the smart phone will be available this year and the car batteries by 2018. This maybe a little optimistic, but even if it takes longer, it is definitely a breakthrough we've been waiting for a long time. ...Next would be nuclear fusion, but that does not look so good.

Have a Happy Easter! Gerd.

Are You a Maker?

Apr 4, 2017 by [Lou Frenzel](#) in [Communiqué](#)

Are you following or participating in the maker movement? For the uninitiated, a maker is a do-it-yourself (DIY) person who likes to build things and make them work. A maker is also a hobbyist or experimenter who designs and constructs devices for fun or learning. In short, makers like to create. They enjoy fixing things and hacking, or repurposing, equipment for improved performance or some new application.

Makers typically specialize in one area (like electronics) but may also work in wood, metal, or other materials. 3D printing and welding are popular mechanical maker interests. Electronic makers love to play around with circuits and equipment just to see how they work, and/or experience the “eureka” factor that often accompanies the success of building something useful. The term “maker” is usually credited to Dale Dougherty, who founded the popular *Make* magazine in 2005. The term caught on and has generated considerable interest in those inclined to be DIYers.

So what’s the big deal about makers? There seems to be a resurgence in interest in making these days, with a growing number of people interested in experimenting with electronics. In truth, the whole movement has been around for decades, though in the past makers were called hobbyists or experimenters. Then you have hams, or amateur radio operators—a special class of makers who have been major experimenters with and creators of radio gear. I myself am a maker, and have been since junior high when I got my ham license. I built my own transmitter, followed by dozens of kits and electronic gadgets. I still love experimenting with electronic stuff. On my workbench I have an old [Tektronix](#) 100 MHz analog scope, power supply, function generator, and RF signal analyzer. Breadboarding capability, too. Lately I have been using a virtual scope made by Velleman that works with my laptop.

My current projects center around learning the [Arduino](#) microcontroller module and interfacing it to whatever. I learned C programming recently, but am frustrated with the fussy syntax and formatting. I plan to go back to assembler, where I am more comfortable in figuring out how to do something. Another current project is replacing the old expensive and unreliable fluorescent light fixtures under the kitchen cabinets with LED strip lighting. The specs on the LED strips say they will last up to 23 years. That ought to be long enough. Anyway, the heydays of electronic hobby experimenting seemed to be in the 1950s through the 1970s. Circuits and components were simple and inexpensive. Lots of kits were available. I worked for the big kit maker Heathkit for many years, which served the hobbyist market. It was a \$100 million-plus company. Test equipment was affordable. Radio Shack expanded to more than 7,000 stores. The hobbyist population was supported by magazines like *Radio Electronics*, *Popular Electronics*, *Byte*, *QST*, *73*, *Ham Radio*, and *CQ*, among others.

And then things changed. Kits became more expensive than equivalent fully assembled products produced in Asia. Furthermore, as semiconductor technology advanced, ICs got smaller and packed more circuitry per chip—e.g., more complex and expensive. They were also harder to solder and experiment with. Then the microprocessor came along and the hobby computer was created. Things got more complicated and the emphasis shifted to software.

The interest then moved on to the rapidly developing personal computer. Most of the electronic magazines died and were replaced by many PC-related magazines. The hobbyist movement may not have gone away, but it did go into hibernation.

But things have gone full-circle: One of the key goals of the latest movement is to introduce more high school students to technology and engineering. Individuals with a maker background make great practical engineers. Some schools have even incorporated maker events or activities to generate interest in engineering.

Today the electronic hobbyist or maker is back, big-time. The movement is supported by magazines like the aforementioned *Make*, *Nuts & Volts*, and *Circuit Cellar*, along with the ham magazines *QST* and *CQ*. New companies selling parts and kits to this market have emerged, including Adafruit, littlebits, SparkFun, and a few others. Parts suppliers like Jameco and All Electronics serve this audience as well as traditional distributors like Newark Element 14, Digi-Key, and Mouser. Websites like All About Circuits are booming.

Hot topics for making are primarily micro-based, like Arduino, Raspberry Pi, and BeagleBone. LED lighting kits of all sorts are popular. So are robots and drones. 3D printing is a big interest area. But ultimately, anything goes.

So, are you a maker? Or do you just get your fill of making electronics at work? I’d love to know what you think of the movement, and how you’d like *Electronic Design* to cover it.

Lloyd Ellsworth, NE8I EN73 SK

I have sad news to report. My friend, noted VHF contest rover, and microwave enthusiast Lloyd Ellsworth died of a heart attack this morning (4-9-2017) in his home in Northern Michigan.

Lloyd was well known in the VHF/UHF/Microwave community as a skilled and active experimenter, and for his great depth of knowledge in radio technology. He was always willing to lend a hand to anyone wanting to start out in Microwaves, and got great joy in putting someone new on the bands.

He will be greatly missed.

Dave DeVos KF8QL/R

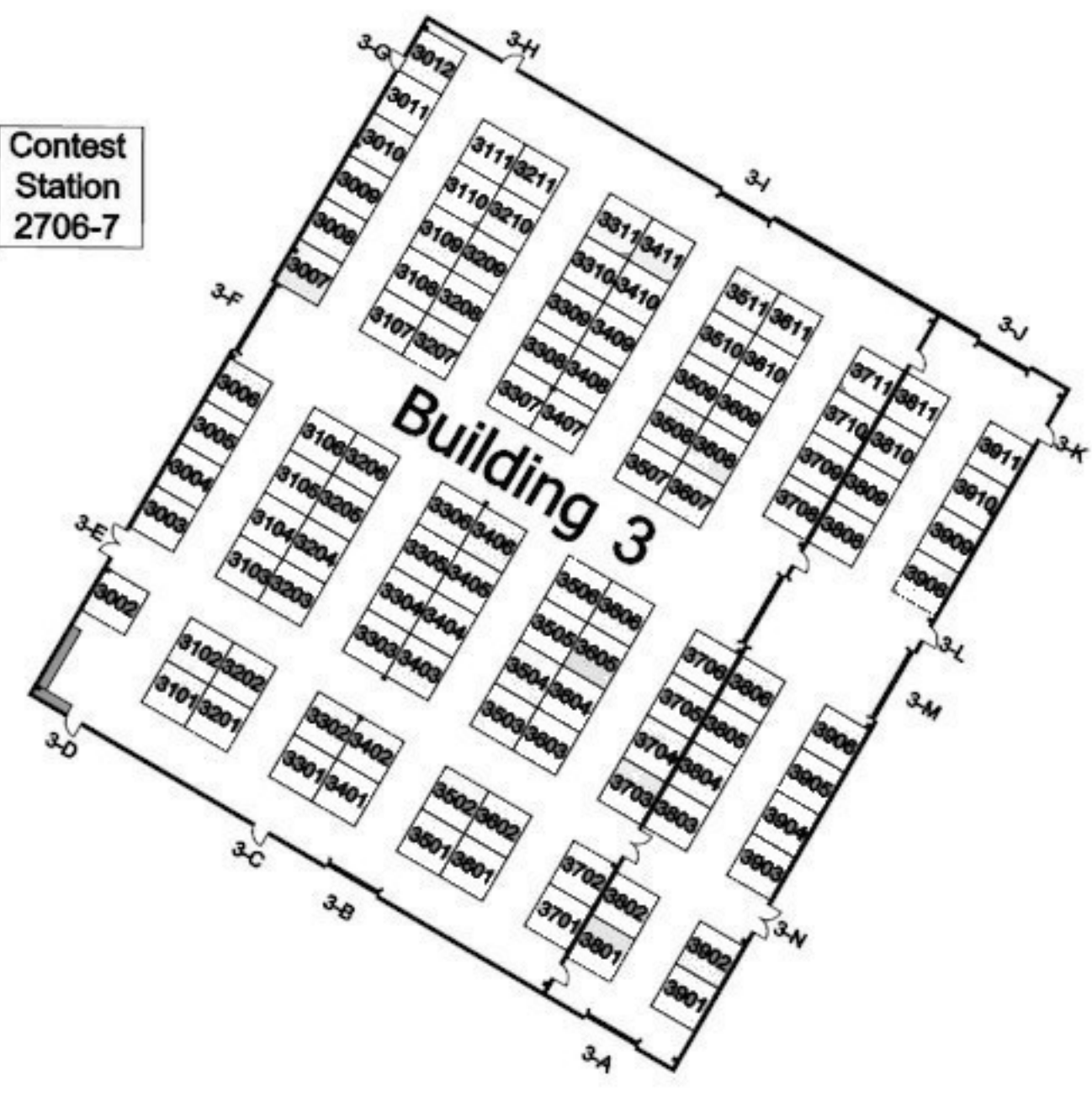
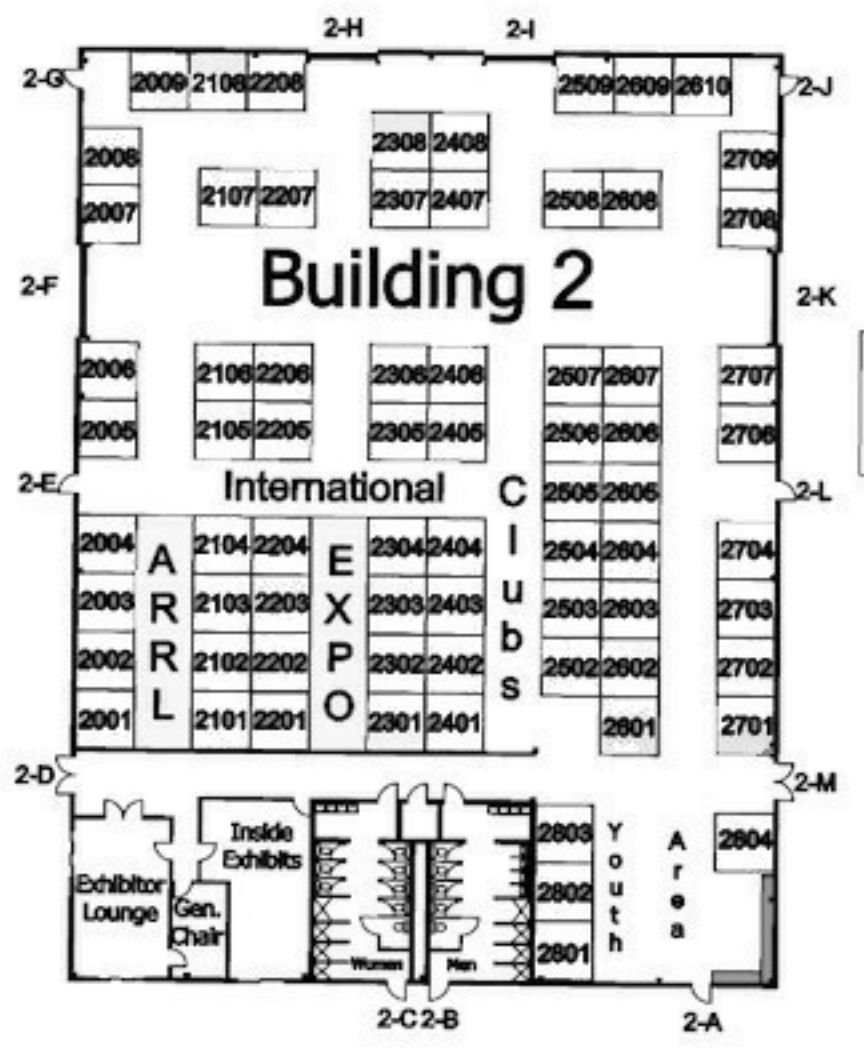
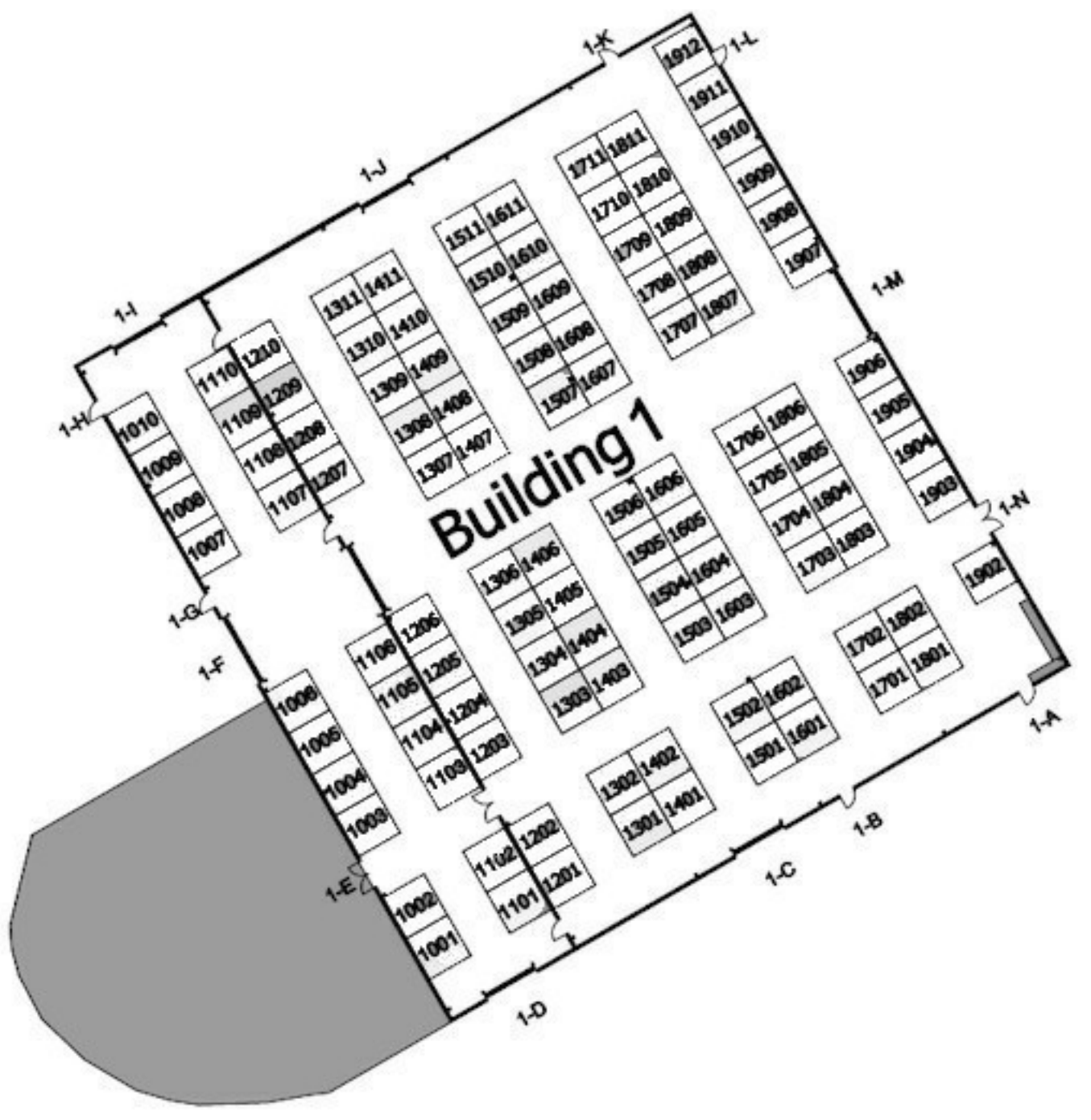
We all remember Lloyd, even if you never met him in person, you probably remember the many reports he supplied from his beloved roving in Michigan and the neighboring states. He had a unique writing style, somewhat like “telegraph brevity” that was fun to read. And, of course, you suddenly felt the excitement of roving. He had words to describe even the most awful conditions colorful and exiting! I had been missing his input for some time and it was really a shock to hear from his passing. At an advanced age, a heart attack is a serious matter. Usually it happens suddenly and even a 911 call is often not enough fast enough to provide help. The best scenario would be if there were a doctor or a nurse within earshot. One of Lloyd's legacy is all the encouragement he gave to newcomers and brought into the art of “roving” It behooves us to take up this task and promote the higher frequencies to all hams. It is alarming to see all this frivolous activity on these bands and we have to convey the Hamradio aspect to the general public and also to the so called experts that believe the signals are on the microwave to be “harvested!” As you know the power densities are ridiculously low compared to the frequencies of the sun, available in plain sight.

Gerd, WB8IFM

We would like to reprint Lloyd's “roving set-up” fro his page in QRZ

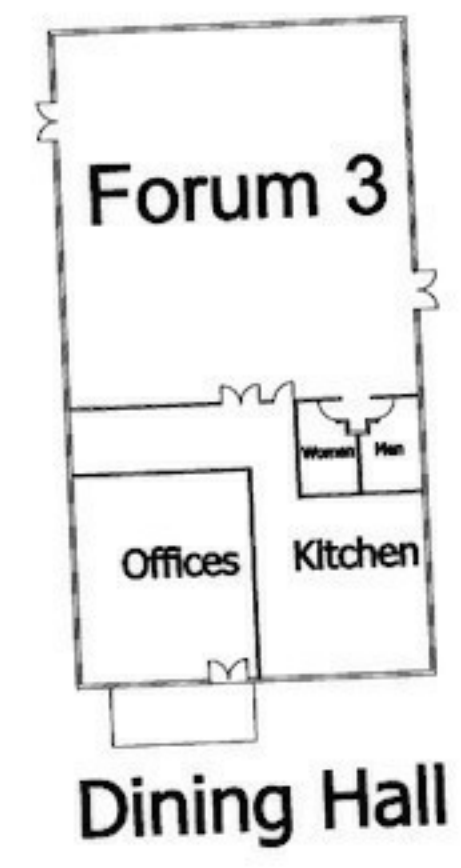
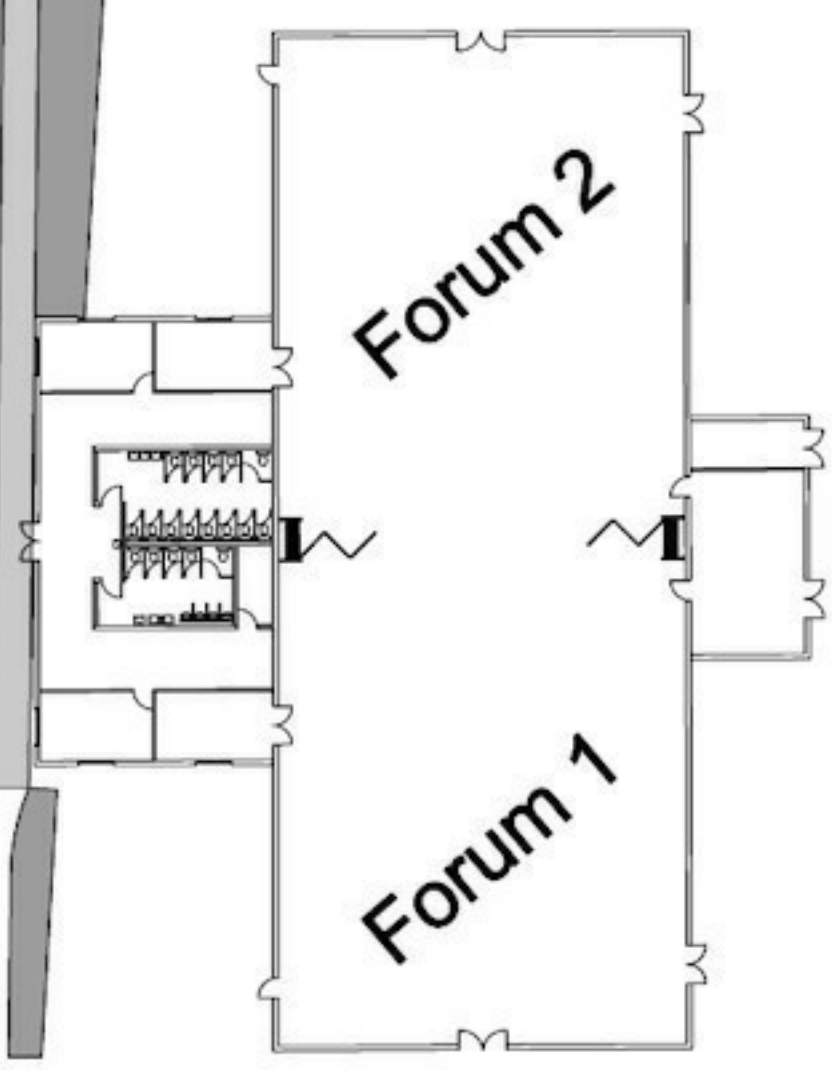
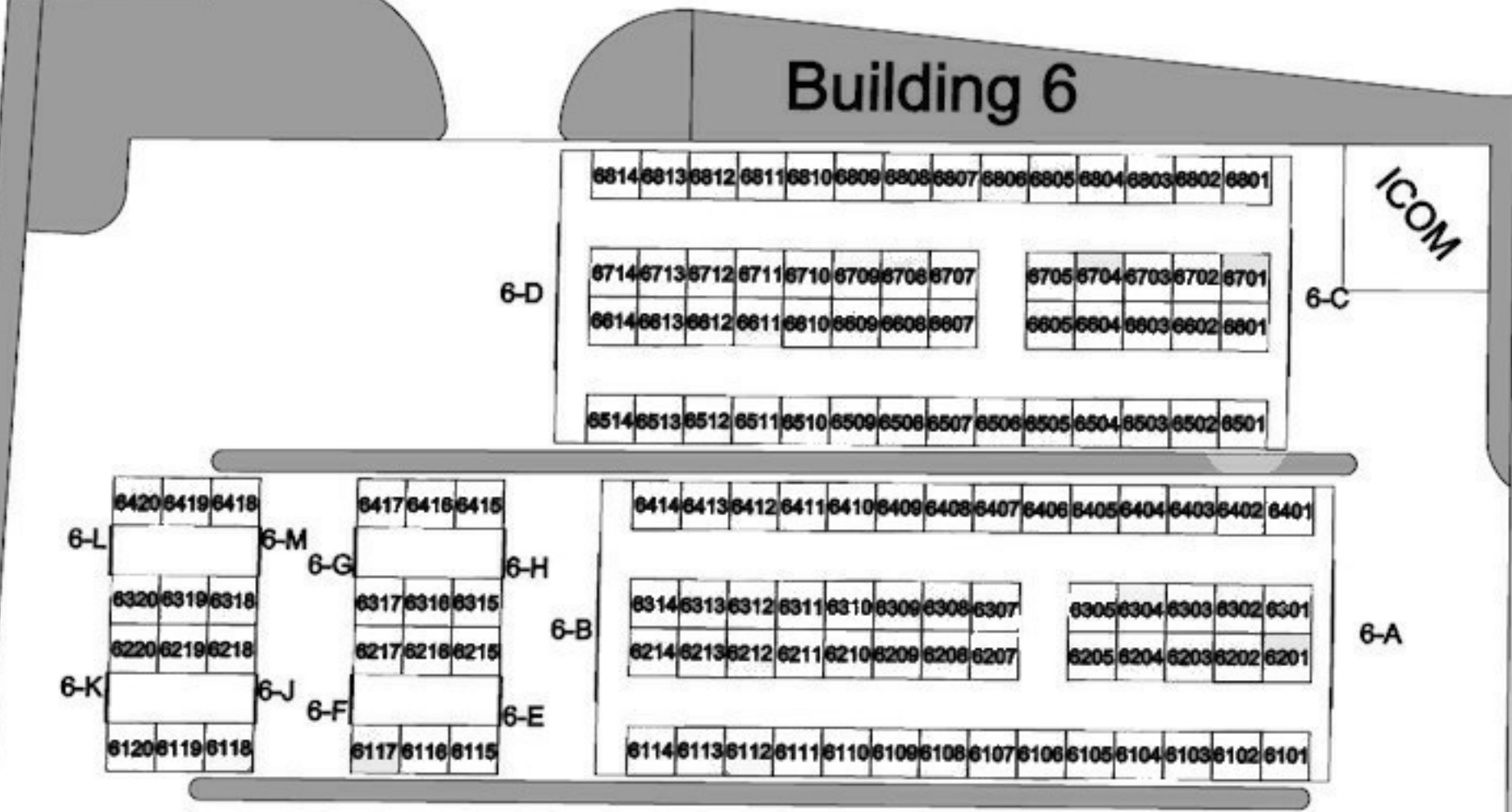


Ticket Gate

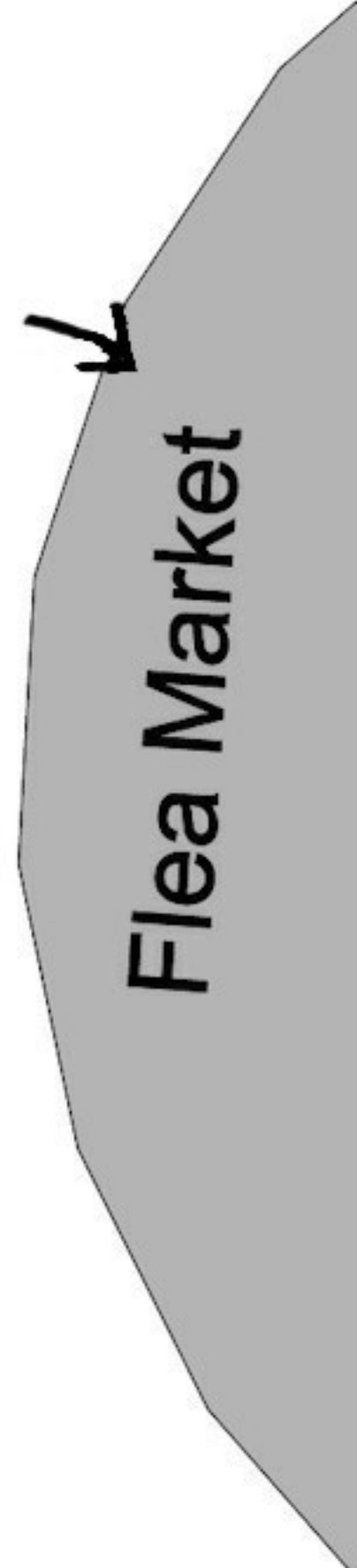
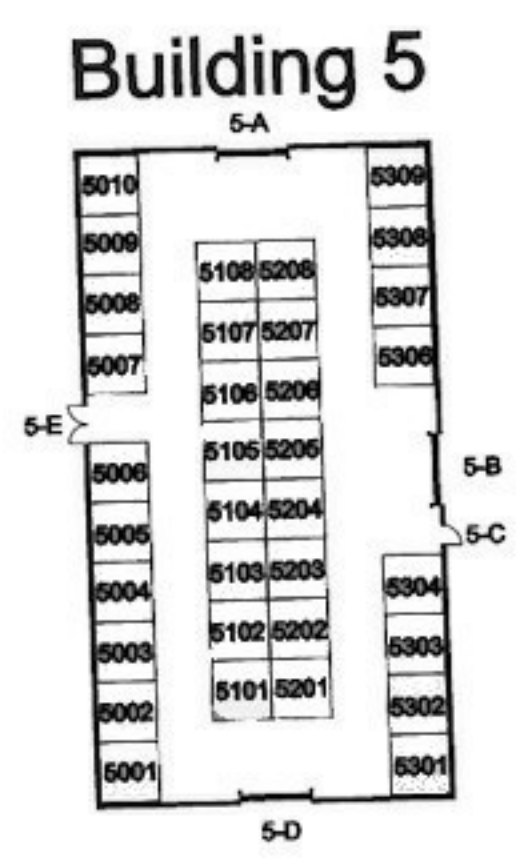


- Overhead Door
- Column
- Door
- Electrical Panels

Fleamarket Gate



Dining Hall



Flea Market

Flea Market