

Vol. 19 No. 4

[www.mvus.org](http://www.mvus.org)

April / May, 2005

**Club Memorial Call W8KSE  
10 GHZ Beacon, presently off the air.**

**Meetings at the Old Country Buffet !**

**Our April Meeting** is on **Fri. the 22nd** at 7:30 PM Topics: Hamvention Planning etc  
Location: at the Old Country Buffet near SR 725 and Yankee Rd. in Centerville

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**\*\*SVHFS conference April 29 ,30**

**Dayton Hamvention & ARRL Expo, 20,21.22 May, 2005**

*"Bringing hams together from around the world"*

See ad in the April QST, pg. 112. See also the May QST

Look up on the Internet [www.hamvention.org](http://www.hamvention.org),

order your tickets there using a credit card

or order by mail from Tickets, Box 1446, Dayton, OH, 45401-1446

Ticket Price this year is \$ 20.- (three days) A 3-day bus ticket is extra and cost \$ 8.

This year is the 75<sup>th</sup> anniversary of the founding of the **Dayton Amateur Radio Association (DARA)**

**ROHN SSV 60ft.Tower;** Heavy Duty self-supporting; three 20 ft sections. Bottom section base is 2-1/2 ft leg-to-leg. Supports LARGE antenna arrays with NO GUY WIRES. Sections 5N, 4N, and 3N; concrete base section; and 2'8" tapered top for 2" mast - all for \$1500.

**Rotors:** Wilson WR-1000 Heavy Duty. Weighs 65 lbs. (compare to 28 lbs for Tailtwister T2X). Have two ; \$500 each. Also large Prop-Pitch rotor; weighs 83 lbs; \$450. Call Joe, WA8OGS, at 513-385-4198 in Cincinnati (near I-275 and I-74) or email to [burkej@one.net](mailto:burkej@one.net) for more details.

## De N8ZM

I've been told that the bright light that has been appearing in the sky recently is called the Sun. I had heard about it, but had not observed it in so long that I thought it had died. Then there's that green stuff in the front yard that I have had to cut back twice now since the first of April. All of which leads me to suspect that antenna season is upon us, which is good. I hope you have some plans for antenna work while the weather is nice.

We had a reasonably nice day for our tech session on April 2<sup>nd</sup>, and it was well attended, and I think everyone got to get the measurements/adjustments done that they wanted. As always, there was a lot of enthusiastic help with figuring out how to make a measurement, and then to decipher what the data was telling us. Thanks to all of you for making it a fun day! There are some pictures and data to put on the web site, as soon as I can get them to Steve Coy.

We have our booth for Hamvention, and it is number 332. It appears to be in the same location as last year, second from the end in the central aisle of the west section of the Ballarena. Got that? Gerd will be busy with Hamvention duties again this year, so a lot of help will be needed to setup and staff the booth during the show. Several of you have signed up already, and I thank you for that. If anyone wants to display a project in the booth, that would be really cool!

There will again be a 10 GHz beacon at the arena during Hamvention, thanks to Brad Totten, Bill Eaton, and John Human. Thanks, guys.

Speaking of beacons, the antenna for the 1296 beacon is coming along, although somewhat slowly due to Mike Murphy having some health problems that have taken some time and energy away from the project. But we should soon be ready to go with it. If anyone has some time to spare to help Mike with some of the tasks needed, I'm sure he would appreciate the help.

2006 is fast approaching, so we need to really start to focus on getting Microwave Update off the ground, OR, we need to tell Al Ward that we can't do it. He deserves the courtesy of enough time to find another site.

At the last two meetings, we have had several new folks who attended and liked what they saw enough to join. Welcome aboard! I'm sure you'll find that this bunch is a great group to hang out with.

See all of you this Friday, the 22<sup>nd</sup>. Seems early, but it really is the 4<sup>th</sup> Friday, since the first was a Friday, too. Don't forget!

de Tom, N8ZM.

- **Did you know?** Every TV station in the US now has two transmitters and two separate frequencies. One for their existing analog broadcasts, and a second for their new digital broadcasts. **92%** of the digital stations are on the **UHF band**.
- **The Living.** Let us beware of saying that death is the opposite of life. The **living being** is only a species of the dead, and a very rare species. [Friedrich Nietzsche]
- **Welcome Fatso.** National police headquarters in Sweden has a security entrance, which only permits people up to a certain weight. If a heavier person approaches, access is denied and a recording announces: "Please, enter one at a time!" [CSM]
- **Money.** If money doesn't grow on trees then why do banks have branches?
- **And.** Why do banks charge a fee on "insufficient funds" when they know there is not enough?
- **Going Up.** Why do people pay to go up tall buildings and then put money in binoculars to look at things on the ground?
- **Small Town.** Small towns are where the mailman knows more than the teacher. [Mady Rahl]
- **Purpose.** I didn't create me, so I can't possibly tell myself what my purpose is. [Rick Warren]
- **Memory.** Oh, for the good old days. I can still remember standing by my mother waiting for her to empty the oatmeal box so I could wind a coil on it. [Art, W5UZW]
- **Success.** The road to ultimate success is paved with failures. If you stifle failure, you stifle success [Paul Saffo]
- **DSP.** From modest beginnings only 20 years ago DSP has invaded our lives. Just how pervasive is DSP in our lives? It is estimated that we all come in contact with DSP technology at least once every 10 minutes. [John Scarisbrick]
- **Telephone Exchange.** These are still housed in big buildings specifically built for this purpose. Ti's .18-micron Timeline process technology will someday enable designers to put the electronics for an entire city's phone system in an area the size of a soup can. [John Scarisbrick]
- **Computer files in your pocket** Call it memory on a stick - or maybe on a key chain. In the past two years tiny devices about the size of a pack of gum have begun to revolutionize the way people use computers. Stick one into a slot in nearly any computer and you can download or upload music, games, photos, graphics, text, even video - anything that can be stored on a computer's hard drive.
- **Yadda Yadda.** Came across an interesting statistic: the average cell phone user talks about 6000 minutes per year on his cell phone which translates into 100 hours or four (24 hour) days! How does this compare to ham radio? Checking my numbers (I do have an hour counter on my rig), I rake up about 400 hours per year or about 16 days. [Gerd, WB8IFM]
- **Fast Food.** Americans go way back with fast food. This is how a visitor from England in 1830 described the eating habits of Americans "on the road"... They gobble, gulp and go!

## **SW Ohio Microwave Activity**

By Rich Griffiths W2RG

Our local 2005 microwaving season is getting under way with a splash. K4EFD, K9AYA, and W2RG have renewed past activities, starting the season by working proven paths. K8TQK has resumed microwave operations, K4TO is expected to resume operations soon with a reworked and improved multiband system back up on his tower, and WB8DNO has new capability on 10 GHz narrow-band.

In February, Rich (W2RG) made a few quick contacts operating as rover from Devou Park, KY, with Bill (K9AYA) in Hamilton OH on 10 GHz and 5760 MHz. W2RG had 1 W to a 60 cm dish with a 25 dB gain pre-amp on receive on 10 GHz and only 10 mW to a 67 cm dish and no pre-amp on 5760. K9AYA had 1 W on 10 GHz to a 60 cm dish with a 25 dB pre-amp and 1 W to a 55 cm dish with a 30 dB pre-amp on 5760. Signals were very strong both ways over the 22-mile path, and both CW and SSB contacts were easily completed.

A couple of weekends later, Brad (K4EFD) and W2RG worked the 111-mile path between Borden IN and Otterbein OH on 10 GHz. K4EFD ran 5 W to a 76 cm dish. W2RG also easily heard K4EFD's 5760 signal, but the 10 mW peanut whistle didn't make it to Borden IN. Unfortunately, W2RG's 3456 rig blew a fuse, so no attempt at all could be made on that band.

Saturday, 26 March 2005, was especially radio-active. K4EFD and W2RG, completed a 2-way contact on 10 GHz between Jacksonville OH (about 12 miles north of Maysville KY) and Frankfort KY. We also tried 5760 MHz, where W2RG had only 10 mW to a 67 cm dish and no pre-amp. Maybe another time. And we tried 3456 MHz, where W2RG had 20 mW to a 67 cm dish with a 25 dB pre-amp and K4EFD had 3 W to a 60 cm dish. W2RG heard K4EFD clearly, but was not copyable on K4EFD's end.

Results from Jacksonville OH were similar with K9AYA in Hamilton OH. The 10 GHz attempt yielded an easy 2-way contact. On 5760 and 3456, however, we apparently didn't have enough oomph on either end and could not complete even a 1-way path.

Later that day (26 March), K4EFD moved to another location in the Frankfort area, and W2RG moved to the VOA Park near Mason OH. We completed a 2-way 10 GHz contact, but had no luck on 5760 or 3456. K4EFD also completed a 2-way with K9AYA in Hamilton on 10GHz. K9AYA and W2RG easily worked the 15-mile VOA-to-Hamilton path on 5760 and 3456 (didn't try 10 GHz - too easy <g>). K9AYA ran 150 mW to a 55 cm dish with a 30 dB preamp.

Joe (WB8DNO) completed a first 10 GHz narrow-band contact with K9AYA from Blue Ash OH to Hamilton OH. WB8DNO ran 80 mW to a 45 cm dish. Joe had previous experience with WBFM on 10 GHz.

Weather conditions were quite pleasant during all of these contacts, but I'm sure we're all looking forward to steadily improving springtime weather. ...and for more MVUS stations to become radio-active!

## **Computer files in your pocket** By Gregory M. Lamb | Staff writer CSM 3-7-05

Call it memory on a stick - or maybe on a key chain. In the past two years tiny devices about the size of a pack of gum have begun to revolutionize the way people use computers. Stick one into a slot in nearly any computer and you can download or upload music, games, photos, graphics, text, even video - anything that can be stored on a computer's hard drive.

Business people use them to transport documents and presentations. Students take school projects with them in their pocket. These tiny devices are almost certain to make floppy discs and CDs quickly obsolete as ways to transfer data from computer to computer.

More than 60 million of these USB (Universal Serial Bus) flash drives - also known as pocket drives, thumb drives, jump drives, memory sticks, or pen drives - are expected to be sold this year. Prices range from under \$20 to several hundred dollars, depending on the amount of memory and features.

A flash drive with two gigabytes of memory can hold about 33 hours of recorded music or about 660 three-minute songs. At the high end, a five-gigabyte device from Seagate Technologies that looks like a high-tech yo-yo actually contains a miniature hard drive. It can hold an entire Hollywood movie.

"The flash drives have been a godsend," says Tom Gutnick, a computer consultant in Arlington, Va., who's used them to take presentations to clients as well as to transport files to the class he teaches on Web design at a local community college.

Not only are flash drives convenient, they're also "cool," says Rob Pait, director of global consumer electronics for Seagate. "I know when I'm using mine I see people shooting looks at it out of the corner of their eyes and wondering what it is and what it's doing."

Besides being clipped to a key chain, the little gadgets can be worn on a neck strap. Sometimes they double as a pen, Swiss Army-style knife, or even as a wristwatch. They're also being offered as combination devices with portable music players (the new iPod Shuffle can be used as a flash drive, for example) and digital cameras, both of which already rely on flash memory.

But some industry insiders see an even bigger future for the tiny devices. Instead of taking a laptop on trips, it's possible to just stick a flash drive into a pocket or purse and turn whatever computer you sit down at into a copy of your own.

That means all your e-mails would be there, all your files, all your Web-browsing favorites. When you leave, everything slips back onto the flash drive. The computer keeps no trace that you have used it. When you return to your own computer, all your programs are automatically updated - "synched" - from your flash drive.

Kate Purmal, CEO of U3, an organization creating a new standard for configuring flash drives, knows just how convenient that can be.

When her daughter recently borrowed her computer, she found that the next time she used it, many of the settings had been changed and new programs added. If each family member has a personal flash drive enabled with its own program, each could use the same home computer without "messing it up" for the others, she says.

A company called Xmultiple has even introduced flash drives that can download data between them without the use of a PC.

Standing in the way of this enticing vision are two S-words: standardization and security, says Steffen Hellmold, president of the USB Flash Drive Alliance, another industry group trying to get manufacturers to agree on setting standards for applications on flash drives.

Carrying around programs on a key chain poses a potential security problem for both individuals (will my stuff get lost?) and the computers they might use (infecting a computer with a virus on your flash drive wouldn't be the way to make a friend or a sale). "If I were still doing corporate information security, I'd be losing sleep over those things," Mr. Gutnick, the consultant, says.

Many of the devices already offer password protection and some even use biometrics (fingerprint authorization). The U3 standard will also contain strong security measures, Purmal says. The first U3 products are expected to be on the market by this summer.

Meanwhile, a flash-drive product called Migo already is doing much of what U3 plans to do: imitating your own computer wherever you go. It takes along as much of the user's own e-mails, files, photos, etc., as the memory can hold and makes the host computer look and feel like the user's. It doesn't, however, take applications along, so the host computer has to be equipped with the same program as the user's computer (if you use Microsoft Outlook for e-mail or Office for word processing, the host computer will have to have the same programs, for example).

Teachers love Migo because they can grade papers at home then sync back up with the school's computer the next day, says Joshua Feller, a spokesman for PowerHouse Technologies, which makes Migo. Students can make any computer at the library, computer lab, or anywhere on campus act like their own, including remembering Web-browsing favorites they might have saved for a research project.

When Mr. Feller himself travels, "I no longer carry a laptop," he says. Just a pocket flash drive. "It really did change my life."

**Technology on the Marsh**  
By Gerd, WB8IFM, gleaned from the Dec-04 M-RF Quarterly

Technology is never standing still. After a while, if you have not been constantly looking, you find items that amaze you and change the landscape. Here are a few that I came across definitely of interest to the VHF/UHF crowd.

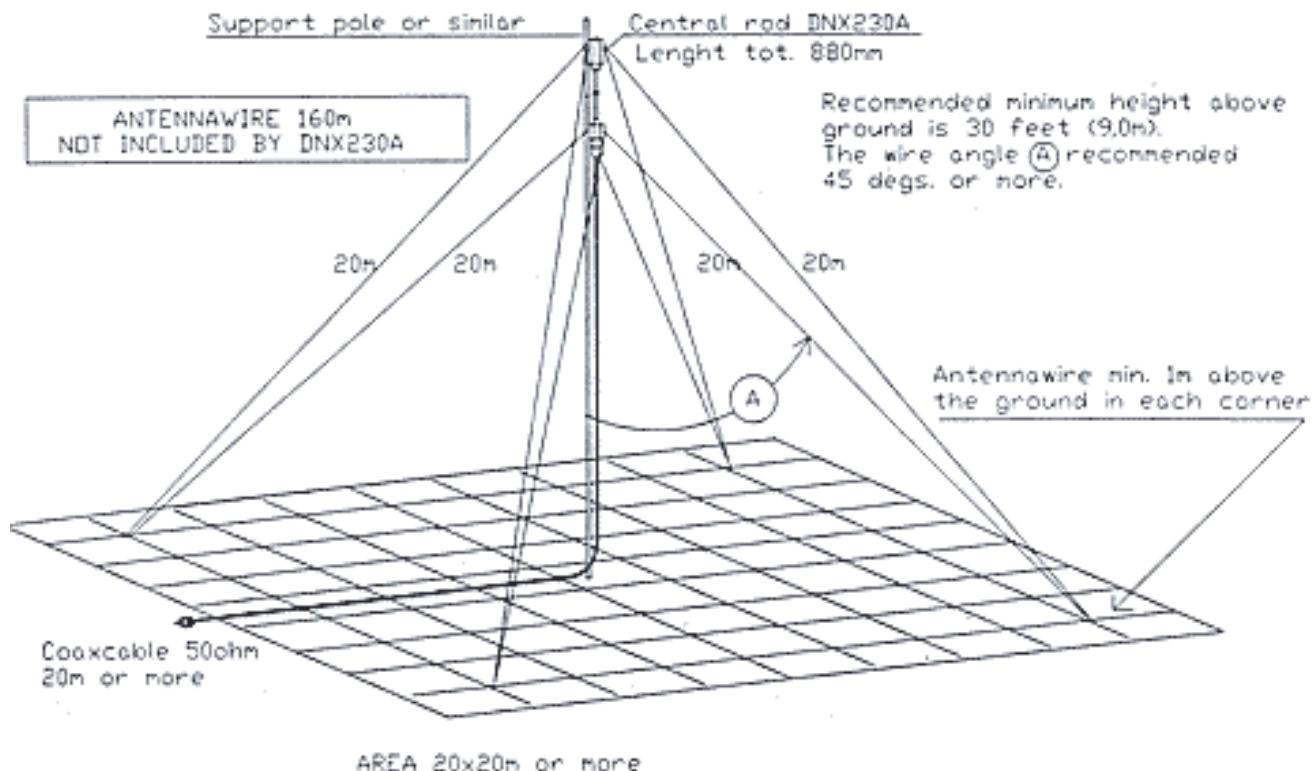
There were a couple of wideband amplifiers that would make a lot of our projects easier: "**Low noise Amplifier runs 50 MHz to 40 GHz.**" The midband noise figure is listed at 4 dB. Amplification is 12-db +-2dB. The output at 1db compression is 15 dBm and the maximum tolerable input (CW) is 17 dbm. Power required is 225mA at 15 VDC. This device with SMA input and output connectors is made by Planar Electronics Technology in Frederick, MD. There is a similar amplifier with 15-db gain and 15-dBm output covers 1 to 26 GHz and has a 5.5 dB noise figure, also by Planar Electronics. And if noise is your main concern there is a GaAs MMIC pHEMT distributed amplifier module with a 2 dB noise figure and 15 dB gain for the frequency range of 2 to 18 GHz. Max output at 1 dB compression is 13.5 dB. This item is made by Hittite Microwave Corp. in Chelmsford MA.

How about a 10 Watt PA for 10 GHz: "**GaAs MMC amplifier fires 10 W at 10 GHz.**" This three-stage amplifier has a 21 dB large signal gain, covers 8.5 to 11 GHz at efficiency of 27 to 33%. The price maybe a little bit out of our range as it is meant primarily for the military. The manufacturer: Mimix Broadband from Houston TX.

There are, of course, numerous amplifiers that cover the commercial bands for cell phones and the wireless computer connections. Some can be used directly for ham bands, others maybe possible to modify, although this becomes more difficult by the day! Her just a brief list:" High efficiency MMIC amp drives 3.3 to 3.8 GHz." "Linear amp boosts 800 to 1000 MHz". "Linear amplifier powers 1880 to 2100 MHz"

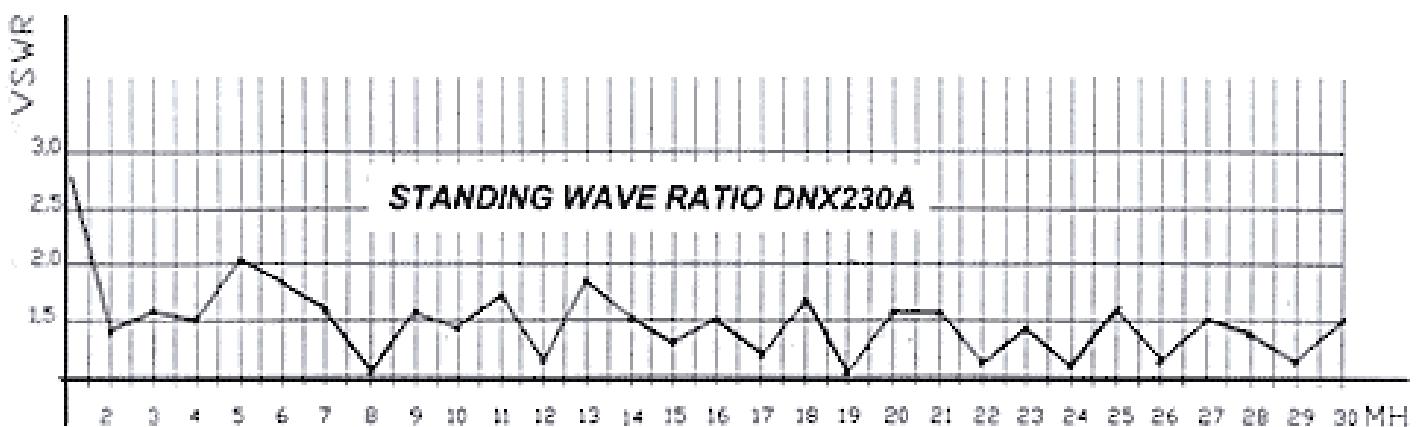
Other building blocs of interest are mixers, quadrature modulators, power splitters, filters and couplers. And then there are VCOs and phase-locked loop sources for local oscillators.

Take a look at any of the electronic trade magazines and you will be surprised what is out there!



Broadband 80m (2x20m) inverted V type folded dipoles with a “special center matching device” and fed with regular 50 Ohm coax.

[Info from Dan, SM6EGJ, who is owner of the Dannex Antenna Company]



This is the VSWR plot of the 80m (4x20m) inverted V folded dipole.

This plot illustrates that a long antenna (compared to wavelength) has quite an acceptable VSWR !

## Activity from up North

By Lloyd, NE8i Rover 160M - 47GHz

Attached are some pix from last year and this. From the 10GHz+ cumulative contest in September 2004. Scenic overlook Arcadia Mi on M22, EN64vm, dark, but in the pix on the picnic table, is WW8M and NE8I 10 GHz rover stations, with antennas when we worked N8KWX across Lake Michigan. Extremely strong signals. Excellent conditions. A very rover friendly site. The second pix shows WA8VPD's 10 GHz rover station on the picnic table. WB8TGY had left a few minutes earlier.

Then a pix of my Rover in January 2005 for the January VHF contest. The 6M single loop does not show well. Worked really good. 6M through 3456. 5.7 and 10G were in the back of the pick up. 7el yagi on 2M. 10 el yagi on 222 and 432. Loopers on 903, 1296, 2304 and 3456.

Then a shot of my basement station- VHF operating position.



Arcadia, MI A Very Rover Friendly Site



Same



Left: Rover

Above: Home Station 2m and up

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## **Practice session for Dayton**

By Lloyd Ellsworth Ne8i

We went to the Milford ARC Swap and Shop in Milford Michigan (4-16-05) to help promote and demonstrate working 10 GHz narrowband stations. K8EB, WA8VPD, WB8TGY and I brought our 10 GHz portable stations, set them up and ran them in the parking lot. The club announced on the PA system what we were doing, and quite a few hams stopped by. I set up my 1.2 and 10 GHz beacon in the far corner of the parking lot, and the others set up at various spots around the parking lot.

I was surprised to find that several hams in the crowd had handhelds that could copy the 1.2 beacon. 1.2 being a common band makes finding the 10 GHz signal easier. The beacon allowed us to show the difference in antennas, and how sharp the aim is. The object was to demonstrate real contacts, talk about and answer questions.

Hams could go and see different stations at work. Also, we had handful of photos, maps and things. Lots of personal stories and experiences to talk about. We had quite a collection of home brew, converted surplus and commercial equipment. Different antennas, horns, dishes. This gave those watching, a better idea of what people did, could be done, and what it takes to get on the 10GHz band. The beacon gives a steady signal to show many of the propagation effects, Doppler, reflection etc. We had a few questions about 10 GHz EME, what it took etc.

We also talked about and explained contesting, activity days and so on. The difficulty of making microwave contacts adds a technical and operational dimension to it all. The importance of a 144.260 link frequency to help establishing a contact was explained. For example, feeding a 10 GHz signal back on 2 meter provides feedback to the other station for aiming the antenna.

Lloyd and others will set up in the flea market for microwave demonstrations.

### **Beacons at the Dayton Hamvention.**

As last year there will be a 10 GHz beacon at the arena. Additionally Brad, K4EFD, might bring a 24 GHz beacon and K9AYA, Bill a 5.4 GHz one. John, N8VZW, will help putting the beacons on the roof.

### **Inside Booth ( 332) and Meeting Place.**

As before we will have a booth inside which functions as a focal point and meeting place for VHFers. Booth number is **332**. Stop by and say Hello!

### **Dayton Hamvention 2005 VHF/UHF Forum**

Moderator: Mike Schulsinger, N8QHV   Assistant: Red Dakin, W8ULC

**Sat. 21 May, 2005**

2:15 to 2:45 Multiband Microwave Operation  
2:45 to 3:15 Wideband Antenna  
3:15 to 3:45 SSETI Express Satellite  
3:45 to 4:15 Long Distance 2.4 GHz  
            802.11B Communication  
4:15 to 4:45 VHF and Ham Band, Then and Now

Dave Sublette, K4TO  
Kent Brittain, WA5VJB  
Sam Jewell, G4DDK  
Brandin Schamer, WG4NVK  
Justin Rigling, KC8OIO  
Joe Lynch, N6CL