



# CHEESE BITS

**W3CCX**  
CLUB MEMORIAL CALL

ARRL  
Affiliated  
Club



Volume LX

March 2019

Number 3

## PREZ SEZ:

Where did February go? Is it the ever changing winter weather that makes it seem to go so quickly?

Talking about weather, the snow just keeps on coming.

Hopefully everyone's towers and antennas survive.

I have been listening to what many club members have to say about the use of Assistance during the contest. Many of us are using it but most only lightly. I believe it helped my January score but I realized that I haven't tried all the possible ways now available to us. Have you tried SLACK yet?

Speaking of contests, the Spring Sprints are just around the corner. Lenny, our Cheese Bits editor, probably has the dates and times noted toward the end of this issue. They are fun, short and did I mention fun. They don't take a lot of time away from the family either. Try to get on if only for an hour or two.

I hear that Hamcation had a great turnout again this year. It's not as big as Dayton but it's growing each year. The Packrats had a sizable contingent again this year. I don't know which I'm more envious of, the warmer weather or the Hamfest itself.

The March meeting is Homebrew and Test Equipment night. Both Gary WA2OMY and Michael KB1JEY put a lot of time into gathering

test equipment, loading it into their vehicles and setting up at the meeting - you get the idea. Please take advantage of this opportunity to test out that LNA or filter. If possible give Gary a call and let him know what your bringing so he's prepared. By the way, Homebrew night is not only for those successes that have changed your operating forever! Those less than hoped for outcomes are also worth bringing to the attention of the club. Sometimes we learn more from our "failures" than our success. Sometimes we spend a lot of time and dig into multiple topics and have fun in the process. Your project successful or not, may prod other Packrats to think about and try things. You don't need an elaborate presentation but a slide or two may help or just bring the "project" itself.

The Mario table should be interesting this month. One of our fellow hams is moving south and seems to be leaving lots of good stuff behind and he has donated it to the Mario table. Remember 100% of the Mario ticket money goes to the Packrat treasury.

Don't forget many of us meet at Giuseppe's starting at 6:00pm before the meeting. The General meeting is at the Senior Center at 7:30pm

Have you checked the Packrat website lately? We intend to continually update it with the latest Packrat information. Soon to be added is a link to the Packrat reflector with sortable columns. Just added is a link from our homepage to the Super Conference sign up page. So far well over

Pack Rats **CHEESE BITS** is a monthly publication of the  
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**PACKRAT 222 MHz REPEATER - W3CCX/R**

222.98/224.58 MHz (PL 136.5) Hilltown, PA

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**PACKRAT BEACONS - W3CCX/B**

FM29jw Philadelphia, PA  
50.080 144.300 222.062 432.290 903.072 1296.264 **2304.043**  
3456.200 **5760.195** 10,368.034 MHz (as of 1/17, red = off the air)

**MONDAY / TUESDAY NIGHT NETS**

**VHF/UHF Monday:**

TIME	FREQUENCY	NET CONTROL
7:00 PM	224.58R MHz	WR3P FN20kb Ralph
7:30 PM	50.145 MHz	N3RG FM29ki Ray
8:00 PM	144.150 MHz	K3GNC FN20ja Jerome
8:30 PM	222.125 MHz	KB1JEY FN20je Michael
9:00 PM	432.110 MHz	WB2RVX FM29mt Mike

**Microwave Tuesday:**

7:30 Coordinate QSO's on 144.260 for all Microwave bands you'd like to work. Also setup Q's at w4dex.com/uhfqso or **Packrat Chat Page W3SZ.COM**  
Visit the Mt Airy VHF Radio Club at: [www.packratvhf.com](http://www.packratvhf.com) or [www.w3ccx.com](http://www.w3ccx.com)

100 people have signed up. The list of presenters looks impressive. This conference promises to be a great one. Sign up now. Don't forget to take advantage of the special room rate. You're not going to do better using one of the internet booking sites for this hotel.



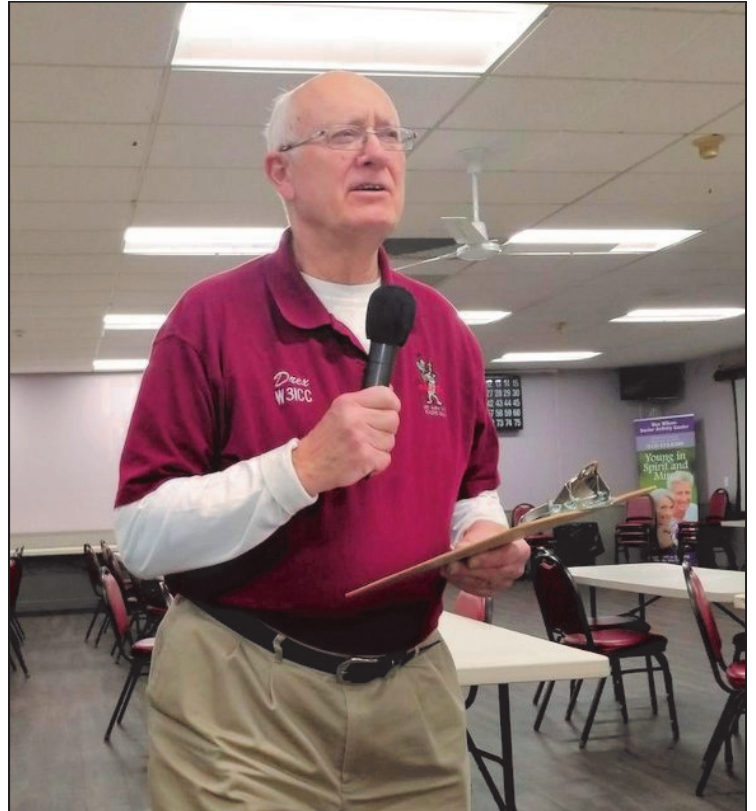
Camelback is coming! Please put it on you calendar! Remember setup starts 12 noon on Friday. The contest starts Saturday afternoon at 2:00pm. Tear down takes place on Monday morning early. We can always use extra hands for tear down. Come up for an hour, or the day. Come up for the whole weekend! Some hearty souls are camping on the mountain in tents. Me? I'm staying in a motel. I don't believe it's a "race" weekend so it's cheaper but make your hotel reservations now.

Well, thankfully I'm running out of my allotted space in Cheese Bits, so I'll end with a reminder to spend a little time on the workbench. Have some fun, learn more, build something.

**73, George KA3WXV**



# February Meeting (Crying Towel) Pictures



Andrea, K2EZ. Newest Packrat





This year's Crying Towel winner: Lenny W2BVH (your editor!). It's nicely embellished with lace. This years catastrophes seemed surprisingly minor (my own included). Thank goodness. Are the Packrats getting better at station maintenance? Or is it just dumb luck? We'll find out next year. --W2BVH

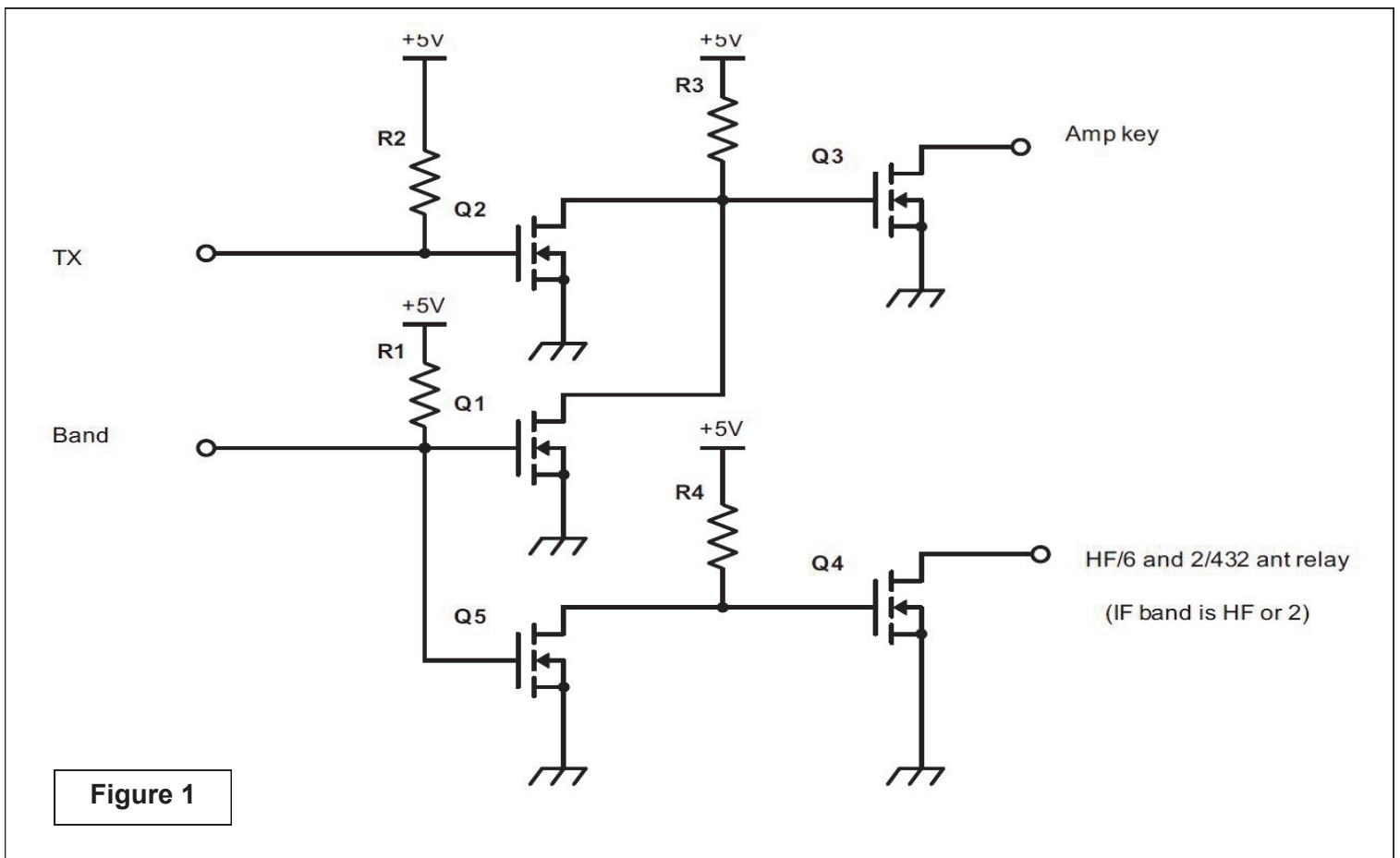
# Yaesu Band Decoder

Dave W2KV  
3/6/19

I recently replaced my lightning damaged Yaesu FT-847 with a new Yaesu FT-991A. These are both 160 to 432 rigs which I use primarily on 6 and 432. I discovered that although the 847 has 4 antenna connectors and 4 amplifier keying lines (HF, 6, 2, 432) the 991 has only two antenna ports, (HF/6 and 2/432) and only one amplifier keying line which is shared by all bands.

This is a problem when trying to connect amplifiers and antennas for the various bands without a lot of plugging and unplugging. I decided to design a switching system which would connect the rig to the appropriate amplifier and key only the amplifier for that band. The 991 has a DIN socket on the back for connecting a Yaesu tuner or linear amplifier. This connector has the band data in 4 bit BCD form as well as a ground on transmit output. I found a board from Unified Microsystems (BCD-14, ~\$25) which accepts the BCD band data and provides 14 open collector outputs, one for each band from 160-432. Since they are open collector they can be wire-ORed together so I divided the outputs into 4 bands: HF, 6, 2, and 432. Figure 1 shows the logic module which takes the band line and NORs it with the TX line to key the amplifier for the band selected on the rig. If the band selected is HF or 2 meters, it also keys a DPDT coax relay which routes the output from the two connectors on the rig to the 4 antenna ports (HF, 6, 2, and 432). Figure 2 shows the decoder system wiring including 4 logic modules and the BCD-14 board. All the transistors are 2N7000 MOSFET switches and all Rs are 1K.

[Another design for the 991 was done by Ron WZ1V and can be found in the September 2016 N.E.W.S. Letter --W2BVH]





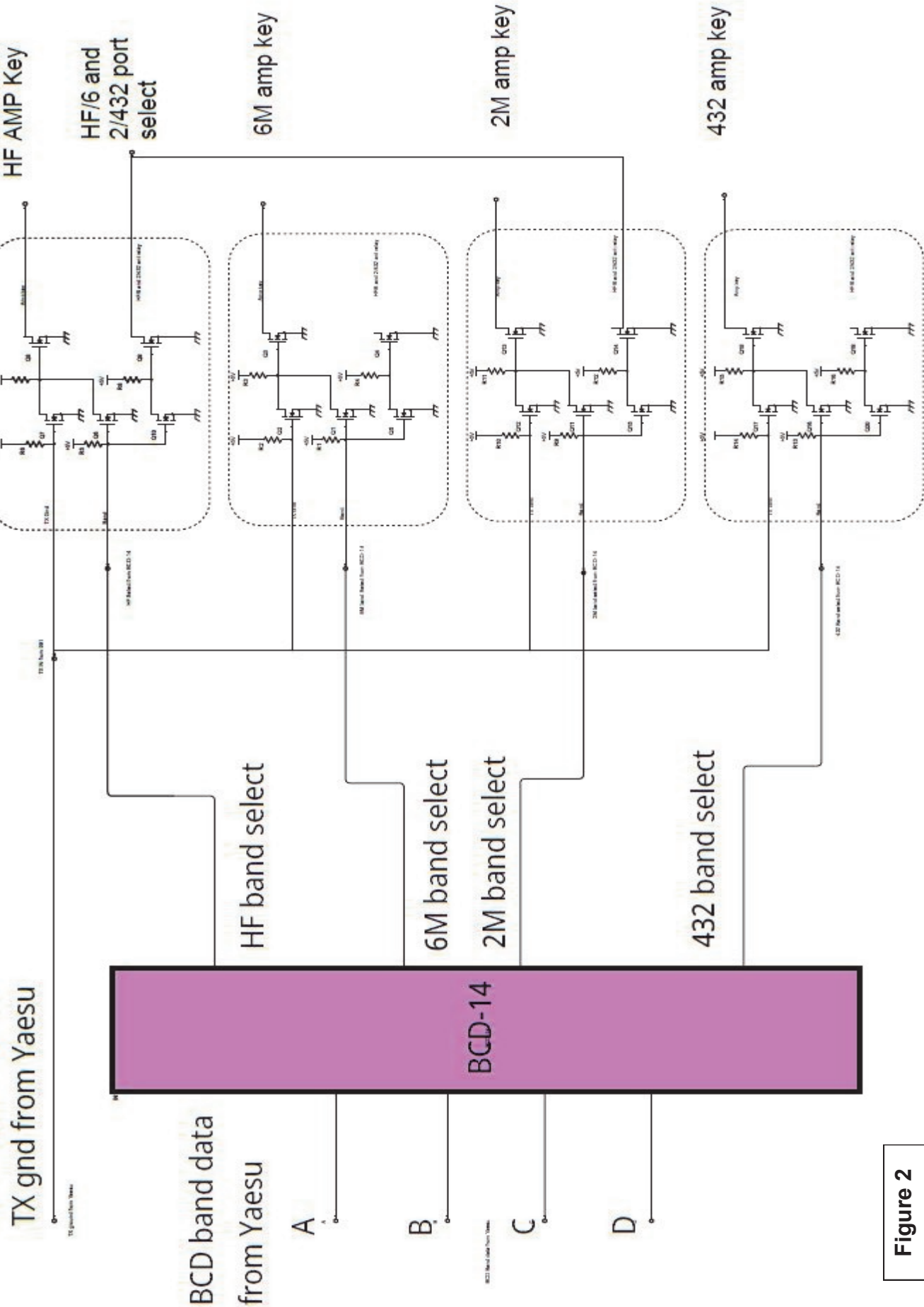


Figure 2

# Detailed History of 11m Activity in Mt. Airy between 1966 and 1972, or How Radio Changed My Life

-- A1 N3ITT

"I'd sit alone and watch your light.  
My only friend thru teenage nights.  
And everything I had to know  
I heard it on my radio"  
Roger Taylor

During the years between 1965 and 1972 there was an enormous amount of activity on CB channel 7 (at least that was "our channel"). I was a large part of that. We formed a loose group called the "Channel 7 Radio Club". We were all kids between 15 and 20 years old. Membership was invitation only, but if you were a "cool" kid and not a moron that was enough. Then we would help them and teach the basics (at least what we knew). Most of us started at around 15 years old. There were about 30 of us, mostly in row homes scattered about.

We all had "shacks". Some were pretty impressive and almost looked like a Packrats shack. One guy had, besides the usual rigs, test equipment and other "junkie" -- a fully working traffic light with controller! Then there was "Fuzz's Room". Imagine W2EIF's shack stuffed into a small bedroom. "Fuzz" was in Willow Grove. I was operating in Warminster for a short time, until a direct lightning strike vaporized my Super Starburst antenna. It was a nice station, an all tube rig, with built in Nuvistor preamp, driving a Knight Kit T-175 amplifier. Getting parts and stuff was never a problem, even before we could drive, Lafayette and Radio Shack were bicycle rides away. Older kids would drive younger kids to Hamburger's or Trevoise Electronics for other stuff. One of us, I think his name was Dave LePotin worked at Hamburgers for a while. Another, Tom Howell worked at a place called "Sound-X".

When a big bunch of kids get CB radios in a place like Mt. Airy, well Friday nite was as loud as a 20m pile up till everyone found their "spot".

Several of us (myself included) were lucky enough to go to Germantown High School where they had an excellent Radio/Electronics program. Our teacher was named David Fineburg. One kid set up a school station, a Drake Tx./Rx combo. His name was Steve White (yes the one from the League). We bumped into each other up at a Warminster meeting many years later and knew each other instantly!

Lots of girls were on the radio too. Some we helped set up, others just appeared. I met my first girlfriend on Ch7, we didn't know our actual names till our "eyeball QSO". Her handle was Ginger. We dated for a while, then she dated our club President, "The Whistler". I think they eventually married.

Our CB.s were our cell phones, internet and hobby all in one. My first Rig was a Globe CB 100 that I got when I was 15.

I met my ex, and Carol too at our hangout/club shack in Rydal. When we all hung out we all called each other by our handles. Never could figure out why. Mine was "Prof". I knew Carol about a year before we started dating (1976). She always knew me as Prof. She asked me my real name at our first date at Great Adventure. She didn't like it and just kept calling me "Prof". My CB handle became my nickname for all my friends, and my future wife, she still sometimes calls me that.

I got introduced to ham radio by twin brothers, John( Jack) and George Crosson. They lived on Pembroke Rd. in Rydal. Born preemies they got an eye disease as infants, so you could say they were blind from birth. Both SK, sadly. George died about 6years ago from pancreatic cancer and Jack died in his sleep a year later. Mrs. C had to bury her only two children. They would be 70 today, about my age. They were licensed about 1967 so they probably had WA or WB call. The important thing is they were hams, so they showed us how to operate on 10M. too! It was a pretty cool 1970's station: a Johnson Viking Valiant transmitter and NCX receiver. They could run the station themselves, even tune up the transmitter. George would put one hand on the Valiant to feel the transformer and tune with the other. Both were excellent CW ops, 25 WPM, copy in your head, straight key. They taught some of us a lot! Couldn't teach me CW though!

The group eventually produced at least 2 hams plus myself. One was named Gerald Frank, his call was WA3JPC. I think he was active on 6M in the early 70s. Wonder if any one knows him?

I have lots more interesting stories about this group if any one wants to hear them, let me know!

73,AI, N3ITT/KBS8348

### Here's a short follow-up:

It's always interesting to hear how we got started. I was a newly minted ham. Passed my test and became a member of WARC, always a deep well for Packrat talent.

In October at a WARC meeting I met a young but brilliant ham WU3C, who told me about "Weak Signal Work". There was a "January VHF Contest" coming up and I had a great location, with 10 watts on 6. WU3C had a 2M transverter from W2PED, and 1296 transverter from WA3JUF (W3KM, for newbies) and other stuff from W3KM, N3CX and others.

He sponsored me for the Packrats along with N3AOG (what ever happened to Dick?). I had never heard of the Packrats, couldn't figure out what Frank Sinatra and Sammy Davis Jr. had to do with Ham Radio, and was curious. They needed a minimum number of club members at the time to submit multiop logs as Packrats.

We built a multi station with a couple of tower sections and a push up mast, and broke 10K points! By 1995 we were up to 71K! Then WU3C had to leave heading out to the west coast and recently is back in MA. Anyway, I continued to build N3ITT single op using the knowledge I learned from WU3C and others in and out of the club. Perhaps we will do a multi again from here, who knows.

I think we should always thank the mentors who made us what we are.

73, es Good Dx, N3ITT



# Old Rotor Upgrade to USB

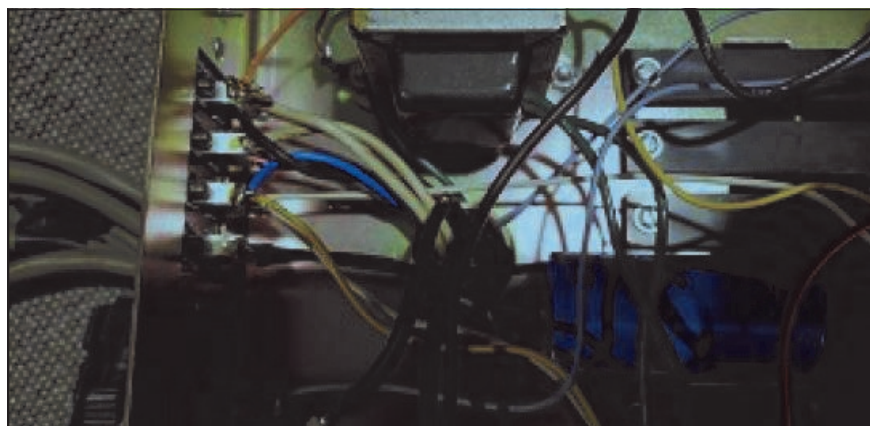
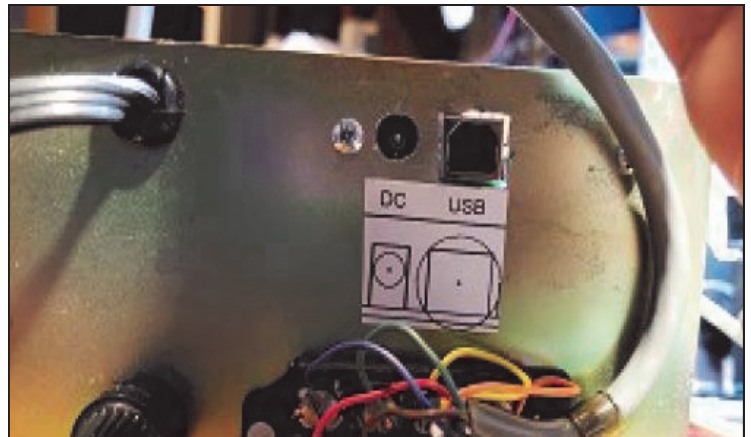
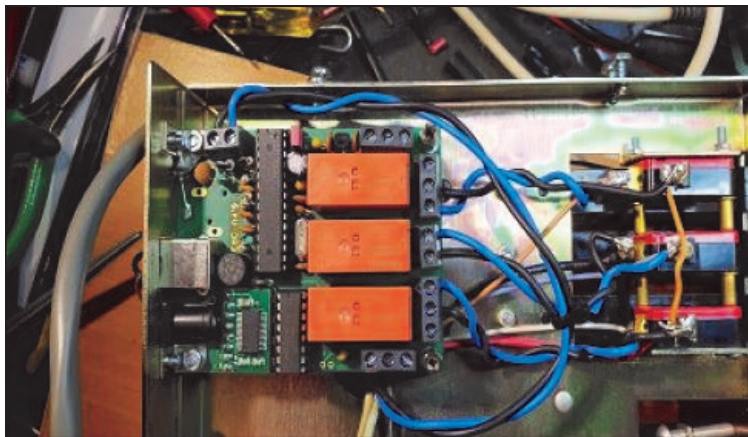
--Jim,WB8VSU

[ From "AP - Anomalous Propagation" MVUS Newsletter. Used with permission. Thanks Gerd & Jim!]

Back about 1984 I bought a HyGain Ham IV rotor that was installed for a number of years. Then my XYL demanded we move, so it came down and moved with us. Now, as I am starting to think about a new tower, I thought it would be nice to have a USB based control for the rotor. The ones with that ability are fairly expensive. A few years ago I noticed a little board for \$99 unassembled or \$129 assembled, that would install in pretty much any rotor control box and provide a USB connection. At last Hamvention I bought one from Vibroplex and recently I built it and installed it into my HyGain controller. See: <http://www.vibroplex.com/contents/en-us/d75.html>

It comes with a software tool to configure the board as well as a program to control the direction the rotor is pointed if you do not have software that can do that. The software tool can set what type of rotor to emulate and the degrees of rotation versus DC position voltage. In my case I set it for a Yaesu GS-232B instead of HyGain as it seemed to work better. Then within Ham Radio Deluxe I set it for a "Portable Rotor AZ". Once set I can give HRD a call sign, state, country or degrees and it will command the rotor to point in the correct direction.

Selection of type of rotor is dependent on whether North or South is Zero Degrees. The controller can still be used manually with the board installed. It had no issues controlling the Ham IV rotor. It has 3 DPDT relays that basically get wired across the switches in the controller along with two sense wires to go across the pot that provides a DC voltage that is relative to the rotor's position. Below are the photos after it was installed. The instructions are very weak on how to build and install the board. Pictures: Top: 1) Installed in Rotor Control Box, 2) New Connections to Rotator, Bottom: 3)Connections to Position Indicator



# On The Bands

by Jerome Byrd – K3GNC

## Tropo Scatterings:

Knock, Knock, Knocking at “Wolf’s Door”. I have mentioned here before that 2 meter contacts at or over 400 miles are called wolfs, nowadays on 144.205. For several of the medium/high powered stations in CT, VA, NC, OH VA/VE, etc., making at least one wolf each morning is a regular occurrence. At my old location I would work N1GC at 430 miles and K8TQK slightly further almost every morning.

The antennas at my new remote location are 40 feet lower and pointing at nearby houses, trees, and buildings. The difficulties are exacerbated by noise from the Internet and my current CW generating program’s inability to transmit in CW mode. I can run a KW and although low, my antennas are a pair of 19ft 11 element yagis with a short feedline. I therefore feel I will eventually get my remote station in a position to work wolfs again on cw/ssb. The worst case scenario, however, and a path some of you out there with less power or worse antennas might want to consider is FT8. Led by our own AA2UK, several stations in the Midwest are on each morning looking this way on 2 meter FT8. Our own KC3BVL has worked a few long contacts on 2 meter FT8, I believe, with a modest station. Russ, K2TXB, has joined Bill (AA2UK) in embracing the digital modes on 6 and 2.

For those of you who only operate cw/ssb but are interested in some regular long haul attempts, there are hurdles to overcome other than propagation. Most major activity these days on 2 meters comes from CT and VA. It is therefore hard to get the attention of dx stations because they are always pointed at CT or VA. No one is pointing at the Philadelphia area on cw/ssb. You will have to use the ONK4ST forum or other chatrooms to coordinate contacts. We need more Packrats to get active on a regular basis to return to the glory days when people pointed at us.

Are you QRV on 1296? Every Monday after the Packrat 432 net several stations led by K1PXE, WZ1V and our own W2BVH, meet at 1296.110 from 9:30 pm local to about 10:30 pm local (best be there early rather than later in that hour). I am usually there as is KC3BVL.

For those who haven’t heard, Bill Smith, former Packrat president and major VHF/UHF contester is now K4WMS from FM17. Other Packrats out of the area are Walt – K3BPP in FM18 and Bill Olson in FN54. If there are other ‘Rats who are out of the area but within 2 meter working distance let me know and I will post.

**\*\* Please edit your QRZ.COM page to at least list your station rundown (see AA2UK, K3TUF, WB2RVX, etc.)**

**Nets and Schedules:** The following is a rundown of the nets and group meetings in the ‘local area’ (<= 250 miles, only nets that don’t conflict with the Packrats nets are shown).

**Mondays:** 2130 local – 1296.110 (group schedule with K1PXE, WZ1V, K3GNC, W2BVH, KC3BVL and others. All are welcomed.

**Tuesday: 2000** local – “Mud-Toads Net”, KD8UD FM17UV net control. 144.250, all are welcomed.

**Wednesday:** 2030 local - 432.150 – group schedule, WA2LTM, K1PXE, WZ1V, N2SLO, WA2ONK, WB2SIH, K3GNC and others. All are welcomed.

**Thursday:** 2030 local - 144.250 – N.E.W.S club net, W1COT FN31ST net control. All are welcomed.

**Saturday:** 144.205 – 2130 local - Chesapeake Net, W3BFC net control. All are welcomed.

**Sunday:** 1030 local – 144.250, Sunday Morning Memorial Net, Bill AA2TT FN30BR net control, all are welcomed, 2030 - 432.150 – group schedule, WA2LTM, K1PXE, WZ1V, N2SLO, WA2ONK, WB2SIH, K3GNC and others. All are welcomed.

... On the Bands cont’d

## The Lunatic Fringe:

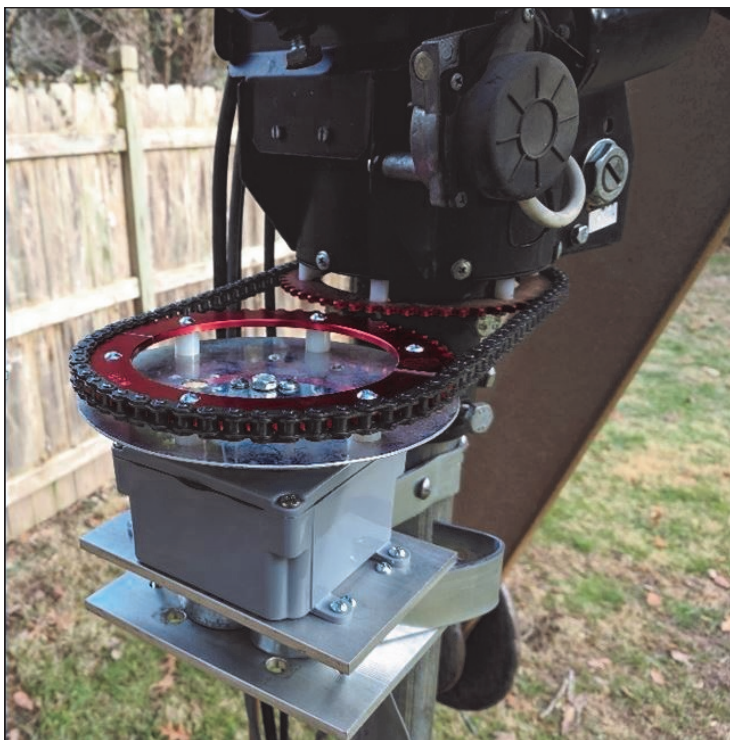
This month (March 2019) I hope to get on the moon operating remotely. The task is daunting, stay tuned.

**EME Tidbits** – For the first 6 hours of a moon-pass Europeans stations are available. The next 3 hours are limited to NA and SA. The final 3 hours feature the Pacific islands, AU, ZL, Japan and the far east at the very tail end of moonset.

Until next time please stay/get radioactive!

7 3 Jerome K3GNC

W2HRO has installed a US Digital encoder (other similar encoders will work too) on his SPID Rotor use for AZ of his 4 m dish. It required sprockets and a chain, but worked nicely -- “I mount a sprocket on the bottom of the SPID. It drives a 2nd sprocket by a chain with a 1:1 gearing ratio. I get a nice smooth read out on the DRZ control box. It improved my readout resolution from 1 deg to 0.1 deg - see following picture.”



[From Feb 432 and Above EME Newsletter , use with permission of the editor K2UYH]

## VHF Super Conference Papers Needed

There are lots of hams coming, but we need a few more speakers to fill the agenda.

Please take the opportunity to describe something you've done. It doesn't have to be unique or earth-shaking, sometimes a simple tip is an inspiration to others. Even if it is something simple for a ten minute talk, please consider speaking.

If you are really shy, write a short paper with a few pictures for the Proceedings. Cell phone pictures are fine.

Deadline for Proceedings book is 18 March, but later submissions can still make the CD

Details at <http://vhfsuperconference.com/>

73  
Paul W1GHZ

**Education.** “If you think education is expensive, try ignorance.”

[Derek Bok former president of Harvard as quoted in Anomalous Propagation -- MVUS Newsletter]

Perhaps old news, but I noticed that the 2018 **CQ WW VHF Contest** results have been posted:

[https://cqww-vhf.com/results/2018\\_cq\\_ww\\_vhf\\_contest\\_results.pdf](https://cqww-vhf.com/results/2018_cq_ww_vhf_contest_results.pdf)

73, --Alex KR1ST (FN21)

### ARRL 10 GHz and Up Contest 2018 Results

By Jeff Wadsworth, KI5WL ([jill8302@yahoo.com](mailto:jill8302@yahoo.com))

<https://contests.arrl.org/ContestResults/2018/10-GHz-2018-FinalFullResults.pdf>



# moRFeus:

## A Low-Cost Wideband Frequency Converter and Signal Generator

[ From “AP - Anomalous Propagation” MVUS Newsletter. Used with permission. Thanks Gerd & Joe!]

[Makes a nice siggen and frequency converter. Direct output is 85MHz - 5.4 GHz and converted output using the internal mixer and external frequency source is 30 MHz to 6 GHz. Output power is 5dBm to -22 dBm depending on frequency and mixer current setting --W2BVH]

moRFeus is a 30MHz–6GHz programmable wideband frequency converter and generator. It has SMA connectors for both input (when used as a mixer/converter) and output, and is powered using an external micro-USB 5V supply.

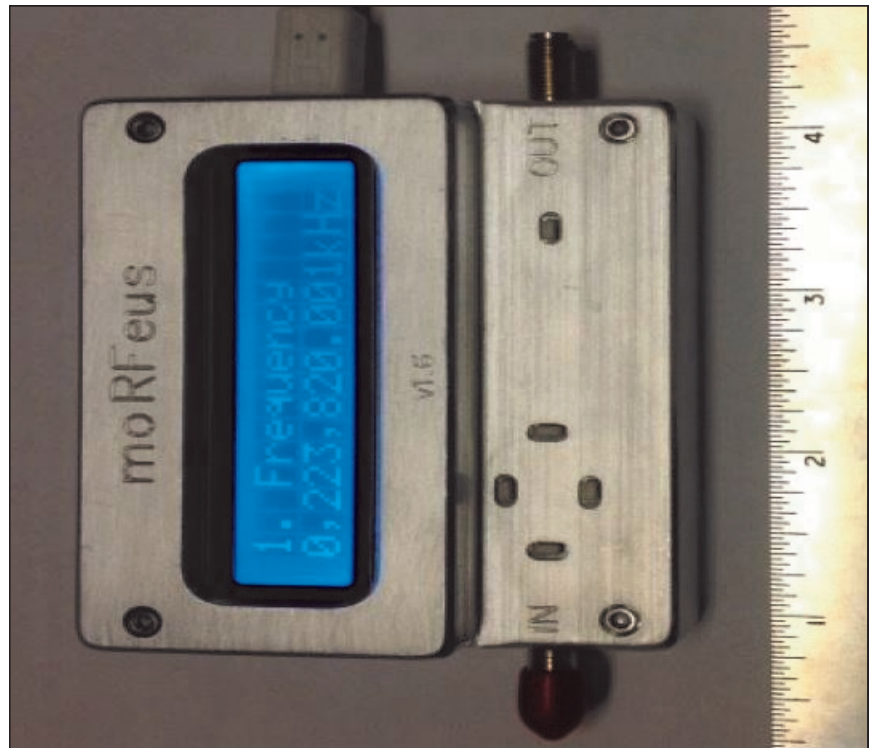
The frequency can be programmed using the buttons seen in the picture. You can toggle through the menu – see the “Frequency” menu selected in the picture. Do you recognize the frequency shown in the picture?

Once the Frequency menu is selected, you can change each numeric position up/down, or move right or left to toggle/change that digit, continuing until you have the correct frequency.

It can also be programmed via USB using Windows or Linux.

Specifications & purchase:

<https://www.crowdsupply.com/outernet/morfeus>. Cost is \$125 with free shipping. Joe – WA8OGS



# Further (final?) Adventures of the Last Cranky Ham

By Michael Davis KB1JEY

As you may recall, I received the repaired cordless Milwaukee Hole Hawg back from the factory repair depot a few weeks ago. Immediately after repair, the Hole Hawg would raise the KB1JEY Hy-Gain 52 foot crank-up tower most of the way. Shortly afterwards, I noticed that when raising the tower, the Hole Hawg would turn the winch handle about one turn before quitting. By contrast, the Hole Hawg had no trouble lowering the tower, accomplishing this task in about 20 seconds.

So a few mornings ago, I took my Hole Hawg back to the Milwaukee Tool Service Center in Havertown PA. Since I had the paperwork from the Hole Hawg's last visit to the repair depot in South Carolina, Josh, the counterman at the Service Center accepted it for warranty repair without the reluctance of my prior visit. It promptly reappeared at my QTH one week later, with the trigger switch electronics module replaced again at no charge to me.

**Bad news:** after its second visit to South Carolina, the Hole Hawg did not work any better. During my next visit to the Milwaukee Tool Service Center, the consensus of the staff was that perhaps an impact wrench would have the required torque for the tower winch job. I produced my charge card and went home with a cordless impact wrench with a ½ square chuck that featured over 700 ft/lbs of torque and accepted the M18 battery packs of the Hole Hawg.

**More bad news:** the impact wrench would not raise or lower the tower. A press of the trigger only yielded the click, click sound of the clutch. I could stop it from turning by holding the socket extension. **One can only speculate how the Milwaukee factory measures torque.** Also curious was that the interface to control the speed and torque of the impact wrench was the Milwaukee One-Key Bluetooth app, which serves as “digital platform” to “customize, track, and manage” a pool of compatible Milwaukee tools. This might be great if a tool was being used in an organization where the One-Key app was used to inventory and manage a pool of Milwaukee tools. For my needs, it was “overkill”. I had trouble getting my Samsung phone to reliably connect with the impact wrench. Give me knobs and switches instead of digital modes (that should get my fellow Packrats using FT8 and SDR radios smirking).

It was time for another visit to Havertown. It turned out that the staff was not much more knowledgeable about the One-Key app than I was. They also confirmed my observation about the lack of torque of the impact wrench that we had selected. The staff called someone on the phone with more knowledge of the capabilities of the Milwaukee M18 (power pack) line. It turns out that most of the M18 cordless tools, including the even mightier Super Hawg, have a clutch that topped out much before the tools developed the 12-15 ft/lbs needed to crank the winch to raise my tower.

However, one of drills in the M18 line, the Model 2803-20 ½ inch drill, could be set to lock up the clutch. The staff assured me that this drill had the “guts” to raise and lower my tower without overheating. The only item I would need was an adapter to attach ½ sockets to the drill chuck. Fortunately, the \$40 Milwaukee adapter that I had secured to attach sockets to the Quik-Loc chuck of the Hole Hawg would meet that need. The Milwaukee Service Center accepted the impact wrench for a full refund. The drill cost about half of what I had paid for the impact wrench with the One-Key Bluetooth interface. All that remained was the answer to everyone's question: **would the third time be the charm?**

So earlier today, I took the Milwaukee drill out to the backyard. I screwed in the side-handle and set the



...Cranky cont'd

torque selector to "drill". I then set the speed selector to lock in low speeds (0-550 RPM). I attached the socket and extension bars to the drill chuck.

I squeezed the trigger and behold, I was able to raise the tower completely without any protest from the drill. Success! The only question remaining was what to do with my original purchase, the Hole Hawg right-angle cordless drill. Any plumbers out there who need to drill a bunch of holes?



## K2WB Az / El / Pol EME Antenna Mount

[Ken sent along this photo and description of the work-in-progress Az/El/Pol mount. Look for a full article on the final version after the next High Knob Op]

This is a photo of my 2nd version of elevation control for a Yagi. I have improved the design and added the ability to rotate the beam 90 degrees from horizontal to vertical polarization as well as the 70° elevation. The actuators have a 2" stroke and move fast. This is not a problem with shorter array's but with a 18 element 2m beam on a 33 ft boom, the inertia gets to be scary. To slow it down I pulsed the actuator 50 ms at a time. Which works pretty good.

Initially I used a remote inclinometer to measure angle which I replaced with a POE camera. Version 2 is a lot more robust design with parts made at a machine shop costing around \$450.00. With this design, I can put the entire assembly on top of an AB-577 tower at 50ft.





# Eimac EME Notes

--George Gadbois, W3FEY

## Eimac EME Notes Collection Report

In 2017, Floyd Jury, W3OLV asked me to help preserve his collection of the Eimac EME notes that were published starting circa 1969. Floyd provided a full set of the 37 notes produced. There were multiple printings of the notes so that the same issues were not always identical. None of the printings carried a publication date. Eimac had some kind of tracking system that when it was included on the cover page one could tell the order of printing. Unfortunately, that information was not always present. There were also a few subset issues where the information was rearranged for some reason. I have not uploaded those variants to my main collection on the Internet Archive. No new information was provided. The Internet Archive is where you can find all the issues.

I also subscribed to the EME notes and have a full set. They don't exactly match Floyd's set which is how I am aware of the variant issues. I am on a campaign to downsize and I will be glad to hand off the hard copies of the notes to someone else. If no one wants these copies, they will go to the trash. Lancaster County stopped recycling paper when the bottom fell out of the market. It's more cost effective to send it to the incinerator and generate some electricity.

In the past, first time users of the Internet Archive have been confused by the jargon they use so I produced the help file, below.

Internet Archive access tips.

**Archive home address:** <https://archive.org/index.php>

The above link takes you to the Internet Archive home page. You can follow links to the various collections or enter queries for information you are seeking. For example, if you enter a query for "Eimac & EME" you will find the entire set of Eimac moonbounce notes. The EME notes were collected by Floyd Jury, W3OLV, and digitized and uploaded by me.

## It's All Ham Radio

Letter to the Editor, March 2019 QST, used with permission.

[My thanks to W2SJ for suggesting the inclusion of this in Cheese Bits --W2BVH ]

FT8,digital mobile radio, 80 meters, Echolink, CW, assisting in disaster preparation, rag chewing on 2-meters, 70-centimeter analog repeaters (linked or otherwise) -these are all cool things I can do as a ham. They don't all require a 70-foot tower, a \$10,000 radio, and a degree in RF theory, but they're all Amateur Radio.

This is such a wide-ranging hobby with so many things to do, but if we keep saying something "isn't real ham radio," we're going to drive people away. It's okay for people to try new, fun things because it keeps the hobby alive. If it transmits over amateur bands, for 4,000 miles or 4 inches, it's still Amateur Radio. If it requires a license and a call sign, it's still Amateur Radio.

So, take a minute to relax and watch the hobby grow by experimenting in all the cool things we can do together. "Back in my day" doesn't have a place in ham radio any more.

Alex Hoffman, N3RDO Mesa, Arizona

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Saturday, March 23, 2019

9:00am - 5:00pm (vendors close at 3:30pm)

Registration/Vendor Fair open at 9am, Talks start at 10:15am.



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on Windows 10  
Security Features



Hands-on  
Arduino Workshop  
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Friday March 22, 2019, 8:30am - 5:00pm\*\*  
and continues as part of TCF's Saturday Talks.  
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For additional TCF'19 info,  
directions and advance tickets:  
[www.tcf-nj.org](http://www.tcf-nj.org)

## A Mile of Pi

In just a few days it will be Pi Day, a date (3/14) that has the first three digits of Pi (3.14) in it. Pi is a number whose exact value is infinitely long (its called a transcendental number).

Pi is used in numerous engineering, math physics and chemical calculations. Without it (at least it's first 8 or 10 digits or so), coming up with good designs for radios, antennas, feedlines, SDR, digital modes, etc., would be impossible.

In honor of this super useful number and in the month in which it's celebrated, Cheese Bits recommends you check out "A Mile of Pi", a YouTube video that shows us literally a mile of Pi. The videographers at the YouTube channel "Numberphile" commissioned a company to print out the first million digits of Pi as a single line of text on a roll of paper a mile long. They then unrolled it on the runway of a UK airfield. It includes lots of useful commentary. It's interesting, fun, odd, and amusing. See <https://www.youtube.com/watch?v=0r3cEKZiLmg>

People who have "The Knack" (see p.21 of this months Cheese Bits on the "Knack") will certainly appreciate it. --Lenny W2BVH

## The Woodpecker

Here's an interesting CNN article on the Russian "Woodpecker" station we've all heard on 40 meters (on and off) over the years. <https://www.cnn.com/travel/article/duga-radar-chernobyl-ukraine/index.html>

The statistics on the antenna are astounding and the estimated power of this over-the-horizon radar (10 MW) are remarkable. Each of the driven elements of this (presumably collinear) array is a cage, like you'd find in a broadband 80 or 40 meter dipole in the 1930's.

More info is also at [https://en.wikipedia.org/wiki/Duga\\_radar](https://en.wikipedia.org/wiki/Duga_radar)

--Lenny W2BVH

## Second VHF / UHF Super-Conference

VHF Super Conference II – April 25-28, 2019  
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\*\*Special Hotel Rate EXPIRES March 25\*\*

The conference location is in the western suburbs of Washington, DC. It is very close to Dulles Airport and the Udvar-Hazy Center of the Smithsonian National Air & Space Museum.

### Bus Trips are on registration page now:

Thursday Bus Trip \$39 before March 31 (\$45 after 3-31, if available). 3 hour Guided Bus Tour of Washington DC plus 3 hours on your own to visit the Smithsonian area museums and/or the Capitol. Bus Leaves at 10am, returns to Hotel about 6pm

Friday Bus Trip \$29 before March 31 (\$35 after 3-31, if available). 4 hours on your own at the National Zoo. Bus Leaves at 10am, returns to Hotel about 4pm

**We anticipate a sellout**  
**It's Going to be a SUPER**  
**Conference!**



# ***The Wayback Machine*** In CHEESE BITS, 50 Years Ago

Nibbles from March 1969. Vol. XII Nr. 3  
de Bert, K3IUUV  
(*author's comments in italics*)

**“Our Prez Sez”**. The prez, Charlie, K3HSS noted that Spring is just ahead, and now would be a good time to plan antenna repairs and replacements. He gave an early notice of “Ladies Night,” to be held on April 19<sup>th</sup>. Then he discussed the need for additional revenue, above the dues amount. He noted that the “monthly raffle” helps to cover expenses, and requested that members bring in “a little bag of excess components” to stimulate ticket sales. And then he noted that more information could be obtained from the raffle chairman, K3UJD, Mario. (***And so now you know part of the story as to why our raffle goodies are displayed on “The Mario Table.”***)

**ARRL Bulletin 205, 1/2/69.** The next ARRL Frequency Measuring test was to be held on February 8. Amateurs wishing to qualify for an Official Observer appointment should be sure to use this test to demonstrate their skills.

**ARRL Bulletin 206, 1/3/69.** Despite rumors to the contrary, the ban on contacts with Thailand stations has not been lifted

**ARRL Bulletin 207 2/6/69.** All participants in the January 24 and 25 **Simulated Emergency Test** are urged to be sure their effort was included in the reports submitted by their local Emergency Coordinator. Deadline for reports and

photos is March 15 (*Just like our contest score submission deadlines today.*)

**Why?** Submitted anonymously by “The Grouch”, this was a collection of comments about different aspects of the club operation. At least one of them is worth repeating. “Why do some members sit in the back of the room and talk during the whole meeting? Is it a lack of manners, or intelligence?” EI, K3JJZ, the editor at that time, commented thusly “.... The Editor believes the club paper is a sounding board for all members. The fact that they may be voicing an unpopular opinion is not really important. The fact that they have a place to voice the opinion is.” (*Want to see more from “The Grouch? Go to W3CCX.com and read it in the copy I scanned, posted by the webmaster*).

**“From the Book Rack.”** Member Paul Behrman, K3WEUm conducted a book review net. Books of technical interest were reviewed and discussed by the members. This month’s book was “Easy Way to Service Radio Receivers” by Leo Sands. 176 pages, with 100 circuit diagrams and photos. Techniques were detailed for “any kind of tube or transistor set.” Hard cover \$6.95, Paperback, \$3.95. George included a detailed analysis of the book’s content and depth of coverage, to assist members in deciding whether or not to purchase a copy.

**Code Practice.** K3ZPN, Lloyd, reported on “What Happened to the Code Practice Sessions?” After more than four years of sessions, his station received a citation from the FCC for “transmission of codes or ciphers.”

The “codes or ciphers” were the five letter code groups that the club was using for the practice sessions. The Philadelphia office of the FCC was contacted, and will review the ruling with the Washington office. *(See the outcome later in this synopsis. But what would they have thought about today’s proliferation of digital mode operation?)*

**Technical Stuff.** An article gleaned from another publication (The Blurb) provided detail on the Flat Conductor technology developed by the Marshall Space Flight center. *(In common use (think ribbon cable) now, it was a new concept at the time.)* Advantages cited included: wires are in fixed positions and can’t be crossed; more efficient heat dissipation; can be bent or folded easily to follow contour of mounting areas; Cuts and other defects can be spotted easily because every strand is visible; and others listed.

**Contest Scores.** A list of all members submitting logs for the 1969 January contest was included. The list showed total contacts, and total “sections” (now “grids) per log. 74 logs were listed and submitted to the league *(just about the same as today)*. Current members on the 1969 list were; K3BPP, Walt; W3GXB, Bob; K3IPM, Stan; K3IUV, Bert; and K3JJZ, El

**Swap Shoppe. By W3ZRR.** *(Always nostalgia.)* For sale by El, K3JJZ, 21” Motorola TV, excellent condition, \$25. From Dave, W3LHF (later W3ZD), a large quantity of tubes and assorted parts, mostly in boxes, received from W3GEC. The club will share half of the

proceeds. The usual good deals for any regular customers! Wanted, by WB2SZK, Randy, 4X-150A or 4X-250, etc. Also sockets and bypass condensers (*sic*). *(Randy is still active, and he designed and built the 1296 through 10-gHz transceiver used by K3IUV/R, and now K0BAK/R.)*

**Meeting Notice.** Next general meeting topic will be “Legal Phone Patches, and other Bell Telephone Gadgets.”

**Late News Flash (as promised).** A special insert with 1” high lettering (FLASH) contained the text of a letter from Mr. James Barr, Chief, Special Radio Services Bureau of the FCC. He provided further details on the part 97 description of “secret” codes or ciphers, and his conclusion specified that transmitting code groups in Morse Code, which are interrupted frequently and identified as code practice transmission, were permitted under the Amateur rules. Lloyd, K3ZPN, followed the verbatim letter with “Code Practice Sessions will resume on 3/10/69 at 1900 EST!”

**Miscellany.** *Postage for this copy (It was from Ernie, W3KKN) was a single 6-cent Roosevelt stamp because the paper was again light (only 3 double sided, 8-1/2 x 14” sheets). As in previous editions, many “folksy” comments about members, their families, and activities were included in this edition of Cheese Bits. If interested, or for more detail on the above items, visit our website (www.W3CCX.COM) and read the full issue scanned by K3IUV (me), and posted on the website, by W3SO, our new webmaster. Remember, I have also posted the club Officers history, club Membership*

*history, and Packrat Inventory (updated frequently) on the W3CCX website. These files are password protected, and only accessible to registered members. Have you registered? I hope you enjoyed reading these bits of nostalgia as much as I did in writing the article. If yes, you might let me know.*

## Thirty, de K3IUUV

*[Always a highlight of editing each month's Cheese Bits is the opportunity to read this column. Fun and engaging! --W2BVH Editor]*



## DL6WU, SK

An extraordinary loss for the community: Günter passed away on Jan-04..

Among many other radio activities his decade-long work on long yagi design and the respective boom corrections and spacing formulae were and are the basics in this field.

We owe him a lot. He was a good friend and partner for many of us.

My deep sympathies and condolences to his family.

RIP Günter! Jan DL9KR.

## Events

**For inclusion, please direct event notices to the editor.**

**Cherryville (NJ) Hamfest - Hamfest** - March 9, 2019. Sponsored by Cherryville Repeater Assoc.II. See <http://www.qsl.net/w2cra> for details.

**Trenton Computer Festival (TCF) - Conference** - March 23, 2019. An all day computer and technology conference with numerous parallel presentations. The oldest computer fair in the world. See poster p. 16 and <https://tcf-nj.org/> for details

**2M Spring Sprint - Contest** - April 8, 2019, 7:00-11:00 pm local. See <https://sites.google.com/site/springvhfupsprints/home/2019-information> for details.

**222 MHz Spring Sprint - Contest** - April 16, 2019, 7:00-11:00 pm local. See <https://sites.google.com/site/springvhfupsprints/home/2019-information> for details.

**432 MHz Spring Sprint - Contest** - April 24, 2019, 7:00-11:00 pm local. See <https://sites.google.com/site/springvhfupsprints/home/2019-information> for details.

**VHF Super Conference - Conference** - April 26-28, 2019, in Sterling, VA, near Washington, DC. See <http://vhfsuperconference.com/> for details.

**Microwave Sprint Sprint - Contest** - May 4, 2019, 8AM - 2PM Local time. See <https://sites.google.com/site/springvhfupsprints/home/2019-information> for details.

**Eastern PA Section Convention and Warminster ARC Hamfest** - May 5, 2019. Bristol PA. See <http://www.k3dn.org/hamfest/> for details

**6M Sprint Sprint - Contest** - May 11-12, 2019, 2300Z - 0300Z. See <https://sites.google.com/site/springvhfupsprints/home/2019-information> for details.

**June VHF Contest - Contest** - June 8-10, 2019. Details to follow.



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## The Knack

An animated "Dilbert" parody of engineers can be found on YouTube at: <https://www.youtube.com/watch?v=4EbNrTf-cQE> Includes a reference to Ham Radio.

Funny and true (sort of). You decide.

### Joel Knoblock W3RFC

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### WWV Centennial Special Event Will Use WW0WWV

With its funding secure for another year, WWV, the world's oldest continuously operating radio station, will have extra reason to celebrate its centennial this fall. The National Institute of Standards and Technology (NIST) and the Northern Colorado Amateur Radio Club (NCARC) have teamed up to organize 100th anniversary events.

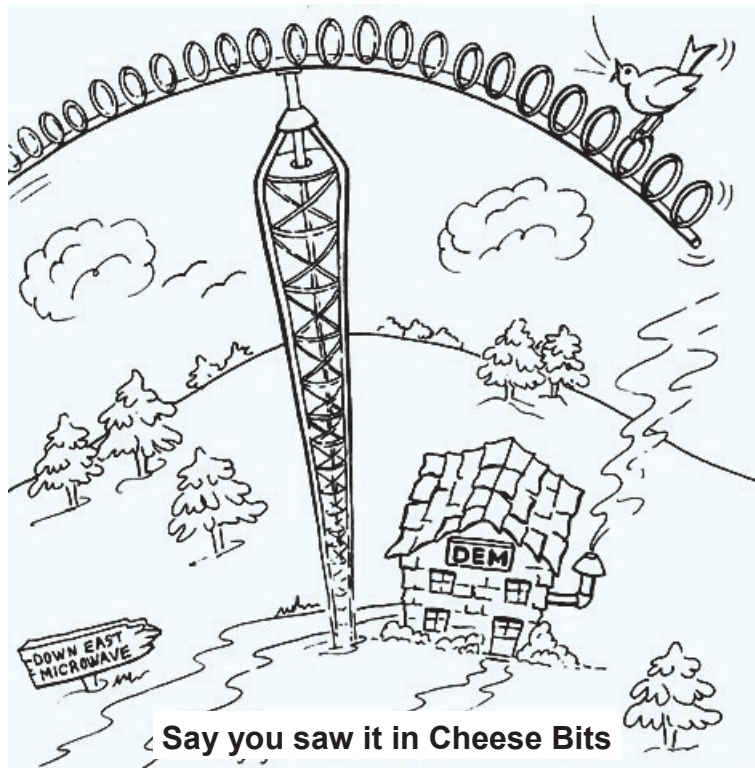
See <http://www.arrl.org/news/wwv-centennial-special-event-will-use-ww0www> for details.

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