Mt. AIRY V.H.F. RADIO CLUB, INC.

CHEESE BITS

ARRL Affiliated Club

W3CCX
CLUB MEMORIAL CALL

Volume LXII **September 2019** **Number 9**

PREZ SEZ:

Where did the Summer go? September seems to be moving fast too! I know summer is over when there is dew on my windshield in the morning. But HAM related activities are still going strong!

August 10th was the Packrat Picnic at Michael's QTH. The weather was great! The crowd was larger then last year. Along with the hot dogs, hamburgers and great selection of covered dishes, there was plenty friendly and lively conversation. I think we had a good turnout of Packrat wives and girlfriends too. You might start talking it up with your significant other in preparation for next year.

September is definitely a great month for uhf/vhf contests. Check the end of Cheese Bits for dates and more information.

One of the bigger events is the September VHF contest. The SJRC and many Packrats will be operating this contest from High Knob. The team is lead by Ken, K2WB and Bob, W2SJ. Others are encouraged to get on the air from home and have fun. Be sure to look for and work W2EA. Dates are September 14th and 15th. They have big signals on the lower bands so they are easy to find. Remember to use assistance on the internet such as the Packrat Chat (Slack) and the Packrat Finder. This is a good opportunity to check out your station and find out what is not working properly. Afterwards, with the cooler weather around the corner, its time to plan those **tower and antenna fixes** before the cold weather arrives.

If you find some time Sunday morning, September 15th, Gloucester County Amateur Radio Club is holding it's Hamfest in Mullica Hill. It is the SNJ ARRL Convention site this year with 4 different guest speakers. Note this is also a contest weekend! There aren't enough weekends!

One last thing to add to your calendar. The December general meeting is also the Packrat Holiday Social. The doors open at 6pm. Come and enjoy a relaxing time of food and fellowship.

Last month we had a conference call to start planning for Camelback 2020. We lined up Band Captains for the bottom four bands and other tasks like the technical team and infrastructure manager long before the meeting. **BUT we have two big holes**. We need band captains for 902/1296 and the micros. The previous band captains are willing to train their replacements but we need volunteers within the next month or so. Because of the need to transfer equipment and knowledge and the need to test the equipment, the new band captains have to be technically inclined and willing to put some time in long before we get to Camelback. This need is not a surprise. The previous Band Captains have asked for relief for the last 3 or 4 years. Unfortunately if we cannot find replacements we will not have these bands in the June contest in 2020.

Pack Rats **CHEESE BITS** is a monthly publication of the
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PACKRAT BEACONS - W3CCX/B
Located at FN21be except 2304 which is at FN20dh
50.080 144.300 222.062 432.290 903.072 903.3 1296.264 2304.3 3456.200 5760.3 10,368.3 MHz (red = temporarily off the air see https://www.packratvhf.com/index.php/on-air for details)

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 or www.w3ccx.com

We have other less demanding positions that need to be filled too. **See me for the list**. The club needs you to step up and take on what you can. We have many senior Packrats that can provide guidance and training, but it's time to volunteer. Pick something you want to do. Something that is of interest and you think might be fun. This is a hobby; it has to be fun or why do it? But don't just sit back and say how it should be. We need your active participation as a doer. The Packrats have a long history doing great things in this hobby, as individuals and as a group. Remember the Packrats ARE a group and we can do more as a group working together then any one person can by themselves.

With all the contests and other activities in the months to come don't forget that project on your workbench. You remember that one you started several months ago?

Have some fun, learn more.
Build something

73, George KA3WXV

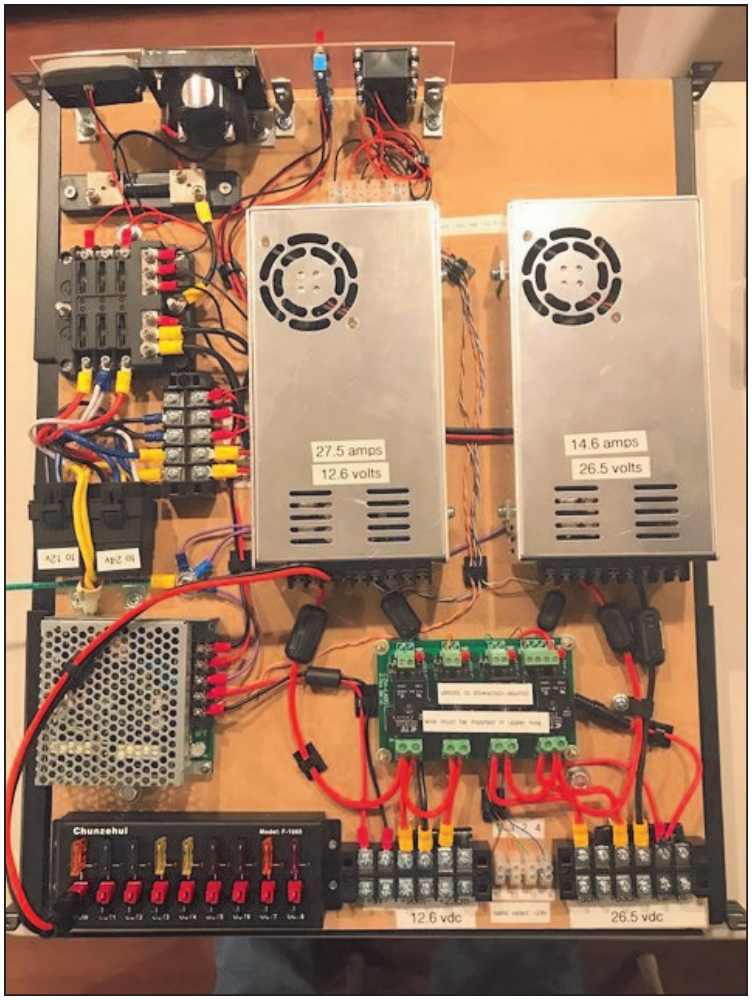
August 2019 Packrat Picnic Pics

TNX K2WB, KB1JEY & W3GAD for pictures!

KOBAK Power Shelf for Microwaves

After quite a long time having most of the components sitting around accusing me of procrastination, I finally built the power shelf for my rover van's microwave rack. It supports 33cm-3cm bands. The rack containing K1DS' former microwave equipment is separate from the other three racks in the van; it is below the biggest roof cable opening and forward of the mast, so it's the obvious place for all the microwave equipment. I wanted this rack to be as independent as possible of the equipment in the other three racks that support HF and VHF equipment (with the exception of the IF radio and computer). The relatively simple task of supplying various DC power needs from AC in a home shack is considerably more challenging in a a rover van with cramped space and limited energy, so this project required some thought.

My microwave equipment overall requires 12.6 and 26.5 volts DC: the four lowest bands (33-9cm) have separate amplifier power cables for medium current, and all bands need nominal 12v at lower current for transverters and relays. In addition, I need low current 5 volts for TTL logic and a USB hub on the (yet to be built) IF and PTT switching shelf. MeanWell makes DC-to-DC power supplies for all three of my voltage needs with a nominal 24vdc input and wide tolerance, so I decided I could power the rack from lead-acid batteries. Since the highest power amplifier delivers about 100w RF, I figured the 350w MeanWell models ought to be big enough. I decided to use two ~100ah AGM deep-cycle lead-acid batteries in series for the power source, picked for their physical size as the largest capacity that would fit in the rack space. I bought them at a discount as a set of four because I also wanted two for my home sump pump backup power. The parcel delivery guy really loves me. Those two batteries and a 24-volt output lead-acid battery charger were installed on the floor of the rack several months ago.



Before installing the 5 rack shelves I built, containing one band each (10ghz will hopefully be mast-mounted), Gary WA2OMY graciously tested the equipment on each one a few months ago. I was grateful they all worked after I re-mounted the equipment on rack shelves, but I was surprised at the quiescent current draw of the bigger amplifiers. Gary explained many microwave amplifiers are class A, which means significant current draw even without a signal present, so the current draw we saw was not a surprise to him. However, it was a surprise to me as a microwave neophyte, and I decided to supply DC power to the hungriest amplifiers only when their band was selected.

Although I could have added relays on each band's shelf since generally there was space for them, I decided instead to have the relays on the power shelf I was designing to simplify the inter-shelf wiring. I found a conveniently compact board on Amazon with four 30amp relays driven from 24vdc that accommodated either negative or positive coil switching, and included indicator LEDs. I had previously bought a set of 24vdc automotive-type relays, but the four-relay board saved me considerable space. The IF switching matrix I have (thanks K3TUF) uses nominal 24vdc with negative relay pull, so I will use that same IF switch signal to also drive the power relays.

The rear output of the power shelf consists of:

- Two terminal strip pairs for 26.5 vdc switched for the 33cm and 13cm bands.
- A terminal strip pair for 26.5 vdc fused for 2a, for the IF switch shelf.
- Two terminal strip pairs for 12.6 vdc switched for the 23cm and 9cm bands.

- A terminal strip pair for 5 vdc for the IF switch shelf.
- A PowerPole distribution strip for low current 12.6 to all the bands.

The back also has four small terminal strip inputs for -26.5 band select signals from the IF switch.

The user interface is a front-facing Lexan-type clear plastic plate with:

- A battery voltage and capacity meter.
- An analog battery current meter (I like to see a needle jump when I transmit).
- Small toggle switches for the input each of the three voltage converters.
- Digital voltmeters for the output of each of the three voltage converters.

A screw-type battery disconnect switch mounted on the plus-side battery completes the user interface.

Originally I was trying to mount the user interface components on a steel rack shelf blank like I had done for my HF/VHF 14vdc station voltage rack. But cutting the large round holes as well as mounting the small digital meters was hard for me, and I realized that my failures were creating procrastination for the project. Therefore I abandoned the strong rack blank method and instead used a clear plastic sheet to vastly simplify the meter mounting task since I could now simply drill small holes and mount the digital meters behind the plastic and mount the larger analog meter on the shelf so it simply shows through the plastic. However, this plastic sheet mounted vertically on the shelf is much weaker than the rack blank mounting method, so there's a higher risk of breakage if something bumps hard into the sheet … in which case I'll reconsider using the original method.

K0BAK cont'd...

The positive lead from the battery set is connected to a fuse block, and the negative to the shunt for the ammeter. The fuse block includes a non-fused terminal block for negative distribution, to which the other side of the shunt is connected. The input to the low-power 5v converter is switched directly from the front switch, but the other two converters are switched via 24vdc relays due to higher input current. The two converter input power relays included convenient short wire leads, which are connected to the fuse outputs of the fuse block, and also to an internal terminal strip for connection to the converters and front switches.

I'm going to keep this power rack shelf at home until I build and test the IF/PTT switching shelf so I can fully test the system before mounting it in the van. My very next build project is a fairly compact manual rotary switch box with band indicators. The portable box will have three RJ45 sockets to make it easy to mount the box in different places in the rover if necessary. This manual switch will be an always-available backup microwave band switch, although my intention is to automatically switch bands using the fantastic interface capabilities of my Flex 6500 radio.

Stay tuned for additional progress reports.

OLDEST CONTEST AWARD?

Cleaning out some old files, I came across a stash of contest certificates. Included among them was this one from 1963 (55 years ago!). Awarded for first place in the 220 Worldwide contest sponsored by The VHF Amateur magazine (who else beside myself, El and Gary remember that mag?).

I wonder if anyone has an older certificate in their archives?

Bert, K3IUV

VHF Contest Award

Bert Soltoff - K 3 I U V

Having submitted sufficient evidence of participation in the VHF Amateur VHF Contest in the 220 Mc Worldwide High *competition is hereby awarded this Certificate of Merit as the* First Place *winner.*

Bob Brown, Editor

March 16, 1963 Contest
The VHF Amateur

Date May 22, 1963

"MY ARC-5'S SERVED ME WELL"

While cleaning out the house before it was sold in July, I found several boxes of old photographs to peruse. One of my favorites was my growing ham station when I was 14 years old and licensed as a Novice as WV2ITR. Soon after I upgraded to General as WA2ITR.

The ARC-5 offered for sale at last month's White Elephant Auction jogged my memory. I used a pair of ARC-5's for transmit and receive as a Novice, using a 6AG7 tube with a crystal as a plug-in oscillator to the transmitter. The pair cost only $8 from "Radio Row" in lower Manhattan. That expense was just about in reach for me as a 14 year-old. I generally stayed on 3.718 Megacycles with my one crystal, as the Megahertz designation was not yet been created. Incidentally, those tubes can be still found NIB (new in box) from JAN (Joint Army Navy) 1940 supplies on eBay, though not at the original going price of $0.25.
.

When I graduated to General, I added Heising modulation to be able to do phone on 75 meters, and added a dual triode 12AT6 preamplifier to the receiver front end. I also bought another pair of ARC-5's to cover the 40 meter band. Once I was a General licensee, I pulled the 6AG7 oscillator and used the regular ARC-5 VFO.

As you can see from the accompanying photo, about half of the station was military surplus and the other half was from used television parts, often easily obtained from TVs that were left at the curb by owners who had given up on repairing them, or having upgraded to the newer color models that became available.

Living in an apartment building in the Bronx, New York had the advantage of roof access for stringing a full sized 75/80 meter dipole and then adding a 40 meter dipole when the additional ARC-5s were ready to be put on the air. We had a bit of a nightly AM net between a bunch of the younger Bronx hams. I truly preferred CW as I was able to work so many states, join the East Coast traffic nets and even work DX. I especially enjoyed the soft purple glow of the OA2 and OB3 gas regulator tubes that were part of my homebrew power supply. In those years they could be purchased for 25 cents or less on Radio Row.

My foray into VHF came when a few of us got Heathkit Twoers, a five watt AM (or MCW) transceiver with a super-regenerative receiver. We needed to be 18 years old to drive in New York City. With a vibra-pack power supply that converted the 12VDC from the cigarette lighter to 110VAC, I made my first 2m mobile QSOs. A few of us had a small mast and halo antenna strapped to the rear bumper. I don't remember that there were magmount antennas at that time.

As I was able to work as a grocery delivery boy and made some money after school and on weekends, I eventually bought a Hallicrafters SX-111 receiver. This was the little brother of the ever popular SX-101 receiver. I maintained the ARC-5 transmitter as a VFO and built a more powerful transmitter from QST plans. Using a pair of 1625's to modulate an 814 power tube, I managed to be active on the 5 main HF bands of the day.

I'm sure that many of you started in a similar fashion, and it would be great to hear about your ham histories.
73, Rick K1DS

Cabrillo, by K3IUV, Bert

Or, who was that masked man, and why was a file format named after him?

Did you ever wonder why the Cabrillo file format is called “The Cabrillo File Format”? I did, and here is probably more than you wanted to know about it.

Juan Rodríguez Cabrillo, (birth unknown, death – January 3, 1543) was a Portuguese explorer noted for his exploration of the west coast of North America on behalf of the Spanish Empire. Cabrillo was the first European explorer to navigate the coast of present day California in the United States.

His discoveries went largely unnoticed at the time, so none of his place names were permanently adopted. Despite this, Cabrillo is now remembered as the first European to travel the California coast, and many parks, schools, buildings and streets in California bear his name. There are also bridges and clubs in CA that bear his name.

In the state of California, September 28 is officially "Cabrillo Day". (Ref: California Government Code, Section 6708). In 1992, the United States Postal Service issued a 29¢ stamp in honor of Cabrillo. A copy of this stamp from my collection is shown for your interest (or not?).

The Cabrillo Specification was originally developed by Trey Garlough, N5KO in 1999, to provide a method for consistent data formatting that sponsors could use in the submission of contest logs. Contest sponsors including CQ, ARRL, and DARC quickly supported the idea and adopted the standard. Logging program authors quickly included the format in their software.

When Trey created the standard, he needed a name for it. Trey lived in an area of California where lots of things carry the Cabrillo name. E.g., Cabrillo College, Cabrillo Street, etc. He picked it as an interesting name and it stuck. Nothing more mysterious than that!

The WWROF (World Wide Radio Operators Foundation) administers the Cabrillo Specification on behalf of the contesting community.

My thanks to Randy, K5ZD who supplied me with some of this information.

Hello Friends,
With some last minute illnesses, the attendance at the Annual Packrat Picnic was ultimately 27 Packrats and their guests. However, the weather was as good as I can recall. The food was delicious and everyone seemed to have great time.

Special thanks go to my special committee of George KA3WXV and Guy WA3JZN, who helped with the set-up on Friday. Bruce WA3YUE loaned us his large canopy. George KA3WXV also doubled as our grill master and helped me take down the big canopy this morning. Ken K2WB tended the corn cooker. Alex KR1ST and his wife Jennifer stayed at the end of the picnic and helped with the clean-up. Tom KA3FQS could not attend but he loaned me some lawn chairs, tables, and the corn cooker.

The ultimate thanks go to all who attended (and brought delicious side dishes). The opportunity to visit and catch up is what makes the picnic special.

73, **Michael KB1JEY**

HAM RADIO FRIENDS

UR INVITED

CRAB FEAST

SATURDAY, SEPTEMBER 21

12:00 p.m. - Dusk

Rain or Shine

(in barn/picnic tables also outside)

Crabs, hamburgers, and sodas provided

Paul & Judy Domanski's Home
987 Dexter Corner Road, Townsend, DE

Bring: A covered dish
Your favorite beverage to sh

RSVP Not Necessary

A chair
Your callsign - badge, hat

Directions: South on Rt. 1. As you come over the Rt. 1 bridge, near the bottom, take the right exit (to take old Rt. 13) (before toll). Follow south on Rt. 13. Approx. 5 mi. south of Odessa, turn right on Rt. 71, (at Valero gas station). Go to next road, Ratledge Road, and turn left. Go to the end of Ratledge Road and turn left on Dexter Corner Rd. We are approx. 1/4 mile on left—split rail fence, tall trees, pond in front. Look for the aerials.
Paul's cell **302-388-2679**

73 WA3QPX Paul

K2EZ/R 10 GHz Results

Okay I hear there isn't a rover class for the 10 GHz 'test, but I was signing /R. Anyway I finally had some success with my 10 GHz hardware. I didn't expect to get out, but had a break. I spent the little time I had Saturday preparing and got out for a few hours today (Sunday).

I had just over a dozen contacts with best DX of 274 miles (439 km) to Northern Vermont. Next best were stations in Ontario.

Had a great time, found operating a bit easier than expected. I suspect rain scatter helped.

Not sure if I am getting 3W that the setup should put out as my measurement showed 100mW, but I am improvising with attenuator and a spectrum analyzer.

73, Andrea

Ps -Picture of the Rover shows dark skies that came rolling in really fast after I finished contact with W1GHZ and the crew with him in northern Vermont. I got all packed and moved out just with a couple raindrops falling, I had hardly gotten any distance down the hill it was raining hard and lightening started cracking.

Microwave Update 2019
Dallas, Texas
October 3-5, 2019

Microwave Update (MUD) is an international conference dedicated to microwave equipment design, construction, and operation. It is focused on, but not limited to, amateur radio on the microwave bands.

The North Texas Microwave Society would like to invite you to the annual Microwave Update Conference to be held October 3rd through the 5th, 2019 at the Hilton Garden Inn and Conference Center in Lewisville (Dallas) Texas.

We have a full slate of speakers already set up including Rex Moncur VK7MO, Tony Emanuele K8ZR, Rick Fogle WA5TNY, Paul Wade W1GHZ, Joe Jurecka N5PYK, Doug Miller K6JEY, Greg McIntire AA5C, Steve Kostro N2CEI, Kent Britain WA5VJB, Bob Stricklin N5BRG, Barry Malowanchuk VE4MA, Tom Williams WA1MBA, Tom Apel K5TRA, Tom McDermott N5EG, Sam Jewell G4DDK, Dave Robinson G4FRE, Brian Thorson AF6NA, Skip Macaulay VE6BGT and Al Ward W5LUA. If you are interested in speaking, please let us know.
Topics will include small dish EME, microwave propagation, parabolic dish feedhorn design and construction, SSPAs, circuit design, latest microwave devices, software defined radios, digital modes just to name a few.

For full details please visit http://www.microwaveupdate.org/

The Wayback Machine
In CHEESE BITS, 50 Years Ago

Nibbles from September 1969. Vol. XII Nr. 9
de Bert, K3IUV
(*author's comments in italics*)

"**Our Prez Sez"**. Prez Ernie, W3KKN, highlighted some upcoming events. 1) The September auction (we now call it the White Elephant Sale), to be held at the QTH of W3LHF (later W3ZD, Dave). An annual bash of bargains, laughs and refreshments. Bring something, like gear to sell, a friend with money, a chair, etc. (*about the same today, 50 years later*!). 2) An antenna measuring party to be held at Mario's, K3UJD) (*More inside the paper*). And 3) Interviews for ghost writers cheerfully given (*looks like Ernie was having trouble getting his article done in time*!). (*I noted that the VP at the time was El, K3JJZ, our perennial auctioneer*).

ARRL Bulletin 233, 8/7/69. The ARRL announced the annual W1AW Frequency Measuring Contest. Any amateur could submit their results for possible inclusion on the QST Honor Roll. (*What would they have thought if they could have foreseen the widespread use of our satellite locked references today*?)

ARRL Bulletin 234, 8/14/69. The ARRL Public Service Communication Booklet has been updated and is now available without charge. This was a complete manual for amateur radio emergency and traffic operation, and it described the ARPSC (Amateur Radio Public Service Corps). An SASE with 12c postage would expedite your request!

We get Letters. Coincidentally, a letter received from the EPA SCN (member W3HK, George Vandyke) bemoaned the lack of ARPSC activity in our area. He identified WA3HIT as the newly appointed EC for Philadelphia County, and said he was trying to rebuild the local chapter. Our members were asked to support the ARPSC nets, and meetings, whenever they could.

Getting to Know You. This month's biography was by W3SAO, Frankie. Quite lengthy so I won't detail it here. Suffice to say that Frankie was a charter member of the club and he provided a lot of details on his activities from the early 20's to this issue, He promised a future article on the formation and first meeting of the club. (*Frankie worked at the instrument repair lab in the NADC, together with W3CL, W3ZD, W3CCX and others. We used to joke about his ability to straighten the needle on a Simpson 260, by "blowing" on it*!) I strongly suggest you read his complete article in this issue, which is available on the W3CCX.COM website. (*Officers - How about resuming this idea, now that we have so many new members in the club?*)

Picnic Report. The club picnic was reported as "a real success." It included a new record in the "egg tossing contest" (the winning couple managed 19 throws over 30 feet, before the egg broke!), every ham receiving at least one door prize, and every lady receiving a gift. **Over 300 people were in attendance.** The supplier friends of the Packrats, the chairman (K3KTY) and the committee members were thanked for their

contributions. Interesting note. El, K3JJZ was the Cheese Bits editor at the time. He included thanks to some of the people that helped him with the games. They included Michael Soltoff (harmonic of K3IUV, Bert (that's me)) and El's harmonic Glen Weisman who was the rope holder for the finish line of the race. (*Our current picnic at KB1JEY's QTH is a great opportunity to meet and chat with the other members. If you didn't make it this year, put it on your calendar for 2020*).

From the Book Rack." This month, the book review net, conducted by member Paul Behrman, K3WEU reviewed the book "Working with semiconductors" written by Al Saunders. $4.95 paperback 424 pages, 185 illustrations. The review was very positive, with the statement that "it avoids the usual dry, theoretical descriptions in a textbook, in favor of simply telling how and why things work, with large clear illustrations." Examples of the contents were included.

Technical Topics. An excellent article, titled "Notes on the Use of Electrical Indicating Instruments," written by deceased member W3CPT, Ken Harrison (his moniker - Chemically Pure Transmissions) was submitted posthumously by W3SAO, Frankie. In the article, he described the functioning and application and use of various types of metering devices (moving coil, moving iron vane, etc.). (*An excellent reference, even today*).

Swap Shoppe. By W3ZRR. *(Always nostalgia*.) For sale by Stan, K3IPM, a 2 meter transmitter. 100 watts out, am or cw, crystal controlled (15 crystals included!). Rack mounted, with a 3-foot rack included. No price given. (*As mentioned last month, just as now, Stan was always upgrading his equipment*). From WA3CND, Howard Candy (*yes, Virginia, there were vanity calls 50-years ago*), an Ameco 6/2/220 VFO, $35. Also an Ameco TX-62 6 & 2-meter transmitter, $100.

Meeting Notice. Next general meeting will be the annual auction at the QTH of Dave, W3ZD (10% of proceeds to the club treasury). The Director's meeting will be held at the QTH of Mario, K3UJD (the Mario Table namesake).

Miscellany. *Postage for this copy (It was from Ernie, W3KKN*) *was a single 6-cent Roosevelt stamp. (6 double sided, 8-½ x 11" sheets.) As usual, 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 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. Thanks to those that did.*

thirty, de **K3IUV** (K3IUV@ARRL.net)

Award For K1JT

From ARRL Newsletter.
Congratulations again, Joe.
Bert, K3IUV

Technical Innovation Award

The success of the FT8 digital mode prompted the ARRL Board to grant the 2019 ARRL Technical Innovation Award to the FT8 development team, led by Joe Taylor, K1JT, and Steve Franke, K9AN.

The Board said FT8 has "proven effective for all amateurs" in times of poor propagation, revolutionizing many aspects of ham radio.

Of interest to those of us who are programmers…
A little morbid, a little funny.
73, **--Lenny W2BVH**

I know this is an awkward time, but do you recall him ever mentioning source code?

Events

For inclusion, please direct event notices to the editor.

September VHF- Contest - September 14 - 16, 2019. See http://www.arrl.org/september-vhf for details.

Gloucester County ARC - Hamfest - September 15, 2019. Gloucester County 4-H Fairgrounds 235 Bridgeton Pike (rt 77) Mullica Hill, NJ 08062. Email k2men@comcast.net for details.

10 GHz and Up Round 2- Contest - September 21 - 22, 2019. See http://www.arrl.org/10-ghz-up for details.

EME 2.3 GHz and Up - Contest - September 21 - 22, 2019. See http://www.arrl.org/eme-contest for details.

2M Fall Sprint - Contest - September 23, 2019, 7-11pm local. Details at http://svhfs.org/2019FallSprintRules.pdf

222MHz Fall Sprint - Contest - October 1, 2019, 7-11pm local. Details at http://svhfs.org/2019FallSprintRules.pdf

Microwave Update -Conference- October 3-5, 2019. See http://www.microwaveupdate.org/ for details.

Red Rose Repeater Assoc. - Hamfest - October 5, 2019. Talmadge, PA. See http://www.w3rrr.org/ for details.

432M Fall Sprint - Contest - October 9, 2019, 7-11pm local. Details at http://svhfs.org/2019FallSprintRules.pdf

902 and Up Fall Sprint - Contest - October 12, 2019, 8am-2pm local. Details at http://svhfs.org/2019FallSprintRules.pdf

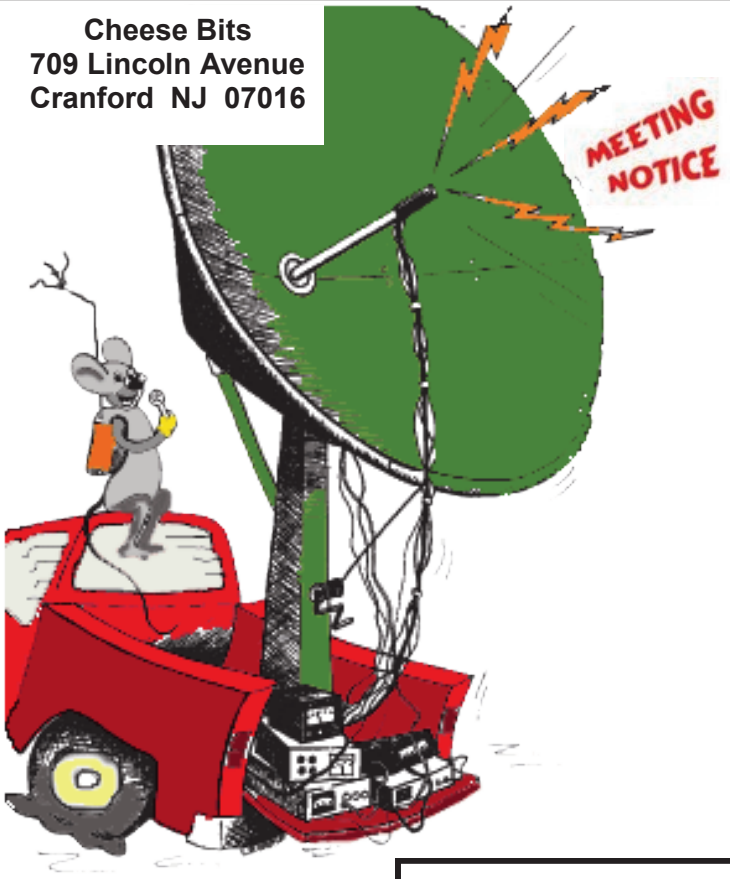
EME 50 to 1296 MHz Round 1- Contest - October 19 - 20, 2019. See http://www.arrl.org/eme-contest for details.

EME 50 to 1296 MHz Round 2 - Contest - November 16 - 17, 2019. See http://www.arrl.org/

I mentioned this a couple of months ago, but the first of a two-part article on my long CNPOTA trip was published in the latest issue of the RAC ham magazine **"The Canadian Amateur".** My big face is in small insert picture on the front cover, and the article starts on page 14, FWIW. I just downloaded the issue.

-- Pete K0BAK

Cheese Bits
709 Lincoln Avenue
Cranford NJ 07016



TO:

MT. AIRY VHF RADIO CLUB, INC.